Istanbul Programme of Action for the LDCs (2011–2020)

Monitoring Deliverables, Tracking Progress – Analytical Perspectives

CENTRE FOR POLICY DIALOGUE (CPD)
B A N G L A D E S H
a civil society think tank

REA

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FONDATION POUR LES ÉTUDES ET RECHERCHES SUR LE DÉVELOPPEMENT INTERNATIONAL

GALATASARAY ÜNİVERSİTESİ

ICTSD
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About *LDC IV Monitor*

LDC IV Monitor is an independent partnership established in September 2011 by eight organisations with track record for working on issues of interest to least developed countries (LDCs). Through monitoring and assessing the implementation of the Istanbul Programme of Action (IPoA) adopted by the Fourth United Nations Conference on the Least Developed Countries (UN LDC IV), the partnership aims to contribute to an improved delivery of commitments made to the LDCs. Drawing its strength from the expertise and capacity of its members, the consortium undertakes policy research, organises dialogues and carries out outreach activities covering the key issues laid out in the IPoA.

The eight members of the partnership are:

- Centre for Policy Dialogue (CPD), Dhaka
- Centre de Recherches Économiques Appliquées (CREA), Dakar
- Commonwealth Secretariat, London
- Economic and Social Research Foundation (ESRF), Dar es Salaam
- Fondation pour les Études et Recherches sur le Développement International (FERDI), Clermont-Ferrand
- Galatasaray University, Istanbul
- International Centre for Trade and Sustainable Development (ICTSD), Geneva
- OECD Development Centre, Paris

Foreword by Gyan Chandra Acharya, USG and High Representative for LDCs, LLDCs and SIDS

This first report is a noble exercise undertaken by the *LDC IV Monitor*, an independent partnership whose members are all important stakeholders in the progress and development of least developed countries (LDCs). The challenges and complex vulnerabilities faced by LDCs require not only the commitment and leadership of LDC national governments, the governments of their development partners and multilateral institutions; it calls for the broadest possible collaboration and contributions from all stakeholders. It is only with rapid, holistic and inclusive development that LDCs will be able to attain a structural transformation of their economies, and thus strengthen the resilience of economies. Good governance and effective national ownership and leadership are critical to attain such transformation. This must be complemented by comprehensive, enhanced and effective international support and co-operation.

The principle of mutual accountability is one of the strengths of the LDCs' programme of action, and it is laudable that considerable efforts have been made to follow-up and assess the progress so far. This report will contribute to the global monitoring and follow-up, and will be a useful input to the review process of IPoA.

The topics covered by the report rightly include, among others, areas crucial for productive capacity building, LDC-specific vulnerabilities and international support measures. It highlights the importance of political commitment of, and delivery by, both LDCs and development partners.

These issues, along with other emerging issues, are currently under discussion in the context of the post-2015 development agenda and Sustainable Development Goals. As the old adage goes, to everything there is a season, and a time to every purpose. This is the time to get LDC priorities fully on-board while shaping a new global partnership.

Foreword by Kamalesh Sharma, Commonwealth Secretary-General

It is most fitting that the Commonwealth Secretariat should undertake the publication of this report monitoring progress on the 2011–2020 Istanbul Programme of Action (IPoA) for the least developed countries (LDCs). Development, together with democracy and respect for diversity, is one of the three pillars on which Commonwealth member countries collectively work to build economic and social resilience, to overcome vulnerability, and to advance more equitable, inclusive, and sustainable growth and prosperity.

Since 1971 the United Nations has recognised as LDCs those states deemed most highly disadvantaged in the development process, and as facing the greatest risk of failing to overcome poverty. Special UN conferences have been convened every ten years since 1981, the fourth of which, LDC IV, took place in Istanbul in 2011.

The Commonwealth Secretariat and seven other organisations came together as the *LDC IV Monitor* to undertake objective assessments of the implementation of the IPoA. This initiative benefits immensely from the collaboration that is possible when vision for the global good is shared, and diverse expertise is pooled.

The composition of the *LDC IV Monitor* makes it a truly global endeavour, able to make a significant contribution towards enhancing transparency and accountability in relation to the implementation of the IPoA. This strengthens ownership of the process, both by individual LDCs, and by development partners.

A major objective of the LDC IV IPoA is that by 2020 the number of countries categorised as LDCs should be halved from 48 to 24. This first report of the *LDC IV Monitor* provides comprehensive assessments of the progress being made. It sets benchmarks, and tracks progress against specific quantitative and qualitative indicators. This enables a constructive evaluation of IPoA implementation to be made.

The current discourse towards finalising the post-2015 global development framework makes this a most opportune moment for this report to be issued. Our hope is that by presenting an evidence-based and policy-oriented assessment of delivery on IPoA objectives it can be of real value to all stakeholders, and contribute to greater synergy between implementation of the IPoA and the post-MDG international development partnership.

Preface from the Chair

The publications here, titled *Istanbul Programme of Action for the LDCs (2011–2020): Monitoring Deliverables, Tracking Progress – Synthesis Report* and *Analytical Perspectives*, are a set of unique documents in terms of the process underpinning its preparation, its content and the messages that emerged from scholarly analyses of the implementation of the Istanbul Programme of Action (IPoA) so far.

The process

The publications address different aspects of the outcome document adopted at the Fourth United Nations Conference on the Least Developed Countries (UN LDC IV) held in Istanbul, Turkey in May 2011. Discussions prior to UN LDC IV highlighted the poor implementation record of the Brussels Programme of Action for the Least Developed Countries for the Decade 2001–2010 (BPoA), which was largely attributed to weak accountability. Monitoring of the BPoA implementation and the two preceding programmes was limited to official and administrative levels, often involving rather pro forma exercises. A practical and innovative approach to strengthen the oversight process of the IPoA implementation was evidently needed. This was conceived not as a substitute for the intergovernmental process, but rather as a complement to this process that would improve the efficacy of the implementation. The approach should also be in line with the call of the IPoA for partnership with civil society, academia and foundations in awareness raising and advocacy work that favours least developed countries (LDCs).

High-calibre development policy organisations from across the world came together in Clermont-Ferrand, France, in September 2011 to launch a partnership styled as *LDC IV Monitor*, a 'watchdog' operating on behalf of the global development community. *LDC IV Monitor* is an independent partnership of eight interested organisations with demonstrated expertise and experience in analysing development challenges facing LDCs. Its major objectives are to keep LDCs' concerns on the international agenda, provide assessments of delivery on the IPoA promises, and make policy recommendations.

During the preparation of the publications, *LDC IV Monitor* followed a rigorous approach that involved several expert group meetings to design studies, discuss draft chapters and reflect on major messages emerging from analyses. These expert group meetings were held in Dhaka, Dar es Salaam and London. The partnership regularly consulted major actors involved in LDC IV, particularly the Office of the High Representative for the Least Developed Countries, Landlocked Developing Countries

and Small Island Developing States (OHRLLS) at the United Nations (UN), the UN Committee for Development Policy (CDP) and different country delegations to the UN. Views of domestic stakeholders were taken into account during the preparation of individual chapters. All chapters underwent multiple internal reviews before being externally peer-reviewed by leading experts in the relevant fields.

The content

LDC IV Monitor presents a set of two publications to support the implementation of the IPoA. One is the *Synthesis Report*, which derives broad messages and key recommendations from a volume of scholarly papers on the topic of IPoA implementation titled *Analytical Perspectives*. The 12 chapters in *Analytical Perspectives* seek to elaborate on the benchmark situation in LDCs at the inception of the IPoA, identify emerging trends over the subsequent period, and highlight the structural and policy challenges facing LDCs and their development partners. Authors demonstrate that specific targets in the IPoA require the deployment of dedicated tools alongside provisions of necessary financial and non-financial resources. Emphasising the need to start strong in the initial phase of the decadal action programme, the volume sheds light on the progress achieved in this respect. The contributions provide independent assessments of the current state of the IPoA implementation.

The chapters are not an exhaustive review of the IPoA, though they indeed focus on some of its critical dimensions and priorities. Selected research themes include overall economic performance, development of productive capacities (including infrastructure development) to catalyse structural transformation, strengthening capacities related to trade in goods, commodities and services, and trends in domestic resource mobilisation, specifically government revenue and foreign resource flows such as official development assistance, foreign direct investment and remittances. The promotion of agricultural productivity is the subject of one dedicated chapter. Issues pertaining to adverse impacts of climate change receive attention in another. Countries' prospects of graduation from the LDC category are the subject of another chapter. Recognising that implementation of the IPoA has partly overlapped with the Millennium Development Goals (MDGs) period, the volume examines the extent of delivery on global development targets in LDCs. Given that the studies were undertaken in the aftermath of the global economic and financial crisis, most chapters refer to its impacts on and implications for LDCs.

Examining progress on selected IPoA indicators over the 2005–2008 period, one chapter notably designs a simple new method to benchmark IPoA indicators by constructing a composite index. Its objective is to empirically measure progress on the IPoA implementation accurately and inform national policy making processes.

In assessing the implementation of the IPoA during its initial phase, authors faced a significant dearth of real-time data. Some data for a number of targets and indicators mentioned in the IPoA were unavailable. To work around data problems, authors used a variety of national and international sources, and they were mindful to ensure consistency and comparability of data.

Key messages

The analyses undertaken by *LDC IV Monitor* drew a number of insightful conclusions. Key messages are presented below.

- The global economic and financial crisis further exposed the structural vulnerabilities of LDCs' economies. These economies are yet to regain the economic growth that was observed before the crisis, with economic recovery faltering during the subsequent period. Implementation process of the IPoA must emphasise aspects that strengthen LDCs' capacities to mitigate the adverse impacts of external shocks.
- Attainment of the MDGs remains uneven among LDCs, which has been compounded by weak domestic reforms, fallout from the crisis and slow economic recovery. Negotiations on the post-2015 international development framework should consider a synergy between the implementation of the IPoA and the pursuit of the post-2015 international development agenda.
- Although graduation prospects are promising for a number of countries, LDCs as a group are expected to significantly lag behind the IPoA goal on graduation from the LDC category. Smooth and sustainable transitions by the countries that are most likely to graduate remain to be seen. LDCs and their development partners, including international development agencies, should prepare an overarching framework for smooth transition toward graduation and a set of guidelines that promote sustainable post-graduation developments.
- Progress on building productive capacities by investing in high-quality infrastructure and through technology transfer has been unsatisfactory. Low labour productivity and little inclusive growth have continued to be binding constraints on the structural transformation of LDCs' economies. Efforts to improve and reinforce infrastructure in LDCs need to consider both investment and public policy dimensions.
- Progress has been slow in implementing agricultural development strategies and increasing investments in research and development in LDCs. Support from developed countries in these areas was typically in the form of stand-alone projects. LDCs should develop comprehensive agricultural development plans to promote product diversification and productivity growth.
- Reduction of the negative impacts of commodity dependence in LDCs can be achieved through diversification, value addition, effective participation in global value chains, diligent use of resource rents, and insulation of domestic economies from international price volatility. In the process of implementation of these strategies, employment and income outcomes have to be made explicit.
- The share of LDCs' exports in global trade remains miniscule, and if current trends continue, the IPoA goal of doubling LDCs' share of world merchandise trade looks doubtful. Competitiveness-driven export diversification in terms of both products and markets continues to be a daunting challenge for LDCs. International commitments including those related to market access of LDC goods and services need to be implemented urgently.

- Compared to other developing countries, LDCs confront greater and often unique vulnerabilities in the face of adverse climate change impacts. Country-specific adaptation strategies and corresponding international support are needed for dealing with such challenges.
- Given lower disbursements of official development assistance in the context of the global economic and financial crisis and marked unevenness in aid distribution, the distribution of disbursements among LDCs must be more predictable and balanced. Alignment of aid with LDCs' rational priorities needs to be improved to make aid more effective.
- Foreign direct investment inflows remain concentrated in a handful of LDCs, particularly in their extractive industries, which have limited backward and forward linkages. For ensuring that FDI contributes to building productive capacities in LDCs, there is a need to design innovative incentives in the host countries as well as in the countries of origin.
- Foreign inward remittances have been robust in certain LDCs, even in the face of the global economic and financial crisis. Openings in services markets remain limited, and migrant workers from LDCs continue to face formidable challenges both in home and host countries. Addressing these challenges requires workable partnerships between home and host countries.
- Growth in domestic resource mobilisation is helping to bridge resource gaps in some LDCs, but more could be done in terms of broadening the tax base and strengthening institutional capacity of the tax collecting authority. Effective international initiative to plug illicit financial outflows from LDCs is a must.
- The availability of data remains a major constraint. LDCs and the UN need to work together to make more quality data available in real-time. Since the concept of a 'data revolution' has gained prominence in the context of the post-2015 international development framework, it is pertinent that an assessment of the availability and accessibility of relevant data and information are undertaken in LDCs for improved monitoring of the IPoA implementation.

These publications of the *LDC IV Monitor* will hopefully contribute towards enhancing transparency and accountability of the IPoA implementation at the national and international levels. Such enhancement would strengthen national and global ownership of the IPoA. Follow-up on the key messages outlined above would allow LDCs and their development partners to be more strategic and effective in the IPoA implementation in upcoming years. With these hopes and likelihoods in mind, the eight partner organisations of *LDC IV Monitor* expect that all engaged stakeholders in LDCs and their development partners will recognise the intentions, ambitions and value of the partnership.

Acknowledgements

As mentioned earlier, these publications are an outcome of a collaborative initiative, which has been benefited from inputs from a large number of individuals and institutions.

The set of two reports of the *LDC IV Monitor* had been genuinely a collective endeavour. This was primarily possible because of the inspired participation of the eight partner organisations, viz. Centre for Policy Dialogue (CPD), Dhaka; Centre de Recherches Économiques Appliquées (CREA), Dakar; Commonwealth Secretariat, London; Economic and Social Research Foundation (ESRF), Dar es Salaam; Fondation pour les Études et Recherches sur le Développement International (FERDI), Clermont-Ferrand; Galatasaray University, Istanbul; International Centre for Trade and Sustainable Development (ICTSD), Geneva; and OECD Development Centre, Paris.

The active role played by Christophe Bellmann, ICTSD; Federico Bonaglia, OECD Development Centre; Patrick Guillaumont, FERDI; Hoseana Bohela Lunogelo, ESRF; Miguel Rodriguez Mendoza, ICTSD; and Mustafizur Rahman, CPD in galvanising the partnership is recalled with appreciation. Contribution of Anna Batyra as the co-ordinator of the *LDC IV Monitor* has been instrumental in getting the initiative in place. A special gratitude goes to Mohammad A Razzaque, the Commonwealth Secretariat, for his distinguished role in promoting the initiative and in producing the volumes.

Sincere thanks are due to the authors who have contributed their time and efforts in preparing various chapters of the volume on *Analytical Perspectives*. A number of them have also acted as internal reviewers of the draft chapters.

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FERDI, CPD, ESRF and the Commonwealth Secretariat are credited for organising the expert group meetings in Clermont-Ferrand (11–12 September 2011), Dhaka (7–9 September 2012), Dar es Salaam (4–6 February 2013) and London (18–20 June 2013). These meetings contributed enormously to enhance the quality of the research outputs.

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The key role played by the CPD as the Secretariat of the *LDC IV Monitor* in guiding the activities of the partnership during the entire period of its existence is also thankfully mentioned. Thanks are particularly due to Towfiqul Islam Khan and Umme Shefa Rezbana of CPD for playing a critical role in keeping the partnership running, and in preparation of the publications.

Dhaka
September 2014

Debapriya Bhattacharya
Chair, *LDC IV Monitor* and
Distinguished Fellow, Centre for
Policy Dialogue (CPD)

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Abbreviations and acronyms

AfDB	African Development Bank
AfT	Aid for Trade
BoP	balance of payment
BPoA	Brussels Programme of Action
CDP	Committee for Development Policy
COMESA	Common Market for Eastern and Southern Africa
CPD	Centre for Policy Dialogue
CPIA	Country Policy and Institutional Assessment
DAC	Development Assistance Committee (OECD)
DFQF	duty-free and quota-free
EAC	East African Community
EITI	Extractive Industries Transparency Initiative
EU	European Union
EVI	Economic Vulnerability Index
FDI	foreign direct investment
FERDI	Fondation pour les Études et Recherches sur le Développement International
FTA	free trade agreement
GATS	General Agreement on Trade in Services
GAVI	Global Alliance for Vaccine and Immunisation
GCIM	Global Commission on International Migration
GDP	gross domestic product
GEF	Global Environmental Facility
GFATM	Global Fund to Fight AIDS, Tuberculosis and Malaria
GFCF	gross fixed capital formation
GFMD	Global Forum of Migration and Development
GLS	generalised least square
GNI	gross national income
GNIpc	GNI per capita
GSP	generalised system of preferences
GVC	global value chain

HAI	human asset index
HDI	human development indicator
HIPC	Heavily Indebted Poor Countries
ICT	information and communication technologies
ICTSD	International Centre for Trade and Sustainable Development
IDF	innovative development finance
IFAD	International Fund for Agricultural Development
IIA	international investment agreement
ILO	International Labour Organization
IMF	International Monetary Fund
IMRO	International Migrants Remittances Observatory
IOM	International Organization for Migration
IPoA	Istanbul Programme of Action
ITC	International Trade Centre
LDC	least developed country
LIC	low-income country
LLDC	landlocked developing country
LMIC	lower middle-income country
MC9	Ninth WTO Ministerial Conference
MDG	Millennium Development Goal
MIC	middle-income country
MIGA	Multilateral Investment Guarantee Agency
ML	maximum likelihood
MNE	multinational enterprise
NAMA	non-agricultural market access
NAPAs	National Adaptation Programmes of Action
NTM	non-tariff measure
ODA	official development assistance
PPP	purchasing power parity or public–private partnership
PVCCI	physical vulnerability to climate change index
R&D	research and development
RCP	regional consultative process
RoO	rules of origin
RTA	regional trade agreement
S&D	special and differential treatment
SADC	Southern African Development Community
SIDS	small island developing states

SITC	Standard International Trade Classification
SPS	sanitary and phytosanitary standards
TBT	technical barriers to trade
TFA	trade facilitation agreement
UN	United Nations
UN LDC IV	Fourth United Nations Conference on the Least Developed Countries
UNCTAD	United Nations Conference on Trade and Development
UNDP	United Nations Development Programme
UNFCCC	United Nations Framework Convention on Climate Change
WDI	World Development Indicators
WEF	World Economic Forum
WTO	World Trade Organization

Chapter 1

The Challenges of Structural Transformation and Progress towards the MDGs in LDCs

Debapriya Bhattacharya and Towfiqul Islam Khan[1]

1.1 Introduction

The Fourth United Nations Conference on the Least Developed Countries (UN LDC IV) took place against a backdrop of lacklustre performance of this group of countries over the last four decades (Bhattacharya and Hossain 2011a). Prior to the conference, concerns were raised with regard to the concrete deliverables to be agreed upon at the UN LDC IV (Bhattacharya 2010). In this context, the Istanbul Programme of Action (IPoA), adopted at UN LDC IV, spelt out a set of strategies and measures for addressing the special needs of the LDCs in the next decade (2011–20) (Bhattacharya and Hossain 2011b). IPoA put forward eight priority areas under five objectives covering 47 goals and targets (UN 2011a).

It is maintained that weak monitoring of the implementation of the Brussels Programme of Action (BPoA) had been one of its critical fault-lines. IPoA stressed the need to strengthen its implementation monitoring mechanism and tried to broaden the scope of involvement of the stakeholders in the process. LDC IV Monitor – a partnership of think tanks – was thus created to provide an independent assessment of the state of delivery of the IPoA commitment on an ongoing basis.

Graduating out of the LDC group has been set as the prime objective for the LDCs in IPoA. The present chapter maintains that an accelerated move towards graduation for an LDC will entail, among other things, irreversible progress on two counts. First, a positive structural change of the least developed economies in favour of the sectors with higher productivity; and second, strong improvement of human development indicators, particularly those related to health and education.

In view of the above, the chapter has reviewed the most up-to-date data and information to identify the early signals emanating from the implementation experience of the first two years (2011–13) of IPoA.[2] During this period one does not observe any discernible positive movement regarding structural change in the LDCs' economies. Rather, the LDCs are yet to reclaim the level of economic performance that they attained before the global economic and financial crisis, that is before 2008. Indeed, the heterogeneity within the LDC group has become further aggravated during the period under review; this has also impacted on their socio-economic performance. The chapter has explored the state of achievement of the Millennium Development Goals (MDGs) in the LDCs, using the latest available data. It has established that achievement regarding those MDGs which have been mentioned in the IPoA remains quite average and often off-track. One wonders, in this regard, how the concerns and

interests of the LDCs will be addressed in the post-2015 international development framework and targets. In short, progress towards smooth and sustainable graduation from the LDC status has become more challenging.

International support measures have been not only of limited effectiveness, but also quite often inadequate. Flow of foreign aid has fallen in real terms and its distribution has become more skewed. While export concentration of the LDCs has accentuated, duty-free and quota-free (DFQF) provision for the LDCs has not expanded in the recent past. Indeed, one observes marginalisation of LDCs' interests and concerns in the relevant international platforms. The present review also highlights the fundamental importance of domestic reforms for attaining the IPoA goals and targets.

In line with its adopted analytical approach the chapter has been organised as follows. After the present introduction, Section 1.2 seeks to define the challenges of graduating from the LDC group. Sections 1.3 and 1.4 sequentially discuss the progress (or lack of) attained by the LDCs in precipitating a structural change of their economies and achieving the MDGs that have been mentioned in the IPoA. The concluding section (Section 1.5) summarises the findings of the review and highlights some policy perspectives in this regard.

1.2 Graduation challenge of the LDCs

Graduating from the LDC group is at the heart of the LDCs' development agenda, but the progress thus far is not very encouraging. Rather, the number of members in the group increased from 25 in 1971 to 49 in 2013.[3] To date only four countries (Botswana, Cape Verde, Maldives and Samoa) have graduated from the group.[4] Samoa graduated in January 2014. Graduation of Equatorial Guinea from the LDC group was endorsed by the Committee for Development Policy (CDP) in 2009, but is yet to be taken note of by the General Assembly. Tuvalu and Vanuatu were twice marked as eligible for graduation from the LDC list by CDP – in 2006 and 2009. However, in 2009 these two countries were not recommended. The Committee was at that point unsure about the sustainability of development progress in these countries, and decided to review their status in 2012. The latest review report from CDP in 2012 found Tuvalu and Vanuatu eligible for the third consecutive round and have been recommended for graduation from the LDC list. CDP also found that Angola and Kiribati met the eligibility criteria for graduation for the first time in 2012. Kiribati fulfilled the gross national income (GNI) per capita and human asset index (HAI), while Angola met the income-only criterion (Table 1.1). CDP suggested that these two countries will also be considered for graduation in the coming triennial review in 2015. One needs to remain mindful of the fact that these six countries, which are being considered for graduation, differ substantially in terms of socio-economic progress. Indeed, three of these countries have the possibility to graduate from the LDC status during the IPoA period (Guillaumont and Drabo 2013).[5] See Chapter 3.

The most recent CDP review (2012) seems to project a more optimistic scenario with regard to graduation of the LDCs. However, it may be only a partial picture.

Table 1.1 Graduation status of LDCs as per CDP 2012 review[a]

Countries which have graduated	Countries which have fulfilled two criteria	Countries which have fulfilled income-only criterion	Countries which have fulfilled one criterion
Botswana (GNI per capita, HAI, EVI)	Samoa (GNI per capita, HAI)	Equatorial Guinea (GNI per capita)	Guinea (EVI)
Cape Verde (GNI per capita, HAI, EVI)	Tuvalu (GNI per capita, HAI)	Angola (GNI per capita)	Nepal (EVI)
Maldives (GNI per capita, HAI)	Vanuatu (GNI per capita, HAI)		United Rep. of Tanzania (EVI)
	Kiribati (GNI per capita, HAI)		Sudan (GNI per capita)
			Djibouti (GNI per capita)
			Bhutan (GNI per capita)
			Timor-Leste (GNI per capita)
			Myanmar (HAI)
			São Tomé and Príncipe (HAI)

[a] The thresholds for graduation from LDC category are: GNI per capita of USD 1,190 or more, HAI of 66 or more and EVI of 32 and less. To graduate, two of the three criteria must be met by the country. A country also qualifies for graduation if its GNI per capita is USD 2,380 or more, independent of its HAI and EVI status. This is known as the income-only criterion.

Note: Criteria shown in parentheses indicate those that have been fulfilled by the respective country.

Source: Authors' elaboration from Committee for Development Policy (2012)

Botswana graduated in 1994 and its development progress has remained stable. Cape Verde graduated from the LDC group in 2007 by fulfilling GNI per capita and HAI criteria; the country has now fulfilled all three criteria for graduation from LDC status. In contrast, although Maldives achieved the GNI per capita and HAI criteria, it appears that the country will continue to remain one of the most vulnerable countries in terms of economic vulnerability index (EVI).[6] Maldives may remain in such a state as the adverse impact of climate change on the country becomes more visible. Similarly, Samoa, which is next in the pipeline, also has a very high EVI figure (51.1). Tuvalu, Vanuatu and Kiribati have fulfilled both GNI per capita and HAI criteria. However, these countries, particularly Kiribati and Tuvalu, are listed as vulnerable in terms of EVI. The CDP report also suggested that five countries (Senegal, Myanmar, Madagascar, Ethiopia and Bangladesh), which fulfilled EVI criteria during the previous review in 2009, are now back in the vulnerable zone in 2012.[7]

Equatorial Guinea has a very high GNI per capita[8] and meets the income-only criterion for graduation by a comfortable margin, but has so far missed the other

two criteria by some distance. The same is true for Angola. Indeed, these countries are highly dependent on their export revenue from extractive industries, but the spillovers of high per capita income are not reflected in the human development indicator (HDI).

Arguably, the graduation process of many LDCs can be underpinned by their earnings from natural resources and may not be accompanied by broad-based economic development. A boost in exploitation of natural resources or high prices of these commodities may help generate a large amount of income in LDCs, but, being very capital intensive in nature, these activities can offer only a small measure of employment to the economy.

While analysing the pitfalls of the graduation prospects of LDCs it is also important to recognise the heterogeneity which characterises the LDCs as a group. The LDCs are increasingly exhibiting diverse and heterogeneous developmental needs resulting from their varying resource endowments and structural vulnerabilities. The heterogeneity among the LDCs can be flagged in terms of their size, demography and economic attributes. Indeed, the revealed heterogeneity within the LDC group has increased over the last five years or so in terms of the select set of indicators presented in Table 1.2.

The heterogeneity among LDCs can be further demonstrated using their various characterisations that arise from their geographical locations and socio-political situations, such as 'disaster-prone', 'sea- and land-locked', 'fragile and conflict-prone' countries (see Annex 1.1).[9] When it comes to exposure to external shocks in the forms of global financial and economic crisis, global commodity price hike and climate change, the level of impact also varies from LDC to LDC.[10] It is commendable that IPoA has recognised the issue of heterogeneity among the LDCs (UN 2011a). But, regrettably, no guidance can be found in the IPoA with regard to addressing this aspect. The present circumstance thus calls for the support measures to be more menu-driven to accommodate the heterogeneity of the group (Bhattacharya and Hossain 2011a). Thankfully, as the development community is becoming more concerned about the need for sustainable development of the LDCs in the context of their prevailing structural constraints, the issues relating to smooth transition and sustainable graduation from LDC status have gained prominence.

Table 1.2 reveals that differences among the LDCs in terms of population, gross domestic product (GDP), per capita income, share of manufacturing in the GDP and HDI score have increased between 2005 and 2011. One may observe a convergence in the area of per capita foreign direct investment (FDI) flow and trade–GDP ratio – both of which are external sector-related indicators.

The foregoing analysis does not inspire us to believe that IPoA had an energetic start in the early years of its implementation so as to reach the central target of half of the LDCs reaching the graduation point by the terminal year of the programme (2021).

One may ask, in this regard, what would alleviate the circumstances of the LDCs in their accelerated and smooth move to graduation. Recognising economic growth

Table 1.2 Heterogeneity with LDC group

Indicator (year)	Min/ max	Country (2005)	Value (2005)	Ratio 2005	Country (2011)	Value (2011)	Ratio 2011	Increase/ decrease in ratio
Area (sq km)	Min	Tuvalu	26	**90,208**	Tuvalu	26	**NA**	**NA**
	Max	Democratic Republic of the Congo	2,345,410		Democratic Republic of the Congo	2,345,410		
Population (thousand)	Min	Tuvalu	9.7	**14,494**	Tuvalu	10	**15,049**	**Increase**
	Max	Bangladesh	140,587.9		Bangladesh	150,494		
GDP (USD million)	Min	Tuvalu	22	**2,619**	Tuvalu	37	**2,905**	**Increase**
	Max	Bangladesh	57,628		Bangladesh	106,200		
Per capita income (USD)	Min	Democratic Republic of the Congo	119	**30**	Somalia	107	**52**	**Increase**
	Max	Tuvalu	3,613		Tuvalu	5,537		
Share of manufacturing sector in GDP (%)	Min	Timor-Leste	0.7	**27**	Timor-Leste	0.6	**32**	**Increase**
	Max	Lesotho	19.2		Myanmar	18.1		
Trade–GDP ratio (%)	Min	Central African Republic	34	**5**	Burundi	39	**4**	**Decrease**
	Max	Lesotho	170		Lesotho	159		
Per capita FDI (USD)	Min	Burundi	0.1	**3,313**	Burundi	0.4	**682**	**Decrease**
	Max	Mauritania	267.2		Solomon Islands	267.8		
	Max	Afghanistan	2,893		Afghanistan	6,426.4		
HDI score	Min	Sierra Leone	0.336	**2**	Democratic Republic of the Congo	0.286	**2**	**Increase**
	Max	Samoa	0.785		Kiribati	0.688		

Note: Equatorial Guinea has not been included in the comparison, being considered an 'outlier' (if included, a number of indicators could show higher heterogeneity). Moreover, the country will possibly graduate soon.

Source: Estimated from UNCTADSTAT, World Bank data and www.worldatlas.com

as a precondition for socio-economic development, Rodrik (2013) has emphasised two key dynamics behind economic growth, viz. (i) the birth and expansion of sectors with higher productivity and the movement of labour from low-productivity traditional sectors to higher productivity sectors and (ii) the development of fundamental capabilities in the form of human capital. Hence, it is maintained that implementation of IPoA will substantially depend on the progress that the LDCs make towards positive structural transformation and achievement of MDGs. Thus, the following two sections of this chapter seek to review the performance of LDCs in these two areas.

1.3 Structural transformation

Trends in structural transformation of the LDCs have been considered in this section in terms of (i) economic growth, (ii) changes in sectoral composition of the economies and (iii) development of productive capacities.

1.3.1 Economic growth

IPoA identified significant and steady growth of GDP as one of the major requirements for achieving the overarching development objective of LDCs. Indeed, four of the eight priority areas of intervention are related to the objective of sustaining economic growth (Cortez 2011).[11] As Table 1.3 depicts, during the decade 2001–10 LDCs as a group have been relatively successful in attaining the 7.0 per cent GDP growth target set by the Brussels Programme of Action (BPoA). The period 2004–08 witnessed remarkable growth performance in which the LDCs as a group attained an average growth of 8.0 per cent. Nevertheless, it needs to be acknowledged that the distribution of this economic growth was more skewed among the LDCs. The impressive averages were often driven by the oil-exporting African LDCs.[12] However, strengthened macroeconomic fundamentals and market-oriented policy reforms undertaken by the LDCs have been considered as the determining factor of this relative success. However, many had been sceptical about the pattern of economic development achieved during this period of relatively high growth. More importantly, it was reckoned that the economic growth did not adequately translate into structural change in the LDC economies and substantial improvement in the wellbeing of their general population (UNCTAD 2010a).

Table 1.3 further shows that average GDP growth rate for the LDC group started to decelerate after attaining the peak figure of 8.7 per cent in 2007, that is after the global financial and economic crisis set in. Although almost all LDCs were able to avoid falling into the recession, most of them experienced erosion of economic growth. Audiguier (2012) showed that, for many individual LDCs, 2009 was not an extraordinarily bad year. Indeed, the impact of the crisis was less than expected, and the LDCs were less affected than other developing countries. Nevertheless, economic growth of LDCs as a group declined to 4.9 per cent in 2009 from 7.6 per cent in 2008. The African LDCs, which include most of the oil- and mineral-exporting LDCs, witnessed a major fall in their economic growth rate. Growth of African LDCs declined from 8.4 per cent in 2008 to 4.6 per cent in 2009. Bhattacharya and Dasgupta

Table 1.3 GDP growth (%)

Group	Average 2001–10	Average 2004–08	Average 2011–12	2007	2008	2009	2010	2011	2012
LDCs	7.0	8.0	4.3	8.7	7.1	5.2	6.1	3.8	4.8
LDCs: Africa and Haiti[a]	7.1	8.5	4.1	9.7	7.5	4.8	6.0	3.7	4.5
LDCs: Asia[b]	6.6	6.8	4.5	7.3	6.1	6.4	6.7	3.7	5.3
LDCs: islands[c]	13.1	20.6	7.8	1.3	8.4	−4.3	0.4	8.1	7.5
LDCs: islands[d] (excluding Timor-Leste)	2.9	4.3	4.3	4.4	3.2	−0.1	3.2	4.8	3.9

[a] African LDCs comprise the following countries: Angola, Benin, Burkina Faso, Burundi, Central African Republic, Chad, Democratic Republic of the Congo, Djibouti, Equatorial Guinea, Eritrea, Ethiopia, Gambia, Guinea, Guinea-Bissau, Lesotho, Liberia, Madagascar, Malawi, Mali, Mauritania, Mozambique, Niger, Rwanda, Senegal, Sierra Leone, Somalia, Sudan, Togo, Uganda, United Republic of Tanzania and Zambia. For the analysis in this chapter Haiti is included in the African LDCs group.

[b] Asian LDCs comprise the following countries: Afghanistan, Bangladesh, Bhutan, Cambodia, Lao People's Democratic Republic, Myanmar, Nepal and Yemen.

[c] Island LDCs comprise Comoros, Kiribati, Samoa, São Tomé and Príncipe, Solomon Islands, Timor-Leste, Tuvalu and Vanuatu.

[d] Performance of island LDCs as a group was highly influenced by Timor-Leste since its emergence in 2003. The country's share in total GDP of all island LDCs is about 60 per cent. Hence, for a better understanding, the performance of island LDCs excluding Timor-Leste has also been reported here.

Source: Authors' calculation, based on UNCTADSTAT data

(2012) found that LDCs faced substantial and persistent output and growth loss due to the fall in global demand. The slowdown in economic growth had its spillover effects on the overall development process in LDCs.[13]

The beginning of the decade 2011–20 has not been uplifting for the LDCs as the average economic growth rate remained low in 2011. According to UNCTADSTAT data, the economic growth rate in the LDCs was only 3.8 per cent in 2011.[14] On a positive note, the early estimates showed that LDCs as a group recorded 4.8 per cent GDP growth in 2012 – although the recorded growth was much lower than the pre-crisis benchmark. Bhattacharya and Dasgupta (2012) forecast that it may require around seven years for the LDCs to return to the pre-global economic crisis trend if external demand continued to remain low in 2011. If the recovery process does not accelerate, it may take additional years to return to the pre-global economic crisis trend.

The performance of LDCs in terms of per capita income growth was commendable during the 2001–10 period, particularly in comparison to the negative record of the earlier decade (1991–2000). Per capita income (GNI, in nominal USD terms) in 2001–10 grew, on average, by 10.4 per cent per year (Table 1.4).[15] African LDCs and island

Table 1.4 Per capita income (GNI, in nominal USD terms) growth (%)

Group	Average 1991–2000	Average 2001–10	Average 2004–08	2007	2008	2009	2010	2011
LDCs	–0.6	10.4	15.7	20.1	18.1	0.2	8.6	10.4
LDCs: Africa and Haiti	–2.6	11.0	18.2	21.9	18.7	–4.3	4.5	10.5
LDCs: Asia	2.7	9.7	11.8	16.7	16.4	9.1	15.3	10.3
LDCs: islands	–0.1	10.5	22.4	25.7	33.6	–15.0	14.5	17.3
LDCs: islands excluding Timor–Leste	–0.1	6.3	8.9	11.6	7.1	–5.1	9.5	15.9

Source: Authors' calculation, based on UNCTADSTAT data

LDCs managed to reap the benefits of the boom period in the global economy more than the Asian LDCs. Similar to the GDP growth scenario, the 2004–08 period was outstanding in terms of per capita income growth. However, in 2009 per capita income of LDCs as a group could grow by only 0.2 per cent. In 2009, per capita income of African LDCs declined by (–) 4.3 per cent, while per capita income of island LDCs experienced a sharp decline of (–) 15.0 per cent.[16] The Asian LDCs showed better resilience in 2009, where per capita income of the group increased by 9.1 per cent. In 2010, all three regional groups of LDCs reverted back to the positive growth trend, but could not recapture the pre-crisis growth level of 2007 and 2008. In 2011, LDCs as a group registered 10.4 per cent growth of per capita GNI, which was similar to the average growth of the previous decade (2001–10). It is to be seen whether this improved performance sustains in the coming years.

The state of the economy of the LDCs during the BPoA period and thereafter was influenced by their export performance. Export-led economic growth – backed up by other external factors such as surging global price of exported commodities, debt relief, increased inflows of official development assistance (ODA), remittances and FDI – turned out to be vulnerable in the face of a global economic crisis. Paralleling the GDP and per capita GDP growth trend, the export growth performance of the LDC group was most spectacular during the period 2004–08, recording 29.7 per cent (annual average) expansion. When the advanced economies faced economic crisis towards the end of 2008 and the global demand for commodities fell, sharply precipitating a decline in commodity prices, the structural weaknesses of LDCs were greatly exposed. However, the immediate impact of the global economic crisis on the LDCs was limited – largely due to lesser integration of these economies with the financial system of the advanced economies. However, the consequent spreading of the crisis from the financial market to the real economy did affect the LDCs.

It has been observed that the magnitude by which the LDCs were affected by the global economic crisis significantly depended on a country's trade specialisation (Karshenas 2009). One can broadly distinguish trade specialisation in terms of primary commodity exporters (including oil and minerals) and exporters of

manufactured goods. While the African LDCs dominated the first group, the Asian LDCs prevailed in the second.

In this connection, UNCTAD (2008) classified LDCs into the following six categories: (i) manufactures exporters,[17] (ii) oil exporters,[18] (iii) mineral exporters,[19] (iv) agricultural commodities exporters,[20] (v) services exporters[21] and (vi) diversified commodities exporters.[22]

The oil and mineral-exporting LDCs faced a dramatic fall in global commodity prices of their exportables with the advent of the economic crisis. The impact on agricultural commodity-exporting LDCs was also brutal. Manufactures-exporting LDCs and services-exporting LDCs were also negatively affected due to falling global demand for their manufactured goods and tourism respectively. Hence, output of export industries in many of these countries declined and unemployment increased. The relatively diversified commodities-exporting LDCs[23] demonstrated better resilience. A number of manufactures-exporting LDCs also escaped serious downturn due to their specialisation in low-end products.

Export earnings of LDCs as a group, as Table 1.5 indicates, declined sharply in 2009, by (–) 24.0 per cent. The export earnings of oil-exporting countries experienced a major slump.[24] As a result, exports from African LDCs fell by (–) 28.8 per cent in 2009, while the comparable figure for Asian LDCs was (–) 7.2 per cent. It may also be noted from the figures presented in Table 1.5 that the exports of the LDCs did rebound in subsequent years (2010 and 2011), recapturing the pre-crisis benchmark. Surprisingly, export expansion of the LDCs did not seem to be sustained in 2012 and experienced a sharp decline. One wonders whether this was related to faltering recovery of the global economy.[25]

It is well recognised that the export earnings record of many LDCs is greatly influenced by the movement of the commodity prices. As Table 1.6 reveals, in terms of volume index, export performance of LDCs is much less spectacular. Indeed, the export volume index of the LDCs had been negative in the first year (2011) of the IPoA and modestly positive in 2012. Further, if one considers together the movement of the export value growth and export volume growth during 2011 and 2012, one observes these two indicators had been in the same direction. Obviously, growth of export revenue in the face of fall in export volume is basically explained by the changes in commodity prices in the global market.

Table 1.5 Export growth (%)

Group	Average 2001–10	Average 2004–08	2009	2010	2011	2012
LDCs	17.7	29.7	–24.0	27.2	25.0	0.6
LDCs: Africa and Haiti	20.8	35.1	–28.8	26.7	25.4	0.9
LDCs: Asia	12.3	17.9	–7.2	28.8	23.5	–0.2
LDCs: islands	9.2	11.0	–20.4	25.8	54.5	11.0

Source: Authors' calculation, based on UNCTADSTAT data

Table 1.6 Export volume index growth (%)

Group	Average 2001–10	Average 2004–08	2009	2010	2011	2012
LDCs	6.9	8.8	–3.3	5.6	–1.3	4.3
LDCs: Africa and Haiti	8.0	10.1	–3.0	1.3	–3.8	8.6
LDCs: Asia	6.4	6.9	0.6	18.7	5.8	–1.6
LDCs: islands	3.3	2.4	–11.5	11.3	38.8	13.6

Source: Authors' calculation, based on UNCTADSTAT data

1.3.2 Changes in sectoral composition

Structural transformation entails accelerated and sustainable broad-based development in an economy.[26] Bhattacharya (2010) describes structural transformation as a rather complex 'complementary/intertwined phenomenon' which is expected to occur through changes in sectoral composition of production and employment in favour of sectors having higher production – ultimately leading to positive changes in income and wealth distribution, demography, political institutions, and even in the social value system. A related question with regard to structural transformation in LDCs is whether all LDCs have to move through the traditional path from agriculture to manufacturing to services in the process of structural change of their GDP composition. There is now global experience that countries with a specific combination of endowments have promoted a high-value services sector more than manufacturing activities. This new experience is particularly relevant for the island LDCs with their growth prospect dependent on the performance of the tourism sector.

During the implementation period of BPoA, UNCTAD (2010a) found that, among the LDCs, seven countries[27] continued to specialise in the agriculture sector, while seven countries[28] managed to combine specialisations in light manufacturing along with agriculture and mining activities. It was also maintained that 11 LDCs are mostly dependent on export earnings originating from the exploitation of natural resources, particularly petroleum products, and that the benefits from natural resources are not widely shared with the population of these countries. In Bangladesh, Cambodia and Lesotho manufacturing sector performance is highly dependent on their textile and apparel industries. Kiribati and Tuvalu are two exceptional LDCs where the economic activities are largely dominated by 'rental income'. However, in Bhutan, Mozambique and Togo the manufacturing sector has expanded. In nine LDCs[29] (mostly island countries), economic activities are dominated by the tourism sector, while Djibouti and Eritrea are specialised in port and transport-related services. During the implementation of BPoA only four countries[30] demonstrated a more balanced mix of primary, manufacturing and services-related activities.

The structural change is commonly seen as a change in sectoral composition of an economy's output (Chenery and Syrquin 1975). From this perspective, progress towards structural change for the LDCs as a group during the BPoA period (2001–10) has been limited. If we consider the reduction of the agriculture sector's share in GDP as an indicator of structural change, LDCs did make some progress.[31] As

suggested by Table 1.7, the share of the agriculture sector in GDP of the LDCs as a group declined to 27.1 per cent during 2001–10 from 34.3 per cent in 1991–2000. This declining trend of agriculture's share continued in recent years (2008, 2009, 2010 and 2011) in a fluctuating manner. This particular trend is more evident in the Asian LDCs than in the African and island LDCs.

One of the significant challenges for LDCs with regard to making progress towards structural change is to increase and accelerate their value addition in the manufacturing sector. The manufacturing sector is also considered to be the source of higher sustainable employment in the formal sectors. For most LDCs, production capacity in the manufacturing sector remains limited and exports are concentrated in a narrow range of products (ILO 2011). Regrettably, the share of the manufacturing sector in LDCs has stagnated at around 10 per cent over the last two decades (1991–2000 and 2001–10). As one observes from Table 1.8, the situation has not changed in the LDC group in the last four years (2008, 2009, 2010 and 2011). At a regional level, the GDP share attributable to manufacturing in the Asian LDCs as a group is higher than that in their African counterparts. However, this share stagnated over recent years in both regional groups of the LDCs. In fact, a close look at the figures reported in Table 1.8 reveals that African and island LDCs have undergone creeping deindustrialisation as the share of manufacturing in their economies declined from the 1991–2000 benchmark.[32]

In contrast to the manufacturing sector, the role of the mining sector became more important for LDCs' economic structure. Between 2001 and 2008 the share of the mining sector in GDP for LDCs as a group increased by more than 10 percentage points (Table 1.9). The sector became more dominant in the African LDCs and the

Table 1.7 Share of agriculture sector in GDP (%)

Group	Average 1991–2000	Average 2001–10	2001	2008	2009	2010	2011
LDCs	34.3	27.1	30.7	24.9	26.0	25.5	25.2
LDCs: Africa and Haiti	34.9	28.4	32.2	25.9	27.2	26.5	25.4
LDCs: Asia	33.5	25.2	28.9	23.4	24.2	24.3	25.4
LDCs: islands	32.0	19.4	26.8	12.3	15.0	13.3	12.6

Source: Authors' calculation, based on UNCTADSTAT data

Table 1.8 Share of manufacturing sector in GDP (%)

Group	Average 1991–2000	Average 2001–10	2001	2008	2009	2010	2011
LDCs	10.0	10.0	10.3	9.3	10.2	10.3	10.2
LDCs: Africa and Haiti	8.3	7.8	8.2	6.9	7.6	7.5	7.3
LDCs: Asia	12.4	13.9	13.0	14.4	15.0	15.3	15.2
LDCs: islands	7.8	4.7	8.2	2.6	2.8	2.7	2.4

Source: Authors' calculation, based on UNCTADSTAT data

Table 1.9 Share of mining sector in GDP (%)

Group	Average 1991–2000	Average 2001–10	2001	2008	2009	2010	2011
LDCs	6.8	14.0	9.1	19.8	13.9	14.3	16.3
LDCs: Africa and Haiti	9.0	18.1	11.6	24.9	18.3	19.3	22.1
LDCs: Asia	3.7	6.6	5.9	7.9	5.2	4.9	5.2
LDCs: islands	2.1	31.6	2.5	54.7	44.0	47.9	51.2

Source: Authors' calculation, based on UNCTADSTAT data

island LDCs (particularly for Timor-Leste). This phenomenon was a result of the rising price of mining outputs in the global market. In other words, the relative prices of agriculture, manufacturing and mining products influenced the changes in sectoral structure of the GDP in the LDCs.

One of the major structural flaws of LDCs' export performance is its overdependence on primary commodities. During 2000–08, dependency of the LDCs on primary commodities increased over manufacture exports due to the rise in global prices of primary commodities and the increased international demand for these commodities. The narrow export basket has been a typical feature of the export structure of the LDCs. A study by UNCTAD (2010a) found that during 2000–08 product concentration of export by LDCs increased as only a few commodities accounted for most of their export earnings. The study used the Herfindahl–Hirschmann Index (HHI) and estimated that the concentration increased to 0.54 in 2008 from 0.33 in 2000. The entire rise in HHI was driven by export from the African LDCs; in contrast, export concentration declined for Asian LDCs. Using the latest available data on LDC export, ICTSD (see Chapter 7) estimated HHI and export diversification index to show that only six LDCs (Cambodia, Lesotho, Liberia, Madagascar, Nepal and Yemen) managed to reduce export concentration since 2000, or in more recent years.[33] UNCTAD (2010a) further pointed out that in 14 out of 23 LDCs export dependence on a single export commodity increased. As a result, their export earnings were also exposed to global commodity price volatility as the global economic crisis broke out. Examining the export statistics between 1995–96 and 2005–06, UNCTAD (2008) showed that more than 90 per cent of total export from LDCs comprised agro-based, mineral and low-technology manufactures. Indeed, the share of these three categories increased between these two time periods.[34] The report also argued that, given the high degree of competition in global markets for low-technology, low-skill manufactures, LDCs remained vulnerable. Arda (see Chapter 6) showed that, for 19 LDCs in 2009–10, 90 per cent of total export earnings comprised 'commodities',[35] whereas, for another 21 LDCs, the shares were more than 50 per cent. As a result these countries largely fail to generate positive externalities in the forms of 'the adoption of relatively advanced technologies and modern business techniques, including in international trade practices' (Arda 2013).

The declining share of agriculture in GDP of the LDCs has not been matched by commensurate relocation of labour to the non-agriculture sector. In LDCs a large section of the labour force continues to be engaged in the low-productivity

agriculture sector.[36] As Table 1.10 suggests, the share of agricultural employment fell from more than 77 per cent during 1981–90 to about 73 per cent in 1991–2000 and subsequently to around 68 per cent in 2001–10. While on average three-quarters of the labour force in the LDCs were engaged in agricultural activities in 2008, 2009 and 2010, the said share has been lowest in the Asian LDCs, that is 55.4 per cent (2010). In contrast, in the island LDCs the comparable figure is about 80 per cent (2010). During the first two years of the IPoA (2011 and 2012) one may observe, across regional groups, a sluggish reduction in the share of people employed in agriculture in the LDCs. Nevertheless, the mismatch between the agriculture sector's share of GDP and of total employment suggests that there is high underemployment in this sector. This implies that there is a huge scope for reallocation of labour from the agriculture sector to secondary and tertiary sectors to achieve productivity gains. Thus, the primary challenge with regard to the labour market in the LDCs is not so much unemployment, but productive employment and decent work for the large numbers of working poor (ILO 2011). In this context migration and remittances can play a complementary role.[37] The temporary movement of labour from LDCs to the developed and developing countries may also contribute towards developing productive capacity and technology transfer.

1.3.3 Productive capacity development

The process of structural transformation of the least developed economies is largely about developing productive capacities. This will certainly require higher capital accumulation, particularly by the private sector (domestic and foreign). Concurrently, it is important for the LDCs to achieve technological advancement and become more competitive.

The LDCs as a group of countries possess the common characteristic of low capital endowment. Investment is a binding constraint for economic growth. Current levels of investment in infrastructure in LDCs are particularly low.[38] The average gross capital formation as a percentage of GDP increased to 21.4 per cent during 2001–10, compared with 18.0 per cent in the preceding decade (1991–2000). Table 1.11 suggests that in 2010 the indicator recorded an increase to 23.3 per cent of GDP of the LDCs, only to fall to 22.0 per cent in 2011. This fall was experienced by all regional groups of LDCs.[39] This implies that the LDCs will be required to make a substantial improvement in their investment performance. It is important to note

Table 1.10 Share of employment in agriculture sector (%)

Group	Average 1981–90	Average 1991–2000	Average 2001–10	2008	2009	2010	2011	2012
LDCs	77.1	73.0	67.7	66.4	65.8	65.2	64.6	64.1
LDCs: Africa and Haiti	79.1	78.1	73.7	72.5	72.0	71.4	70.9	70.4
LDCs: Asia	74.3	65.7	58.7	56.9	56.1	55.4	54.6	53.8
LDCs: islands	85.5	75.2	78.1	80.0	80.0	79.7	79.5	79.2

Source: Authors' calculation, based on UNCTADSTAT data

Table 1.11 Share of gross capital formation in GDP (%)

Group	Average 1991–2000	Average 2001–10	2001	2008	2009	2010	2011
LDCs	18.0	21.4	19.9	22.1	22.5	23.3	22.0
LDCs: Africa and Haiti	18.0	20.8	19.0	21.7	22.2	23.3	22.6
LDCs: Asia	17.8	22.7	21.1	23.3	23.1	23.4	21.3
LDCs: islands	22.8	14.5	18.0	10.8	17.4	18.8	15.4

Source: Authors' calculation, based on UNCTADSTAT data

that there is a wide variation among the LDCs in terms of capital formation as a share of GDP. Among the LDCs, Asian LDCs were the most successful as a group with regard to improving their capital accumulation to achieve a GDP growth.

It is often argued that globalisation can also aid structural change and productive capacity growth in an economy.[40] For example, an increasing flow of FDI to LDCs is supposed to supplement domestic investment in the country and thereby induce employment generation and income growth. However, the success of external resource flow in promoting structural changes in the receiving country is not automatic and depends critically on a number of domestic factors. FDI inflow in LDCs, given their geographical, structural and historical contexts, is traditionally concentrated in export-oriented primary production sectors. This characteristic is particularly observed in African LDCs. Moreover, FDI inflow is concentrated in a few destinations. UNCTAD (2010b) observed that during the 2000s FDI inflow was mainly targeted in extraction industries of oil-exporting LDCs in Africa, which accounted for more than 60 per cent of the total. Technology and the possibility of skill transfer constitute some other critical factors in this context.[41] In absolute terms, LDCs as a group have faced a sharp decline in FDI inflow since the global financial crisis in 2008. In 2011, the LDCs' share of global FDI reverted to the level in 2001: 0.9 per cent – in contrast to 2.1 per cent in 2008.[42]

The ability of LDCs to attain structural changes is largely linked to the competitiveness of their economies. One can also argue that structural change and competitiveness can complement each other. A closer look at the *Global Competition Report* produced by the World Economic Forum (WEF) for 2012–13 indicated that most LDCs lay in the bottom half of the ranking among the 144 countries surveyed (WEF 2012). In fact, the bottom nine countries in the global ranking are all LDCs (see Annex 1.2). In 2010–11, among the bottom 10, nine countries were LDCs (WEF 2010). Along the score of 1 to 7 (from 'worse' to 'better'), 24 out of 26 LDCs covered by the survey have a score below 4. The average score of the 2012–13 survey was 4.2. Rwanda is the only LDC that matched the average score with 4.24, while the rest of the 25 LDCs achieved below-average scores. Curiously, between the 2010–11 and 2012–13 surveys, the average score of the common set of LDCs improved marginally from 3.41 to 3.49. Among these LDCs eight countries' scores declined. The survey findings indicate that in the near future it will be difficult for the LDCs to compete in the tough global environment and progress towards their desired structural transformation.

Enabling a business environment is another important factor that can facilitate structural change in the LDCs. World Bank (2012) argued that good regulations in a country can help the private sector to expand its businesses. A country's regulations are designed to safeguard the economy while facilitating business activities. In countries where business-related regulations are poorly designed, the growth prospect can be impeded. The *Doing Business Report* of 2013 showed that LDCs are laggards in terms of the 'Ease of Doing Business' index.[43] The average ranking for LDCs was 145.7, compared with 93 globally. Among the LDCs, Rwanda (52), Samoa (57) and Vanuatu (80) were the only three LDCs that ranked above the world average. In 2010, five LDCs were above the global average (World Bank 2010).[44] Indeed, during the period between the two surveys only Rwanda managed to elevate its global ranking. Among the 19 countries in the bottom decile, 14 are LDCs. The above-mentioned findings suggest that LDCs must improve their business environment considerably in the coming decade to compete with the rest of the world. Indeed, they will need to concentrate on undertaking adequate reforms to improve their business environment.

Early signals emerging from available data indicate that the overall progress of LDCs towards achieving positive structural transformation during the first two years of the IPoA period remained limited. The present chapter argues that economic growth in LDCs has been highly influenced by global demand and world prices in recent years. Economic growth during the first two years of the IPoA, in the LDC group and its individual constituents, has remained well below the target of 7 per cent. Moreover, the economic growth has been considerably driven by the mining sector and its distribution of the benefits of economic growth (in terms of providing decent employment for labour) remain suspect. Dependence on 'commodities' and high concentration of the export basket by the LDCs has not alleviated during the early years of the IPoA period. Regrettably, moves towards building productive capacity and establishing an enabling business environment in order to compete in the world market are yet to produce discernible results. It is maintained that a favourable global environment and a country's capacity to undertake the necessary domestic reforms will largely determine the outcome of IPoA in the foreseeable future.

1.4 Attainment of Millennium Development Goals (MDGs)

The idea of catalysing productive capacity development is key to promoting structural changes in LDCs. By exploiting underutilised resources such as the labour force through enhancing the quality of human capital, LDCs may achieve sustainable economic growth. Hence, the attainment of MDGs, articulation of which was influenced by the human development paradigm, is critical for LDCs in the coming years. MDGs have raised the overall awareness regarding a broad vision for development (UN 2011b). IPoA has a special focus on MDGs. Indeed, MDGs are integral parts of IPoA targets. Among the 121 explicit indicators proposed in IPoA, 39 indicators are similar to those in the MDGs.[45] It should be pointed out that the terminal year for the MDGs is 2015, in contrast to 2021 for IPoA – this discrepancy is yet to be clarified.

Hailu and Tsukada (2011) introduced a comparison of the rate of progress on MDG indicators in the periods before and after the adoption of the MDGs of 98 countries and ranked their progress on the basis of the comparison. The study puts forward a number of interesting results. They found that a significant number of sub-Saharan African countries made commendable progress towards attaining MDGs. More importantly, they found that progress up to 2006–08 on the MDGs accelerated faster in LDCs than in non-LDCs.[46] However, the study also argued that most of the LDCs, including the better performers, are unlikely to attain the MDG targets. Hailu and Tsukada (2011) also flagged that better progress was made on indicators related to MDGs 1, 2, 4, 6 and 8. Among the LDCs, Burkina Faso is the best performer; in contrast, Mauritania turned out to be the worst performer.[47] In the following paragraphs, the state of delivery of a number of MDG indicators which overlap with the IpoA are discussed.

1.4.1 Education

Regarding the target to ensure universal access to free primary education (MDG 2), LDCs are only slightly off track, thanks to a significant acceleration of enrolments since 2000. Net enrolment in primary education in LDCs has increased from 58.3 per cent in 2000 to 78.6 per cent in 2010 (Table 1.12). However, the rising primary enrolment rate has not been matched by a proportionate increase in primary school completion rate, which in turn has had an impact on the literacy rate. By the end of 2010, LDCs have a primary completion rate of 64.8 per cent and a youth literacy rate of 71.8 per cent.

1.4.2 Gender equality

Most of the LDCs in Asia and Africa have made good progress in achieving gender equality in primary education, but LDCs as a group are off track to achieve gender parity at the secondary and tertiary levels of education (MDG 3). At the secondary and tertiary levels, there are on average respectively 84 and 58 women per 100

Table 1.12 Education-related indicators for LDCs

Indicator	1990	2000	2005	2008	2010
Net enrolment ratio in primary education (%)	n/a	58.3	71.8	78.3	78.6
Primary completion rate (%)	n/a	45.8	54.7	60.4	64.8
Youth literacy rate (%)	55.6	65.3	n/a	71.1	71.8
Ratio of females to males in primary education (%)	n/a	85.1	89.6	92.2	93.7
Ratio of females to males in secondary education (%)	n/a	80.3	80.3	82.5	84.2
Ratio of females to males in tertiary education (%)	n/a	59.6	58.7	58.3	58.8

n/a denotes not available.
Source: World Bank data

men enrolled. Among other indicators with regard to MDG 3, the percentage of parliamentary seats held by women more than doubled, jumping from 8.7 per cent in 2001 to almost 19.8 per cent in 2010.

1.4.3 Health and nutrition

LDCs have fared better on child nutrition, as measured by the proportion of underweight children under five years (MDG 1), compared with other areas of MDGs. The group has managed to reduce the prevalence of underweight children under five years of age from 40.1 per cent to 18.6 per cent over two decades. Table 1.13 indicates that the LDCs in Asia achieved greater reduction, where the prevalence of underweight children under five years of age declined from 50.9 per cent in 1990 to 29.4 per cent in 2010. However, African LDCs have a lower percentage of children under five years suffering from malnutrition.

But LDCs are off track in ensuring access to safe food and emergency food assistance (MDG 1). The proportion of the population below the minimum level of dietary consumption still remains very high, on average 32 per cent in the years 2006–08.

Progress to reduce child mortality in the LDCs has been encouraging, although not at a sufficient pace to achieve the targets by 2015 (MDG 4). Against the target to reduce the under-five mortality rate and the infant mortality rate by two-thirds between 1990 and 2015, the region reduced both targets by only one-third over the period 1990–2010 (Table 1.14).

The proportion of births with skilled attendants is still less than 50 per cent in most of the LDCs (MDG 5).[48] Only Samoa and São Tomé and Príncipe have a high rate of births with skilled attendants, 81 and 82 per cent respectively in 2010, having had a benchmark of 70 per cent in 1990.[49] Despite this progress, the mortality rate continues to be high in most LDCs. The target is to reduce the maternal mortality ratio by three-quarters, but most of the countries have been able to reduce it by only half. Commendable achievements have been made by Bhutan and Equatorial Guinea, which were able to reduce the ratios of maternal mortality, in deaths per 100,000 live births, from 1,000 and 1,200 in 1990 to 180 and 240 respectively.

Table 1.13 Malnutrition prevalence, weight for age (% of children under five years)

Group	1990	1996	2000	2006	2008	2010
LDCs	40.1 (20)	43.94 (17)	37.63 (24)	33.1 (17)	21.2 (8)	18.6 (13)
LDCs: Africa and Haiti	25.8 (16)	28.4 (12)	32.1 (20)	26.3 (13)	19.2 (6)	17.1 (10)
LDCs: Asia	50.9 (3)	51.9 (4)	43.1 (4)	38.6 (4)	28.0 (2)	29.4 (3)
LDCs: Asia Pacific	16.0 (1)	10.6 (1)	n/a	n/a	n/a	n/a

n/a denotes not available.
Note: Number of countries considered for calculation has been shown in parentheses.
Source: Authors' calculation, based on World Bank data

Table 1.14 Population and maternal health indicators for LDCs

Indicator	1990	2000	2005	2008	2010
Mortality rate, under five years (per 1,000)	170.5	139.0	124.3	115.2	111.5
Mortality rate, infant (per 1,000 live births)	106.4	87.9	79.4	74.3	71.9
Births attended by skilled health staff (% of total)	n/a	31.5	n/a	n/a	42.5
Maternal mortality ratio (per 100,000 live births)	870.0	666.0	550.0	n/a	430.0

n/a denotes not available.
Source: World Bank data

LDCs were among the countries in the world with the highest unmet need for contraceptives and family planning (MDG 5). Access to reproductive health services in African LDCs is limited, but improving steadily, although only 30.9 per cent of married women aged 15–49 were using methods of family planning in 2010 (Table 1.15).

Despite the continued reduction in new HIV infections, many LDCs still have the highest rates in the world. Over the period 1990–2010, HIV prevalence among the population aged 15–24 remains static because of significant improved access to anti-retroviral drugs. In 2004, only 4 per cent of people with advanced HIV infection had access to antiretroviral drugs, but by 2009 the proportion had increased to 39 per cent (Table 1.16).

The burden of malaria and tuberculosis still continues in the group (Table 1.17). With regard to access to safe water and sanitation facilities, LDCs as a group are off track to providing sustainable access to safe drinking water and basic sanitation to all by 2020.

1.4.4 Information and communication technologies

A comparison of internet use in LDCs with that in developing countries, and with developed countries, shows that there are very large gaps between these groups (MDG 8).

Table 1.15 Population and health indicators for LDCs

Indicator	1990	2000	2005	2008	2010
Contraceptive prevalence (% of women aged 15–49)	17.9	27.3	n/a	n/a	30.9
Unmet need for contraception (% of married women aged 15–49)	25.4	23.9	n/a	24.0	24.1
Improved sanitation facilities (% of population with access)	21.3	29.1	32.6	34.4	35.8
Improved water facilities (% of population with access)	52.9	56.4	60.4	62.4	63.3

n/a denotes not available.
Source: World Bank data

Table 1.16 Incidence, prevalence and death rates associated with tuberculosis

Indicator	1990	2002	2010
Incidence (number of new cases per 100,000 population; including HIV infected)	253	263	246
Prevalence (number of existing cases per 100,000 population; including HIV infected)	456	421	365
Deaths (number of deaths per 100,000 population; excluding HIV infected)	52	44	13

Source: UN (2006) and UN (2011b)

Table 1.17 Incidence and deaths associated with malaria in LDCs

Indicator	2009	2010
Incidence (number of new cases per 1,000 population)	173	199
Deaths (number of deaths per 100,000 population)	70	60

Source: UN (2010) and UN (2011b)

The growth in the number of internet users remains low in the LDCs' regions. By the end of 2011, only about 6 out of 100 people in LDCs had internet access, while 11 out of 100 people in landlocked developing countries (LLDCs) and about 27 out of 100 people in small island developing states (SIDS) were internet users (Table 1.18). In the developed world, internet penetration had reached almost 70 per cent by the end of 2011. Among the LDCs, by the end of 2010 São Tomé and Príncipe had the highest internet penetration level of about 18 per cent and Myanmar had the lowest with 0.2 per cent. Lack of infrastructure, limited international internet bandwidth, relatively low educational levels and literacy rates and high cost are the major barriers for this slow growth.

1.4.5 International support measures

A number of advanced economies, particularly the USA, Japan, Canada and the European Union (EU), have, since the 1960s, offered to LDCs preferential tariff access over the years, which is lower than most favoured nation (MFN) rates. This access gradually expanded and widened by a significant margin in 2000 and 2001 (Green and de Gorter 2011). However, it needs to be noted that these preferential tariffs

Table 1.18 Internet users (per 100 persons) by region

Region	1995	2000	2011
LDCs	<0.1	0.1	6.0
LLDCs	<0.1	0.3	11.4
SIDS	0.4	5.2	27.5
Developed	3.2	25.0	70.2

Source: UN (2012)

for LDCs cover a limited number of goods. Candau and Jean (2006) estimated the preference utilisation by the LDCs for the EU and concluded that the utilisation rate is higher for agricultural products than for non-agricultural products. Preferential market access for LDCs in the USA is lower than in the EU.[50]

Table 1.19 indicates that large shares of LDCs' exports to developed countries have benefited from 'duty-free' access, but the share has actually remained stagnant for a decade (MDG 8). It has been repeatedly found that because advanced developing/emerging economies are benefiting from increased 'duty-free' access to developed countries' markets, LDCs' products have been relatively less competitive (UNCTAD 2010a). The trends raise concern regarding erosion of LDCs' trade preferences and also highlight the need to have effective trade preference in the residual development countries' markets (for example, the clothing and textiles sector in the USA).

Table 1.20 indicates average tariff rates imposed by developed countries on agricultural products, textiles and clothing from LDCs. The data reveal declining trends in (average) import tariffs, although they remain relatively higher for clothing.

As is found, market access conditions for LDCs have improved over the last ten years. However, the progress has somewhat stagnated during the last few years. On a positive note, trade preferences granted by a number of developing countries, particularly by BRIC nations,[51] have improved for LDCs. Regrettably, LDCs could not get the benefits from the DFQF regime as the pledged conclusion of the World Trade Organization (WTO) Doha Development Round has been delayed. A number of important issues with regard to WTO negotiation remained outstanding, namely DFQF access for all commodities from all LDCs, simplification of rules of origin (RoO), dealing with non-tariff measures (NTMs) and standards, preferences in services and acceleration of the LDC accession process (UNCTAD

Table 1.19 Proportion of developed country imports from LDCs admitted free of duty (%)

Region	1996	2000	2005	2007	2009	2010
LDCs (excluding arms)	68	75	83	89	89	89
LDCs (excluding arms and oil)	78	70	80	80	80	80

Source: World Bank data

Table 1.20 Average tariffs imposed by developed countries to LDCs

LDCs	1996	2000	2005	2009	2010
Agricultural goods	3.8	3.6	3.0	1.2	1.0
Textiles	4.6	4.1	3.2	3.2	3.2
Clothing	8.2	7.8	6.4	6.7	n/a

n/a denotes not available.
Source: World Bank data

2010a). Growing regional and bilateral agreements have also led to preference erosion for LDCs.

In spite of broader DFQF access received by the LDCs, the share of LDC exports in global exports did not improve drastically (Mikic and Ramjoue 2010). The share of LDC exports in global exports improved from 0.582 per cent in 2001 to 1.062 per cent in 2010 (Table 1.21). The trend has continued during the first two years of the IPoA period – the share stood at 1.115 per cent in 2012. There is no doubt that market access for LDCs in all developed and developing countries needs to be expanded by rejuvenating the fuller implementation of the Doha Development Round at the earliest point. Whilst DFQF access is very important, due attention should also be paid to the growing use of NTMs[52] which limit LDC exports of both agricultural and industrial commodities to the developed and developing countries. Indeed, it is important to ensure greater transparency in this context. Trade in services also needs special attention in the LDCs context. Finally, against the backdrop of changing global economic structure, during the 2010s expansion of South–South trade could be an important avenue to expand LDC exports and provide an opportunity to the LDCs to diversify their market.

Over the period of BPoA implementation (2001–10) ensuring greater flow of ODA and its effectiveness towards development of LDCs have been the core priorities in the global development agenda. The important aspect is an equitable distribution of ODA which will also need to be untied and driven by demand. Considering all these issues, a number of global commitments have been made including Goal 8 of the MDGs.[53] Regrettably, progress has not been the most satisfactory from the LDCs' point of view. This issue is more relevant at this point in time considering the stagnated economic progress in advanced economies and growing austerity measures.

International attention towards MDGs has led to a noticeable growing interest in ODA over the last decade. More importantly, ODA allocation since the Millennium Declaration has become more MDG-sensitive, although total aid flows fell short of promised levels (Hailu and Tsukada 2012). Net total ODA disbursements to LDCs also increased significantly over the past decade, to USD 44 billion in 2010. However, in 2011, members of the Development Assistance Committee (DAC) of the Organisation for Economic Co-operation and Development (OECD) provided USD 133.5 billion of net ODA representing 0.31 per cent of their combined GNI (Tables 1.22 and 1.23). This

Table 1.21 LDCs' share in global merchandise exports (%)

Group	Average 2001–10	2001	2008	2009	2010	2011	2012
LDCs	0.813	0.582	1.040	1.018	1.062	1.110	1.115
LDCs: Africa and Haiti	0.570	0.344	0.804	0.736	0.765	0.803	0.808
LDCs: Asia	0.241	0.235	0.234	0.279	0.295	0.304	0.303
LDCs: islands	0.003	0.002	0.002	0.002	0.003	0.003	0.004

Source: Authors' calculation, based on UNCTADSTAT data

Table 1.22 Annual ODA, billions of current USD

Region	1990	2005	2008	2010	2011
All developing countries	52.8	107.8	122	128.5	133.5
LDCs	15.1	25.9	37.8	44.0	n/a

n/a denotes not available.
Source: UN (2011b)

Table 1.23 Share of OECD/DAC donors' gross national income (%)

Region	1990	2005	2008	2010	2011
All developing countries	0.32	0.32	0.30	0.32	0.31
LDCs	0.09	0.08	0.09	0.11	n/a

n/a denotes not available.
Source: UN (2011b)

was a (–) 2.7 per cent drop in real terms compared with 2010, the year it reached its peak (OECD 2012b). Net bilateral ODA flows to LDCs are estimated to have recently dropped by 8.9 per cent in real terms to USD 27.7 billion in 2011, whereas overall ODA declined by only 3 per cent. This decrease reflects fiscal constraints in several DAC countries, which consequently have affected their ODA allocations. Early estimates by OECD have suggested that bilateral ODA from DAC countries to LDCs fell by 13 per cent (in real terms) to about USD 26 billion (Ahmad et al. 2013). Two reasons for this have been mentioned in this study: prolonged financial crisis and lower levels of debt relief in 2012 compared to with 2011. Indeed, only 10 out of 25 DAC donors met the 0.15 per cent ODA/GNI target for LDCs in 2011.

It is also found that several donors reduced their bilateral ODA targets to LDCs between 2010 and 2011. This trend has also continued in 2012. UN (n.d.) made a detailed situation analysis and indicated that, among the 23 donor countries, 17 reduced their ODA between 2010 and 2011.[54] Overall, the average share of ODA as a percentage of GNI slightly decreased from 0.11 to 0.10 in the period of 2010–11. This trend may continue over the short run as the global economic outlook remains unimpressive. OECD (2012a) apprehended that at least half of the fragile and conflict-prone countries in the world will face a decline in ODA inflow between 2012 and 2015.

Not all LDCs are equally preferred by the donors, in many ways. The preferences of donors overlap, and 'aid darlings' and 'aid orphans' are emerging among the LDCs. Unequal distribution of ODA is an emerging area of concern, particularly at a time when ODA has become more scarce. In the Accra Agenda for Action, the donor community pledged to improve its allocation of ODA across countries in need. They further expressed their intention to address the issue of under-aided countries. These words were also reiterated during the Busan Forum. However, progress with regard to this challenge is not visible. Regrettably, the Busan Forum also did not recognise the special attention required for LDCs (Guillaumont 2011). OECD (2012b) identified

nine LDCs as under-aided.[55] These under-aided countries have better institutional capacity but are lagging behind in meeting MDGs, which would require a higher allocation of resources.[56]

The commitments made by the donors in subsequent international forums with regard to aid may help deliver the MDG targets. It is important that aid distribution by the donors considers both the demand from the recipient country and its institutional capacity to make use of it. Besides addressing this issue of 'under-aided countries', the donors will also have to ensure transparency both globally and locally, accelerate efforts to untie ODA, and make ODA more predictable at the country level as well as globally (OECD 2012c).

Against the backdrop of a volatile and unpredictable ODA regime, it has become extremely important that LDCs create a stronger base for domestic resource mobilisation within the respective economies.[57] Indeed, domestic resources are essential for more equitable distribution of income and the eradication of poverty (Wangwe and Charle 2004). It is thus important to provide required financial and technical assistance to LDCs to improve their capacity to generate a broader tax base. Besides domestic resource mobilisation, due attention should be given towards LDCs' capacity to fight illicit financial flows. A number of global estimates indicate that LDCs are losing a substantial amount of capital and tax due to this phenomenon.[58] On a welcome note, IPoA has highlighted the issue and charted out separated actions for LDCs and their development partners. However, to implement the necessary infrastructure, both hard and soft, a typical LDC will also need both financial assistance and technical support from its development partners (Rahman et al. 2011).

1.4.6 Post-2015 agenda

Certainly, MDGs have successfully focused world attention to a broad-based development framework (Guillaumont 2013). The initiative is approaching the finishing line of its 15-year period. The General Assembly of the United Nations is expected to adopt a new set of goals, post-MDGs 2015, following an intergovernmental negotiation process. An official process has already been put in place.[59] Meanwhile, a number of initiatives outside the UN framework are also working to conceptualise the post-2015 development agenda.[60] It is also important to consider that, following the MDG initiative, a number of propositions with regard to a global development agenda emerged. The most notable among these is the Sustainable Development Goals (SDGs), which came forward following the Rio+20. SDGs reaffirmed the need to achieve sustainable development by promoting economic development, social inclusion, environmental sustainability and good governance. Indeed, the post-2015 development agenda is expected to be informed by both the unfinished agenda of MDGs and these new initiatives.

The above-mentioned reports, both from the UN framework and outside of it, did not assign adequate importance to development challenges faced by the LDCs which generally originate from a number of different sources, particularly in view of the

heterogeneity and specific difficulties confronting LDCs (Khatun 2013). The critical question is how the interests and concerns of the LDCs will be addressed within a universal framework of international development goals. Will the issue of productive capacity development for structural change of the LDC economies get proper attention in the new framework? Will there be adequate resources – not necessarily only ODA – to underwrite the implementation of the new set of goals?

1.5 Concluding remarks

The second report of the UN Secretary General with regard to implementation of IPoA argued that LDCs have made some progress on a number of IPoA goals and targets (UN 2013c). The findings from the earlier sections of this chapter suggest that it will be too early to draw such a specific conclusion. Rather, the early signals of IPoA implementation do not confirm these perceived positive trends in most cases. In this connection, a number of broad messages derived for the foregoing analysis have been highlighted in the following paragraphs.

First, any early positive signals pertaining the core objectives of IPoA are yet to be visible. The structural flaws afflicting the development process of the LDCs continue to remain pervasive in the period following IPoA. Arguably, one cannot expect a major breakthrough in overcoming the structural bottlenecks of the LDCs in just two years – the period that has elapsed since the hosting of the Istanbul Conference. The UN Secretary General's report mentioned structural change 'taking hold' in a few LDCs. However, the document also noted that LDCs continued to face persistent poverty, serious structural impediments to economic growth, slow human development and high exposure to economic and natural shocks. The performance of LDCs with regard to economic growth during the IPoA period under review remained largely off track from the target. Moreover, it remained hostage to external developments.

Second, it appears that economic performance of LDCs is yet to recapture its pre-global economic crisis benchmark. The recent economic trends of LDCs indicate the need for a set of more dynamic and concentrated efforts towards implementation of IPoA within an evolving global environment. In this connection, better economic integration of the LDCs with the emerging economies of the South may provide some safeguard to LDCs. This was also mentioned in the UN Secretary General's report, cited earlier. However, recent figures suggest that these emerging economies are also struggling to hold their ground. In fact, the global financial and economic crisis has unleashed a volatile period which is also affecting the LDCs. The slow progress of LDCs in the early years of IPoA has been attributed by this study largely to the unfavourable external circumstances. The dearth of domestic capacity has also contributed to LDCs' inability to demonstrate resilience in the face of an adverse global scenario. With the major global economic trends not likely to rebound immediately, implementation of IPoA has to maintain emphasis on aspects that would strengthen the LDCs' capacity to mitigate the adverse impact of external shocks. An important element would be the efforts of the LDCs to develop productive capacities geared to domestic and regional markets and to improve competitiveness of their exportables.

It is important for all LDCs to undertake and pursue a domestic reform agenda towards this end.

Third, heterogeneity among the LDCs in terms of their demographic and key economic indicators is increasing and requires closer attention during the implementation period of IPoA. While IPoA in principle recognised the heterogeneity among the LDC group, initiatives to address this issue by designing 'tailor-made' country-specific strategies is not yet visible. Indeed, each LDC needs to first put forward a comprehensive plan to achieve the objectives of IPoA.

Fourth, delivery on MDGs in the LDCs is faltering, particularly in the wake of the global economic crisis and due to a slower global recovery. The MDG framework constitutes a set of goals and targets without a corresponding comprehensive set of strategic components that would have ensured fuller delivery. Given their extreme vulnerability and the magnitude of their poverty, which are compounded by many extraneous constraints, the LDCs have the least chance as a group under present conditions to attain the MDGs by 2015. Nonetheless, there is no scope to distract from vigorous implementation of the MDGs as the initiative approaches the finishing line. A very important step in this regard would be to derive synergy between the implementation of IPoA and the dash for achieving the MDGs in the next couple of years in the LDCs. This approach needs to be carried forward in the post-2015 dispensation. Indeed, it is also appropriate to think beyond the current MDG framework in order to lay the conceptual and analytical basis for new national development strategies to be based on the post-2015 international development framework and goals.

Fifth, the international support measures continue to remain inadequate for the LDCs. Indeed, ODA flow to LDCs is falling in real terms and is becoming more skewed in nature. Recalling that the Busan Partnership for Effective Development Co-operation did not mention the LDC perspectives, the post-Busan development co-operation forums will need to consider the IPoA goals and targets and the revealed trends. A positive outcome for LDCs from WTO negotiations, including a speedy conclusion of the Doha Development Round, has become a far cry. In this context, the UN Secretary General's report stressed the need for mainstreaming trade policy into domestic and international development strategies, improving supply-side capacity of LDCs, trade facilitation and effective DFQF market access for LDCs in an integrated manner. It remains uncertain that one would achieve a consensus in favour of the 'LDC Package' at the ninth ministerial meeting of the WTO (MC9) which is to take place in Bali in early December 2013. Similarly, one has to observe how the United Nations Framework Convention on Climate Change (UNFCCC) addresses the concerns of the LDCs as most of them are affected by the adverse impact of climate change. Indeed, many global development agenda-setting discussions, including the recent post-MDG discourse, hardly mention the concerns of LDCs and the means to address them. It is unfortunate that the voice of the LDCs continues to be marginalised in terms of global attention.

Sixth, progress towards graduation from the LDC group has become more complex. On one hand, more LDCs are lined up for graduation following the

latest review by CDP in 2012; on the other hand, a smooth and sustainable transition of these candidate countries remains suspect. The latest report of CDP came up with a number of recommendations, including (i) to extend LDC-specific market access to enable graduated countries to adjust to the new conditions; (ii) to support implementation of the transition strategy and avoid any abrupt reductions in the ODA; and (iii) to use both LDC and EVI criteria for allocating ODA. Most importantly, any uncertainty with regard to support measures and facilities during the transition period needs to be abolished. It may be emphasised that graduation of the LDCs has become a part of the development agenda of the group. The UN Secretary General's report also urged the LDCs and their development partners to intensify efforts towards mainstreaming IPoA. In this context, distribution of available resources in the forms of trade preferences and ODA disbursement within the LDC group also has a lot of scope for improvement. The report mentioned three countries (Samoa, Cambodia and Lao People's Democratic Republic) that were preparing specific development plans and undertaking measures for a smooth transition towards graduation. These positive endeavours at a national level have to be complemented by international development partners in consultation with the LDCs, by preparing a framework and a set of guidelines towards ensuring smooth and sustainable transition of specific LDCs towards graduation from the group.

Admittedly, actions on the domestic front by the LDCs are no less important for intensifying the implementation of IPoA. It is quite unclear to what extent LDC governments are committed to reform their respective domestic economic plans, strategies and implementation mechanisms to integrate the objectives and goals set out by the IPoA. Strengthening institutional capacity, improving transparency and accountability in public life and giving a voice to the marginalised citizens in the LDCs are no less important in this context. The LDCs that are currently experiencing violent domestic conflict, as well as the post-conflict LDCs, have in this regard the added burden of peacebuilding and peacekeeping.

Keeping up the political commitment on the part of the international development community to the LDCs, as well as responsiveness of the LDC governments towards their own citizens, will be critical in generating a momentum for fuller and faithful implementation of IPoA in the coming years.

Annex 1.1 LDCs under SIDS, LLDCs and countries in conflict categories

Category	Non-conflict LDCs	LDCs in conflict
Small island developing states (SIDS)	Kiribati	Comoros
	Samoa	Guinea-Bissau
	São Tomé and Príncipe	Haiti
	Tuvalu	Solomon Islands
	Vanuatu	Timor-Leste
Landlocked developing countries (LLDCs)	Bhutan	Afghanistan
	Burkina Faso	Burundi
	Lao People's Democratic Republic	Central African Republic
	Lesotho	Chad
	Malawi	Ethiopia
	Mali	Nepal
	Niger	Rwanda
	Zambia	Uganda
Others	Bangladesh	Angola
	Benin	Cambodia
	Djibouti	Democratic Republic of the Congo
	Equatorial Guinea	Eritrea
	Gambia	Guinea
	Madagascar	Liberia
	Mauritania	Mozambique
	Myanmar	Sierra Leone
	Senegal	Somalia
	Togo	Sudan
	United Republic of Tanzania	
	Yemen	

Source: Cortez and Kim (2012) and UN-OHRLLS (2009)

Annex 1.2 Ranking and score of LDCs in WEF's global competitiveness index

LDCs	2012–13 rank	GCI score (1–7)	2011–12 rank
Rwanda	63	4.24	70
Cambodia	85	4.01	97
Gambia	98	3.83	99
Zambia	102	3.80	113
Liberia	111	3.71	n/a
Senegal	117	3.66	111
Bangladesh	118	3.65	108
Benin	119	3.61	104
Tanzania	120	3.60	120
Ethiopia	121	3.55	106
Uganda	123	3.53	121
Nepal	125	3.49	125

(*continued*)

Annex 1.2 Ranking and score of LDCs in WEF's global competitiveness index (continued)

LDCs	2012–13 rank	GCI score (1–7)	2011–12 rank
Mali	128	3.43	128
Malawi	129	3.38	117
Madagascar	130	3.38	130
Burkina Faso	133	3.34	136
Mauritania	134	3.32	137
Timor-Leste	136	3.27	131
Lesotho	137	3.19	135
Mozambique	138	3.17	133
Chad	139	3.05	142
Yemen	140	2.97	138
Guinea	141	2.90	n/a
Haiti	142	2.90	141
Sierra Leone	143	2.82	n/a
Burundi	144	2.78	140

Notes: GCI = Global competitiveness Index.
Source: WEF (2012)

Annex 1.3 Rank of countries by MDG performance according to Hailu and Tsukada (2011)

Rank	LDC
1	Burkina Faso
2	Angola
3	Central African Republic
4	Nepal
5	Senegal
6	Ethiopia
7	Togo
8	Mali
9	Niger
10	Burundi
11	Madagascar
12	Myanmar
13	Gambia, The
14	Benin
15	Zambia
16	Rwanda
17	Afghanistan
18	Democratic Republic of the Congo
19	Chad
20	Guinea
21	Mozambique
22	Tanzania
23	Uganda

(*continued*)

Annex 1.3 Rank of countries by MDG performance according to Hailu and Tsukada (2011) (continued)

Rank	LDC
24	Bangladesh
25	Lesotho
26	Sierra Leone
27	Liberia
28	Yemen, Rep.
29	Malawi
30	Bhutan
31	Cambodia
32	Somalia
33	Djibouti
34	Eritrea
35	Equatorial Guinea
36	Lao People's Democratic Republic
37	Sudan
38	Mauritania

Source: Hailu and Tsukada (2011)

Notes

1 The authors benefitted from the insightful comments provided by Professor Rorden Wilkinson, University of Manchester; Professor Patrick Guillaumont, Fondation pour les Études et Recherches sur le Développement International (FERDI); and Professor Mehmet Arda, Galatasaray University, on an earlier draft. Comments received from Professor Oliver Morrissey, University of Nottingham, and Mr Christophe Bellmann, International Centre for Trade and Sustainable Development (ICTSD), were also helpful.

2 It is to be recognised that the present analysis is constrained by a lack of data for the most recent year (2012). However, one could readily identify the incipient post-Istanbul trends in the LDCs. A separate dedicated benchmarking exercise is also undertaken as part of the present volume, which can later be used to monitor the composite implementation status of IPoA in a quantified manner by Basnett et al. (see Chapter 2).

3 The new members were added gradually in 14 stages. The LDC graduation and inclusion criteria have also gone through a number of changes over the years (see Guillaumont 2009). Recently, a number of new propositions regarding changes in LDC criteria have been put forward (Cortez and Kim 2012, Guillaumont 2009).

4 Sikkim in 1975 was merged with India, and the Arab Republic of Yemen and the Democratic Republic of Yemen were united in 1991.

5 Drabo and Guillaumont (see Chapter 3) provide a more comprehensive assessment on graduation prospects of LDCs during the IPoA implementation period.

6 In fact its ranking in EVI makes it the eighth most vulnerable country under the review.

7 This is partly a result of change in EVI design.

8 The average for 2008–10 was USD 15,090, which puts the country in the high income group.

9 Cortez and Kim (2012) also observed that among the LDCs there are vast differences between the 25 LDCs not in conflict and the 23 LDCs in conflict. They estimated that the average GNI per capita of LDCs (in USD terms) not in conflict was 2.5 times better than their counterparts, while with regard to HAI index they were 1.5 times better. In terms of EVI index, non-conflict LDCs were also in a better position.

10 Using the physical vulnerability to climate change index (PVCCI), Guillaumont and Simonet (see Chapter 8) concluded that LDCs are more vulnerable compared to other developing countries. However, they also pointed out that the degree of vulnerability faced by all member countries is not homogeneous. The study also focuses on the climate change issue in connection with IPoA.
11 The four priority areas are (i) productive capacity; (ii) agriculture, food security and rural development; (iii) trade; and (iv) commodities. Among the four, higher importance has been attached to the issue of enhancing LDCs' productive capacity (Bhattacharya and Hossain 2011a).
12 For example, oil-exporting Angola and Equatorial Guinea achieved remarkable growth rates during 2004–08; the average growth rates of these two countries were 17.4 per cent and 17.1 per cent respectively.
13 Karshenas (2009) estimated that the economic crisis caused a rise in the number of people living in poverty in LDCs by 6.1 million in Africa and by 1.2 million in Asia at the end of 2010. UNCTAD (2010a) maintained that if poverty alleviation rates during the first half of this decade (2011–15) go back to those of the 1990s (instead of the poverty reduction rates of the period 2000–07 being sustained) 77 million more people in the LDCs could be living in extreme poverty at the end of 2015.
14 A UN estimate (2012) indicated that economic growth of LDCs could be around 4.0 per cent in 2011.
15 It is important to recognise that these figures are in nominal terms and it was a time of high commodity prices. Hence, in real terms, the increase in wellbeing was obviously much lower.
16 Excluding Timor-Leste, the decline was about 5.1 per cent.
17 Includes Bangladesh, Bhutan, Cambodia, Haiti, Lesotho, Nepal.
18 Includes Angola, Chad, Equatorial Guinea, Sudan, Timor-Leste, Yemen.
19 Includes Burundi, Central African Republic, Democratic Republic of the Congo, Guinea, Mali, Mauritania, Mozambique, Niger, Sierra Leone, Zambia.
20 Includes Afghanistan, Benin, Burkina Faso, Guinea Bissau, Kiribati, Liberia, Malawi, Solomon Islands, Somalia, Tuvalu, Uganda.
21 Includes Comoros, Djibouti, Eritrea, Ethiopia, Gambia, Rwanda, Samoa, São Tomé and Príncipe, United Republic of Tanzania, Vanuatu.
22 Includes Lao People's Democratic Republic, Madagascar, Myanmar, Senegal, Togo.
23 Lao People's Democratic Republic, Myanmar, Togo.
24 Export earnings of Angola and Equatorial Guinea declined by (–) 36.1 per cent and (–) 39.0 per cent respectively in 2009.
25 In 2012, world economy registered a growth rate of 2.2 per cent while global export increased by only 0.2 per cent.
26 The concept of structural transformation has been discussed by academicians for decades. Among others, one may refer to Lewis (1954); Rostow (1960); Kuznets (1966); Syrquin (1988); and Lin (2012).
27 Burkina Faso, Burundi, Guinea-Bissau, Malawi, Solomon Islands, Somalia and Timor-Leste.
28 Afghanistan, Benin, Ethiopia, Liberia, Mali, Mauritania and Uganda.
29 Comoros, Gambia, Maldives, Rwanda, Samoa, São Tomé and Príncipe, Senegal, the United Republic of Tanzania and Vanuatu. Among these, Maldives later graduated from the LDC group.
30 Haiti, Lao People's Democratic Republic, Madagascar and Myanmar.
31 One needs to remember that from the perspective of a broad-based development outcome the agriculture sector remains a critical factor and hence IPoA identified agriculture as a priority area. While presenting a detailed IPoA monitoring report in this area, Lunogelo and Baregu (see Chapter 5) mentions that this issue has also received more attention in recent times in the policy sphere.
32 One can link the observed structural change with a country's involvement in global trade during 2001–10. GDP growth performances of LDCs were largely linked with the global demand during this period. Hence, it is no wonder that the manufacturing commodities-exporting LDCs of Asia made better shifts towards structural change, albeit on a limited scale. The average share of the manufacturing sector in GDP of Asian LDCs increased to 13.9 per cent in 2001–10 from 12.4 per cent in 1991–2000. In contrast, the average share of the manufacturing sector in GDP of African LDCs declined somewhat to 7.8 per cent in 2001–10 from 8.3 per cent in 1991–2000.
33 Ancharaz et al. (see Chapter 7) also provides a detailed monitoring report on IPoA in the priority area of trade.

34 Countries in the African LDC group were classed as mineral exporters (with an export share of 70.3 per cent in 2005–06), while those in the Asian LDC group were low-technology manufactures exporters (with an export share of 75.4 per cent in 2005–06), and those in the island LDC group were agro-based exporters (with an export share of 36.8 per cent in 2005–06).
35 The concept of 'commodity' is defined as products of agriculture, mining, fisheries and forestry sectors in the study. The issues related to commodities in the context of IPoA are covered in detail by (see Chapter 6).
36 Duarte and Restuccia (2007) found that sectoral labour productivity is closely linked with structural transformation and aggregate labour productivity across countries. McMillan and Rodrik (2011) showed that a large part of the difference between the economic growth in Asia and that in Latin America and Sub-Saharan Africa was explained by the 'variation in the contribution of structural change to overall labour productivity'.
37 This issue is comprehensively discussed in Rahman and Sadique (see Chapter 11).
38 For details on this issue, see Nieto-Parra and Videau (Chapter 4).
39 In other developing countries gross capital formation as a percentage of GDP was about 32.0 per cent in 2010.
40 Held et al. (1999) argued that international trade can perform as a catalyst to induce structural change. Shackman et al. (2002) argued that doubled tourism, enhanced flow of migrant workers and increased inflow of FDI are the results of globalisation and can promote structural changes.
41 Bhattacharya (2004) mentioned a number of such 'good' characteristics of FDI: (i) joint ventures between local capital and FDI with equity participation; (ii) production of labour-intensive manufactures; (iii) physical infrastructure development; (iv) technology transfer; (v) investment in export-oriented enterprises; (vi) processing of local raw materials; (vii) location in peri-urban areas; (viii) having greater forward and backward linkages; and (ix) a good record of corporate social responsibility.
42 LDCs' FDI issue in the context of IPoA has been discussed in Moazzem and Raz (Chapter 10).
43 The survey included 185 countries of which 46 were LDCs. Myanmar and Tuvalu remained outside the survey. The newly inaugurated South Sudan was also not included.
44 Samoa (57), Vanuatu (59), Rwanda (67), Kiribati (79) and Zambia (90).
45 Within these 39 indicators, three are mentioned twice under different priority areas. Malnutrition prevalence (weight for age) and proportion of population below the minimum level of dietary consumption are mentioned in both Priority Area 2 (Agriculture, Food Security and Rural Development) and Priority Area 5 (Human Social Development). Proportion of seats held by women in the national parliament is mentioned in both Priority Area 5 and Priority Area 8 (Good Governance at All Levels).
46 According to their ranking, 8 of the 10 best-performing countries are LDCs. In contrast, only two LDCs (Sudan and Mauritania) are among the bottom 20 performers. However, a caveat needs to be mentioned here. It appears that the countries with a higher benchmark are more likely to be undermined by the methodology used in preparing the ranking, as these countries had already achieved a better result prior to the benchmark considered.
47 See the complete ranking for LDCs in Annex 1.3.
48 For example, Central African Republic, Chad, Guinea-Bissau, Madagascar, Sierra Leone, Tanzania, Afghanistan, Bangladesh, Lao People's Democratic Republic and Timor-Leste.
49 Among other successful countries, the proportion of births with skilled attendants in Burundi, Democratic Republic of the Congo, Gambia, Lesotho, Mozambique, Sierra Leona, Togo, Bhutan and Cambodia remain moderate at between 50 and 80 per cent in 2010.
50 However, estimates by Brenton (2006) and Dean and Wainio (2006) found that the USA has improved preferential access for African countries in recent years.
51 Brazil, the Russian Federation, India and China.
52 For example, sanitary and phytosanitary (SPS) and technical barriers to trade (TBT) measures.
53 In 2002 the Monterrey Consensus acknowledged the partnership between donor and recipient. In 2003 a high-level forum on aid harmonisation was organised in Rome, followed by the Paris Declaration on Aid Effectiveness in 2005. During the Accra Agenda for Action in 2008, donors committed to improving allocation of resources across the countries. The 2011 Busan High Level Forum on Aid Effectiveness is the latest initiative in this context.

54 With respect to the countries which aimed to reach the minimum UN target of 0.15 per cent of GNI, Portugal emerged as the only successful country in 2011. Canada, which had reached the target of 0.15 per cent of GNI in 2010, decreased its ODA to 0.11 per cent of GNI in 2011. All other donor countries (which are yet to meet the target in 2010) further moved away in 2011. Among the countries which reached the 0.2 per cent of target, ODA reduced in most countries (except Sweden and United Kingdom).

55 Bangladesh, Burkina Faso, The Gambia, Guinea, Madagascar, Malawi, Nepal, Niger and Togo.

56 This issue was also stressed by Khatun and Ahamad (see Chapter 9). The study deals with the ODA-related issues in IPoA.

57 This issue has also been highlighted by Bhattacharya and Akbar (see Chapter 12) while monitoring IPoA implementation progress in the area of domestic resource mobilisation. Using generalised least square (GLS) and maximum likelihood (ML) methods, the authors also stressed the need for structural transformation; an improved legal and regulatory framework and transparent and accountable institutions; and balanced integration with the global economy for higher domestic resource mobilisation.

58 For example, see Christian Aid (2009); Kar (2011); Kar and Freitas (2012).

59 A High Level Panel of Eminent Persons on the Post-2015 Development Agenda has been formed by the UN Secretary General to inform the aforementioned intergovernmental negotiation. The first report of the Panel is now available. See UN (2013a). The other notable contributions towards this end are the report of regional commissions (UN 2013b) and the open working group (OWG) on SDGs.

60 Among others, two notable contributions came from United Nations Global Compact (2013) and Sustainable Development Solutions Network (2013). Southern Voice on Post-MDG International Development Goals, a network of forty-eight think tanks from Asia, Africa, and Latin America, is also active contributing along with other non-government organisations.

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Chapter 2

The Istanbul Programme of Action for LDCs: A Monitoring and Benchmarking Exercise

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2.1 Introduction

The United Nations (UN) Least Developed Country (LDC) Conference in 2011 adopted the Istanbul Programme of Action (IPoA) to be implemented by LDCs and development partners (which include traditional donors and emerging developing countries) to improve the economic and social conditions in the world's poorest countries. The programme foresees favourable measures for LDCs in international trade, development financing and technical assistance, building up productive capacity, etc. However, the goals and targets as specified in the IPoA are, in most cases, not concretely defined. This chapter seeks to redress this shortcoming and suggests an approach towards monitoring progress vis-à-vis quantifiable targets that correspond to the objectives sought by IPoA.

There is a large amount of literature on constructing indices, including the World Economic Forum competitiveness index, the UN economic vulnerability index and others. We do not review it here but we have done so elsewhere. Annex 2.1 includes a summary of 30 indices reviewed by Cantore et al. (2011).[2] The crucial aspect we emphasise here is that there appear to be no indices that specifically measure structural transformation for individual LDCs linked to IPoA objectives. This chapter provides a preliminary IPoA index, which can be improved over time.

The structure of this chapter is as follows. In Section 2.2 we provide a brief overview of IPoA and its objectives, which ultimately translate into the need to achieve structural transformation in LDCs. We then, in Section 2.3, proceed to review in some detail potential indicators that could be used to monitor progress vis-à-vis the objectives of IPoA. Here we discuss some of the challenges involved with respect to monitoring progress across the priority areas as defined by IPoA. Despite these challenges, Section 2.4 uses some of the indicators we have matched to the objectives of IPoA to create an index which serves two main purposes: first, it benchmarks LDCs in terms of their current position; and second, it provides a reference point from which progress can be monitored in the future. We acknowledge major caveats in this process. Section 2.5 concludes the chapter.

2.2 Overview of the IPoA objectives

The IPoA marks a major change in relation to the global set of goals and objectives towards LDCs. The previous programme of action (the Brussels Programme of Action agreed in 2001 – the BPoA) emphasised social goals and prioritised spending on social

areas; this followed the UN conference that agreed the Millennium Development Goals (MDGs), which focused on areas such as primary education, health and poverty. Over the past decade, however, a view has emerged that the MDGs helped raise the profile of development but skewed development attention towards the short-term alleviation of poverty, at the expense of thinking about the long-term determinants of growth and development. The IPoA seeks to redress this imbalance and instead focuses on issues such as structural transformation, diversification, productive capacities – precisely those areas demanded by LDCs and their constituents.

The IPoA is already proving to be lasting beyond the UN LDC IV 2011 conference. For example, paragraph 34 of the Rio + 20 text of June 2012 reads:

> …we reaffirm that the [IPoA] outlines the priorities of [LDCs] for sustainable development and defines a framework for renewed and strengthened global partnership to implement them. We commit to assist the least developed countries with the implementation of the [IPoA] as well as in their efforts to achieve sustainable development.

The IPoA calls for a renewed and strengthened partnership for development (Jones 2011). It does this in several ways. It includes the following five high-level *objectives* (paragraph 28) achieving economic growth of 7 per cent per annum, building human capacities, reducing vulnerability, enhancing finances and enhancing good governance. There are also eight *principles* (paragraph 29): ownership, integrated thinking, partnerships, results, peace, equity, voice, and state and market. It also identifies priority areas for action by LDCs and development partners.

Notwithstanding the ambition of IPoA, in order to ensure that it avoids some of the pitfalls of BPoA[3] there is a need to better link objectives to specific outcomes, so that monitoring of progress against targets can be improved. Quantitative targets, which are sometimes explicitly but mostly implicitly referred to, need to be identified, so that the progress of the LDCs can be monitored, which is related both to the actions of LDCs themselves, but also to those of development partners. This means formulating specific numerical targets for objectives where this is possible. In relation to some of the principles and partnerships specified for IPoA it may be more difficult to formulate measures and targets for all of these, although possible for some. In this chapter, we begin to identify indicators which could be used to monitor the progress of LDCs linked to the objectives of IPoA and its priority areas.

2.3 Indicators for benchmarking and monitoring IPoA

Where possible, we propose quantifiable and concrete indicators for monitoring progress on IPoA in relation to each of the eight identified priority areas for action, which are:

A. Productive capacity;

B. Agriculture, food security and rural development;

C. Trade;

D. Commodities;

E. Human and social development;

F. Multiple crises and other emerging challenges;

G. Mobilising financial resources for development and capacity building; and

H. Good governance at all levels.

For most priority areas the IPoA contains a set of 'goals and targets', followed by 'joint actions', 'actions by LDCs' and 'actions by development partners'. Each of these aspects could be linked to quantifiable indicators, as we have discussed at some length in our background paper (Basnett et al. 2013). For ease, and also brevity, here we identify indicators for monitoring progress of targets within each of the aforementioned priority areas, or pillars of IPoA, regardless of whom the action is required by (the background paper has separate tables for monitoring actions). We match indicators that could be used to monitor progress of IPoA to specific objectives and focus on those that already exist within international databases and could therefore be relatively easily used. The purpose of this is to begin to identify a select number of indicators that could be used to monitor the progress of LDCs across the stated objectives of all eight pillars.

2.3.1 Productive capacity

The IPoA has a number of goals related to the development of productive capacity within LDCs, some of which are fairly specific such as the achievement of economic diversification. Table 2.1 presents possible indicators that could be used to monitor progress against targets, and also introduces some discussion around their use.

2.3.2 Agriculture, food security and rural development

Table 2.2 suggests a number of indicators that can be used to monitor objectives in the priority area of agriculture, food security and rural development. As can be seen, illustrative indicators are readily available in a number of international databases. However, we have found that there are severe data limitations with regard to the available information in LDCs – an issue which we return to later.

2.3.3 Trade

According to IPoA, the joint actions required on trade by both development partners and LDCs include:

- Realising the timely implementation of duty-free and quota-free (DFQF) market access, on a lasting basis, for all LDCs, consistent with the Hong Kong Ministerial Declaration adopted by the World Trade Organization (WTO) in 2005;
- Reaffirming the provision of special and differential treatment for LDCs in the WTO agreements; and
- Facilitating and accelerating negotiations with acceding LDCs based on the accession guidelines adopted by the WTO General Council in December 2002.

Table 2.1 Targets and indicators for productive capacity

Targets for productive capacity (Area A)	Indicator	Comments
(a) Increase significantly the value addition in natural resource-based industries, paying special attention to employment generation	• Industry, value added (constant 2000 USD) • Industry, value added (annual % growth) • GDP per person employed (constant 1990 PPP $) • Employment in industry (% of total employment)	• Defining natural resource-based industry may be a point of ambiguity • Industry is classified as comprising 'divisions 2–5 (ISIC revision 2) or tabulation categories C–F (ISIC revision 3) and includes mining and quarrying (including oil production), manufacturing, construction, and public utilities (electricity, gas, and water)' (World Bank) – hence this could be representative of resource-based industry • GDP per person employed could be a measure of labour productivity but this is not GDP per person employed in industry (natural resource-based or otherwise)
(b) Diversify local productive and export capability with a focus on dynamic value-added sectors in agriculture, manufacturing and services	• Agriculture, value added (constant 2000 USD) • Agriculture, value added (% of GDP) • Manufacturing, value added (constant 2000 USD) • Manufacturing, value added (% of GDP) • Services, etc., value added (constant 2000 USD) • Services, etc., value added (% of GDP) • Agricultural raw materials exports (% of merchandise exports) • Manufactures exports (% of merchandise exports) • Food exports (% of merchandise exports) • Fuel exports (% of merchandise exports)	• Can consider using the World Bank's Economic Diversification and Growth in Developing Countries Toolkit, or an index built along the same lines

(continued)

Table 2.1 Targets and indicators for productive capacity (continued)

Targets for productive capacity (Area A)	Indicator	Comments
	• Ores and metals exports (% of merchandise exports) • High-technology exports (% of manufactured exports) • Merchandise exports (current USD) • Gross capital formation (% of GDP) • GDP per capita PPP (constant 2005 international $)	
(c) Significantly increase access to telecommunication services and strive to provide 100 per cent access to the internet by 2020	• Internet users (per 100 people) • Fixed broadband internet subscribers (per 100 people) • Mobile cellular subscriptions • Mobile cellular subscriptions (per 100 people) • Telephone lines • Telephone lines (per 100 people) • Investment in telecoms with private participation (current USD)	
(d) Strive to increase total primary energy supply per capita to the same level as other developing countries	• Energy production (kg of oil equivalent)	• Need a comparative measure (average of other developing countries' TPES?)
(e) Significantly increase the share of electricity generation through renewable energy sources by 2020	• Electricity production (kWh) • Electricity production from renewable sources (kWh) • Electricity production from renewable sources, excluding hydroelectric (kWh) • Electricity production from renewable sources, excluding hydroelectric (% of total)	
(f) Enhance capacities in energy production, trade and distribution with the aim of ensuring access to energy for all by 2030	• Energy production (kg of oil equivalent) • Energy use (kg of oil equivalent per capita) • Investment in energy with private participation (current USD) • Energy imports, net (% of energy use) • Alternative and nuclear energy (% of total energy use)	• Capacity of energy production may differ from actual production • These indicators do not capture distribution of energy (access for all not represented by a per capita measure)

(continued)

Table 2.1 Targets and indicators for productive capacity (continued)

Targets for productive capacity (Area A)	Indicator	Comments
(g) Ensure that the LDCs have significant increase in combined rail and paved road mileage and sea and air networks by 2020	• Fossil fuel energy consumption (% of total) • Electric power consumption (kWh per capita) • Cereal yield (kg per hectare) • Rail lines (total route-km) • Roads, paved (% of total roads) • Roads, total network (km) • Air transport, registered carrier departures worldwide • Air transport, freight (million tonne-km) • Air transport, passengers carried • Liner shipping connectivity index (maximum value in 2004 = 100) • Container port traffic (TEU: 20 foot equivalent units) • Investment in transport with private participation (current USD)	

Notes:
ISIC International Standard Industrial Classification
TEU twenty-foot equivalent units
TPES Total Primary Energy Supply

At present there are limited quantitative indicators for these objectives, some of which are statements and not actually measurable. Table 2.3 summarises those trade indicators which it is possible to monitor. It is more difficult to measure 'effort'.

2.3.4 Commodities

The actions required by LDCs under the commodities part of the objectives of IPoA in this section include establishing and strengthening, as appropriate, national commodity management strategies so as to maximise the benefits derived from their resource base; and adopting and strengthening, as appropriate, sector and commodity-specific policies, measures and strategies to enhance productivity and vertical diversification, ensuring value addition and increasing value retention. Only in-depth country-specific analysis can assess progress as to whether these objectives are being met.

Most of the indicators we have proposed in relation to commodities (see Table 2.4) are related to the capacity of countries to manage their natural resources effectively in terms of the financial resources made available to them by development partners, which includes dealing with external shocks.

Table 2.2 Targets and indicators for agriculture, food security and rural development

Targets for agriculture, food security and rural development (Area B)	Indicator	Comments
(a) Make substantial progress towards eradicating hunger by 2020	• Prevalence of undernourishment (% of population) • Depth of hunger (kilocalories per person per day) • Low-birthweight babies (% of births) • Malnutrition prevalence, weight for age (% of children under five years) • Malnutrition prevalence, height for age (% of children under five years) • Prevalence of wasting (% of children under five years)	
(b) Substantially increase investment in rural infrastructure	• Improved water source, rural (% of rural population with access) • Improved sanitation facilities, rural (% of rural population with access) • Logistics performance index: quality of trade and transport-related infrastructure (1 = low to 5 = high) • Investment in energy with private participation (current USD) • Investment in telecoms with private participation (current USD) • Investment in transport with private participation (current USD) • Investment in water and sanitation with private participation (current USD) • Foreign direct investment, net (BoP, current USD)	• Unless explicitly mentioned, data not specific to rural sector
(c) Ensure access to safe food and emergency food assistance in all LDCs	• Food production index (2004–06 = 100) • Food imports (% of merchandise imports)	• No indicator on emergency food assistance • No indicator for 'access'

Note: BoP balance of payment

2.3.5 Human and social development

Table 2.5 suggests a number of indicators that can be used to monitor progress on actions against targets in the area of human and social development. This priority area is clearly a substantive one within the overall spirit of IPoA and includes a number of sub-pillars such as education and training; population and primary health; youth development; shelter; water and sanitation; gender equality; and social protection.

Table 2.3 Targets and indicators for trade

Targets for trade (Area C)	Indicator	Comments
(a) Significantly increase the share of LDCs' trade in global trade with the aim of doubling the share of LDCs' exports in global exports by 2020, including by broadening their export base	• Exports of goods and services (BoP, current USD) • Imports of goods and services (BoP, current USD) • Imports of goods and services (constant 2000 USD) • Net trade in goods and services (BoP, current USD) • Trade (% of GDP)	• Look at Area A target b for suggested indicators to measure economic diversification (broadening export base)
(b) Make substantial efforts for an early and successful conclusion of the Doha Round of trade negotiations with an ambitious, comprehensive, balanced and development-oriented outcome	• No indicators available	

Table 2.4 Targets and indicators for commodities

Targets for commodities (Area D)	Indicator
(a) Broaden LDCs' economic base in order to reduce commodity dependence	• Agriculture, value added (constant 2000 USD) • Agriculture, value added (% of GDP) • Manufacturing, value added (constant 2000 USD) • Manufacturing, value added (% of GDP) • Services, etc., value added (constant 2000 USD) • Services, etc., value added (% of GDP) • Agricultural raw materials exports (% of merchandise exports) • Manufactures exports (% of merchandise exports) • Food exports (% of merchandise exports) • Fuel exports (% of merchandise exports) • Ores and metals exports (% of merchandise exports) • High-technology exports (% of manufactured exports) • Merchandise exports (current USD) • Imports of goods and services (% of GDP) • Product diversification (number of HS6 subheads exported) • Market diversification (number of export markets)

Table 2.5 Targets and indicators for human and social development

Targets for human and social development (Area E)			Indicator	Comments
Education and training	(a)	Ensure universal access to free primary education in LDCs and also increase access to secondary, tertiary and vocational education and skill development training	• Primary education, pupils • School, primary (% gross) • Persistence to grade 5, total (% of cohort) • Persistence to last grade of primary, total (% of cohort) • Adjusted net rate, primary (% of primary school age children) • Secondary school starting age (years) • Secondary education, duration (years) • Secondary education, pupils • Secondary education, vocational pupils • School, secondary (% gross) • School, secondary (% net) • Progression to secondary school (%) • School, tertiary (% gross) • Children out of school, primary	
	(b)	Increase the quality of education and training that is offered at all levels and increase literacy and numeracy rates of adults and children	• Pupil–teacher ratio, primary • School, primary, private (% of total primary) • Trained teachers in primary education (% of total teachers) • Primary education, teachers • Repeaters, primary, total (% of total) • Pupil–teacher ratio, secondary • School, secondary, private (% of total secondary) • Repeaters, secondary, total (% of total) • Secondary education, teachers • Expenditure per student, primary (% of GDP per capita) • Expenditure per student, secondary (% of GDP per capita)	• No data to assess numeracy • Arguably the assessment of quality of education would need a more comprehensive indicator than literacy: we have therefore included measures such as expenditure on education, pupil–teacher ratio, etc.

(continued)

Table 2.5 Targets and indicators for human and social development (continued)

Targets for human and social development (Area E)	Indicator	Comments
	• Expenditure per student, tertiary (% of GDP per capita) • Public spending on education, total (% of government expenditure) • Public spending on education, total (% of GDP) • Literacy rate, youth total (% of people aged 15–24) • Literacy rate, adult total (% of people aged 15 and above)	
(c) Eliminate gender disparities in education and training and ensure equal quality of education between males and females	• Primary education, pupils (% female) • Persistence to grade 5, female (% of cohort) • Persistence to grade 5, male (% of cohort) • Persistence to last grade of primary, female (% of cohort) • Persistence to last grade of primary, male (% of cohort) • Repeaters, primary, female (% of females) • Repeaters, primary, male (% of males) • Adjusted net enrolment rate, primary, female (% of primary school-age children) • Adjusted net enrolment rate, primary, male (% of primary school-age children) • Children out of school, primary, female • Children out of school, primary, male • Secondary education, general pupils (% female) • Secondary education, vocational pupils (% female) • School enrolment, secondary, female (% gross) • School enrolment, secondary, male (% gross) • School enrolment, secondary, female (% net) • School enrolment, secondary, male (% net) • Progression to secondary school, female (%) • Progression to secondary school, male (%)	

Table 2.5 Targets and indicators for human and social development (continued)

Targets for human and social development (Area E)		Indicator	Comments
		• Repeaters, secondary, female (% of female enrolment) • Repeaters, secondary, male (% of male enrolment) • School enrolment, tertiary, female (% gross) • School enrolment, tertiary, male (% gross) • Literacy rate, youth, female (% of females aged 15–24) • Ratio of young literate females to males (% aged 15–24) • Literacy rate, youth, male (% of males aged 15–24) • Literacy rate, adult, female (% of females aged 15 and above) • Literacy rate, adult, male (% of males aged 15 and above) • Ratio of female to male primary enrolment (%) • Ratio of females to males in primary and secondary education (%) • Ratio of female to male secondary enrolment (%) • Ratio of female to male tertiary enrolment (%)	
Population and primary health	(a) Achieve targets under MDG 4 and 5 by 2015 and, building on these, further significantly reduce the infant, under-five and maternal mortality rates and child under-nutrition by 2020	• Mortality rate, female child (per 1,000 female children aged one) • Mortality rate, male child (per 1,000 male children aged one) • Mortality rate, under five years (per 1,000 live births) • Mortality rate, infant (per 1,000 live births) • Mortality rate, neonatal (per 1,000 live births) • Immunisation, measles (% of children aged 12–23 months) • Maternal mortality ratio (national estimate, per 100,000 live births) • Prevalence of undernourishment (% of population)	• MDG target 4.3 indicator is proportion of one-year-old children immunised against measles – these data, however, are from 12 to 23 months of age

(continued)

Table 2.5 Targets and indicators for human and social development (continued)

Targets for human and social development (Area E)	Indicator	Comments
(b) Provide universal access to reproductive health by 2015, including integrating family planning, sexual health and healthcare services in national strategies and programmes	• Births attended by skilled health staff (% of total) • Contraceptive prevalence (% of women aged 15–49) • Condom use, population aged 15–24, female (% of females aged 15–24) • Condom use, population aged 15–24, male (% of males aged 15–24) • Pregnant women receiving prenatal care (%) • Adolescent fertility rate (births per 1,000 women aged 15–19) • Unmet need for contraception (% of married women aged 15–49) • Health expenditure, public (% of government expenditure) • Health expenditure, public (% of GDP) • Nurses and midwives (per 1,000 people)	• No data on unmet need for family planning, or for antenatal care • Aggregate public health expenditure not specific to sexual health/family planning programmes
(c) Achieve targets under MDG 6 by 2015 and, building on this, further reverse the spread of HIV/AIDS and the incidence of malaria and other major diseases	• Women's share of population aged 15+ living with HIV (%) • Prevalence of HIV, total (% of population aged 15–49) • Children (aged 0–14) living with HIV • Prevalence of HIV, female (% aged 15–24) • Prevalence of HIV, male (% aged 15–24) • Antiretroviral therapy coverage (% of people with advanced HIV infection) • Notified cases of malaria (per 100,000 people) • Children with fever receiving antimalarial drugs (% of children under age five with fever) • Tuberculosis treatment success rate (% of registered cases) • Tuberculosis case detection rate (%, all forms) • Incidence of tuberculosis (per 100,000 people)	• No data on the death rates associated with malaria • No data on the proportion of children under five years sleeping under insecticide-treated bed nets

Table 2.5 Targets and indicators for human and social development (continued)

Targets for human and social development (Area E)		Indicator	Comments
		• Hospital beds (per 1,000 people) • Community health workers (per 1,000 people) • Physicians (per 1,000 people)	
Youth development	(a) Strive to ensure the full and effective participation of youth in the life of society and in decision-making processes	• Teenage mothers (% of women aged 15–19 who have had children or are currently pregnant) • Adolescent fertility rate (births per 1,000 women aged 15–19)	• Measuring participation in society and decision-making may be done through data on voting/political participation in a democracy but there are no data on this
	(b) Build the educational and skills capacity of youth and achieve full and productive employment and decent work	• Ratio of young literate females to males (% aged 15–24) • Literacy rate, youth total (% of people aged 15–24) • Unemployment, youth total (% of total labour force aged 15–24) • Labour force participation rate for ages 15–24, total (%) • CPIA building human resources rating (1 = low to 6 = high)	• More data on skills training may be desirable. CPIA human resource rating not specific to youth • Employment data may include jobs that do not conform to 'decent jobs' classification
	(c) Enhance youth participation in the economy through improving access to vocational education, volunteering and employment	• Secondary education, vocational pupils • Secondary education, vocational pupils (% female)	• No data on volunteering • Refer to labour force participation (aged 15–24) for employment

(continued)

Table 2.5 Targets and indicators for human and social development (continued)

Targets for human and social development (Area E)			Indicator	Comments
Shelter	(a)	Increase access to affordable housing, land and housing-related infrastructure and basic services while achieving a significant improvement in the lives of slum dwellers and rural poor		• No data on housing or slums
Water and sanitation	(a)	Halve by 2015 the proportion of people without sustainable access to safe drinking water and basic sanitation and strive to provide sustainable access to safe drinking water and basic sanitation to all by 2020	• Improved water source, rural (% of rural population with access) • Improved sanitation facilities, rural (% of rural population with access) • Improved water source, urban (% of urban population with access) • Improved sanitation facilities, urban (% of urban population with access)	
Gender equality and empowerment of women	(a)	Achieve equal access of women and girls to education, basic services, healthcare, economic opportunities and decision-making at all levels	• CPIA gender equality rating (1 = low to 6 = high) • Firms with female participation in ownership (% of firms) • Ratio of young literate females to males (% aged 15–24) • Literacy rate, adult female (% of females aged 15+) • Ratio of female to male primary enrolment (%) • Ratio of female to male secondary enrolment (%) • Ratio of female to male tertiary enrolment (%) • Female legislators, senior officials and managers (% of total)	

Table 2.5 Targets and indicators for human and social development (continued)

Targets for human and social development (Area E)	Indicator	Comments
	• Employees, agriculture, female (% of female employment) • Employers, female (% of employment) • Contributing family workers, female (% of females employed) • Wage and salaried workers, female (% of females employed) • Labour force participation rate, female (% of female population aged 15–64) • Part-time employment, female (% of total part time employment) • Ratio of female to male labour participation rate (%) • Mortality rate, adult, female (per 1,000 female adults) • Life expectancy at birth, female (years) • Female-headed households (% of households with a female head) • Population, female (% of total) • Fertility rate, total (births per woman)	
(b) Take steps to realise the right of everyone to the enjoyment of the highest attainable standard of physical and mental health, including sexual and reproductive health	• Health expenditure, public (% of total health expenditure) • Health expenditure, public (% of government expenditure) • Health expenditure, public (% of GDP) • Health expenditure, total (% of GDP)	

(continued)

Table 2.5 Targets and indicators for human and social development (continued)

Targets for human and social development (Area E)		Indicator	Comments
	(c) Accelerate efforts to promote women's rights and gender equality, including women with disabilities		• No relevant indicator for this in dataset
Social protection	(a) Enhance social protection systems to improve the resilience of all, including poor and disadvantaged groups	• CPIA social protection rating (1 = low to 6 = high) • Social contributions (% of revenue) • Poverty gap at USD2 a day (PPP) (%) • Poverty gap at USD1.25 a day (PPP) (%)	• Poverty gap index measures intensity of poverty. It estimates the depth of poverty by considering how far below, on average, the poor are from the poverty line.

Note: CPIA Country Policy and Institutional Assessment

2.3.6 Multiple crises and other emerging challenges

Table 2.6 summarises indicators that could be used to monitor the ability of LDCs to manage multiple crises and other emerging challenges.

2.3.7 Mobilising financial resources for development and capacity building

The priority area of mobilising financial resources for development and capacity building includes a number of sub-pillars including those related to official development assistance; external debt; foreign direct investment; remittances; and domestic resource mobilisation. We have assigned quantitative indicators to each of these in Table 2.7.

2.3.8 Governance

Many of the governance objectives in the IPoA are difficult to measure. The actions proposed for development partners include supporting LDCs in their efforts to improve their governance systems and structures. Measuring the extent to which these objectives may or may not have been met can be related to assistance provided by donors through aid, which has already been reviewed, but also to aid effectiveness and the ability of public institutions to manage flows. Table 2.8 below presents a range of indicators that could potentially be used for monitoring the targets.

Table 2.6 Targets and indicators for multiple crises and other emerging challenges

Targets for multiple crises and other emerging challenges (Area F)	Indicator
(a) Build the resilience of LDCs to withstand economic shocks and to mitigate their adverse effects	• CPIA financial sector rating (1 = low to 6 = high) • CPIA macroeconomic management rating (1 = low to 6 = high) • CPIA quality of public administration rating (1 = low to 6 = high) • CPIA fiscal policy rating (1 = low to 6 = high) • UN EVI index for LDCs; and/or Commonwealth Secretariat criterion
(b) Strengthen LDCs' ability to withstand and overcome the adverse effects of climate change, enhance sustainable growth and protect biodiversity	• CPIA policy and institutions for environmental sustainability rating (1 = low to 6 = high)
(c) Build the resilience of LDCs to withstand natural hazards in order to reduce the risk of disasters	

Notes: CPIA Country Policy and Institutional Assessment
EVI Economic Vulnerability Index

Table 2.7 Targets and indicators for mobilising financial resources for development and capacity building

Targets for mobilising financial resources for development and capacity building (Area G)		Indicator
Domestic resource mobilisation	(a) Enhance the mobilisation of domestic resources, including by raising domestic savings, increasing tax revenue and strengthening institutional capacity	• Gross domestic savings (% of GDP) • Gross savings (% of GDP) • Gross fixed capital formation (constant 2000 USD) • Gross capital formation (annual % growth) • Tax revenue (current LCU) • Tax revenue (% of GDP) • CPIA efficiency of revenue mobilisation rating (1 = low to 6 = high) • CPIA property rights and rule-based governance rating (1 = low to 6 = high) • Adjusted savings: gross savings (% of GNI) • Adjusted savings: net national savings (current USD)
	(b) Reduce corruption and increase transparency at all levels	• CPIA transparency, accountability and corruption in the public sector rating (1 = low to 6 = high)
Official development assistance	(a) Ensure the fulfilment of all ODA commitments to LDCs	• Net ODA received (% of GNI) • Net ODA received per capita (current USD)
	(b) Ensure the alignment of aid with LDCs' national priorities and increase the alignment of aid with their national systems and procedures	• Net official development assistance and official aid received (constant 2010 USD)
External debt	(a) Achieve sustainable debt levels in all LDCs, bearing in mind their special development needs	• External debt stocks (% of GNI) • Interest payments on external debt (% of GNI) • CPIA debt policy rating (1 = low to 6 = high) • Central government debt, total (% of GDP) • Present value of external debt (% of GNI)

(continued)

Table 2.7 Targets and indicators for mobilising financial resources for development and capacity building (continued)

Targets for mobilising financial resources for development and capacity building (Area G)		Indicator
	(b) Remain vigilant in monitoring the debt situation of LDCs and continue to take effective measures within the existing frameworks	• Disbursements on external debt, long-term + IMF (DIS, current USD) • Average maturity on new external debt commitments (years) • Total change in external debt stocks (current USD) • Short-term debt (% of total external debt) • Multilateral debt (% of total external debt)
	(c) Provide specific debt relief measures for LDCs that are not HIPC countries on a case-by-case basis	• Concessional debt (% of total external debt) • Debt forgiveness or reduction (current USD) • Debt forgiveness grants (current USD) • Average grace period on new external debt commitments (years) • Debt buyback (current USD)
Foreign direct investment	(a) Attract and retain increased foreign direct investment in LDCs, especially with the aim of diversifying their production base and enhancing productive capacity	• Foreign direct investment, net inflows (BoP, current USD) • Foreign direct investment, net inflows (% of GDP)
	(b) Enhance initiatives to support investment in LDCs	• CPIA business regulatory environment rating (1 = low to 6 = high) • CPIA trade rating (1 = low to 6 = high)
Remittances	(a) Reduce the transaction cost of remittance flows and foster the development impact of remittances	• Workers' remittances, receipts (BoP, current USD)

Notes: CPIA Country Policy and Institutional Assessment
DIS disbursements
GNI gross national income
HIPC Heavily Indebted Poor Countries
IMF International Monetary Fund
LCU local currency unit
ODA official development assistance

Table 2.8 Targets and indicators for governance

Targets for good governance at all levels (Area H)	Indicator
(a) Strengthen good governance, the rule of law, human rights, gender equality and empowerment of women, and democratic participation, including by enhancing the role of parliaments	• CPIA property rights and rule-based governance rating (1 = low to 6 = high) • CPIA policies for social inclusion/equity cluster average (1 = low to 6 = high) • CPIA gender equality rating (1 = low to 6 = high)
(b) Strengthen and effectively implement measures to prevent corruption and to increase transparency of budgets and expenditure	• CPIA transparency, accountability and corruption in the public sector rating (1 = low to 6 = high)
(c) Enhance the institutional capacity of LDCs to ensure good governance	• CPIA property rights and rule-based governance rating (1 = low to 6 = high)
(d) Ensure that resources to LDCs are provided and used in a predictable, transparent and timely manner	• CPIA equity of public resource use rating (1 = low to 6 = high) • CPIA policy and institutions for environmental sustainability rating (1 = low to 6 = high)
(e) Provide continued support for strengthened and effective voice and participation of LDCs in relevant international forums	• No indicators available
(f) Build durable peace and ensure stability, security and sustainable and inclusive development in LDCs	• CPIA policies for social inclusion/equity cluster average (1 = low to 6 = high)

2.3.9 Choosing indicators to monitor progress on IPoA

Clearly there is a wide range of potential indicators that could be used to monitor progress made by LDCs in relation to the stated objectives of IPoA. Several of the indicators that we have identified have also been suggested by the United Nations Office of the High Representative for the Least Developed Countries, Landlocked Developing Countries and the Small Island Developing States (UN-OHRLLS); see Basnett et al. (2013) for a table on this. These targets are all related to the achievement of structural transformation, to which all of the indicators included within the eight priority areas for action should contribute. Hence, establishing a database on these indicators should also help to deepen our understanding related to the achievement of structural transformation in LDCs.

Having suggested possible indicators, beyond those already explicitly stated within IPoA, it may be useful to assign numerical targets for achievement by the LDCs by 2020. There are four broad ways in which targets can be defined for achievement by 2020 in order to be consistent with the stated IPoA objectives:

- Targets taken directly from the text, for example a growth target of 7 per cent.
- Targets implicit in the text, for example that sustainable energy for all requires 100 per cent access to energy.

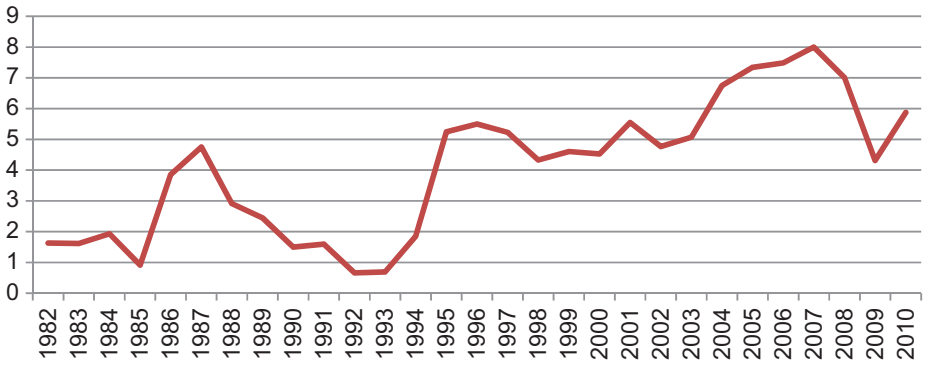
- Targets that can be derived from the text, for example when a reference group is mentioned such as other developing countries or middle-income countries (MICs).
- Targets that are self-constructed, using a reference group or past averages.

In other cases, however, it is not possible to specify a target. For example, what should a resilience target for LDCs be? It would also be useful to benchmark the performance of LDCs relative to each other and prior to the implementation of IPoA in order to then use this information as a basis for the assignment of targets to be met for achievement by 2020. We have constructed spreadsheets for the 49 LDCs to monitor how well each country is scoring on each of the indicators we have identified so far (and from 1960 to 2010); this information is discussed at length in the background paper from which this chapter is adapted. We emphasise the major data limitations that exist for most LDCs.

Whilst there are challenges in assigning country-specific numerical targets for achievement, IPoA does include explicit targets for achievement for the *group* of LDCs in relation to:

- Graduation – 'Halving' the number of LDCs to 24 during the next decade; LDCs are classified by the Economic and Social Council of the United Nations.
- Growth – Growth in LDCs of 7 per cent per annum; currently growth for LDCs is below the IPoA target. However, prior to the global financial crisis it had been exceeded for a specific period (see Figure 2.1).
- Exports – Doubling the share of LDC exports in global exports by 2020, which we estimate to be from 0.9 per cent in 2010 to 1.8 per cent in 2020 (or similar to doubling of share over 2000–10 from 0.45 to 0.9 per cent; one can also use 2005–08 as the base year). As can be seen from Figure 2.2, the share of LDCs in world exports is considerably below the IPoA target at present.

Figure 2.1 GDP growth in LDCs, 1982–2010 (%)



Source: World Development Indicators.

2.4 Creating a country-level IPoA index for structural transformation

There is a range of challenges in constructing composite indices, which we discuss in this section. Here we attempt to benchmark the performance of LDCs in relation to the indicators we have identified so far for IPoA. We show that it is possible to construct a composite index, so that the performance of LDCs against MICs can be compared and benchmarked in a methodologically simple and transparent way. However, the analysis is constrained by severe data limitations for LDCs, to which we have already alluded. We construct a composite index for IPoA and rank LDCs accordingly across the pillars of productive capacity, trade and agriculture. We exclude other pillars from the analysis because of the limited data available across LDCs as well as other conceptual issues regarding the interpretation of scores.[4]

2.4.1 Pros and cons of composite indices

There are a number of pros and cons in constructing composite indices (OECD 2008):

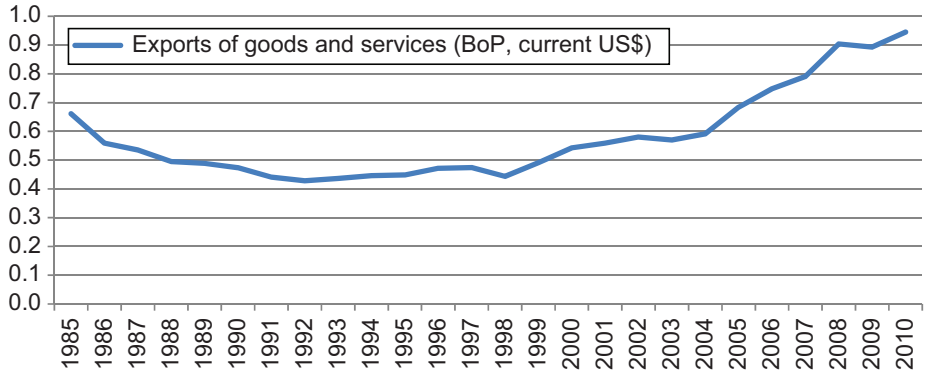
Pros of composite indices

- Can summarise complex, multidimensional realities with a view to supporting decision makers and are easier to interpret than a range of separate indicators.
- Help to reduce the visible size of a set of indicators without dropping the underlying information.
- It can be easier to compare performance across indicators, and countries' indices can help to place the issue of country performance and progress on the policy agenda.

Cons of composite indices

- May disguise serious failings in some dimensions and increase the difficulty of identifying proper remedial action if the construction process is not transparent.

Figure 2.2 Share of LDCs in world exports, 1985–2010 (%)



Source: WDI

- May lead to inappropriate policies if dimensions of performance that are difficult to measure are ignored, or invite simplistic policy conclusions.
- The choice of indicators and weights is often based on value judgements or data limitations.

Cantore et al. (2011) examine the landscape of existing indices. They argue that aims and objectives of indices vary considerably in terms of the issues being captured, the audience and the intended use and impact; the country coverage varies from one country to over 200; the components or broad issues being measured by the index vary depending on the overall focus and aim of the index; the construction/technical aspects vary; and the data vary in terms of data sources and use of quantitative, qualitative or perceptional data. None of the composite indices surveyed provides an adequate description of a country's ability for structural transformation.

2.4.2 Selecting indicators

The purpose of constructing this index is to provide both a benchmark and a reference through which to measure structural transformation in LDCs. It is significant that structural transformation is measured, as opposed to traditional measures of growth, because it is a more comprehensive process that represents a country's ability to eradicate poverty by transitioning from a low productivity to a high productivity economy. In their paper 'Globalization, structural change and productivity growth', McMillan and Rodrik (2011) emphasise the need for structural change that enhances growth by channelling labour and other resources into modern economic activities in developing countries. Structural transformation is defined in the context of four steps (Timmer et al. 2012) that include (i) a declining share of agriculture in gross domestic product (GDP) and employment; (ii) a rapid process of urbanisation; (iii) the rise of an industrial and service economy; and (iv) a transition from high to low rates of births and deaths. When these four steps occur, resources are reallocated, productivity rises and incomes expand, allowing positive growth to ensue. However, McMillan and Rodrik (2011) also point out that this sort of structural shift must occur in a timely manner for a country to achieve successful structural transformation.

This chapter has selected a number of indicators based on how we expect variables to contribute to structural transformation, consistent with the literature. In particular, we expect an LDC to structurally transform itself when it (compared with a benchmark):

- becomes more productive in agriculture by achieving a higher cereal yield;
- increases the share of manufacturing in value addition;
- increases GDP per capita;
- increases gross capital transformation;
- increases the share of ICT in services exports;
- improves its product diversification;
- increases the number of export markets it trades with;

- improves health services by decreasing the infant mortality rate;
- has better telecommunications infrastructure; and
- has a more developed financial market.

It is important to construct an index that looks at the growth in appropriate indicators over a period of time. In our index we have chosen 11 indicators that pertain to the process of structural transformation, and examine them during the period from 2005 to 2008. We examine progress of selected IPoA indicators over the period 2005–08 to benchmark individual LDCs against the MIC average. Table 2.9 presents LDC averages across IPoA pillars such as productive capacity; trade; and agriculture, education, health and water. This average figure – calculated across all identified indicators for which it is possible to do so – provides one means through which to benchmark the performance of LDCs relative to each other and provide a baseline from which the monitoring of progress linked to interventions motivated by IPoA (by LDCs and development

Table 2.9 Average for LDCs and MICs (2005–08)

Indicator name	LDC average (2005–08)	MIC average (2005–08)	Ratio LDC/MIC	IPoA pillar
Mobile cellular subscriptions (per 100 people)	12.7	38.4	0.33	Productive capacity
Cereal yield (kg per hectare)	1,760.3	3,222.8	0.55	Productive capacity
Manufacturing, value added (% GDP)	11.7	22.2	0.53	Productive capacity
GDP per capita PPP (constant 2005 international $)	1,125.2	4,793.3	0.23	Productive capacity
Gross capital formation (% GDP)	22.9	30.2	0.76	Productive capacity
Manufactures exports (% of merchandise exports)		66.3		Trade
Service exports (BoP, current USD) as % of exports goods and services	13.0	15.2	0.86	Trade
Product diversification (number of HS6 subheads exported)		4,287.75		Trade
Market diversification (number of export markets)		218.5		Trade
Infant mortality rate (per 1,000 live births)	0.01	0.02	0.58	Other
Domestic credit to private sector (% GDP)	17.2	59.2	0.29	Other

Note: Data for LDC and MIC average are taken from WDI and averaged over 2005–08

partners) can begin. We can also compare this with an MIC average. For product and market diversification, an MIC benchmark was not provided with the data, so the values for a representative MIC (Malaysia) were used to create an LDC/MIC ratio.

In the following sections, we discuss these indicators and begin to construct an LDC-specific index. We include only those indicators for which there are most data available across LDCs and that make conceptual sense. When a country did not have data for these indicators it was excluded. When data for only one year were available, we extra- and intrapolated data using the simple averages for that particular indicator(s) and country.[5]

We assign equal weights to each indicator as no prior analysis has been undertaken to establish statistical relationships between the indicators (e.g. through principal components or factor analysis). This provides a relatively straightforward way of assessing the performance of each LDC relative to each other, but it is also possible to calculate country performance relative to a group average (in this case, the MIC average), or other numerical targets.

2.4.3 Productive capacity

For this pillar we include the following five indicators: mobile cellular subscriptions (per 100 people), cereal yield (kg per hectare), manufacturing value added (% of GDP), GDP per capita PPP (constant 2005 international $) and gross capital formation (% of GDP). We score the value of each indicator in each year as a ratio of the MIC average in that year (some LDCs which are low-income countries (LICs) or MICs can score higher than the MIC average for some indicators). We then aggregate these five indicators into one IPoA productive capacity index. A higher score for each of the indicators included would indicate an improvement in productive capacity compared with the MIC average. As the data are time varying we can also examine relative improvements in productive capacity in each LDC. Figure 2.3 provides data for those LDCs for which there are data.

2.4.4 Trade

For this pillar we include the following four indicators: manufactures exports (% of merchandise exports), service exports (BoP, current USD), product diversification (number of HS6 subheads exported) and market diversification (number of export markets). We score the value of each indicator in each year as a ratio of the MIC average in that year. We then aggregate these four indicators into one IPoA trade index. A higher score for each of the indicators included would indicate an improvement in trade performance compared with the MIC average. As the data are time varying we can also examine relative improvements in the trade index in each LDC. Figure 2.4 provides data for those LDCs for which there are data.

2.4.5 Other

For this pillar we include the following two indicators: infant mortality rate (per 1,000 live births) and domestic credit to private sector (% of GDP). We score the

Figure 2.3 Productive capacity index

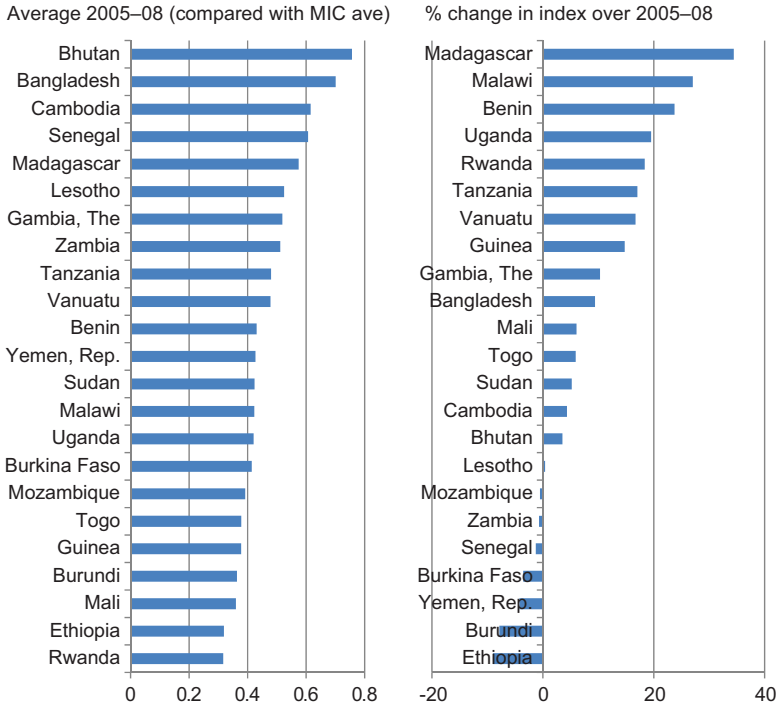
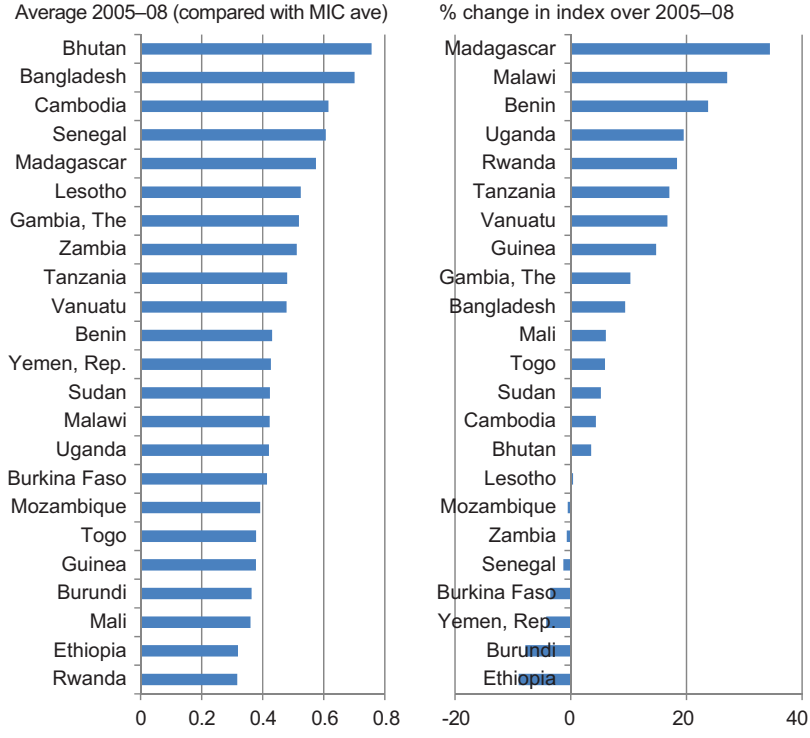


Figure 2.4 Trade index



value of each indicator in each year as a ratio of the MIC average in that year. We then aggregate these two indicators into one IPoA other index. A higher score for each of the indicators included would indicate an improvement in performance compared with the MIC average. As the data are time varying we can also examine relative improvements in the trade index in each LDC. Figure 2.5 provides data for those LDCs for which there are data.

2.4.6 IPoA index for structural transformation

We can now aggregate the three sub-indices (productive capacity, trade, other) into one aggregate IPoA index for structural transformation. There are missing data for several LDCs in the underlying sub-indices and as a result there are only data for 23 LDCs. The use of fewer indicators would allow us to include more LDCs. Figure 2.6 shows that Vanuatu scores highest, followed by Madagascar, Cambodia and Bangladesh. These countries are close to the MIC average. Guinea and Zambia scored lowest of the 23 LDCs. The greatest improvements over 2005–08 have been made by Burundi, Madagascar and Rwanda. Bhutan's index worsened (Figure 2.7).

Figure 2.5 Other index

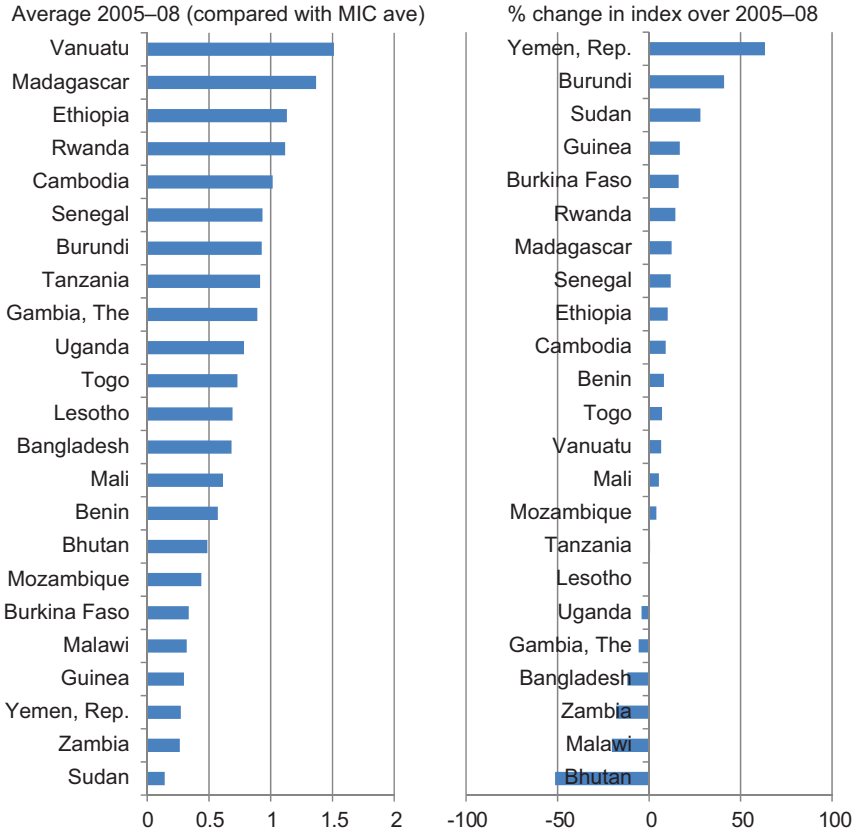
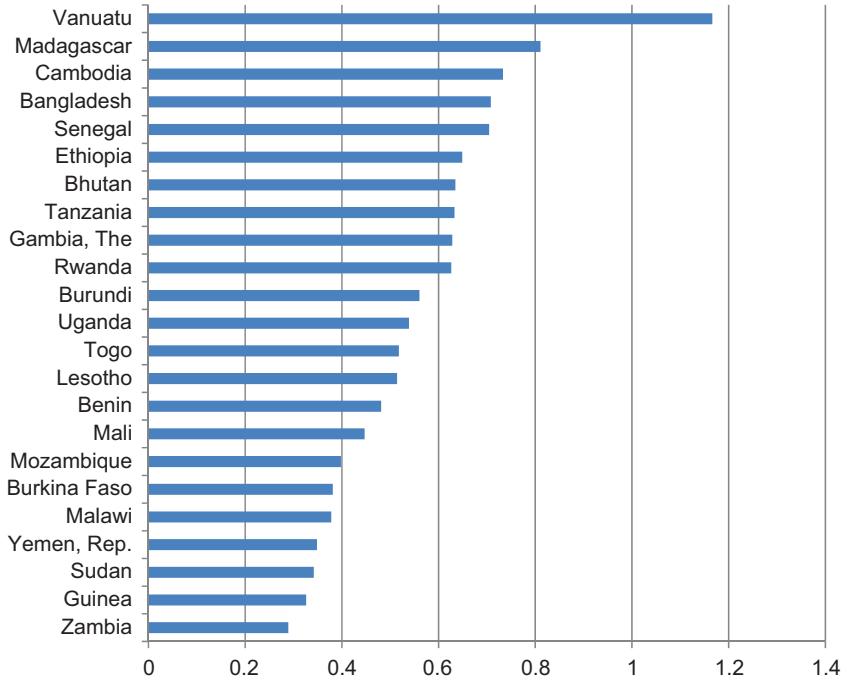


Figure 2.6 IPoA index for structural transformation, LDCs compared with MIC average (2005–08), aggregated on basis of 11 indicators and three sub-indices



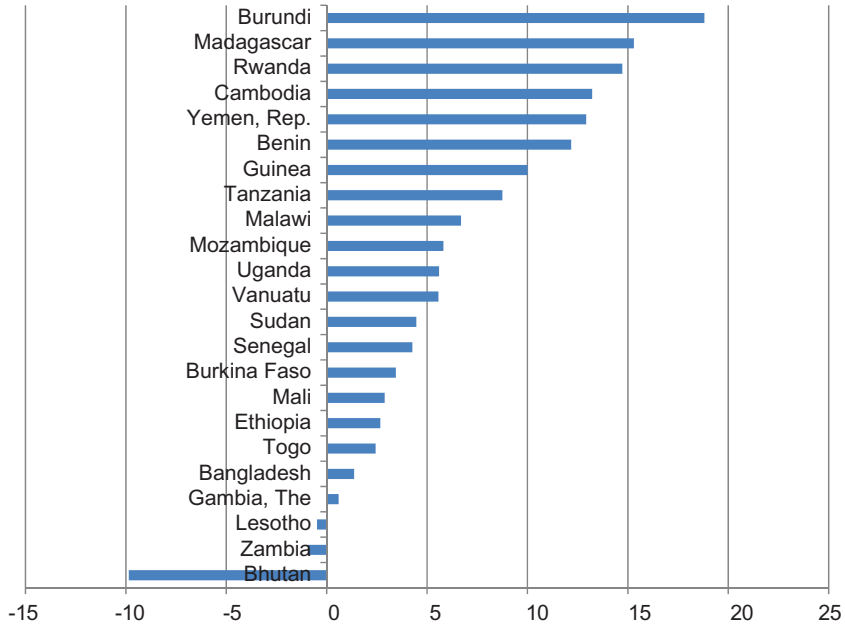
Source: Authors' calculations

This chart was calculated on the basis of the following indicators: mobile cellular subscriptions (per 100 people), cereal yield (kg per hectare), manufacturing value added (% of GDP), GDP per capita PPP (constant 2005 international $), gross capital formation (% of GDP), manufactures exports (% of merchandise exports), service exports (BoP, current USD), product diversification (number of HS6 subheads exported), market diversification (number of export markets), infant mortality rate (per 1,000 live births) and domestic credit to private sector (% of GDP).

When we examine the availability of the individual indicators, two indicators in particular constrain the number of LDCs in the IPoA index: product diversification (number of HS6 subheads exported) and market diversification (number of export markets). After we delete these indicators, we can construct the resulting IPoA index of structural transformation which now has 26 individual LDCs. Zambia, Guinea and Sudan bring up the rear, whilst Maldives, Vanuatu and Madagascar lead the index. Different countries progressed differently, with the choice of indicators affecting the rankings as well as the number of countries included.

Figure 2.8 was calculated on the basis of the following indicators: mobile cellular subscriptions (per 100 people), cereal yield (kg per hectare), manufacturing value added (% of GDP), GDP per capita PPP (constant 2005 international $), gross capital formation (% of GDP), manufactures exports (% of merchandise exports), service

Figure 2.7 IPoA index for structural transformation, LDCs compared with MIC average (% changes 2005–08)



Source: Authors' calculations

exports (BoP, current USD), infant mortality rate (per 1,000 live births) and domestic credit to private sector (% of GDP).

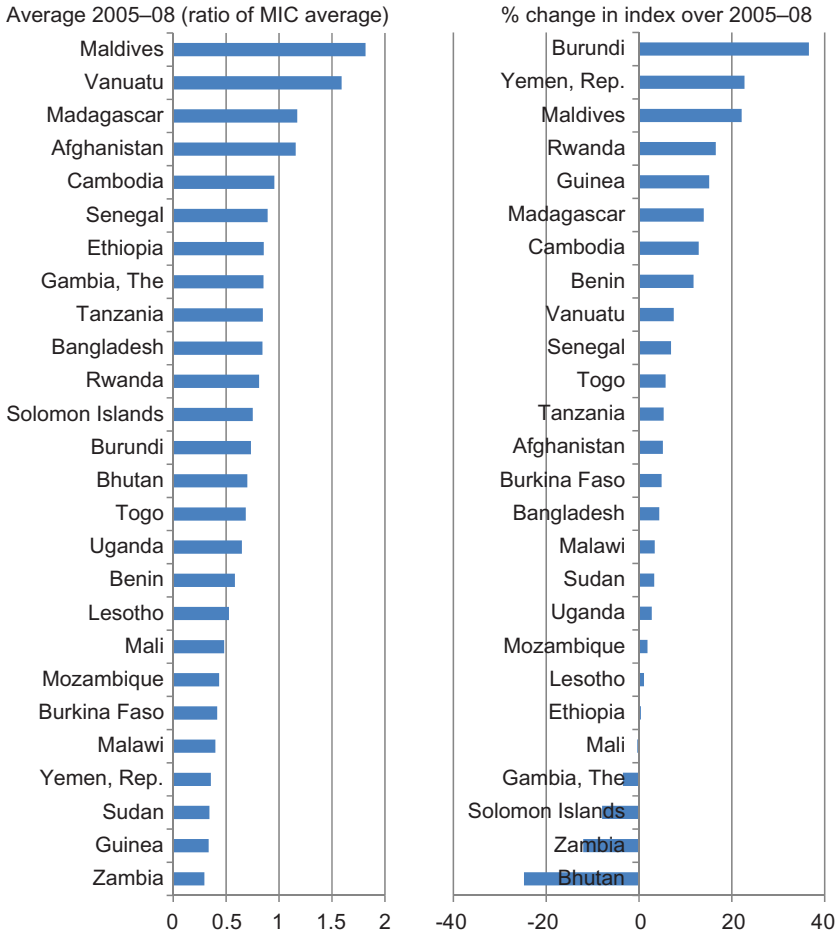
2.5 Conclusions

The IPoA clearly emphasises the need for LDCs (as a group) to reach a target growth rate of 7 per cent, the importance of economic diversification (without a target specified) and the need to double the share of LDC exports (which can be monitored easily, as suggested in this chapter). However, it also underlines a set of country-specific targets and further actions, which are required both by LDCs and by development partners. As part of the development of this chapter, we have constructed country-level databases that could be used to monitor indicators for LDCs across the IPoA pillars of priority areas for action.

A related background paper from which this chapter is adapted, and its associated spreadsheets (constructed for 49 LDCs), serves to benchmark the performance of the LDCs. There is a set of meaningful country- and development partner-level indicators for which some meaningful targets could be specified, and which could be used to monitor IPoA on a regular basis. Much of Section 2.3 in this chapter addresses the question of which indicators could be used to monitor IPoA targets and objectives.

Section 2.4 presents preliminary work to construct an IPoA index for structural transformation. It selects indicators for which there are some data available and

Figure 2.8 IPoA index for structural transformation, LDCs as ratio of MIC average (2005–08), aggregated on basis of nine indicators and three sub-indices



which are expected to contribute to structural transformation (which is underlying much of IPoA) – that is when an LDC becomes more productive in agriculture and achieves a higher cereal yield, increases its share of manufacturing (and services) in value addition and exports, increases its share of ICT in services exports, increases its product and market diversification, has better telecommunications infrastructure, improves its health system, has a more developed financial market and increases GDP per capita. We benchmarked LDC country performance to the average of MICs, and provided index values for LDCs for the years 2005–08. Selecting a limited set of 11 indicators yielded 23 LDCs with data for all indicators.

Further work will be needed to benchmark LDCs comprehensively on the basis of IPoA indicators. The discussion in this chapter provides for a simple and stable method to benchmark IPoA indicators and to construct a composite IPoA index for informing policies and monitoring progress. In future, better data availability could also lead to better monitoring.

Annex 2.1 Coverage of existing indices

Indicator	Economic capabilities	Governance/institutional capabilities	Social capabilities	Number of developing countries covered
Composite Vulnerability Index (UN)	—	—	—	*many*
Economic Resilience Index (UN)	*limited*	*some*	—	*some*
Composite Global Vulnerability Index (UN)	*limited*	—	—	*many*
Economic Vulnerability Index (UN)	—	—	—	*some*
Local Vulnerability Index	*limited*	*limited*	—	*limited*
Prevalent Vulnerability Index	*limited*	*limited*	*limited*	*limited*
Risk Management Index	*some*	*some*	*some*	*limited*
Environmental Sustainability Index	*limited*	*limited*	—	*many*
Environmental Performance Index	—	*limited*	*limited*	*many*
Environmental Vulnerability Index	*limited*	*limited*	—	*many*
Worldwide Governance Indicator	*many*	*many*	*limited*	*many*
Country Policy and Institutional Assessment (WB)	*some*	*some*	*limited*	*many*
Polity IV Project	—	*some*	—	*many*
Performance Logistics Index (WB)	*limited*	—	—	*many*
Human Development Index	—	—	—	*limited*
Global Competitiveness Index (WF)	*many*	*limited*	*limited*	*many*
Innovation Capability Index	*limited*	—	—	*some*
Technology Achievement Index	—	—	—	*some*
Competitive Industrial Performance Index	—	—	—	*some*
Ease of Doing Business (WB)	*some*	*some*	—	*many*
Capital Control Index	*limited*	—	—	*some*
Enabling Trade Index	*limited*	*limited*	—	*some*
Trade Performance Index	—	—	—	*many*
Trade Indicators	*limited*	*limited*	—	*many*
Environmental Vulnerability Index	—	*limited*	—	*limited*
Vulnerability-Resilience Indicator	—	—	—	*limited*
State-Business Relations Index	—	*limited*	—	*limited*

Notes: The classification 'many', 'some' and 'limited' associated with the economic, governance/institutional and social capabilities refers to the number of input factors related to change management capabilities that each indicator takes into account; the assessment is based on subjective criteria. The number of developing countries covered is classified as 'many' if it is greater than 100, 'some' if it is in the range of 50–100 and 'limited' if it is smaller than 50.

Source: For background info, see Cantore et al. (2011)

Notes

1 This chapter has been adapted from a larger piece of research undertaken for the Commonwealth Secretariat between May 2012 and August 2013 by Yurendra Basnett, Jodie Keane, Jane Kennan and Dirk Willem te Velde of the Overseas Development Institute (ODI), London, with the assistance of Mohammed Razzaque of the Commonwealth Secretariat and background research by Jane Kennan and Ritwika Sen of ODI. We are grateful for the constructive comments received by the LDC IV Monitoring Group, Expert Group Meeting hosted by the Centre for Policy Dialogue, Dhaka, 7–9 September 2012, and for expert comments by ICTSD, in addition to other comments received at further meetings in London and from internal and external referees.

2 See www.odi.org.uk/sites/odi.org.uk/files/odi-assets/publications-opinion-files/6441.pdf for an ODI review of 30 indices.

3 See background paper for further discussion.

4 The indicators used in this case are too limited to be developed further.

5 In the event that there was no data entry for the time period under study (2005–08), the country in question was not included in the study. If data were available for only one year, the given value was used for all the four years as a flat trend, which was judged to be the best approximation. When there were two or three entries, the MS Excel 'TREND' or 'FORECAST' function was used for purposes of extrapolation or interpolation (the former function is only relevant for extrapolation, whereas the latter can be used for both). These functions return predicted values of the dependent variable (*y*) for a specific *x* value (independent variable) by using the method of least squares to best fit a linear regression of *y* on *x*. Since the *x* values in question represent a time series, the results are identical whether the actual years or the series 1, 2, 3… are entered into the function. For example, for Guinea-Bissau the data for school enrolment, secondary (% gross) was available only for the years 2005 and 2006, that is 33.8009 and 36.01214 respectively. The FORECAST function syntax is FORECAST(*x*, known_*y*'s, known_*x*'s). Hence, on entering the relevant values in the given format the results 38.22338 and 40.43462 were obtained for the years 2007 and 2008.

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Chapter 3

Assessing the Prospects of Accelerated Graduation of the LDCs

Alassane Drabo and Patrick Guillaumont[1]

Summary

This chapter provides the first systematic examination of the graduation trends and prospects after the Fourth United Nations Conference on the Least Developed Countries (UN LDC IV) and the adoption of the Istanbul Programme of Action (IPoA). A major statement of the IPoA is 'the aim of enabling half the number of least developed countries to meet the criteria for graduation by 2020'. This goal has been referred to or reiterated in several official UN documents (UN Resolutions of December 2012). While considered at the time of the Istanbul Conference as moderately realistic, it has shown a change in international attitudes towards graduation. Graduation has been considered less as a threat for development of the graduating countries, and more as the signal that these countries were reaching a new phase of development. After Istanbul, the fear of graduation has been dampened by the General Assembly resolution on 'Smooth transition' adopted in December 2012 (and following the report of an ad hoc working group of the General Assembly on this topic).

This chapter shows the implications of the present rules for graduation prospects and questions the consistency of the IPoA graduation goal with these rules.

1. The prospects of graduation depend on the rules and criteria applied. Since the origin of graduation there has been an asymmetry between inclusion and graduation criteria, which was set up for precautionary reasons. The impact of graduation is high. At the 2012 review, among the 49 LDCs under consideration, 26 were no longer meeting the three complementary inclusion criteria. It means that without the present asymmetry the IPoA goal would have already been reached.

2. In order to examine the graduation prospects it should be assumed that the graduation criteria remain unchanged: two criteria need no longer be met (initial rule) or only the income per capita criterion at a higher threshold should be applied (additional 2005 rule). Other results could be obtained with alternative rules.

3. There is an important difference between the economic vulnerability index (EVI) or human asset index (HAI) criteria and the per capita gross national income (GNI) criterion. The former have been relative thresholds designed

by the quartile value of a reference group, the number of which remains approximately the same, while the latter is an absolute threshold, unchanged in constant dollars. This difference has significant implications for eligibility. Graduation prospects have been considered, first, according to the initial rule that two criteria should no longer be met, at least one of which was a relative one; and, second, according to the absolute criterion of only one income per capita. While until now eligibility for graduation has mainly resulted from the application of the initial rule, it is likely to be more driven in the future by the application of the new second rule.

4. The graduation prospects are constrained by the time frame of the graduation process. In order to 'meet the criteria by 2020', a country should be found eligible at two successive triennial reviews, strictly speaking no later than at the 2015 and 2018 reviews! Moreover, any countries meeting the criteria in 2018 cannot effectively be graduated before 2021.

5. Accordingly, the next LDCs likely to meet the graduation criteria in this time frame include, first, the three countries whose graduation has already been decided but is not yet effective (Samoa, Equatorial Guinea, Vanuatu), the three other countries either recommended (Tuvalu) or found eligible the first time (Angola and Kiribati) and those few countries that could be found eligible for the first time in 2015. According to the traditional two criteria rule, it seems that only Solomon Islands could meet two criteria, that is the HAI criterion (assuming the reference group does not shrink) and the GNI per capita (GNIpc) criterion (assuming rapid economic growth). According to the income-only rule, this could be the case of for Timor-Leste and possibly Bhutan, if their growth is sustained. Thus, at the end of the decade, there could be 10 out of the 49 present LDCs that have met the graduation criteria (seven of which having effectively graduated), which equates to around one-quarter instead of the IPoA goal of one-half. Although graduation prospects are substantial, they are likely to significantly lag behind the IPoA goal.

6. In the longer term (and possibly as soon as the 2024 review), several other LDCs can meet the income-only criterion if they achieve a rate of growth corresponding to the 7 per cent target of IPoA. For reasons endogenous to the design of the criteria, the key driver of eligibility for graduation is likely to become the growth of income per capita, if sustained. Economic growth will progressively push LDCs to meet the income-only criterion, while an improvement in the component indicators of HAI and EVI will have little direct impact on graduation likelihood. This results from the fact that HAI and EVI have been until now relative criteria which can be met only through a change in the country situation with respect to the thresholds. An improvement in HAI and EVI as a result of IPoA is instead expected to have an impact on graduation as a factor of higher economic growth.

7. The General Assembly in its December 2012 resolution on 'Follow-up to the Fourth United Nations Conference on the Least Developed Countries' rightly expressed 'serious concern' that, after a decade of steady growth, the LDCs are facing significant challenges in sustaining their economic growth. Of course

the growth of the GNIpc may be influenced by exogenous factors other than the structural features identifying LDCs. Such factors have already been working during the last decade, the main one being the international price of commodities, in particular oil. But some other factors may appear in the next decade, in particular new oil or mineral exports resulting from recent discoveries. Another set of highly important factors is the improvement in domestic as well as international policies, in particular those recommended by the IPoA. Difficult to assess and predict, this has not been considered in this chapter, except through the simulation of the achievement of the 7 per cent IPoA target of economic growth. The rather limited prospects of graduation in the period covered by the IPoA should be an incentive to implement and hopefully reinforce the support measures agreed upon in Istanbul.

8. This chapter has assumed that the graduation rules are roughly unchanged, avoiding consideration of any important changes. However, this chapter underlines the significant impact of the way in which the reference group of countries used for the determination of the HAI and EVI criteria thresholds has been designed. Moreover, following a previous suggestion of the Committee for Development Policy (CDP), some refinement in the present rules has been proposed to combine the two structural handicap indices in a synthetic index, used as an alternative criterion, not without a possible impact on the path of graduation.

3.1 Introduction: the context of prospects

The LDC category, established by the UN in 1971, was from the start meant to comprise low-income countries impeded by structural handicaps from achieving economic growth (in the 2011 CDP formulation 'economic growth' has been replaced with 'sustainable development'). The structural handicaps considered for the identification of the LDCs are deficient human resources and high economic vulnerability. The LDCs are identified by three mandatory complementary criteria for inclusion into the category (CDP and UNDESA 2008; CDP 2012): income level as measured by GNIpc, and two indicators of structural handicaps – HAI and EVI.[2] Poor countries facing these two kinds of handicap simultaneously have been described as 'caught in a trap', and in need of special international attention and support measures (Guillaumont 2009a).

3.1.1 When graduation rules were set up and what they are

Graduation from the list of LDCs, when an LDC no longer fulfils the conditions of membership, was not considered during the first 20 years of the category. The possibility and conditions of graduation were introduced in 1991, and since the list of LDCs has undergone triennial reviews. Three main precautions should be taken before an LDC is recommended for graduation: (i) not only one, but two of the three criteria of inclusion should cease to be met; (ii) margins should be set up between inclusion and graduation thresholds for each criterion; and (iii) a country should be found eligible at two successive triennial reviews. Moreover, since 2004 a country

is only deemed to have graduated three years after the endorsement by the General Assembly of the CDP recommendation. An exception to the initial 'two criteria rule' was introduced in 2005: a country can be found eligible for graduation if its GNIpc is at least twice as high as the ordinary income graduation threshold and deemed sustainable, making income per capita the only criterion for graduation in these cases. While such cases at the introduction of the rule in 2005 were considered exceptional, they appeared later not to be so, as we shall see below. In what follows we refer to these two alternative rules of graduation as the 'two criteria rule' and the 'income-only criterion' or 'income-only rule'.

3.1.2 How graduation rules have been implemented

The history of graduation of the LDCs since 1991 can roughly be divided into two periods. From 1991 to the middle of the 2000 decade, only one country graduated from the category according to the rule prevailing at the time, namely Botswana on 19 December 1994. This modest outcome is mainly due both to the economic trends in LDCs and to the precautionary graduation conditions.

The graduation process has also been impacted by the resistance of eligible countries since the end of the 1990s[3] (CDP 1997, 2000, 2003, 2006; CDP and UNDESA 2008; Guillaumont 2009a). From 1994 and before the Istanbul Conference two countries graduated from the group, Cape Verde on 20 December 2007 and Maldives on 1 January 2011, both on the basis of their high GNIpc and HAI. At the time of UN LDC IV (Istanbul, May 2011) the attitudes towards graduation among LDCs seemed to be changing.

3.1.3 Graduation since UN LDC IV: the meaning of an enabling goal

Samoa, after obtaining a three-year postponement from the General Assembly (A/RES/64/295 of October 2010), graduated in January 2014.

The graduation of Equatorial Guinea, recommended by the CDP in March 2009 and agreed by the Economic and Social Council (ECOSOC) in July 2009 (Resolution 2009/35), has been waiting the decision by the General Assembly for an unusually long time, being repeatedly considered as imminent: having been agreed upon at the end of May 2013 (A/67/L.XX, compilation text agreed ad ref, based on A/67//L.31), the adoption of that resolution was itself postponed to September 2013 at the request of concerned countries; it was then again agreed upon so that the resolution was adopted on 4 December 2013 (A/RES/68/18).

At the last (2012) triennial review, Tuvalu and Vanuatu were found eligible for the third consecutive time and recommended for graduation from the list by the CDP (they had already been found eligible for a second time in 2009, but then were not recommended for graduation by the CDP). Tuvalu's case is still to be examined by ECOSOC, while Vanuatu's recommendation, endorsed by ECOSOC, has taken some time to be examined by the General Assembly. Vanuatu had requested a postponement on the basis of climatic circumstances, as was previously obtained by Maldives and Samoa on the basis of a tsunami. A shorter postponement by one

year, called 'additional preparatory period on an exceptional basis', has finally been granted before the decision on whether to graduate this country is to be taken by the General Assembly. At the same time, Equatorial Guinea was granted an 'additional preparatory period of six months' 'on an exceptional basis', without any explicit reason. Graduation of Vanuatu is now expected at the end of 2017 (and that of Equatorial Guinea in mid-2017).

At the 2012 review, Angola and Kiribati were also found to meet the eligibility criteria for graduation for the first time and might be recommended for graduation at the next triennial review, in 2015, if they are still found eligible (CDP 2009, 2012).

3.1.4 Time frame for a reduction by half

A change of attitude towards graduation has been shown at UN LDC IV with the IPoA, which is often interpreted as including a goal of reduction by half of the number of LDCs by 2020. The exact wording as included in the IPoA is more cautious: it underlines 'the aim of enabling half of the number of least developed countries to meet the criteria for graduation by 2020' (United Nations 2011, §28, see also §1). It should be noted that since 2004 graduation is effective three years after the General Assembly has 'taken note of' the recommendation of the CDP to graduate a country (a recommendation proposed only after the CDP has found the country eligible at two successive triennial reviews, that is meeting the criteria).[4] It follows that after the country has met the graduation criteria and been recommended for graduation by the CDP, it needs at least three more years to achieve an effective graduation.

It should be noted that, according to the present rules, for a country to actually be graduated by 2020 it should already have been found eligible for the first time in 2012, and, if again found eligible in 2015, recommended for graduation. If the recommendation is rapidly endorsed by ECOSOC and the General Assembly, it could be graduated at best in 2018. This only applies to Angola and Kiribati, the two countries found eligible for the first time in 2012. Meanwhile, with the graduation of Samoa and Equatorial Guinea, probably of Vanuatu in 2017 and possibly of Tuvalu, it would mean that a maximum of 6 among the 48 LDCs of Istanbul (49 since the December 2012 decision of the General Assembly to include South Sudan) would have graduated before 2020, a decrease by one-eighth, far from a reduction by half.

More LDCs can 'meet the graduation criteria by 2020', which means that that they will be found eligible for the first time at the 2015 review and for a second time in 2018, the last triennial review before 2020. They can then be graduated at the earliest in 2023. Even more LDCs could meet the criteria at the 2021 review, although the prospects are limited, as we shall see below. To actually be graduated in 2021, an LDC should have been found eligible for the first time in 2015.

3.1.5 A possible acceleration by voluntary graduation?

The move towards an attitude more favourable to graduation is illustrated by the wish expressed by some LDCs to graduate as soon as possible. This should be

understood as the wish to be soon able to meet the present graduation criteria and so be recommended for graduation.

Another possibility would be for a present LDC to request a graduation even if the criteria are not yet met. Such a case has not yet occurred. Is it conceivable? Since a country may refuse to be included as an LDC when found eligible, it seems difficult to argue that an LDC cannot leave the category if it wants to do so. Why might it? From such a 'voluntary graduation' the country might expect to receive the benefits from a good performance signal, worth more than the lost benefits of LDC membership. At the same time it would not reveal a high perception of the benefits of the category.

3.1.6 Smooth transition more clearly addressed

Concurrently, a concern about 'smooth transition' has been raised, first reflected by the CDP in 2000, strongly and recently illustrated by the UN General Assembly Ad Hoc working group on this issue (UNGA, A/67/92); its report, adopted in July 2012, has resulted in a resolution of the United Nations General Assembly in December 2012 (A/C.2/67/L.51) (UN General Assembly 2012a). This resolution can be seen as a post-Istanbul complement of the previous 2004 resolution 59/209 of the General Assembly on the smooth transition strategy for countries graduating from the list of LDCs. The need for a new resolution had risen both from the fear and resistance of the countries recommended or found eligible for graduation during the previous years and from the perspective of an acceleration of the number of graduations, as stated in the IPoA.

We shall not examine here the content of this resolution, which includes a set of propositions to make the transition smooth in order to avoid a 'disruption' in the development path of countries losing the benefits of the LDC status. It does not directly affect the graduation prospects examined in this paper, except possibly by dampening the resistance of eligible countries to their graduation.

Let us note that paragraph 23 of this resolution invited development partners 'to consider least developed country indicators, gross national income per capita, the human assets index and the economic vulnerability index as part of their criteria for allocating official development assistance'. This part of the resolution, following the recommendation of the ad hoc committee (UN General Assembly 2012b), and suggestions made by members of the LDC IV Monitor previously or at the ad hoc committee, is significant to make the LDCs' graduation smoother, but also as a more general principle of aid allocation: by taking into account structural handicaps, aid allocation would become more equitable.

The resolution also decided that the General Assembly should take note of the decisions of ECOSOC regarding graduation at its first session 'following the adoption of such decisions by the Council' (paragraph 10). This is intended to avoid delays such as those recorded for Equatorial Guinea in recent years.

3.1.7 Graduation prospects: rules assumed not to be changed

The aim of this paper is to assess the prospects of graduation since the Istanbul Conference, with a special focus on methodology. The meaning of an accelerated

graduation from the LDCs category would have to be examined with regard to the rationale of the category. If LDCs are countries 'caught in a trap', when will they be considered as 'out of the trap' and ready to develop without needing special support measures? Which factors can lead to an accelerated graduation?

The prospects of graduation depend on the rules applied. It is to be recalled that there is an asymmetry between inclusion and graduation criteria, which was set up for precautionary reasons. Its impact is high. At the 2012 review, among the 49 LDCs under consideration, 26 were no longer meeting the inclusion criteria (the three complementary criteria). This means that, without the existing asymmetry in the inclusion/graduation criteria, the IPoA goal would have already been reached.

In order to examine these prospects, we make the assumption that the graduation criteria remain unchanged: two criteria are no longer to be met (initial and general rule) or only the income per capita criterion at a higher threshold should be applied (income-only rule added in 2005). There is indeed an important difference between the EVI or HAI criteria and the GNIpc criterion. The former have been relative thresholds designed by the quartile value of a reference group, while the latter was an absolute threshold in constant dollars. Since this difference has significant implications for eligibility, the following Sections, 3.2 and 3.3, consider the graduation prospects, first, according to the two criteria rule (two criteria should no longer to be met, at least one of which is a relative one) and second, according to the income-only rule or criterion. In this second part, we return to the rationale of the category by focusing on the 'expected natural income level per capita', the income level the country could reach in a given future year if its structural handicap remains the same.

3.2 Graduation prospects according to the 'two criteria' principle

According to the two criteria rule, a country is eligible for graduation if it reaches the graduation threshold for at least two criteria: for HAI and EVI this is a threshold of 10 per cent above the inclusion threshold, and for GNIpc this is a threshold of 20 per cent above the absolute level used by the World Bank to separate low-income and middle-income countries (LICs and MICs). HAI and EVI are composite indices, which are scaled, relatively to the maximum and the minimum (or two normal bounds) of a reference group which converts them to relative indicators, while the World Bank GNIpc low-income threshold is an absolute level remaining constant in real terms over time. This means that at least one, and possibly two, of the criteria met to satisfy this rule should be a relative one (more details in Guillaumont 2009a).

3.2.1 Importance of the reference group

An LDC's likelihood of meeting a relative graduation criterion depends on the size of the reference group and on the location of the threshold set up to identify LDCs. The reference group has traditionally included all LDCs and other LICs and the threshold for inclusion has traditionally been put at the (better) quartile of the reference group. The higher the number of countries which are not LDCs, the lower the probability for an LDC to be in the better quartile.

A risk of endogenous graduation…

More and more former non-LDC LICs have become MICs since 2000.[5] As a consequence, the reference group has been shrinking over time (from a maximum of 67 in 2000 to a minimum of 60 in 2009),[6] making the attainment of the graduation threshold easier. If there were no longer LICs or LDCs, the reference group would become the group of LDCs itself. Then, with around one-quarter not reaching the inclusion threshold, a proportion a little smaller (due to the margin between inclusion and graduation thresholds), but still significant, would reach the graduation threshold whatever the evolution of HAI and EVI for the whole set of countries. With graduation occurring, it would correspond to a renewed set of LDCs. In this way, the probability of reaching the graduation threshold would remain unchanged for a decreasing number of non-graduated LDCs. It would result in an endogenous process of graduation, whatever the rate of improvement in the indicators on which HAI and EVI rely.[7]

…is avoided by an enlargement of the reference group

It would not be logical that, with the reduction of the number of non-LDC LICs, the reference group be reduced to the only group of LDCs. This would not be consistent with the concept of LDCs as poor countries suffering the most from structural handicaps. From the beginning the purpose was to differentiate between LDCs and other developing countries. For this reason, the CDP extended the design of the group at the 2012 review, where there were only three non-LDC LICs. The reference group then included all the LDCs and 'all other developing countries whose per capita income in any of the three years used to determine average incomes (i.e. 2008–2010) was less than 20 per cent above the low-income threshold determined by the Word Bank' (CDP 2012). This extension led to the inclusion of nine additional countries, without which the reference group (according to its previous definition) would have fallen to 51 (instead of 60 in 2009) and made it probable that the relative graduation criteria would become higher, as explained above. Without this extension, with a reference group of 51 countries, the new quartile thresholds (then between the 12th and the 13th ranks) would have led Bangladesh to meet the EVI graduation criterion and Solomon Islands to meet the HAI graduation criterion. However, it would have not made these two countries eligible since they were not meeting another graduation criterion.[8]

Retaining in 2015 the same principle as in 2012 for the extension of the reference group would probably not avoid this group continuing to shrink, since some of the nine added countries will have durably crossed the line located 20 per cent above the low-income threshold. This would raise again the question of a revision in the design of the reference group. It could be done for instance by including all developing countries with a per capita income lower than the average of the ordinary graduation threshold and the income-only threshold, that is 0.5(120 per cent+240 per cent)=180 per cent of the inclusion criterion, with a resulting reference group staying around 60 countries.[9] Or, if the present number of 60 countries is considered adequate to maintain the same reference over time, the reference group can simply include all LDCs and the number of other developing countries, ranked by increasing order of income per capita, which are needed to reach 60.[10]

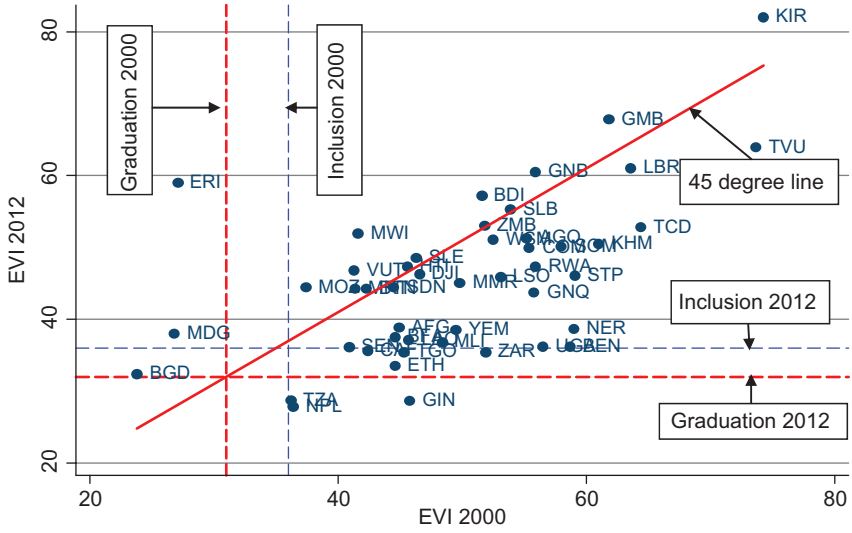
To assess the prospect of graduation with regard to the two criteria rule, and measure the progress towards the graduation threshold, we carried out two kinds of empirical exercise. The first aims at giving a global view on the evolution of the positions of LDCs with regard to each of the two relative criteria, HAI and EVI, making it possible to test an 'endogenous' eligibility. The other exercise aims at giving a country-by-country view on the evolution of the relative position with respect to the three criteria, and so for each country, in order to give evidence of the trends towards eligibility to graduate.

3.2.2 How are relative positions globally changing?

The first exercise, considering all LDCs, and successively for each criterion, consists of comparing the position of the countries with respect to graduation thresholds at different review years. We choose 2000 and 2012 as review years, since the EVI criterion was introduced in 2000, so that the comparison will be relevant. However, the composition of EVI (more than that of HAI) has changed during this period, in particular at the 2006 and 2012 reviews (see Guillaumont 2009a, 2013). In particular it should be noted that the definition of EVI changed slightly in 2012 by reducing by half the weight given to the small size population indicator and adding a new component reflecting the population in low coastal areas. For that reason, we also compared the evolution from 2006 to 2012 of an EVI corresponding to the (unchanged) definition of the 2006 and 2009 reviews, that is using an EVI calculated in 2012 on the basis of the 2006–09 definition.

Figures 3.1 and 3.2 present the results for EVI, Figure 3.3 for HAI. The thick red dashed lines represent the graduation thresholds for both years, while the thin blue dashed

Figure 3.1 Positions of LDCs with regard to EVI 2012 and EVI 2000



Note: The 45 degree line has been drawn from the intersection of the graduation threshold lines. It does not go through the inclusion thresholds intersection since the margins between the graduation and the inclusion thresholds have changed

Figure 3.2 Positions of LDCs with regard to EVI 2012 and EVI 2006, both calculated according to the 2006 method

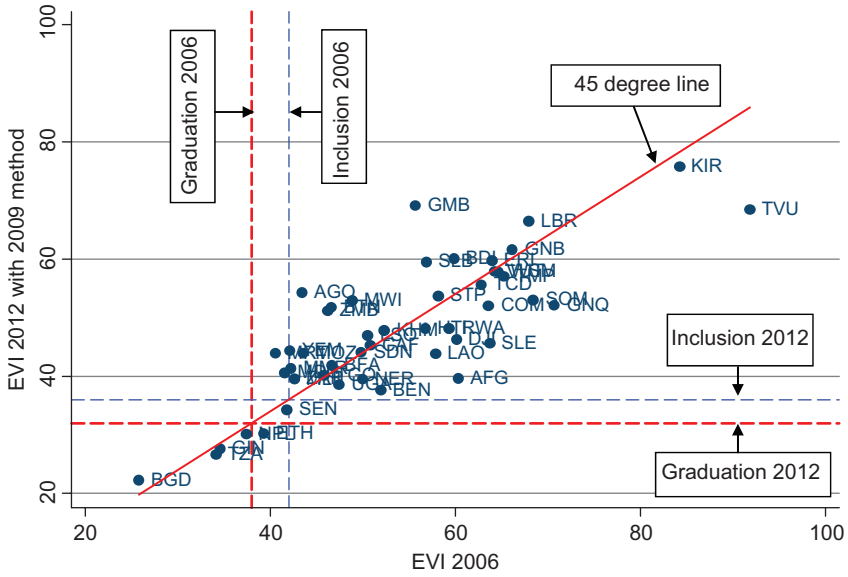
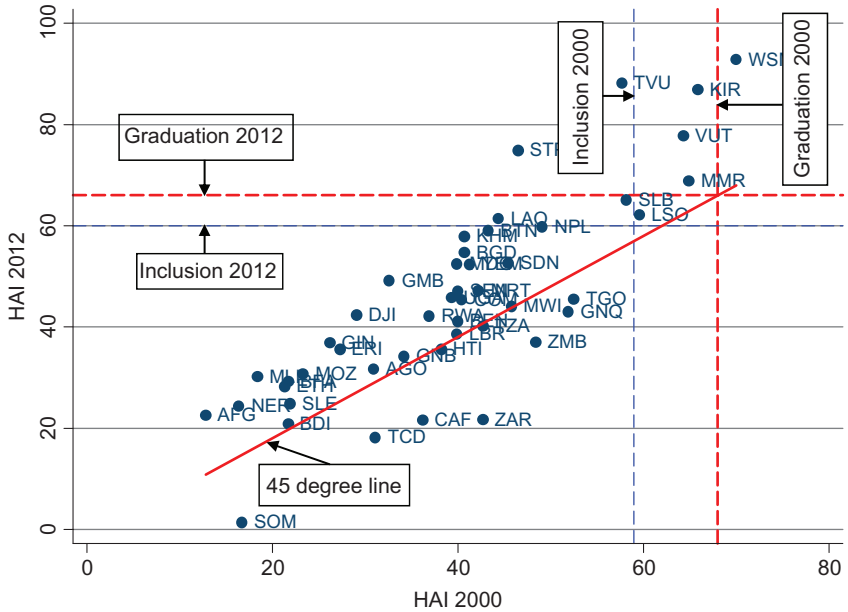


Figure 3.3 Positions of LDCs with regard to graduation thresholds of HAI (APQLI) in 2000 and 2012



Note: The 45 degree line has been drawn from the intersection of the graduation threshold lines. It does not go through the inclusion thresholds intersection since the margins between the graduation and the inclusion thresholds have changed

lines represent the inclusion thresholds. In Figure 3.2 the thick black horizontal line represents the graduation threshold of EVI for the year 2006 applied to 2012.

In Figure 3.1, a relative progress towards the graduation threshold between 2000 and 2012 does not appear clearly. None of the countries that met the EVI graduation threshold in 2000, Eritrea, Madagascar and Bangladesh, met it in 2012, while three other countries that did not fulfil this criterion in 2000, Tanzania, Nepal and Guinea, did it in 2012. On the other hand, a majority of LDCs have come closer to the graduation threshold, as shown by their position with respect to the 45 degree line, and four of them remain between the inclusion and the graduation thresholds. Do these results come from the change in the definition of EVI, or from the structural change of countries?

A partial answer is given in Figure 3.2, where the 2006 positions are compared with the 2012 ones, using for 2012 the same 2006–09 definition of EVI. In this shorter period the picture seems better. All four countries that met the graduation criteria in 2006 (Bangladesh, Tanzania, Guinea and Nepal) met it in 2012, while Ethiopia met it in 2012 without having met it in 2006. On the other hand, the whole distribution of countries on both sides of the 45 degree line appears rather balanced, showing a smaller number of LDCs achieving structural progress with regard to EVI than in Figure 3.1. Comparing the countries meeting the EVI graduation criterion with the 2012 threshold and with the 2006 threshold also shows that one more country (Senegal) would have met the criterion if the threshold had stayed at the same level. Figure 3.1 also suggests that the addition of nine new countries to the list of reference countries has avoided an effect of what we previously have called endogenous graduation for this criterion, since without this addition the horizontal dashed graduation/inclusion threshold line would have been positioned higher. Finally, it seems from the analysis that the 2011–12 changes in the EVI have affected the stability of the positions of LDCs with regard to the EVI graduation threshold.

With regard to the HAI criterion, the results obtained are shown in Figure 3.3. Since the changes brought into the composition of HAI (still named APQLI, Augmented Physical Quality of Life Index, in 2000) have been less significant than for EVI, the comparison from 2000 to 2012 is easier. Consistently with the fact that most of the countries found eligible to graduate during the last decade have been so on the basis of their HAI[11] (besides the GNIpc), a relative improvement clearly appears for this indicator. A larger number of LDCs (six) reached the graduation threshold in 2012 than in 2000 (one): Samoa, reaching it in 2000, was joined in 2012 by Tuvalu, Kiribati, Vanuatu, São Tomé and Príncipe, and Myanmar. It cannot be said with certainty that this improvement in their location on the graph would not have been possible without a real progress in their human assets. It may also have been enhanced be the endogenous effect of the reduction in the reference group, or, although less likely, by the small changes introduced in the measurement of the index components.

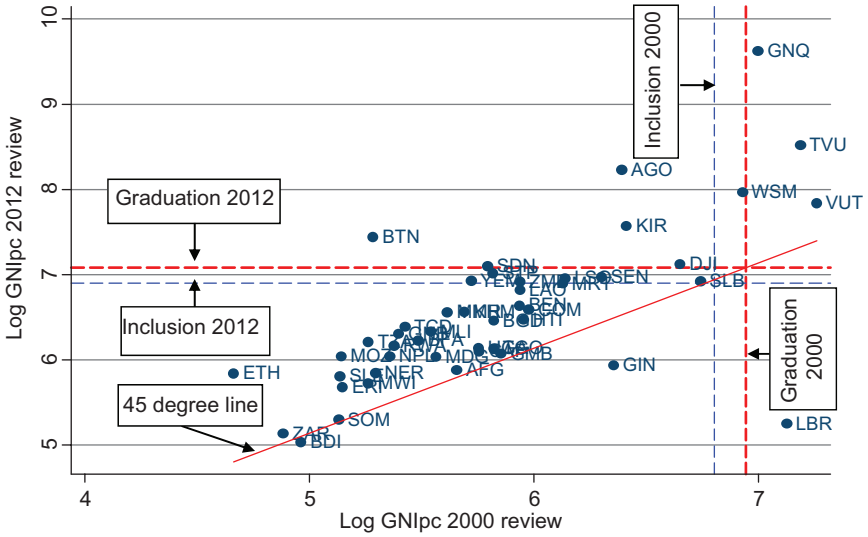
With respect to the GNIpc criterion, an absolute level not changing in real terms over time, the results are of course clearer. They show a global move towards the graduation threshold (i.e. the increased low-income upper threshold) between 2000 and 2012 (as presented in Figure 3.4). Nine countries fulfilled the graduation

threshold in 2012, compared with only four in 2000. Only one country (Liberia) met the threshold in 2000 without meeting it in 2012. Most of the LDCs (exceptions are Guinea and Liberia) are above the 45 degree line, which shows an increase in the level of GNIpc. A higher proportion of LDCs are close to the income graduation threshold in 2012 than were in 2000.

As a result, all the graduation eligibilities have been obtained from the GNIpc and the HAI (Maldives, Tuvalu, Samoa, Vanuatu, etc.). It should be recalled that the evolution observed in the position with respect to the relative HAI and EVI criteria should not be taken as a measure of the real change in the level of human assets or of economic vulnerability (a measure requiring the setting up of a homogeneous series of these two indices, as is done in Cariolle and Guillaumont 2011 and in Korachais 2011). It is an evolution with regard to moving thresholds, determined from the definition of the indicators prevailing at each review. Drawing from the previous graphs, it is possible to identify which countries, besides those meeting two criteria of graduation, are closer to graduating by no longer reaching at least two inclusion criteria. It seems that there are only two, Lesotho and Solomon Islands. Senegal, no longer an LIC, is very close to the EVI inclusion threshold. It should be noted that we found Solomon Islands likely to meet the HAI graduation criterion, depending on the definition of the reference group.

The chance of those countries to move forward in the direction of graduation and cross the thresholds should also be assessed with regard to the trend they show in their relative position.

Figure 3.4 Positions of LDCs with regard to log of GNIpc 2012 and log of GNIpc 2000 reviews



Note: The 45 degree line has been drawn from the intersection of the graduation threshold lines. It does not go through the inclusion thresholds intersection since the margins between the graduation and the inclusion thresholds have changed

3.2.3 Country evolutions with regard to the set of criteria: resulting LDC groups

In a second empirical exercise, we present for each country on a graph its position with respect to the graduation and inclusion thresholds over the last five triennial reviews.[12] For each country, and each criterion indicator, we transform its value into the relative deviation with respect to the inclusion threshold as follows:

$$RelativeX_{it} = \frac{100 * (absoluteX_{it} - inclusion_t)}{inclusion_t}$$

where $relativeX_{it}$ and $absoluteX_{it}$ are respectively the relative and absolute values of variable X (EVI, HAI or GNIpc country level value, inclusion and graduation thresholds) of LDC i at time t (2000, 2003, 2006, 2009 or 2012). Here *inclusion* represents the inclusion threshold of the indicator considered. Since an increase in the index is an improvement for HAI and the reverse can be said for EVI,[13] the difference (100 – EVI) is instead used with regard to this criterion and to make the interpretation easier. Thus, all inclusion thresholds are represented on a horizontal line at zero on the vertical scale; a country does not fulfil the inclusion criterion if its relative value is below this line. All the graduation thresholds before 2003 are represented by a horizontal line scaled at 15 (since before 2003 the margin between the inclusion and graduation thresholds was 15 per cent for all three criteria), while from 2003 the horizontal line representing the graduation thresholds of EVI and HAI is 10, and that of GNIpc is 20 (according to the respective margins of 10 per cent and 20 per cent applied from this time). The country meets the graduation criterion if its relative value is above the horizontal line representing the graduation threshold. Similarly, the horizontal line scaled at 140 is the graduation threshold applied with the income-only rule (according to which, countries reaching 2.4 times the GNIpc inclusion threshold may be considered as eligible for graduation). All the GNIpc above 140 are brought back to 140 to make the graph readable, meaning that above 140, the graph does not indicate actual scores.

It is worth noting that the evolution of EVI is affected by the changes in the index definition; an example is given by Bangladesh, where for 2012 we can observe seemingly an increase of vulnerability on its graph as well as a decrease of the positive deviation of EVI from the graduation threshold, clearly due to the change in the EVI definition. So, the evolution of the relative indicator used does not measure structural change per se, as can be done with the retrospective EVI calculated at Ferdi over a long period (Cariolle and Guillaumont 2011). But it shows to what extent a country is becoming closer to the current graduation criteria. It should be underlined that in this paper we only consider the evolution of countries with regard to moving HAI and EVI criteria and thresholds, not their structural transformation per se, as we do elsewhere (Guillaumont et al. forthcoming; Guillaumont 2013; Cariolle et al. 2014). Of course, the IPoA can be expected to accelerate or induce such a transformation, but its possible and relative impact on the various LDCs cannot be assessed in this chapter: it is as if the assumption was made that this impact does not differ among LDCs.

Box 3.1 EVI move towards the graduation threshold: a Bangladesh puzzle

At the 2009 review of the list of the LDCs, Bangladesh had the LDC lowest level of EVI (23.2), putting it quite beyond (–39 per cent) the graduation criterion (set at 38). This deviation from the graduation threshold had been increasing during the previous years (being respectively –10.6 and –32.2 at the 2003 and 2006 reviews), which could be seen as progress towards graduation through declining structural economic vulnerability. But at the 2012 review the size of the deviation suddenly decreased, with an EVI estimated at 32.4 for a threshold of 32, meaning that Bangladesh was no longer meeting the graduation threshold (deviation of +1.25 per cent), while Nepal, Guinea and Tanzania, less well ranked than Bangladesh in 2009, were still meeting the graduation criterion.

The lower level of the graduation threshold (32 instead of 38 in 2006 and 2009) has contributed to the deterioration of the position of those countries that have reached the threshold in 2009, including those (quoted above) still meeting it in 2012. But it cannot explain the dramatic change in the ranks. This change results from the revision in the definition of EVI that occurred between 2009 and 2012.

While between these two reviews (2009 and 2012) the 'official' or 'review' EVI increased from 23.2 to 32.4 (+9.2), the EVI, re-estimated on the basis of an unchanged definition, decreased: on the basis of the 2006–09 definition, with new data, it moved from 22.1 to 19.1 (–3.0); on the basis of the 2012 review definition, still with new data, it moved from 34.1 to 32 (–2.1), suggesting that some structural progress with regard to vulnerability has been going on.

Which kind of change in the definition of EVI resulted in the increase of the official EVI? The major change is in the composition or weighting of EVI, namely the reduction by half of the 25 per cent weight given in 2006–09 to the population size, a major factor of Bangladesh's low EVI, with the lost 12.5 per cent having been allocated to a new component, the share of population located in low coastal areas, which is significant in this country. Between the 2009 and 2012 reviews, this change accounts for an increase by 8.8, nearly one hundred per cent of the increase by 9.2 in the Bangladesh official EVI. But it is not enough to explain the difference between the increase in the official EVI and the decrease of EVI with an unchanged definition (by 2.1 to 3.0), due to an improvement in its components. The missing factor is a change in the way in which each component has been measured and updated, the impact of which (on official EVI) has also been significant (by more than +3).

The source of the difference between the change in the review EVI and in an EVI with constant definition is even better illustrated in a longer period, from the 2006 to the 2012 review: while the review EVI increased from 25.8

(*continued*)

(*continued*)

to 32.4 (+6.6), the unchanged EVI decreased from 23.5 to 19.1 (−4.4), on the basis of the 2006–09 review definition, giving evidence of structural progress. The change in the composition (or weighting) of the review EVI contributed by 8.4, more (by 1.8) than the official increase of 6.6. The change in the way in which some components have been calculated had another positive impact on the review EVI: in particular, the index of natural shock was calculated in 2006–09 from the homeless indicator and in 2012 from the broader indicator of the share of population victims of natural disaster; also important are the change in the calculation of the remoteness indicator, and to a smaller extent the change in length of the period on which the export instability has been calculated. All these changes in the method of measurement of the EVI components contributed to increasing the EVI by 4.5. But some updating of data when the retrospective EVIs were calculated had a small impact in the opposite direction (by −1.9). Taken together, these three factors (8.4+4.5–1.9=11) explain the gap between the increase by 6.6 of the review EVI and the decrease by 4.4 of the EVI calculated on the basis of the 2006 definition, a decrease which only results from the improvement of the EVI components. Similar results are obtained using the 2012 definition for the retrospective EVI.

Only the evolution of an EVI calculated through a constant definition (involving both the same weighting and the same measurement of components), as is done in the Ferdi retrospective EVIs, may reflect a structural economic change, a change which did occur in Bangladesh, although modestly (calculations made at Ferdi with Joël Cariolle).

The detailed country results obtained from this exercise, here summarised in two tables and eight figures, each of which represents an LDC, are available upon request. LDCs can be divided into several separate groups according to the trend towards graduation. Tables 3.1 and 3.2 present these different sub-groups, the former classifying a positive trend in six groups, the latter classifying negative trends in two groups. Each group among these eight is illustrated by a figure related to one country.

Countries presenting a positive trend towards graduation criteria are presented in Table 3.1. The first column includes six LDCs for which positive trends have led to eligibility for graduation, according either to the two criteria rule (four countries) or to the income-only rule (two countries). The other five columns classify those 12 LDCs that, without becoming eligible for graduation, have shown evidence of positive trends towards graduation criteria (GNI/HAI, GNI/EVI, EVI/HAI, GNI/EVI/HAI). Depending on the initial level of the corresponding indicators, these countries present more or less good prospects for graduation. Figures 3.5–3.10, respectively giving the evolution in Vanuatu, Angola, Lesotho, Benin, Bangladesh and Laos, illustrate each case of a positive trend towards graduation.[14]

On the other hand, 30 LDCs show negative trends towards two or three graduation criteria. As shown in Table 3.2, this group includes LDCs presenting a positive trend

Table 3.1 Countries with positive trends towards graduation criteria (2000–12)

Eligibility	Income-only rule (three LDCs)	HAI and GNI (ten LDCs)	EVI and GNI (one LDC)	EVI and HAI (two LDCs)	The three criteria (two LDCs)
Already eligible	***Equatorial Guinea*** Angola	***Samoa*** ***Vanuatu*** Tuvalu Kiribati			
Not yet eligible	Timor-Leste	Bhutan Cambodia Lesotho São Tomé Príncipe Solomon Islands Yemen	Benin	Bangladesh Nepal	Laos Senegal

Note: In bold italics are countries whose graduation has been already decided; in italics only is a country for which graduation has been recommended by the CDP but not decided

for only one criterion (with a negative trend for the other two) and those without any positive trend (three negative trends), respectively 17 and 13 countries. The two groups (or columns) of Table 3.2 are respectively illustrated below by Figures 3.11 and 3.12, giving the evolution in Djibouti and Burundi.

Figure 3.5 Relative evolution of Vanuatu's position with respect to the graduation and inclusion thresholds over the last five triennial reviews

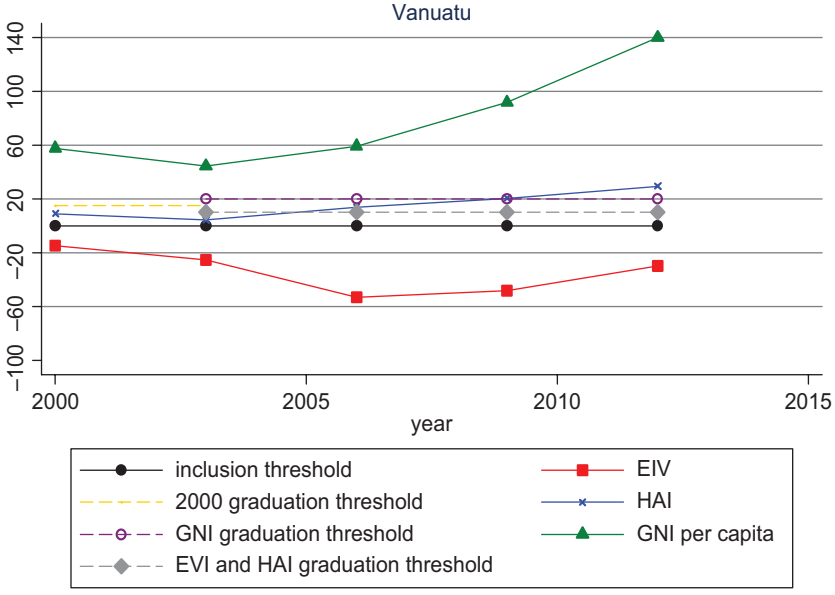
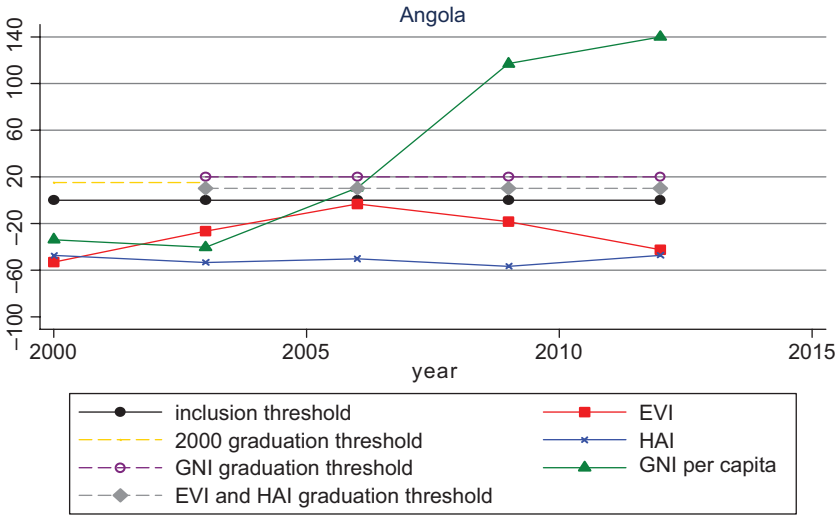


Figure 3.6 Relative evolution of Angola's position with respect to the graduation and inclusion thresholds over the last five triennial reviews



Looking again at Table 3.1, it can be seen that, among the 18 countries having shown a positive trend for two criteria, two-thirds of them (12) have registered this trend both for GNIpc and for the HAI (see for instance Figure 3.5 for Vanuatu). It is the case for all six LDCs already found eligible, with the two exceptions of oil exporters (Equatorial Guinea and Angola, both having already met the income-only criterion discussed below; see for instance Figure 3.6 for Angola).

Figure 3.7 Relative evolution of Lesotho's position with respect to the graduation and inclusion thresholds over the last five triennial reviews

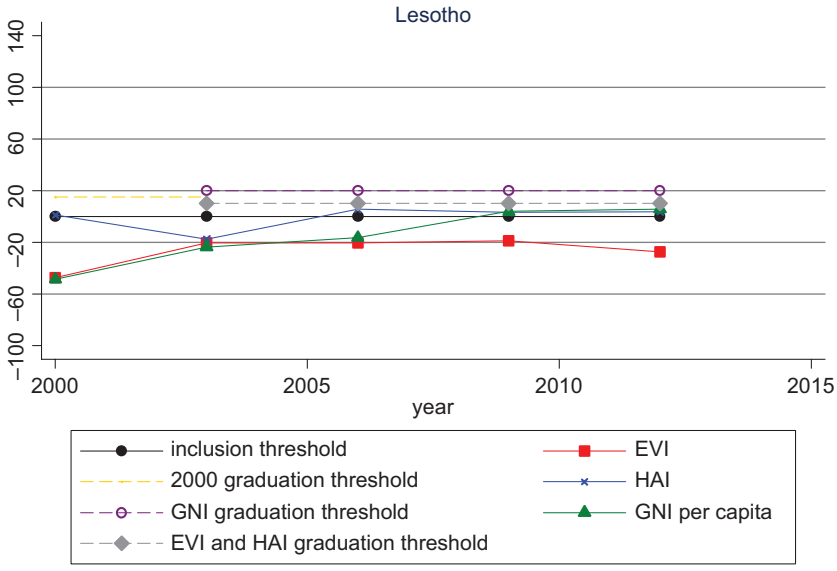
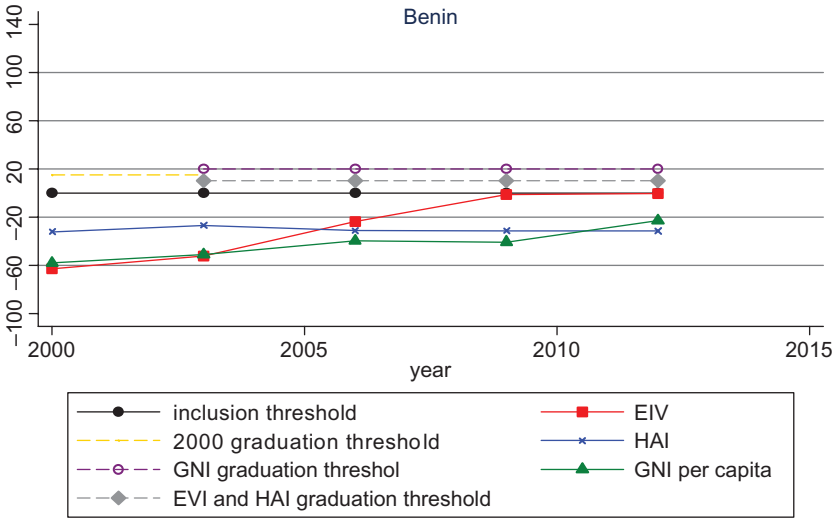


Figure 3.8 Relative evolution of Benin's position with respect to the graduation and inclusion thresholds over the last five triennial reviews



Among the 17 countries with negative trends towards two graduation criteria and a positive trend towards one criterion, as presented in the first column of Table 3.2, 12 have such a positive trend for the EVI, four for the GNIpc and only one for HAI.

On the whole, putting aside oil exporters, there seems to be a stronger link between progress towards the GNIpc and HAI criteria than between progress towards the

Figure 3.9 Relative evolution of Bangladesh's position with respect to the graduation and inclusion thresholds over the last five triennial reviews

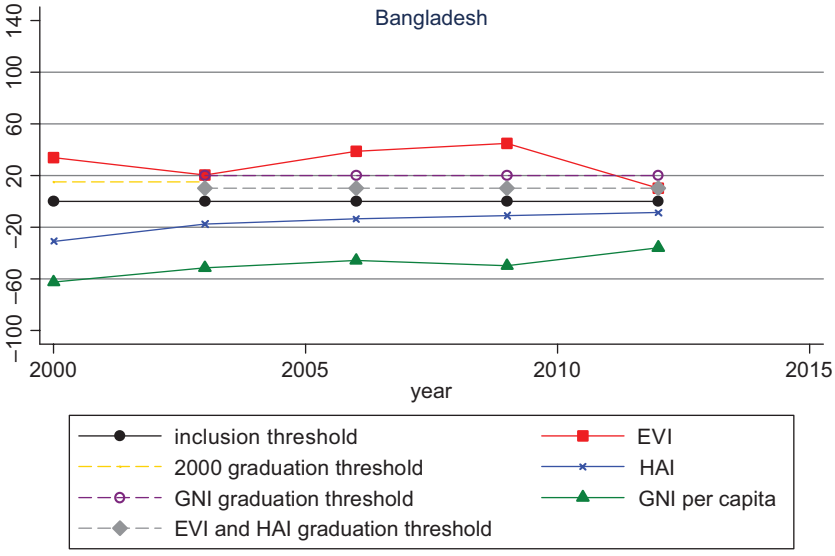
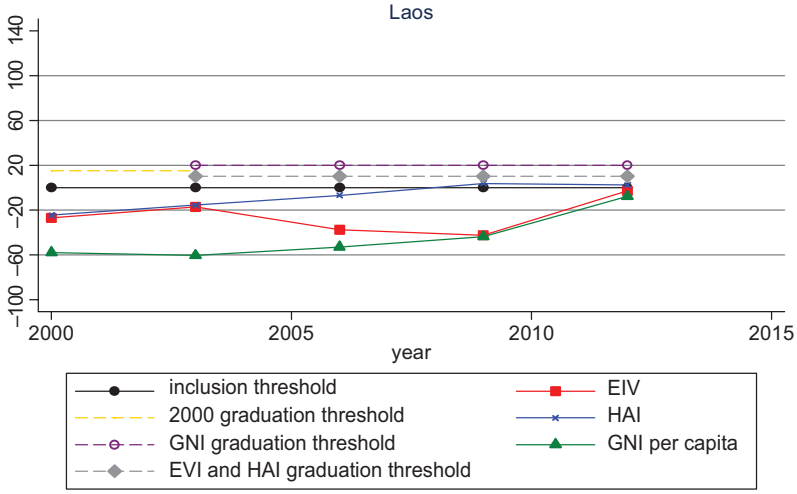


Figure 3.10 Relative evolution of Laos's position with respect to the graduation and inclusion thresholds over the last five triennial reviews



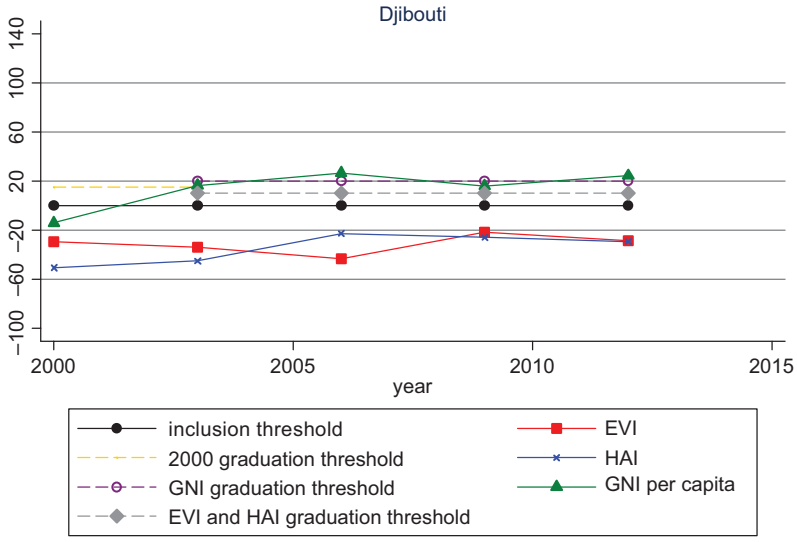
GNIpc and EVI criteria, and there is little prospect of graduation without an increase in the GNIpc, which may be the main driver of graduation.

In the near future, it seems that few countries are likely to graduate from the two criteria rule, due to the inertia of the relative position of the LDCs with respect to the HAI and EVI criteria. This does not mean that HAI and EVI are not important for graduation. The progress in their absolute level is the key of income growth, except in

Table 3.2 Countries with negative trends towards graduation criteria (2000–12)

Positive trends in only one criterion (17 LDCs)	All trends are negative (13 LDCs)
Djibouti (GNI)	Burundi
Mauritania (GNI)	Chad
Sudan (GNI)	Comoros
Zambia (GNI)	Eritrea
Madagascar (HAI)	Guinea Bissau
Afghanistan (EVI)	Haiti
Burkina Faso (EVI)	Liberia
Central African Republic (EVI)	Malawi
Democratic Republic of the Congo (EVI)	Mozambique
Ethiopia (EVI)	Myanmar
Gambia (EVI)	Rwanda
Guinea (EVI)	Sierra Leone
Mali (EVI)	Somalia
Niger (EVI)	
Togo (EVI)	
Uganda (EVI)	
Tanzania (EVI)	

Figure 3.11 Relative evolution of Djibouti's position with respect to the graduation and inclusion thresholds over the last five triennial reviews

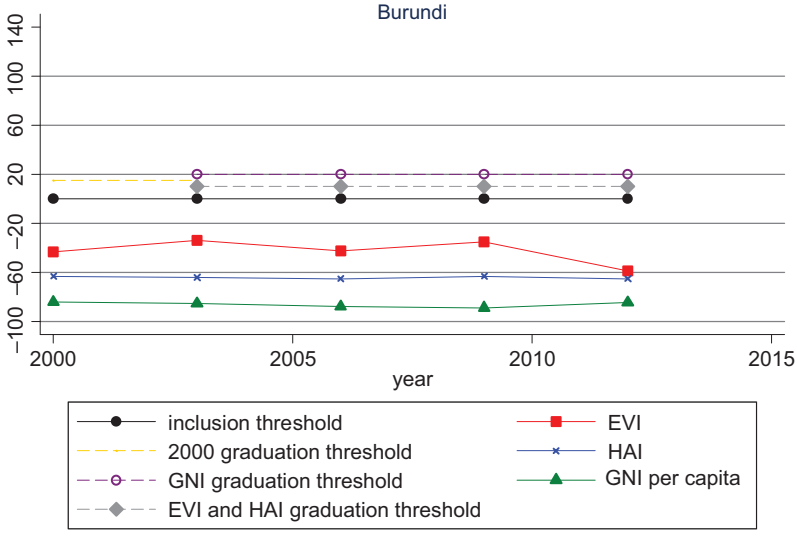


the case of rapid oil export growth. EVI and HAI should continuously be monitored, using retrospective indices measured on an unchanged basis. There is therefore a need for an integrated approach to graduation prospects.

3.2.4 Implications for graduation prospects

Caveats should be brought to the interpretation and conclusions of the previous tables. The focus has been put on the trends, but the impact of these trends for the

Figure 3.12 Relative evolution of Burundi's position with respect to the graduation and inclusion thresholds over the last five triennial reviews



likelihood to graduate depend on the level already reached. A positive trend gives a relevant indication of this likelihood if the country is already close to the graduation threshold for the criterion considered. We are then led to return to the results of the beginning of this section.

Few LDCs both are close to two graduation thresholds and show evidence of positive trends towards them. Those countries close to the EVI threshold are still rather far from the HAI or the income threshold: Nepal, Guinea and Tanzania already meet the graduation threshold, Ethiopia, Togo, Democratic Republic of the Congo and Central African Republic, located between the inclusion and the graduation thresholds, are all far from the former group except Nepal, which is close to the HAI inclusion threshold and shows a positive trend for the two indicators.

The association between the income and HAI criteria has been a more successful factor of graduation: it has led to the eligibility of six countries, graduation of which has been decided in four cases (Cape Verde, Maldives, Samoa, Vanuatu), the other two being Tuvalu and Kiribati. It is not sure whether this will be as effective in the near future: it may only concern Solomon Islands and Lesotho. Besides the two oil exporters, the LDCs meeting the graduation criteria have essentially been countries benefiting from a relatively high level of human capital, which in turn has supported their economic growth.

On the whole, during the next decade the potential of graduation on the basis of the initial two criteria rule seems limited and it will fundamentally depend on the principle applied for designing the reference group. With the group number remaining unchanged, the probability of graduation on the basis of this rule will be low. It will of course increase if the group is allowed to progressively shrink as a result of the income growth of non-LDCs and of the graduation of some LDCs from the category, which will then become more and more endogenous.

Briefly stated, with the number of the reference group maintained at around 60 countries, as in 2012, and with the normal length of the process leading to fully meet the criteria, one cannot expect more than very few countries to graduate through the ordinary two criteria rule: only those already found eligible the first time in 2012, plus one to three others.

Are there more countries likely 'to meet the criteria' thanks to the income-only rule?

3.3 Graduation prospects according to the income-only rule

According to the income-only criterion introduced in 2005, eligibility for graduation is possible when a country reaches twice the ordinary income graduation threshold, that is to say when its income per capita is at least 240 per cent of the inclusion threshold, which is the threshold used by the World Bank to identify LICs.

It is accordingly possible to look for the LDCs likely to reach such a level at the coming reviews, or before 2020. Which countries are likely to meet this income-only criterion in order to be recommended for graduation in the reviews before 2020 (2015, 2018)?

3.3.1 Assuming that each LDC is growing as in the 2000s

To identify these countries, we need to make an assumption about growth prospects. To do that, we first suppose they maintain their rates of economic growth of the past decade during the next one. In addition, supposing the rate of growth of GNI to be similar to that of the gross domestic product (GDP), we first estimate the rate of growth of the per capita GDP from 2001 to 2011 by the ordinary least-squares method and from data of the online *World Development Indicators*. Using these growth rates, we then extrapolate the GNIpc from the latest available data. The results obtained are summarised in Table 3.3. They show that seven LDCs are likely to reach 2.4 times the level of the low-income threshold before 2020, including four ones already graduating. Eleven LDCs are expected to reach this threshold in 2030.

A variant of this analysis is to consider the situation in which the previous average (extrapolated) growth rate of each LDC per annum is uniformly increased by 1 per cent. This might be considered as a result of the implementation of IPoA, uniform for all LDCs. Table 3.3 also presents the results of this analysis. They are similar to the previous figures for 2020, but four additional countries are likely to reach 2.4 times the low-income threshold in 2030 (three of them in 2024).

An alternative approach to this analysis is to assess in how many years each LDC is likely to reach the threshold, according to the present level of income per capita and the estimated rate of growth. Table 3.4 shows the results of this exercise. Based only on the income rule and the above assumptions, the number of LDCs not meeting this graduation criterion will decrease by half just before 2050. Those countries that have registered very low or even negative rates of growth during the last decade will not be able to meet the income-only criterion during this century, unless their economic growth is boosted.

3.3.2 Assuming IPoA fully effective: each LDC is growing at the 7 per cent target rate

One of the objectives of the IPoA is the achievement of 'sustained, equitable and inclusive economic growth in least developed countries, to at least at the level of 7 per cent per annum, by strengthening their productive capacity in all sectors through structural transformation and overcoming their marginalization through their effective integration into the global economy, including through regional integration' (United Nations 2011: 6) (see Box 3.1). What does 7 per cent mean? In the context of this sentence it seems to refer to the growth of the GDP. Of course, a goal of 7 per cent of GDP per capita would be very different since LDCs still have high population growth rates.

To assess the relevance of this goal, we first identified countries on track to reach the income graduation criterion if their average GDP growth rate was 7 per cent per year. We assume that they keep their population growth rate of the last decade and calculate the per capita growth rate as the difference between 7 per cent per year and their population growth rate. We then extrapolate the GNIpc from the latest available data (2011). In effect, we assume that the LDCs would benefit from the implementation of

Table 3.3 Countries likely to meet the income-only graduation threshold at the next six reviews if they keep the last decade's growth rate of GNI or grow at the 7 per cent target of IPoA

Review year	2015	2018	2021	2024	2027	2030
List of countries likely to reach the income-only graduation threshold if their per capita growth rates remain those of 2001–10	Angola Bhutan Equatorial Guinea Samoa Timor-Leste Tuvalu Vanuatu (7 countries)	**Idem as 2015**[a] (7 countries)	**Idem as 2018** (7 countries)	**Idem as 2021** (7 countries)	**Idem as 2024+4** Cambodia Lao People's Democratic Republic (PDR) São Tomé and Príncipe Sudan (11 countries)	**Idem as 2027** (11 countries)
List of countries likely to reach the income-only graduation threshold if their economic growth rates increase by 1 per cent, compared with those of 2001–10	**Idem as above** (7 countries)	**Idem as above** (7 countries)	**Idem as above** (7 countries)	**Idem as above+3** Lao PDR São Tomé and Príncipe Sudan (10 countries)	**Idem as above** (11 countries)	**Idem as above+4** Afghanistan Djibouti Lesotho Zambia (15 countries)
List of countries likely to reach the income-only graduation threshold if their economic growth rates were 7 per cent	**Idem as above+1** Kiribati (8 countries)	**Idem as 2015** (8 countries)	**Idem as 2018** (8 countries)	**Idem as 2021+4** Djibouti Lesotho São Tomé and Príncipe Sudan (12 countries)	**Idem as 2024+1** Lao PDR (13 countries)	**Idem as 2027+1** Zambia (14 countries)
List of countries likely to reach the income-only graduation threshold if their per capita economic growth rates were 7 per cent	**Idem as above** (8 countries)	**Idem as 2015** (8 countries)	**Idem as 2018+3** Djibouti São Tomé and Príncipe Sudan (11 countries)	**Idem as 2021+6** Lao PDR Lesotho Senegal Solomon Islands Yemen Zambia (17 countries)	**Idem as 2024+1** Mauritania (18 countries)	**Idem as 2027+6** Bangladesh Benin Cambodia Chad Comoros Haiti (24 countries)

Box 3.2 Not confusing goals and means: income growth and structural transformation

The IPoA clearly states that the goal is sustained growth which can be obtained by the strengthening of productive capacity through structural transformation. Whatever the usual reservations about the meaning of income growth, it is a notion rather clearly measured. Structural transformation is more ambiguous and its content has to be adapted to the specific situations of countries. The valuable transformation is that which leads to a sustained growth. When growth has been sustained and is lasting enough to lead to a significant level of income, some structural change has probably occurred. Is it necessarily sustainable in the future? Obviously, never. Economic history shows many declines of prosperous nations. But the countries having experienced sustained growth had the means to adapt themselves to new situations, in particular by reducing the two structural handicaps featuring LDCs, and first by enhancing their human capital. While the IPoA gives orientations for structural transformation, the choice of the precise transformation likely to promote growth in a given country can only be the country's choice. The most useful monitoring of the structural transformation should refer to the evolution of the indicators on which the two structural handicap criteria rely: EVI and HAI.

the IPoA all the more if their previous growth was low. The results are presented in the third row of Table 3.3. Only one additional country (Kiribati) reaches the income criterion threshold by 2021 as compared with the previous assumption.

Let us now suppose that the 7 per cent target refers to the per capita GDP growth rate, which is a very high rate indeed, reached during the previous decade by only the two oil exporters (Angola and Equatorial Guinea). The results obtained are of course better; they are summarised in the fourth and last row of Table 3.3. Eleven LDCs are likely to reach the income criterion threshold by 2021, and 20 by 2030.

3.3.3 Back to the rationale of the category: the structural likelihood to graduate

The LDCs have traditionally been defined as LICs suffering from structural handicaps to growth (more recently to sustainable development). As such, they are the countries which are the most likely to stay poor. Their 'least development' can be expressed in a synthetic measure, the natural expected income, obtained from the combination of the indices corresponding to the three criteria: present level of income per capita, human capital and economic vulnerability. As explained in Guillaumont (2009a),[15] the expected natural per capita income is the per capita income that could be expected if each country's structural handicaps remained unchanged, and all other factors affecting growth were identical across all countries. More precisely, it is the future per capita income calculated from its present level, and from the present levels of human

Table 3.4 Year (before 2050) at which each LDC is likely to meet the GNIpc graduation threshold, assuming its rate of growth is that of 2000–10

Country	Year of reaching graduation threshold
Equatorial Guinea	Already reached
Samoa	Already reached
Angola	Already reached
Vanuatu	Already reached
Timor-Leste	Already reached
Tuvalu	Already reached
Bhutan	2014
Lao PDR	2025
Sudan	2027
São Tomé and Príncipe	2027
Cambodia	2027
Afghanistan	2032
Zambia	2035
Chad	2036
Bangladesh	2037
Lesotho	2037
Mauritania	2039
Djibouti	2039
Ethiopia	2040
Solomon Islands	2041
Rwanda	2042
Guinea	2045
Mozambique	2048
Uganda	2048
Tanzania	2049

capital and economic vulnerability. The calculation is based on the assumptions that the relative levels of human capital and economic vulnerability remain roughly unchanged during the estimation period, that their marginal impacts on growth also remain the same and that all other factors affecting growth are identical for all countries. Countries can be ranked by their risk of having a per capita income below a certain level in a given future for reasons not depending on their present and future policy. The reverse order corresponds to a ranking in a structural probability to be graduated in x years. The advantages of this approach come from its ability to take into account the three structural features/criteria identifying the LDCs, and to lead to ranking LDCs in 2020 (or later) according to this index.

This method should not be seen as assuming that there is no impact of the IPoA on the rate of growth. As the previous methods applied a reliance on extrapolation of past growth, possibly increased by a given and uniform rate, it only supposes that the impact of growth is the same among LDCs. (On the other hand, relying on a uniform projected rate of growth supposes a differentiated impact.)

Assuming each LDC is growing at its expected structural or natural rate

Methodologically, as is done in Guillaumont (2009a), economic growth is regressed on the logarithmic forms of initial per capita income level (Y_0), the EVI and the complement to 100 of the HAI (100–HAI), as follows:

$$growth(Y) = \alpha \log(Yo) + \beta \log(EVI) + \delta \log(100 - HAI) + \varepsilon$$

The logarithmic specification is used to capture interaction between the two handicaps, as assumed by the identification through complementarity criteria (mutual reinforcement of handicaps). The estimated coefficients obtained (assumed unchanged) are used for the projection of a virtual future ('natural') income from the latest value of the three variables (present income and handicaps assumed unchanged).

In Guillaumont (2009a) a cross-sectional estimation of the coefficients over the period 1970–2000 was used for the projection to 2025. The ranking obtained was consistent with ongoing graduation.

Here, we make new estimations of the impact of the structural handicaps (and convergence factor) on per capita income growth, with the same specification of the criteria variables. Unlike Guillaumont (2009a), generalised method of moments (GMM) estimations on a panel of five-year periods over 1970–2010 are used. Table 3.5 presents the results of the regression. The coefficients of the logarithmic form of initial GNIpc, 100–HAI and EVI are negative and significant, still consistent with the previous findings of Guillaumont (2009a). The sample of 73 countries includes 29 LDCs.

This result underlines the important role played by HAI and EVI in economic growth, and the existence of conditional economic convergence among developing countries (including LDCs) when these variables are taken into account.

Table 3.5 GMM estimation of growth impact of structural handicap (HAI and EVI)

Dependent variables	GNI per capita growth rate
Log of initial GNIpc	–0.025***
	(3.22)
Log of (100–HAI)	–0.032***
	(3.80)
Log of EVI	–0.010*
	(1.96)
Constant	0.328***
	(3.93)
Observations	382
Countries	73
AR(1)	0.000
AR(2)	0.874
Hansen OID *p* value	0.153

Note: Absolute *t* statistics in parentheses.
* $p<0.10$, ** $p<0.05$, *** $p<0.01$

Table 3.6 2020 expected natural income ranking

Country	2020 ranking	Country	2020 ranking
Equatorial Guinea	1	Chad	25
Tuvalu	2	Mali	26
Angola	3	Guinea-Bissau	27
Samoa	4	Burkina Faso	28
Vanuatu	5	United Republic of Tanzania	29
Timor-Leste	6	Rwanda	30
Kiribati	7	Uganda	31
Bhutan	8	Togo	32
Djibouti	9	Central African Republic	33
Sudan	10	Gambia	34
São Tomé and Príncipe	11	Nepal	35
Senegal	12	Mozambique	36
Lesotho	13	Madagascar	37
Yemen	14	Guinea	38
Solomon Islands	15	Afghanistan	39
Zambia	16	Niger	40
Mauritania	17	Ethiopia	41
Lao People's Democratic Republic	18	Sierra Leone	42
Benin	19	Malawi	43
Comoros	20	Eritrea	44
Cambodia	21	Somalia	45
Myanmar	22	Liberia	46
Haiti	23	Democratic Republic of the Congo	47
Bangladesh	24	Burundi	48

The growth of per capita income to 2020 and 2030 is then simulated, starting from the level of the criteria variables used in the 2012 review, except for EVI, which is recalculated according to the method of 2006–09 and is more appropriate for this exercise.[16] The results are presented in Table 3.6. They are close to those of Guillaumont (2009a), except for new oil exporters.

The half of LDCs likely to be the closer to graduation at the end of the next decade

Let us first look at the ten countries which are most likely to graduate: the four presently graduating countries (Samoa, Equatorial Guinea, Vanuatu and Tuvalu), two other LDCs already found eligible for the first time in 2012 (Angola and Kiribati) and four other ones (Timor Leste, Bhutan, Djibouti and Sudan); half of these latter six not yet graduating being oil exporters. Half of the 48 Istanbul LDCs which are the most likely to graduate for structural reasons include these 10 previous countries and 14 other ones of various kinds (including 4 island and 2 landlocked countries, 3 mineral and 3 manufactures exporters). Among the other half of the countries, some may catch up the top group as a result of rapidly increasing exports of fuels or

minerals recently discovered (such as Mozambique). This underlines once again that the present exercise is illustrative of the factors at work, and is not at all a prevision. It is clear that graduation prospects are first determined by those structural variables featuring the LDCs, but also dependent on new exogenous factors not captured in the criteria indicators, on the respective quality of policies implemented by the countries and on the benefits they will be able to draw from international support measures.

3.4 A step further: revising or simply refining the graduation criteria?

It is always possible to revise the graduation criteria so that they will be met in 2020 by half of the countries that were still LDCs at the time of the Istanbul conference. But, of course, if a revision is needed, it should be consistent with the principles of the category, and be equitable over time with regard to the previous practices of graduation. It will, moreover, possibly make graduation easier.

The previous and purely illustrative exercise (Section 3.3) invites us to stick to the principles of the category by simultaneously considering the present level of income per capita and the two kinds of structural handicaps to growth. The expected natural income could be used as a revised income-only criterion, with an appropriate threshold to be determined. Since it would not be acceptable to rely on an econometric estimation, as it would be both debatable and politically not transparent, another composite index averaging the three indicators of low income per capita, low human capital and economic vulnerability, as presented in *Caught in a Trap* (Guillaumont 2009a), could also be used, all the more because this index would be available for a larger number of countries than the group of LDCs. But to some extent it would blur the meaning of the category, or would involve a revision of the inclusion criteria as well.

A minor revision, applicable, if needed, only to graduation and fitting the rationale of the category, is possible, and has been already considered by the CDP. The CDP agreed in 2005 to consider simultaneously two structural handicaps (HAI and EVI) in such a way as to take into account some degree of substitutability among the criteria and the possible combined impact of the handicaps as captured by the HAI and EVI (CDP 2005). Actually, in 2006, before recommending Samoa for graduation, the CDP noted that the average of the two indices, (100 –)HAI and EVI, was 'at a level similar to that of Cape Verde, whose graduation has been decided by the General Assembly'.

This previous additional information can become a more formal graduation rule, added to the present ones: let us, as is done and discussed in Guillaumont (2009a), define the 'structural handicap index' (SHI) as the combined level of 100–HAI and EVI; then we can determine thresholds from the reference group of countries in the same way that it is done for each of the two present HAI and EVI indices. The SHI index can be calculated as an arithmetic average, which supposes a perfect substitutability between the two handicaps, or as a reverse geometric average, supposing a limited substitutability, which is closer to the rationale of the category (it means that the handicaps interact to make growth more difficult).

We have applied these two measures of SHI to the figures of the 2012 review, with a graduation threshold put at the quartile level (implicit inclusion threshold) less 10 per cent. The list of LDCs meeting this alternative graduation threshold includes only one more country with the arithmetic average, Nepal, and two countries with the reverse geometric average (Nepal and São Tomé and Príncipe). It should be noted that with the arithmetic average of Tuvalu and Kiribati would not have been eligible, whereas it would have been so with the geometric average, as Kiribati shows a much higher SHI than Tuvalu. Regarding the prospects, the LDCs that are the closest to the threshold would be São Tomé and Príncipe, Lao People's Democratic Republic (PDR), Mozambique and Tuvalu with the arithmetic average, and Mozambique with the geometric average. Next on the list and just above the implicit inclusion threshold is Bangladesh,[17] as well as Lao People's Democratic Republic with the geometric average. Thus a simply revised or refined additional rule of graduation, incorporating two indicators, income per capita and SHI, the latter involving a partial substitutability between HAI and EVI, would remain consistent with the previous practice as well as the principles, and at the same time would open up some new prospects of graduation.

3.5 Conclusion

The IPoA set up a goal of enabling half of the number of LDCs to meet the graduation criteria in 2020, a goal recalled by two resolutions of the UN General Assembly in December 2012, the first one on 'Smooth transition for countries graduating from the list of least developed countries' (A/C.2/67/L.51) (UN General Assembly 2012a), the second one on 'Follow-up to the Fourth United Nations Conference on the Least Developed Countries' (A/C.2/67/L.53). Although graduation prospects are substantial, they are likely to significantly lag behind the IPoA goal. The first reason for this is the time needed for a country to 'meet the criteria', since this country should be found eligible at two successive triennial reviews, strictly speaking no later than at the 2015 and 2018 reviews! It should be noted that a country meeting the criteria in 2018 cannot effectively be graduated before 2021. A second reason is that LDCs likely to meet the graduation criteria in this time frame include the three countries whose graduation has already been decided but is not yet effective (Samoa, Equatorial Guinea, Vanuatu), the three others recommended (Tuvalu) or found eligible for a first time (Angola and Kiribati) and those few countries that could be found eligible for the first time in 2015. According to the traditional two criteria rule, it seems that only Solomon Islands could meet the HAI criterion (assuming the reference group does not shrink) and the GNIpc criterion (assuming a rapid economic growth); according to the income-only rule, it could be the case of Timor-Leste and possibly Bhutan, if their growth is sustained (also possibly joined by Kiribati, which already meets the HAI criterion). At the end of the decade, there could be 10 out of the 49 present LDCs that have met the graduation criteria (seven of which having effectively graduated), which amounts to around one-quarter instead of the IPoA goal of one-half.

In the longer term, and possibly as soon as the 2024 review, several other LDCs can meet the income-only criterion if they achieve a rate of growth corresponding to

the 7 per cent target of IPoA. For reasons endogenous to the design of the criteria, and under the assumption that the size of the reference group is unchanged, the key driver of the eligibility to graduate would likely to be the growth of income per capita, if sustained. Economic growth will progressively push LDCs to meet the income-only criterion, while an improvement in the component indicators of HAI and EVI would have little direct impact on the likelihood of graduation, due to the working of these relative criteria, as explained above (it involves a change in the country situation with respect to the criteria thresholds, determined from a reference group maintained at a quasi-constant number). An improvement in HAI and EVI is instead expected to have an impact on graduation as a factor of higher economic growth.

With regard to the last decade's trend of economic growth, only 7 countries among the 48 LDCs of Istanbul, including only one in Africa, are likely to have met in 2020 the only income-only criterion, and only one more country if in all the LDCs the GDP will be growing at the 7 per cent target rate of the IPoA. The General Assembly, in its December 2012 resolution on 'Follow-up to the Fourth United Nations Conference on the Least Developed Countries' (A/C2./67/L.53: 3), expressed '*serious concern* that after a decade of welcome, steady economic growth, least developed countries faced significant challenges in sustaining economic growth, and their economies were projected to grow by an average of 4.1 per cent in 2012, considerably below the annual 7 per cent set out in the Istanbul Programme of Action'.

Of course, the growth of the GNIpc may be influenced by exogenous factors other than the structural features identifying LDCs. Such factors have already been working during the last decade and are reflected in the various approaches of this chapter, the main one of which being the international price of commodities, in particular oil. But some other factors may appear in the next decade, in particular new oil or mineral exports, as a result of recent discoveries. Another set of highly important factors is the improvement in policies. Difficult to assess and predict, this factor could not be considered in this chapter.

Nor was a significant change in the graduation rules considered. We have however drawn attention to the implications of the composition of the reference group of countries used to determine the eligibility thresholds, as well as to the simultaneous consideration of HAI and EVI in a composite index of structural handicaps.

The rather limited prospects of graduation in the period covered by the IPoA should be an incentive to implement and, hopefully, reinforce the support measures agreed upon in Istanbul.

Notes

1 This paper is intended to be used both as a contribution to the first report of the LDC IV Monitor and as an input to Guillaumont forthcoming. Preliminary drafts were presented at the LDC IV Monitor meetings in Dhaka (September 2012), Dar es Salaam (February 2013) and London (June 2013), where the authors benefited from useful comments, supplemented by new relevant comments from Ana Cortez, Christophe Bellman, Olav Bjerkholt, Lisa Borgatti and Hoseana Lunogelo. All are

acknowledged, without being responsible for any opinion expressed or possible errors in the present paper.

2 HAI is a composite index relying on four indicators reflecting health and educational status. EVI is a composite index relying on eight indicators reflecting both the size of natural and external recurrent shocks and the structural exposure to these shocks (see UN DESA; CDP website, CDP 2008, 2012; Guillaumont 2009a, 2009b, 2011).

3 Initially Vanuatu, followed by Maldives, Cape Verde (to a lesser extent), then Samoa, Equatorial Guinea (see the history of this process in Guillaumont 2009a). More recently, Vanuatu has again shown resistance.

4 This interpretation of 'to meet the criteria' is consistent with the traditional wording of the CDP about the graduation process. While, for inclusion, three complementary quantitative criteria are to be met (see above) and, for graduation, the thresholds of quantitative criteria are to be met, and they are to be met twice, which is also a graduation criterion. For that reason the CDP in 2005 made a clear distinction between the fact that a country is eligible a first time, and the fact that it 'qualifies' when it meets the graduation thresholds of the quantitative criteria at the next triennial review: it then fully meets the graduation criteria.

5 More LDCs have become MICs as well.

6 After expanding from the 1991 first triennial review, where the number was only 58, to the year 2000. It was 65 for the 2003 and 2006 reviews (cf Guillaumont, 2009a: 54).

7 More precisely, for the countries in the better quartile of the distribution.

8 In 2015, still with the definition of the reference group prevailing until 2009, the reference group would become even smaller, at least by the graduation of Samoa (and of Equatorial Guinea at mid-year).

9 Retaining in 2015 the principle adopted in 2012 for the extension of the reference group would probably lead to the exclusion of four or five non-LDC MICs which were in 2012 (according to the average for 2008–10) above or very close to the low-income threshold increased by 20 per cent (India, Papua New Guinea, Ghana, Cameroon, Nigeria), reducing the group to no more than 54 countries. In that case the inclusion threshold would be between the 13th and 14th ranks. Supposing that all countries improve their HAI and their EVI at the same rate, Solomon Islands and Bangladesh would reach the graduation threshold for HAI and EVI respectively. This would be without implications for the eligibility of Bangladesh, but with a possible eligibility for Solomon Islands, if their economic growth is high enough to make them reach the ordinary income graduation threshold.

10 Another solution considered by the Expert Group Meeting preparing the 2015 review of the CDP is to transform the relative thresholds into absolute thresholds fixed at their present level.

11 Exceptions are the two oil-exporting LDCs: Equatorial Guinea and Angola.

12 This exercise is close to graphs set up at UNCTAD and recently updated (2013, forthcoming), but slightly different from them since here all the indicator values are presented on the same graph, normalised with respect to the inclusion thresholds and expressed in the same direction.

13 See note 2 above for the definition of HAI and EVI.

14 As noted in Box 3.1, the increase of Bangladesh in 2012, following previous decreases in 2006 and 2009, is essentially due to the change in the definition of EVI in 2012. More important for the graduation prospects of Bangladesh is the upward trend in the level of HAI with regard to the (inclusion or) graduation threshold. However, meeting the HAI graduation threshold in the future would involve Bangladesh continuing to improve its HAI level faster than the other countries of the reference group. It would then make the 'atypical approach of graduation' proposed by Bhattacharya and Borgatti (2012) achievable on the basis of the two relative criteria.

15 Guillaumont (2009a), *Caught in a trap*, Chapter 9.

16 The use of the 2006–09 definition instead of the 2012 one is legitimate because the new component added (low coastal area population) is intended to reflect a risk for long-term and sustainable development, but would weaken the relationship of EVI with growth, as estimated in the past and still relevant for the next two decades.

17 Using this additional rule would make it more feasible for Bangladesh to implement the 'atypical approach' suggested by Bhattacharya and Borgatti (2012) to become rapidly eligible by accelerating the improvement of human capital.

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Chapter 4

Infrastructure for Development in LDCs

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4.1 Introduction

The objective of this chapter is to set out the main challenges that infrastructure (transport, telecommunication, energy, and water and sanitation) poses to foster equitable and sustainable development in least developed countries (LDCs). It attempts to monitor infrastructure commitments of the Istanbul Declaration and the Istanbul Programme of Action (IPoA) by proposing quantitative and qualitative indicators for the IPoA. It also compares infrastructure performance in LDCs with those in developed and other developing economies. Finally, this paper highlights the need to improve the policy-making process in these economies in order to tap unexploited opportunities for development.

The chapter first reviews the channels through which infrastructure shapes economic growth in LDCs. It also reviews the list of goals, targets and actions for both LDCs and development partners in the IPoA on infrastructure: transport, information and communication technologies (ICT), energy, and water and sanitation. Second, it presents key shortcomings of the IPoA commitments on infrastructure and proposes some indicators to compare infrastructure in LDCs with respect to other economies and their evolution over time. Third, it analyses the main sources of infrastructure investment in LDCs and presents the role of private investment and official development assistance (ODA) for infrastructure development. Fourth, it highlights the need to improve the policy-making process to invest effectively private and public funds in infrastructure. This section proposes qualitative indicators from the analysis of the policy-making process to monitor the IPoA. Finally, the chapter concludes by providing recommendations for a successful improvement of infrastructure in LDCs.

4.1.1 The rationale for infrastructure investment in LDCs

Infrastructure shapes growth through a variety of channels.[2] Infrastructure investment affects aggregate output directly by altering the composition of input factors in the production function: it increases the aggregate capital stock, lowers the cost of intermediate inputs and can have a complementary impact on the aggregate hours worked by the labour force.[3] It can also have indirect impacts by affecting total factor productivity (TFP) through economies of scale and scope, lowering the logistic costs of investments and freeing up resources for private investment, thus improving the durability of private capital and altering labour productivity by shaping industrial organisation and work practices.[4] Moreover, infrastructure not only is a public good in itself, but also enters the production function through the

services it provides: transport needs are connected to trade; energy and water to health concerns and to cost-effectiveness of firms; and information technologies to knowledge and business opportunities.

Empirical evidence shows that infrastructure investment boosts economic growth in LDCs. Gross domestic product (GDP) growth's elasticity to infrastructure stocks can vary from 0.15 to 0.35 (Estache and Garsous 2010). Furthermore, evidence has been found that increasing the population's access to mobile phones in Africa by 1 per cent would have a positive impact of 0.5 per cent in real GDP per capita (Djiofack-Zebaze and Keck 2006). The quality of infrastructure (measured by the quality in the provision of a set of services) can impact firms' TFP. For instance, in Africa the lack of infrastructure can constrain a firm's TFP by up to 40 per cent (Escribano et al. 2009).

An improvement in infrastructure in LDCs would have an immediate impact on these countries. For instance, a shrink in the travelling time in these countries could be translated into significant productivity gains as well as an increase in their exports (Freund and Rocha 2010). It would initially benefit the sectors of activity already implemented, but in the long run it would unleash structural change, leading to a movement towards sectors with higher productivities. On the other hand, better infrastructure would also help LDCs to reduce their vulnerability to climate change, namely the occurrence of extreme events such as droughts or floods.

The expansion of infrastructure in LDCs contributes to structural transformation towards a better diversification of the economy. Structural specificities are mainly related to the scarcity of infrastructure and high predominance of low-productivity sectors in the total share of GDP. Moving into sectors with higher productivity can enable LDCs to overcome their inclusive growth and poverty challenges. However, this is impossible in the absence of improvements in infrastructure and developments in this group of countries (UNCTAD 2009). LDCs' economies are mainly based on the export of products with low value added, such as agricultural products and extraction of natural resources. Moreover, by tackling the infrastructure gap, LDCs can enhance their productivity capacity and facilitate the development of sectors with higher value added. Therefore, evolving towards sectors with higher productivity would make these countries less dependent on raw materials exports and expand their market access. A more diversified economic structure (in particular by boosting the manufacturing sector) would strengthen the resilience to external shocks in LDCs.

Better infrastructure can promote higher foreign direct investment (FDI) in LDCs and be a catalyst for FDI in other sectors. Implementing credible macroeconomic policies is a key challenge for growth in most of the LDCs. In addition, LDCs need to address their infrastructure gap in order to attract more FDI that is oriented towards productive sectors (UNCTAD 2010). This would also spur the development and enlargement of local markets, leading to the implementation of new small and medium enterprises in LDCs (Wresch 2003). Emerging economies can play a key role in providing further FDI.

Although LDCs have already adopted national legislation that opens most of their services sectors to FDI, these economies represent less than 1 per cent of world

infrastructure FDI stock and less than 5 per cent of the world's FDI inflows (Honeck 2011). This can in part be attributed to persistent difficulties in market access: in several LDCs, some restrictions on foreign participation have been retained in certain strategic sectors despite the trend towards greater openness – most frequently in electricity, telecommunications and rail infrastructure. Many of these countries are also geographically constrained by their narrow domestic market size, which works as a disincentive for investment (Asiedu 2005). Therefore, the overall performance of investment in these countries (not only from foreign origin but also from domestic investors) remains poor. This is particularly evident for Africa: according to OECD (2013), during the 1990–2010 period, infrastructure investment with private participation represented less than USD 170,000 billion, well below other developing regions, such as Latin America (more than USD 600,000 billion). However, small domestic market size highlights the potential and need for regional infrastructure projects. Regional initiatives represent a crucial opportunity and could be further supported by development aid.

4.1.2 The IPoA commitment on infrastructure, energy, and water and sanitation

The IPoA sets a list of general goals and targets in the area of infrastructure, energy and water (Table 4.1).

The IPoA also sets a list of actions for both LDCs and development partners (Table 4.2). Actions related to infrastructure are classified in three distinct sections in the IPoA: infrastructure (transport and communications are covered), energy, and water and sanitation. While actions on infrastructure and energy are integrated in the area of productive capacity, water and sanitation are included in the area of human and social development.

Table 4.1 IpoA. Goals and targets on infrastructure, energy, and water and sanitation

Productive capacity
(c) Significantly increase access to telecommunication services and strive to provide 100 per cent access to the internet by 2020;
(d) Strive to increase total primary energy supply per capita to the same level as other developing countries;
(e) Significantly increase the share of electricity generation through renewable energy sources by 2020;
(f) Enhance capacities in energy production, trade and distribution with the aim of ensuring access to energy for all by 2030;
(g) Ensure that the least developed countries have significant increase in combined rail and paved road mileage and sea and air networks by 2020
Water and sanitation
• Halve by 2015 the proportion of people without sustainable access to safe drinking water and basic sanitation and strive to provide sustainable access to safe drinking water and basic sanitation to all by 2020

Table 4.2 IPoA. Actions on infrastructure, energy, and water and sanitation

Infrastructure
1. Action by least developed countries: a) Allocate and disburse annually an adequate percentage of the budget for the development and maintenance of infrastructure; b) Develop and implement comprehensive national policies and plans for infrastructure development and maintenance encompassing all modes of transportation and ports, communications and energy; c) Develop modern ICT infrastructure and internet access, including expansion into rural and remote areas, including through mobile broadband and satellite connections; d) Build and expand broadband connectivity, e-networking and e-connectivity in relevant areas, including education, banking, health and governance; e) Promote public–private partnerships for the development and maintenance of transport and ICT infrastructure and their sustainability; f) Promote bilateral, sub-regional and regional approaches to improve connectivity by removing infrastructure bottlenecks
2. Action by development partners: a) Provide enhanced financial and technical support for infrastructure development in line with least developed countries' sectoral and development needs and priorities, and use concessional funds, where appropriate, to catalyse and leverage other sources of funding for infrastructure development and management; b) Support least developed countries' efforts to facilitate the transfer of relevant skills, knowledge and technology for the development of infrastructure under mutually agreed terms; c) Actively support private sector investment, including through public–private partnerships and grant/loans blending, for infrastructure development and maintenance in communication and multimodal transport such as railways, roads, waterways, warehouses and port facilities; d) Provide assistance to landlocked and small-island least developed countries aimed at addressing the challenges of their remoteness from international markets and lack of infrastructure connectivity.
Energy
1. Action by least developed countries: a) Ensure that the energy sector receives priority in budget allocation; b) Adopt integrated energy security development policies, strategies and plans to build a strong energy sector that ensures access to affordable, sustainable and reliable energy for all and promotes sustained, inclusive and equitable economic growth and sustainable development; c) Improve efficiency in the generation, transmission and distribution of energy and sustainable use of energy resources; d) Expand power infrastructure and increase capacity for energy generation, especially renewable energy which includes, inter alia, hydro power, geothermal, tidal, solar, wind and biomass energy.

(continued)

Table 4.2 IPoA. Actions on infrastructure, energy and water and sanitation (continued)

Energy

2. Action by development partners:

a) Provide enhanced financial and technical support to the least developed countries to improve efficiency in the generation, transmission and distribution, and the sustainable use of energy resources with the aim of ensuring access to energy for all;
b) Support least developed countries' efforts to develop the energy sector in generation, distribution and energy efficiency, including in renewable energy, other clean energy sources and natural gas, inter alia, through financial and technical assistance and by facilitating private sector investment, in accordance with national priorities and needs;
c) Facilitate the transfer of appropriate and affordable technology under mutually agreed terms and conditions for the development of clean and renewable energy technologies in accordance with relevant international agreements.

Water and sanitation

1. Action by least developed countries:

a) Develop mainstream or strengthen as appropriate integrated strategies and programmes to strive to ensure sustainable access by all to safe drinking water and basic sanitation by 2020;
b) Prioritise provision of water and basic sanitation in the country's national development plans;
c) Enhance water efficiency and water productivity and ensure more equitable and safe provision of basic water and sanitation services to rural areas and disadvantaged populations. including persons with disabilities;
d) Improve the institutional regulatory and policy environment in least developed countries to promote private investment in the water and sanitation sector including in small-scale projects in rural and remote communities;
e) Strengthen integrated waste management systems as well as improve wastewater collection and treatment systems.

2. Action by development partners:

a) Provide financial and technical support to least developed countries to improve and expand water and sanitation provision, including water pipelines and sewage networks, as well as support to strengthen the capacity of local institutions for service delivery, quality monitoring, financing, operations and maintenance;
b) Support least developed countries' efforts to provide services to the unserved, utilising appropriate technologies and levels of service, and strengthen the capacity of national and local institutions for service delivery, quality monitoring, financing, operations and maintenance;
c) Help least developed countries preserve and develop water sources, manage water sheds and enhance water productivity, including through sub-regional and regional collaborations;
d) Support transfer of technology under mutually agreed terms for water treatment and waste management;
e) Support, as appropriate, partnerships and least developed countries' initiatives to improve hygiene and increase the coverage of basic sanitation, especially for the poor, including the Sanitation and Water for All partnership and 'sustainable sanitation drive: the five-year drive to 2015'

4.2 Monitoring infrastructure, energy and water actions

4.2.1 Shortcomings of the IPoA

The IPoA does not address quantitative commitments on infrastructure. Although all pledges refer to a formal commitment from both LDCs and development partners to improve the overall infrastructure on LDCs, they could be more explicit and precise. For instance, the implementation of a quantitative target for the commitments would constitute a significant improvement. Otherwise, the lack of target specification can make the monitoring process difficult, since the IPoA omits the magnitude of the improvements required both to LDCs and to development partners. Further information and concrete commitments would enable a more successful monitoring process.

The absence of individualised targets for given LDCs and development partners can make the monitoring process misleading. A given improvement in an LDC can represent a great effort for the development partners or for the LDC involved. In contrast, the same improvement in the context of another LDC can be the result of a much smaller effort. Considering all LDCs and development partners in a homogeneous framework (that is not making differentiation when it is suitable) can result in an imprecise measurement of the established commitments.

All steps of the infrastructure projects should be monitored. The development of infrastructures involves many different steps from the first decision to carry out a given infrastructure up to the conclusion of the project. It often takes even more time for the local populations to be able to fully benefit from the recent implemented infrastructures. Thus, when collecting data on indicators, all these aspects should be given equal attention. Infrastructure stocks usually move very slowly. Specifying a precise schedule for the accomplishment of the proposed targets would make the monitoring process more effective and accurate. Ensuring the public availability of data to monitor all the steps of the infrastructure project would also improve the feasibility of the monitoring process.

Sometimes the accomplishment of the commitments by one actor (LDC or development partner) will hinge on the behaviour of the other. In some cases the commitments from both actors are interconnected, being completely dependent. For instance, without further private investment (which development partners pledged to promote in LDCs) LDCs will not be able to fulfil their commitments regarding the improvement and development of infrastructure in a diversity of sectors. The monitoring process should also take these considerations into account, because the violation of one commitment can lead to the non-feasibility of another one.

There is no institution that provides data on total investment in infrastructure in LDCs and on the share of public investment. In contrast to data on private investment commitments in infrastructure and ODA allocated to infrastructure, information on public investment in infrastructure is lacking for some LDCs and, when it exists, it is not comparable between economies.

It would be crucial to have data about the LDCs and development partners' performance regarding the above-mentioned pledges. First in the next steps of monitoring infrastructure developments, data should refer to the year before the IV United Nations Conference on LDCs (for instance 2010). This dataset would work as a control variable to

assess the initial conditions. Then, from 2010 on, and with a given frequency (three years for instance), it would be essential to update the same dataset. Monitoring and assessing the progress requires one to compare initial conditions of chosen variables with updated values of these variables. It is likely that it will be necessary to select a sample of LDCs and development partners representative of the population. The most relevant institution to identify and manage this dataset needs to be identified.

Qualitative indicators related to the regulatory and institutional framework of infrastructure are crucial to capture the effectiveness of infrastructure policies. The design and process of infrastructure and investment policies matter as much as finance in enhancing economic growth. In that context, basic safeguards of the legal framework for procurement and investment in infrastructure, as well as key elements of the policy-making process, could be monitored in order to assess the capabilities of LDCs to achieve infrastructure commitments. For instance, the regulatory and institutional framework as well as the interactions of the main actors in the infrastructure process can be studied at each of the main phases of the infrastructure policy-making process (i.e. prioritisation and planning, execution, operation and maintenance, and monitoring and evaluation phases).

4.2.2 Proposed infrastructure, energy and water indicators for LDCs

Although infrastructure stocks usually move very slowly, this section compares the progress on infrastructure stocks among different groups of countries. In order to compare stocks in infrastructure between different groups of LDCs and with other economies, this chapter uses the latest standard data provided by international organisations or forums, such as the World Bank, the United Nations Conference on Trade and Development (UNCTAD) or the World Economic Forum.[5] Annex 4.1 provides a description of the methodology employed and a classification of the studied countries. In addition, Annex 4.2 provides data on these indicators for each LDC. In particular, this section shows the improvements for each country since the reference period (2005–08), or a closer period when not available.

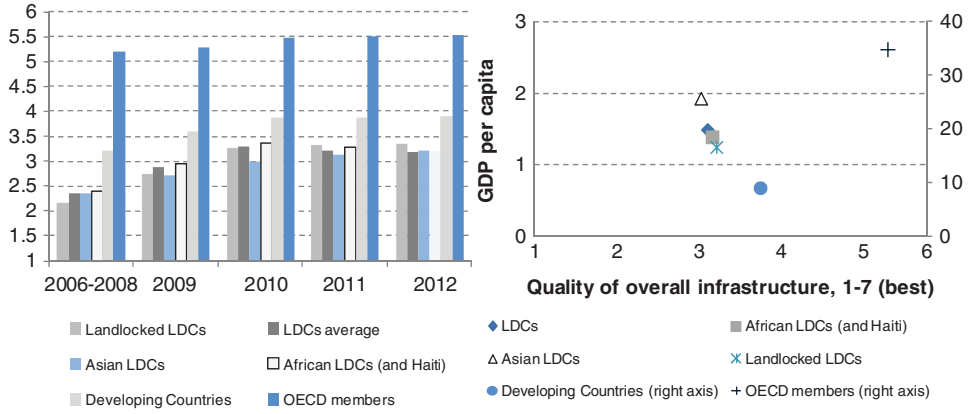
The quality of overall infrastructure strongly increased from 2006 to 2010 and then stagnated between 2010 and 2012. This major increase in the quality of overall infrastructure was particularly important in the group of landlocked LDCs, which were the lowest group of countries in 2006–08 and became the highest one in 2012.

Standard indicators highlight the need for more infrastructure stock, in terms of both quantity and quality. They show that LDCs' stock in infrastructure is well below developing and the Organisation for Economic Co-operation and Development (OECD) countries for all infrastructure sectors. In general, the quality of overall infrastructure in LDCs remains well below developing and OECD economies, and this is correlated with low GDP per capita (Figure 4.1).

Transport

To monitor goals and targets of the IPoA on transport infrastructure we propose a set of indicators provided by the UNCTAD, the World Bank and the World Economic Forum (Table 4.3).

Figure 4.1 Quality of overall infrastructure and GDP per capita



Note: From 1 to 7 (7 being the best ranking). GDP per capita is in USD thousands, adjusted for purchasing power parity (PPP) (2011).
Source: World Economic Forum, World Bank

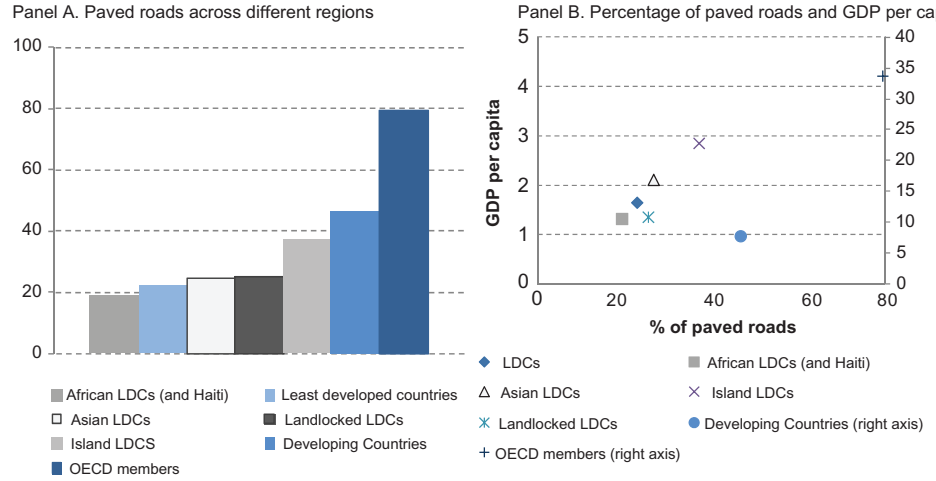
Table 4.3 IPoA. Goals and targets on transport infrastructure and proposed indicators

Goals and targets	Proposed indicators	Source
Productive capacity: (g) Ensure that the least developed countries have significant increase in combined rail and paved road mileage and sea and air networks by 2020	Paved roads across different regions (% of total roads)	UNCTAD; World Development Indicators. World Bank
	Quality of roads (ranking)	World Economic Forum
	Quality of port infrastructure (ranking)	World Economic Forum
	Quality of air transport infrastructure (ranking)	World Economic Forum
	Available airline seat km/week. millions	World Economic Forum
	Quality of railroad infrastructure	World Economic Forum

Between 2006 and 2012 the quality of roads and port infrastructure strongly increased, especially in landlocked LDCs, whereas air and rail transport did not really improve. Despite the scarcity of information on transport infrastructure, comparative analysis shows that LDCs are well behind developing and OECD countries in quantity and quality of transport infrastructure.

Most of the information available to analyse LDCs' stock on infrastructure comes from road networks. Data include the extension of road networks (in kilometres), as well as the percentage of paved roads in the total stock of roads for each LDC. As of 2008 (the latest available data), LDCs only have 20 per cent of their road total paved, while for developing and OECD countries the same indicator is close to 55 per cent and 80 per cent respectively (Figure 4.2). Among LDCs and given

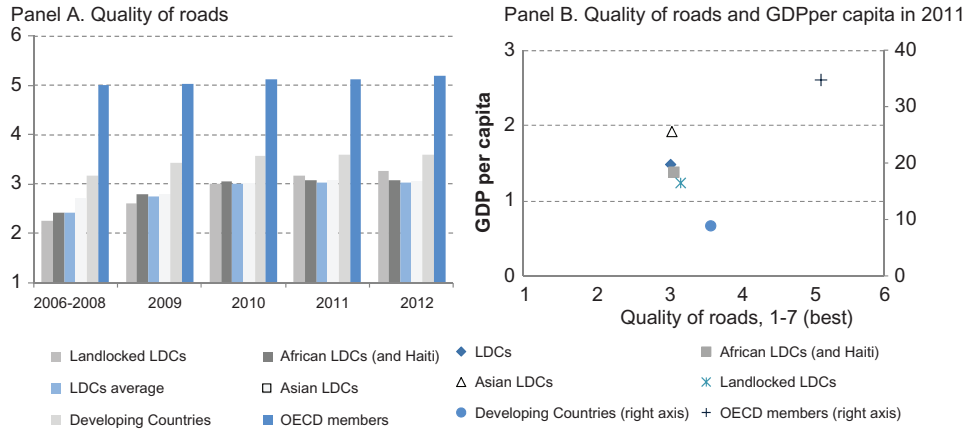
Figure 4.2 Indicators on percentage of paved roads and GDP per capita



Note: 2008 data (latest data available). Percentage of total roads. GDP per capita is in USD thousands, adjusted for PPP.
Source: UNCTAD 2011; World Development Indicators, World Bank

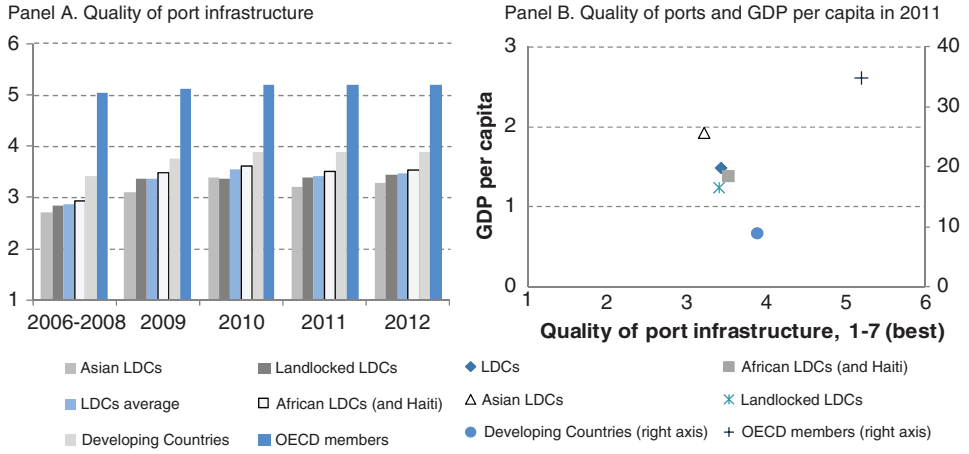
data available, Comoros is the country that holds the highest share of paved roads (more than 76 per cent of total roads). In contrast, the Democratic Republic of the Congo and Solomon Islands are ranked at the bottom of this classification, with a percentage of paved roads close to 2 per cent of the total roads. African LDCs have the main gap in the quality of roads among LDCs after controlling for the level of development (Figure 4.3).

Figure 4.3 Indicators on quality of roads and GDP per capita



Note: From 1 to 7 (7 being the best ranking). GDP per capita is in USD thousands, adjusted for PPP.
Source: World Economic Forum, World Bank

Figure 4.4 Indicators on quality of port infrastructure and GDP per capita



Note: From 1 to 7 (7 being the best ranking). GDP per capita is in USD thousands, adjusted for PPP.
Source: World Economic Forum, World Bank

Regarding port infrastructure in LDCs, although some improvement in its quality is observed in 2009 with respect to previous years, since 2010 no progress has been observed and the quality of port infrastructure remains below that of developing and OECD economies. In particular, after controlling for the level of GDP per capita, the quality of port infrastructure remains low in Asian LDCs in comparison with other LDCs (Figure 4.4).

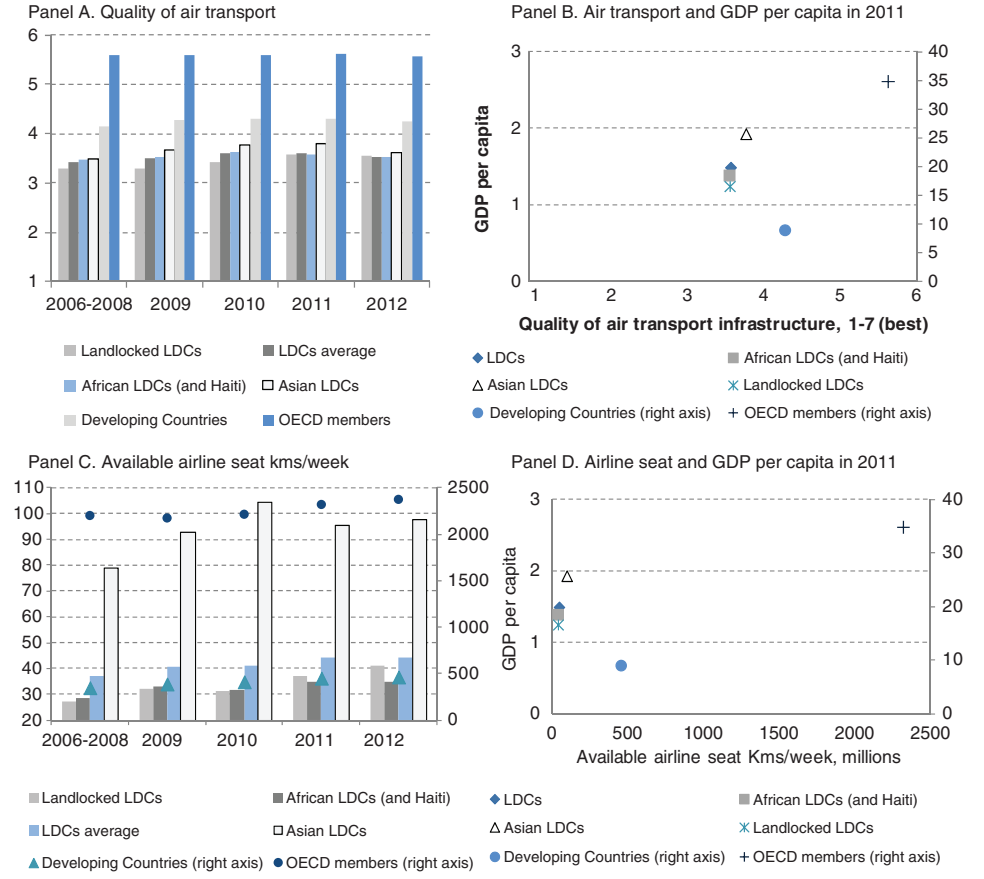
The quality of air transport infrastructure in landlocked LDCs has significantly improved since 2010. In contrast, African LDCs have not progressed as far as LDCs in general and the quality level remains below that of other LDCs after controlling for GDP per capita (Figure 4.5, panels A and B). Available airline seats per kilometre flown remain well below in LDCs in comparison with developing and OECD economies (Figure 4.5, panels C and D).

Although information on railways is scarce for LDCs, the quality of rail transport remains similar among groups of LDCs. However, the quality of railway infrastructure in LDCs remains well below that of other countries and no recent progress has been observed (Figure 4.6). Data available on railway supply shows that the highest density of railways is in Tanzania, with almost 175 km of railways per 1,000 km^2 of land. Uganda is at the bottom of this distribution, with only 0.3 km of railways per 1,000 km^2.

Telecommunications

To monitor goals and targets on telecommunications in the IPoA we propose a set of indicators provided by the OECD, the World Bank and the World Economic Forum (Table 4.4).

Figure 4.5 Indicators on air transport infrastructure and GDP per capita

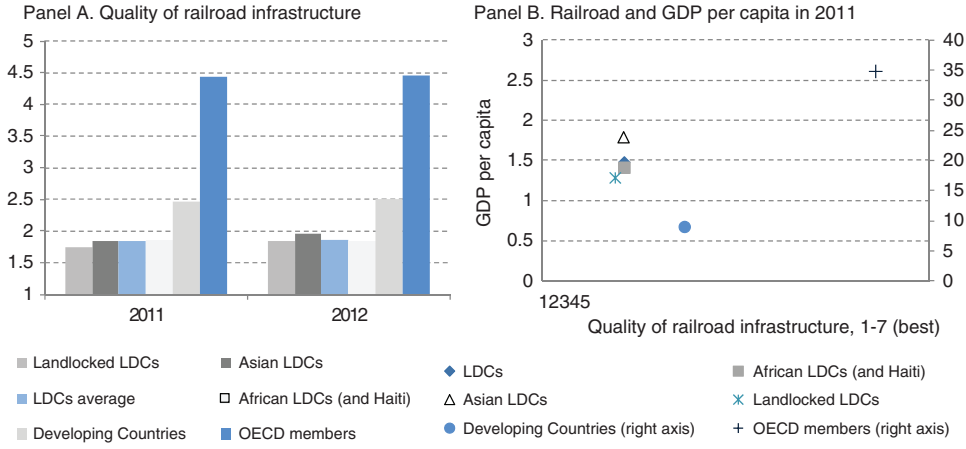


Notes: From 1 to 7 (7 being the best ranking). GDP per capita is in USD thousands, adjusted for PPP; airline seat km/week in millions. GDP per capita is in USD thousands, adjusted for PPP.
Sources: World Economic Forum, World Bank

The percentage of internet users and fixed broadband internet subscribers soared between 2005 and 2011, showing a catching-up effect with OECD countries. This phenomenon was particularly strong in Africa, where the share of internet users increased four-fold over the period, from 2 per cent of the population in 2005 to 8 per cent in 2011.

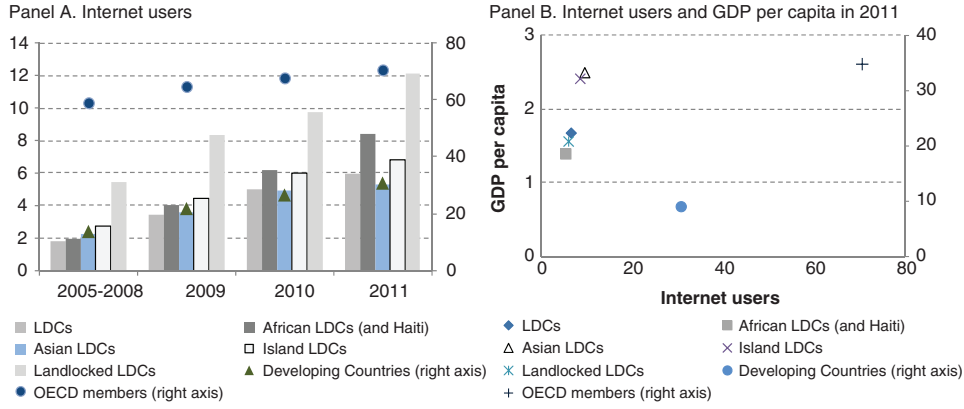
LDCs are constrained by poor communication infrastructure. In order to assess the infrastructure in telecommunications, standard indicators such as the number of users or subscribers of different technologies can be used. As of 2011, LDCs exhibit few internet users both in absolute and relative terms (Figure 4.7). According to the most recent data, there are less than 6 internet users per 100 people in LDCs. This value contrasts with more than 30 and 70 internet users per 100 inhabitants for developing and OECD countries respectively. Regarding fixed broadband internet subscribers per 100 inhabitants, this value is close to zero in LDCs, whilst it is more

Figure 4.6 Quality of railway and GDP per capita



Note: From 1 to 7 (7 being the best ranking). GDP per capita is in USD thousands, adjusted for PPP.
Source: World Economic Forum, World Bank

Figure 4.7 Internet users and GDP per capita (2005–11)



Note: Users per 100 people. 2011 data (latest data available). GDP per capita is in USD thousands, adjusted for PPP.
Source: World Bank, World Development Indicators

than 5 and 25 for developing and OECD countries respectively (Figure 4.8). On average, there are more than 40 mobile phone subscribers per 100 people in LDCs (Figure 4.9). Yet, these numbers are consistent with the level of GDP per capita when compared with developing and OECD countries. We observe similar results for fixed telephone lines (Figure 4.10). However, improvements in mobile subscriptions can substitute the access to fixed telephone lines, the latter being less effective and efficient for development.[6]

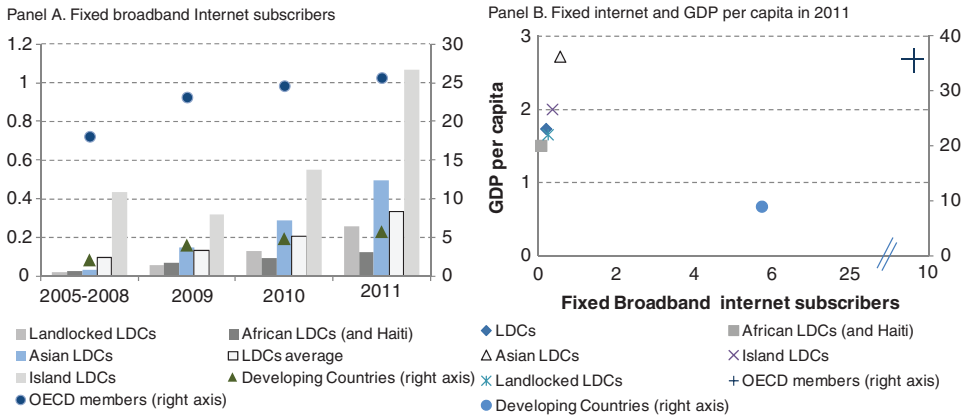
Nevertheless, LDCs have made progress in the telecommunications sector over the last years. The number of users and/or subscribers of the above-mentioned services have risen in LDCs following a similar trend observed in other regions.

Table 4.4 IPoA. Goals, targets and actions on telecommunication and proposed indicators

Goals and targets/actions	Proposed indicators	Source
Productive capacity (c) Significantly increase access to telecommunication services and strive to provide 100 per cent access to the internet by 2020 **Action by least developed countries** (c) Develop modern ICT infrastructure and internet access. including expansion into rural and remote areas. including through mobile broadband and satellite connections **Action by development partners** (a) Provide enhanced financial and technical support for infrastructure development in line with least developed countries' sectoral and development needs and priorities. and use concessional funds. where appropriate. to catalyse and leverage other sources of funding for infrastructure development and management; (c) Actively support private sector investment. including through public private partnerships and grant/loans blending. for infrastructure development and maintenance in communication and multimodal transport such as railways. roads. waterways. warehouses and port facilities	• Internet users per 100 people • Fixed broadband internet subscribers per 100 people • Fixed telephone lines per 100 people • Mobile cellular subscriptions per 100 people • Disbursements of ODA allocated to infrastructure in LDCs • Private investment commitments in infrastructure in LDCs by type of project in USD billions • Involvement of other public institutions (questions 2B; 4B*) • Average size of financing renegotiation (question 10D*) • Frequency of renegotiation of the execution contracts (question 10C*) • Frequency of turnover practices in assigning contracts to the same contractors (question 10E*) • Frequency of renegotiation of the maintenance contracts (question 11J*) • Frequency of turnover practices in assigning contracts in maintenance projects (question 11K*)	World Bank, World Development Indicators World Bank, World Development Indicators World Economic Forum World Bank, World Development Indicators OECD Creditor Reporting System (CRS) database World Bank Private Participation in Infrastructure database OECD Development Centre Survey

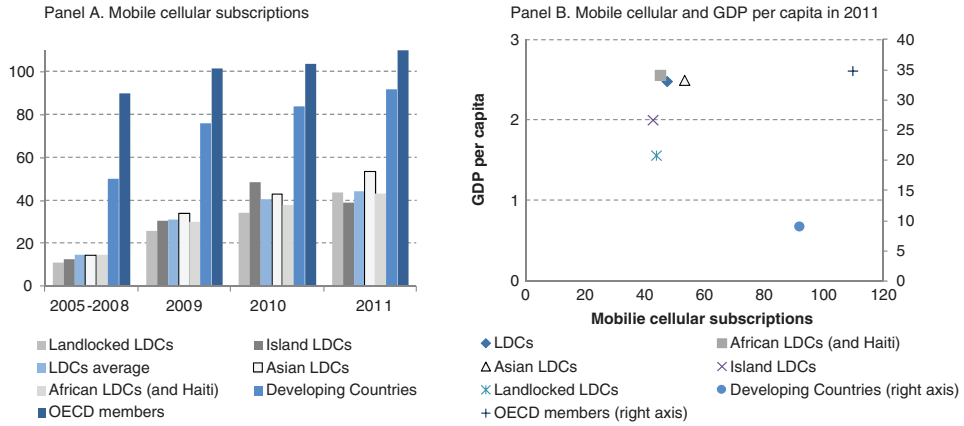
Note: * see www.oecd.org/dev/partnerships-networks/QUESTIONNAIRE_OECD_Survey_on_Infrastructure_2011.pdf (accessed 1 April 2014).

Figure 4.8 Fixed broadband internet subscribers and GDP per capita (2005–11)



Note: Subscriptions per 100 people. 2011 data (latest data available). GDP per capita is in USD thousands, adjusted for PPP.
Source: World Bank, World Development Indicators

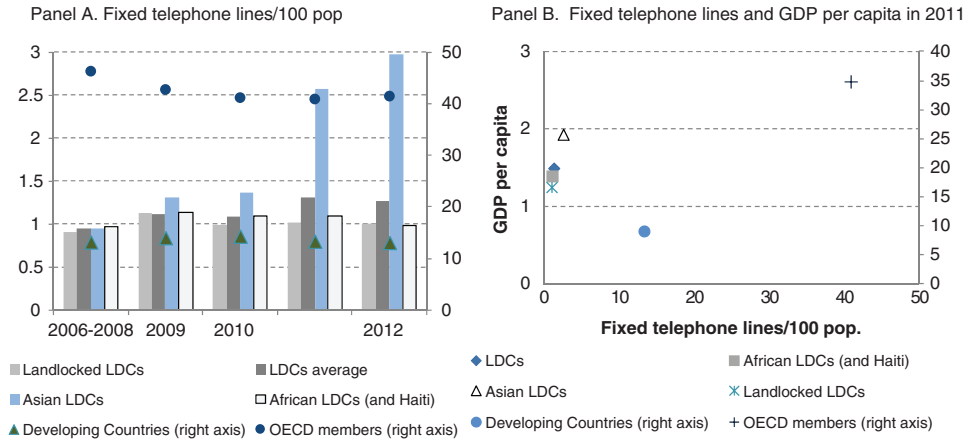
Figure 4.9 Mobile cellular subscriptions and GDP per capita (2005–11)



Note: Subscriptions per 100 people. 2011 data (latest data available). GDP per capita is in USD thousands, adjusted for PPP.
Source: World Bank, World Development Indicators

The most remarkable increase is in the number of mobile phone subscriptions per 100 people (from less than 10 in 2001 to more than 40 in 2011). Among the different groups of LDCs considered, Asian countries are those that present the highest number of mobile phone subscriptions per 100 inhabitants. Regarding internet users, landlocked LDCs rank at the top of the distribution, presenting more than 12 users per 100 people.

Figure 4.10 Fixed telephone lines and GDP per capita (2006–12)



Note: GDP per capita is in USD thousands, adjusted for PPP.
Source: World Economic Forum, World Bank

Energy

To monitor goals and targets in the IPoA on energy we propose a set of indicators provided by the OECD, the World Bank, the World Economic Forum and the UNCTAD (Table 4.5).

LDCs stand well below other groups of countries in generation capacity and efficiency on energy. The percentage of the population in LDCs having access to electricity as of 2009 is less than 25 per cent. These values are well below those observed for developing countries, where 72 per cent of the population has access to electricity. Among LDCs, Laos has the highest share of the population having access to electricity (55 per cent). Conversely, among the LDCs for which there is available data, Malawi and Uganda are the countries with the lowest share of their population having access to electricity (less than 10 per cent).

Furthermore, renewable sources of energy in most of the LDCs have worsened in previous decades. Renewable net installed electricity capacity provides information on the net percentage of electricity that is produced from renewable sources of energy, such as natural resources. This indicator helps to measure the sustainability and dependence of electricity production. The volume of renewable net installed electricity capacity also has important implications in terms of energy import dependence, as reducing the share of renewables in total energy supply can significantly increase dependence on oil imports to fill electricity production gaps. This has recently been the case in some developing countries such as Mauritius and Tanzania.

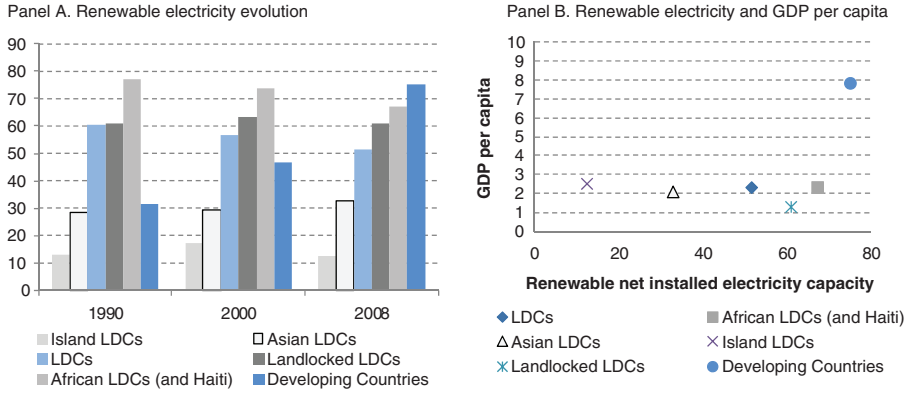
Access to renewable sources of energy has accordingly decreased in the past decades (Figure 4.11, panel A). Between 1990 and 2008 (latest year available), the electricity produced in LDCs from renewable sources decreased by close to 10 per cent. In contrast, developing countries improved considerably in this period: 75 per cent of

Table 4.5 IPoA. Goals, targets and actions on energy and proposed indicators

Goals and targets/actions	Proposed indicators	Source
Goals and targets, energy (d) Expand power infrastructure and increase capacity for energy generation, especially renewable energy which includes, inter alia, hydro power, geothermal, tidal, solar, wind and biomass energy; (f) Enhance capacities in energy production, trade and distribution with the aim of ensuring access to energy for all by 2030 **Action by least developed countries** Improve efficiency in the generation, transmission and distribution of energy and sustainable use of energy resources **Action by development partners** (b) Support least developed countries' efforts to develop the energy sector in generation, distribution and energy efficiency, including renewable energy, other clean energy sources and natural gas, inter alia, through financial and technical assistance and by facilitating private sector investment, in accordance with national priorities and needs	• Renewable net installed electricity capacity (% of total net installed electricity capacity) • Quality of electricity supply • Getting electricity (ranking) • Getting electricity (number of days) • Getting electricity – cost (% of income per capita)	UNCTAD World Economic Forum World Bank, Doing Business World Bank, Doing Business World Bank, Doing Business
Action by least developed countries (b) Adopt integrated energy security development policies, strategies and plans to build a strong energy sector that ensures access to affordable, sustainable and reliable energy for all and promotes sustained, inclusive and equitable economic growth and sustainable development	• Institutional framework (question 1) • Roles and responsibilities in the infrastructure stages (question 2)	OECD Development Centre Survey

Note: See www.oecd.org/dev/partnerships-networks/QUESTIONNAIRE_OECD_Survey_on_Infrastructure_2011.pdf (accessed 1 April 2014).

Figure 4.11 Renewable electricity and GDP per capita (1990–2008)



Note: 2008 data (latest data available). Renewable net installed electricity capacity (% of total net installed electricity capacity). GDP per capita is in USD thousands, adjusted for PPP.
Source: UNCTAD 2011

the electricity capacity was from renewable sources in 2008 against 31.5 per cent in 1990. The heterogeneity among LDCs is significant. In Bhutan, Burundi, Democratic Republic of the Congo and Zambia almost 100 per cent of electricity production comes from renewable sources, mainly hydropower, and needs to be more diversified. In contrast, in countries such as Bangladesh, Benin, Cambodia, Equatorial Guinea and Senegal, access to renewable sources of energy represents less than 5 per cent of the electricity capacity. In terms of the level of development of the economy, island LDCs have a low percentage of renewable sources of energy in their total electricity capacity (Figure 4.11, panel B).

Since 2009, the perception of the quality of electricity has not improved in LDCs and has even decreased in the case of African LDCs. When it is controlled for the level of development, Asian LDCs have a low level of quality of electricity supply in comparison with other groups of LDCs (Figure 4.12).

However, impressive improvements are observed in the number of days an electricity connection can be obtained in LDCs. In particular, the number of days on which electricity was unavailable in African LDCs went from 180 days in 2010 to less than 140 days in 2013. Similarly, island and landlocked LDCs have improved in this indicator. In contrast, Asian LDCs have deteriorated (Figure 4.13).

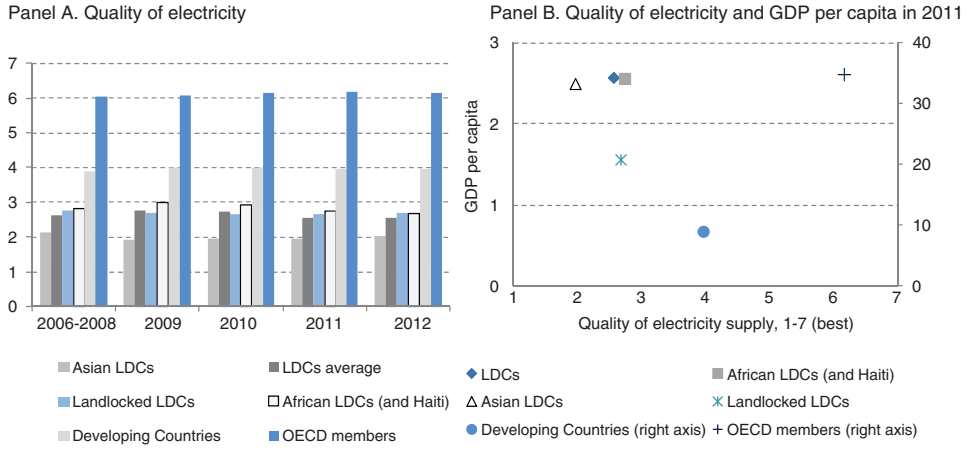
Water and sanitation

To monitor goals and targets in the IPoA on water and sanitation we propose a set of indicators provided by the World Bank (Table 4.6).

In order to measure progress in sanitation and water supply, this chapter considers three key indicators: improved sanitation facilities, improved water sources in rural areas and improved water sources in urban areas.[7]

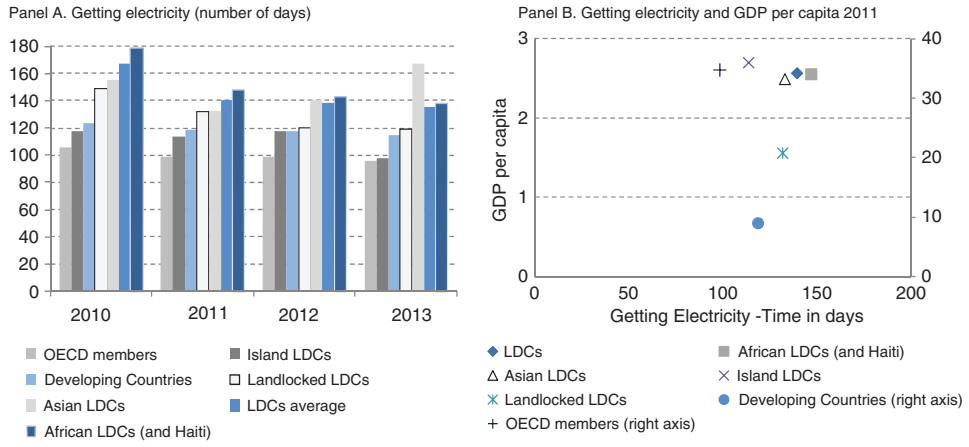
The percentage of the population having access to improved sanitation facilities and improved water sources in both rural and urban areas remained flat between 2005

Figure 4.12 Quality of electricity supply and GDP per capita (2006–12)



Note: From 1 to 7 (7 being the best ranking), GDP per capita is in USD thousands, adjusted for PPP.
Source: World Economic Forum

Figure 4.13 Getting electricity and GDP per capita (2010–13) (number of days)



Note: The number of days to obtain a permanent electricity connection. The measure captures the median duration that the electricity utility and experts indicate is necessary in practice, rather than required by law, to complete a procedure. GDP per capita is in USD thousands, adjusted for PPP.
Source: World Bank, Doing Business

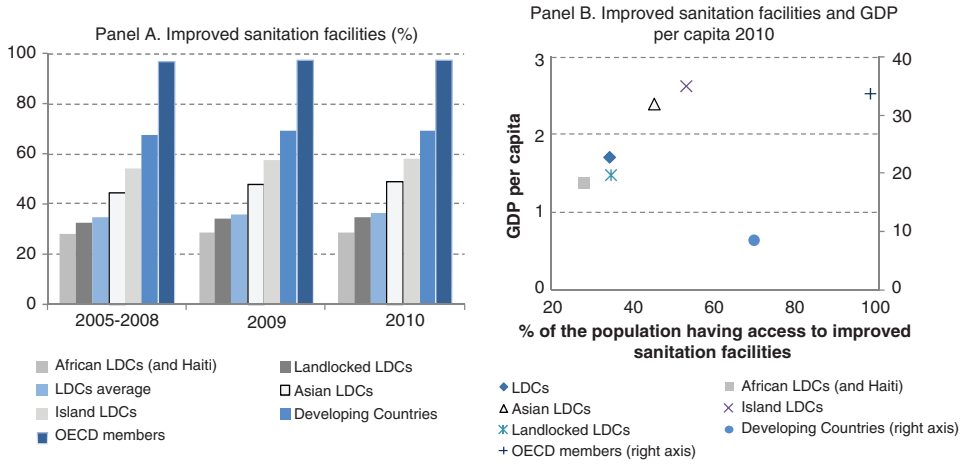
and 2010 (Figure 4.14). Comparing the different groups of LDCs, island LDCs are the group that performs better for all the water supply and sanitation indicators considered. In contrast, after controlling for the level of GDP per capita, African LDCs have the main gap in these types of infrastructure (Figure 4.14, panel B). However, the Millennium Development Goal of halving the proportion of people without access to an improved water source (Target 7.C) was met and a longer series shows an increase in the proportion of the population with access to water and sanitation.

Table 4.6 IPoA. Goals, targets and actions on water and sanitation and proposed indicators

Goals and targets/actions	Proposed indicators
Halve by 2015 the proportion of people without sustainable access to safe drinking water and basic sanitation. and strive to provide sustainable access to safe drinking water and basic sanitation to all by 2020	Percentage of the population having access to improved sanitation facilities Percentage of the population having access to improved water source in rural areas Percentage of the population having access to an improved water source in urban areas

Source: World Bank, World Development Indicators

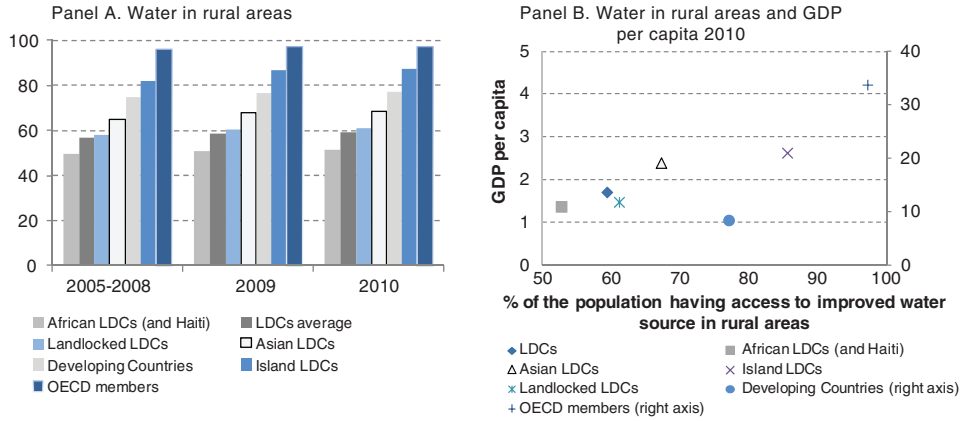
Figure 4.14 Improved sanitation facilities (%) and GDP per capita (2005–10)



Note: GDP per capita is in USD thousands, adjusted for PPP.
Source: World Bank, World Development Indicators

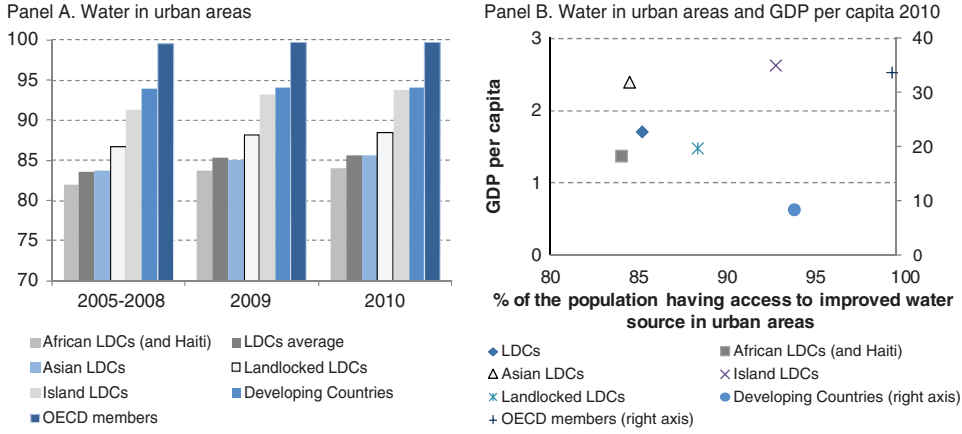
LDCs are endowed with very scarce water supply and sanitation infrastructure in both absolute and relative terms. Only 36 per cent of the population in LDCs in 2010 (latest available data) had access to improved sanitation facilities, in contrast to 70 per cent and 100 per cent in developing and OECD economies respectively. Among LDCs, the population's lack of access to improved sanitation facilities is particularly evident in Niger, where less than 10 per cent of the population has access to improved sanitation facilities. Only 56 per cent and 82 per cent of the population had access to an improved water source in rural and urban areas in 2010 respectively (Figures 4.15 and 4.16). In the rural areas of Somalia, the lack of access to an improved water source is also particularly acute, with less than 10 per cent of the population being able to access one. In contrast, in Bhutan, Samoa and Tuvalu almost 100 per cent of the population in rural areas have access to an improved water source (Figure 4.16).

Figure 4.15 Improved water source in rural areas (%) and GDP per capita (2005–10)



Note: GDP per capita is in USD thousands, adjusted for PPP.
Source: World Bank, World Development Indicators

Figure 4.16 Improved water source in urban areas (%) and GDP per capita (2005–10)



Note: GDP per capita is in USD thousands, adjusted for PPP.
Source: World Bank, World Development Indicators

4.3 The sources of investment

The current levels of investment in infrastructure in LDCs are insufficient. Sub-Saharan African countries (which represent 33 out of the 48 LDCs) would need an annual increase of around USD 19 billion to close their infrastructure gap in the next ten years (Honeck 2011). The largest share of this funding shortfall corresponds to water supply and sanitation (USD 9 billion) and electricity (USD 7.5 billion). The average level of annual investment in infrastructure in developing countries varies between 3 and

4.5 per cent of the GDP (Estache 2010). As is shown above, in telecommunications, transport, energy and water, LDCs present the lowest infrastructure stock in the world. These numbers fall short of the annual infrastructure expenditures that LDCs should make, which should be around 7 per cent of their annual GDP (UNCTAD-UNDP 2007; Briceño-Garmendia et al. 2004). Although there are no data for these needs by sector specifically for LDCs, in the low-income African countries water supply and sanitation as well as electricity will be the infrastructure sectors with the largest financing needs during the next decade. They would be absorbing 47 per cent and 39 per cent of the total increase in expenditure respectively (Honeck 2011). Therefore, more investment in infrastructure is required to fulfil LDCs' needs. In order to analyse carefully the investment needs per infrastructure sector, it is of key importance to follow a standard methodology and data. In that context, OECD publications on 'Infrastructure to 2030' could provide ideas and methodologies for a more in-depth analysis of long-term investment in infrastructure in LDCs (OECD 2006, 2007).

More than 35 per cent of the investment in infrastructure comes from LDC governments' budgets. The methodology used in Estache (2010) to compute a range of values for the total public investment in infrastructure in developing countries can be applied to LDCs. First, it is assumed that 3 per cent to 4.5 per cent of GDP corresponds to an upper bound for the total investment in infrastructure in LDCs. Second, the numbers of commitments of private participation in infrastructures in LDCs as well as the flows for ODA attributed to LDCs for the purpose of infrastructure development can be used to estimate the participation of these sources of financing in the total investment in infrastructure.[8] Third, it is assumed that the residual part of the investment in infrastructure in LDCs comes from the public sector. According to this methodology, and using the latest year for which there are available data (i.e. 2009), private sector commitments were roughly equivalent to between 27 per cent and 40 per cent of the total investment in infrastructure, depending on whether the total investment level was close to 3 per cent or 4.5 per cent of GDP respectively. For the same year, ODA accounted for between 16 per cent and 24 per cent of the participation in the total investment in infrastructure in LDCs. Consequently, the share of national public investment for the total investment in infrastructure in LDCs can vary between 36 per cent and 58 per cent of GDP.

The structure of ownership and the sources of financing in infrastructure investment can affect LDCs' economic growth and welfare distribution. The approach through which infrastructure projects are financed is, for instance, a key determinant of economic growth. Empirical evidence suggests that a decrease in the external indebtedness in LDCs or Heavily Indebted Poor Countries (HIPC) could have a positive impact on their income growth per capita (see Wamboye 2012; Bhattacharya et al. 2003). In addition, although there is relatively little empirical evidence on the impact of public versus private infrastructure on aggregate output, the type of ownership in infrastructure projects has an impact on the welfare distribution among the stakeholders and on the incentives for service provision (see Estache and Grifell-Tatjé 2010). In the absence of ability to pay for the services on the demand side (unless these are subsidised), profitability may be jeopardised and private entities may lack the incentives to provide these services. For this reason, basic utility services in LDCs

are often provided by the public sector, mostly through state-owned monopolies which rely on production subsidies so as to offer the services at tariffs that are fixed below the cost-recovery rate.

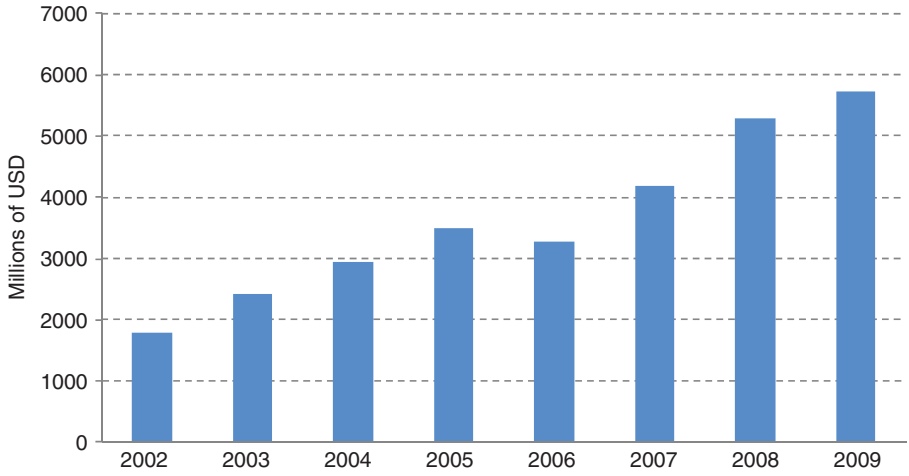
Tariff-setting of infrastructure services in the interest of end-user affordability can however raise important risks in terms of fiscal sustainability and efficiency. Infrastructure pricing policies that rely on production subsidies often impose a fiscal burden on LDC governments. While broadening the access of poorer citizens to electricity is a crucial objective to uphold, this does not have to be the most efficient way to address the power access gap. In fact, production subsidies do not automatically generate the expected socially desirable effects. In several LDCs, electricity access remains geographically constrained to areas inhabited by the richer segments of the population – as a result, the artificially low tariffs, backed with extensive public funding, act mostly as a regressive subsidy for the upper class rather than facilitating access for the poor. Replacing production subsidies by consumption subsidies can help strike the balance between investment efficiency and end-user affordability while mitigating fiscal risks and allowing state-owned enterprises to operate on a more commercial basis. Moreover, infrastructure sector regulators can play an important role in keeping utility markets competitive (when they have been liberalised), as well as in tariff setting. Unless services are subsidised by the government, the majority of the population would not be able to access them. The prices charged in Africa for services related to their infrastructure networks stand well above global standards. While in some sectors this is the result of high operational costs, in other cases, such as the telecommunications sector as well as the transport sector, in particular roads, it simply reflects high profits (Foster 2008).

4.3.1 The role of ODA

Official development assistance (ODA) allocated to infrastructure as a share of the country's GDP is much higher in LDCs than in developing countries. This evidence is observed in all the infrastructure sectors. From 2002 to 2009, the value of total ODA allocated to infrastructure as a percentage of GDP remained relatively constant for both LDCs and developing countries. For LDCs this value has always been stable at around 1 per cent of GDP. For developing countries this value is well below, being always smaller than 0.2 per cent of GDP (Figure 4.17). Telecommunications is the sector that has benefited the least from ODA (Figure 4.18). For LDCs the value of ODA allocated to telecommunications' infrastructures did not exceed 0.05 per cent of GDP for the period 2002–09. Finally, over the last couple of years (with few exceptions), the group of island LDCs has received the highest ODA investment in infrastructure as a percentage of GDP.

From 2002 to 2009 the ODA allocated to infrastructure projects in LDCs has consistently increased (except in 2006). The value of the gross disbursements allocated to infrastructure in LDCs more than tripled in less than one decade. It was the result of a consistent and continuous surge in the ODA allocated to infrastructure in LDCs (Figure 4.17). This increase was pronounced in sectors such as energy, transport, water supply and sanitation. ODA gross disbursements allocated to the development

Figure 4.17 Disbursements of ODA allocated to infrastructure in LDCs



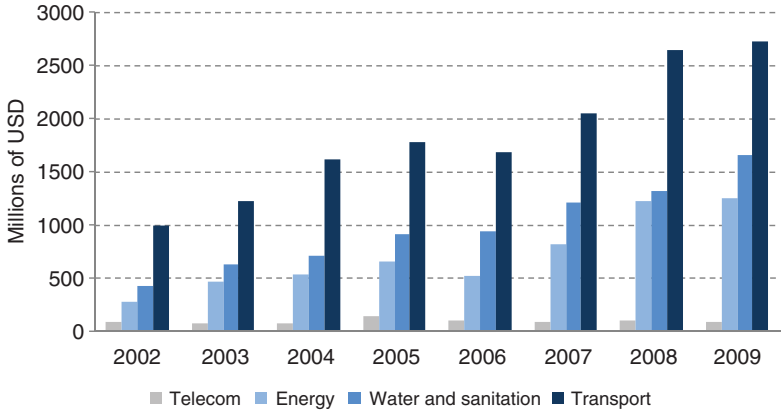
Source: OECD database

of infrastructure in the ICT sector kept constant over the period. The transport sector is the one that benefited the most from higher flows of ODA (Figure 4.18).

4.3.2 The role of private investment

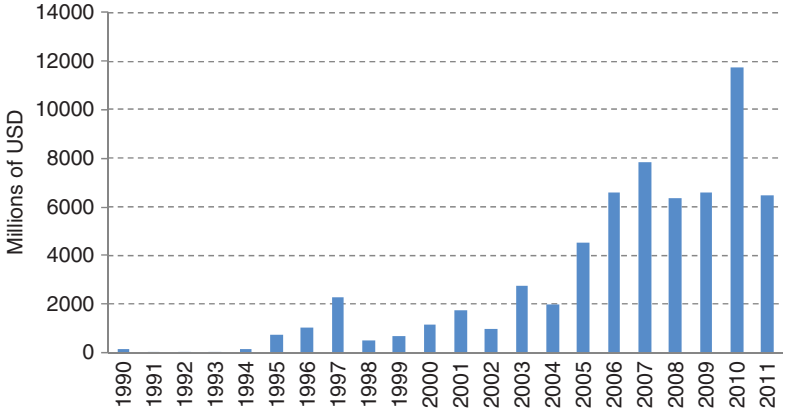
As of 2011, private investment in infrastructure in LDCs corresponds to less than 1 per cent of GDP, well below the same type of investment in developing countries.[9] However, since 1990 private investment commitments have been sharply increasing. For LDCs, this value was almost zero at the beginning of the 1990s, reaching a peak in 2010 at almost 2 per cent of GDP. Among the different sectors considered, water and sanitation is clearly that for which private investment commitments are lower. When these

Figure 4.18 Gross disbursements of ODA allocated to infrastructure in LDCs



Source: OECD database

Figure 4.19 Private investment commitments in infrastructure in LDCs



Source: World Bank, Private Participation in Infrastructure database

commitments exist, they never exceed 0.1 per cent of GDP. Despite the relatively good performance in this particular field for developing countries, these values are modest, never surpassing 0.2 per cent of GDP. The overall private investment commitments in infrastructure on landlocked LDCs for 2011 is close to 7 per cent of GDP, which is well above the average values of all other groups of countries considered.

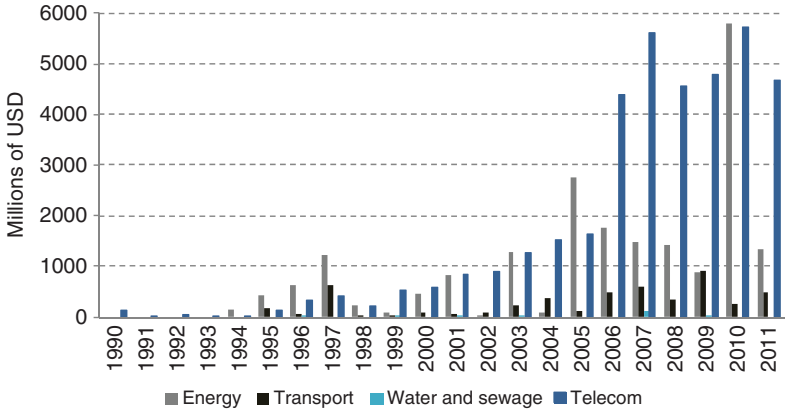
Private investment commitments in LDCs tend to be volatile and to present a significant heterogeneity among the sectors of activity. The peak for the private investment commitments in infrastructure in LDCs was reached in 2010, when private investors committed to invest more than USD 11.5 billion. In spite of high volatility in the last two decades, the commitments have shown an increasing path. During the first years of the 1990s these values were almost negligible. Conversely, in the following years these values have consistently increased (Figure 4.19). Water supply and sanitation is the sector in which private investment commitments are low, and it is followed by the transport sector. In contrast, energy and telecommunications are the sectors that attract more private investment commitments (Figure 4.20).

4.3.3 The role of international capital markets

LDCs present specificities that make their infrastructure financing different from that of developed countries. Industrialised countries rely mainly on private sector resources to finance their infrastructure needs. On the other hand, LDCs must rely essentially on the public sector to play such a role. This difference lies in the fact that LDCs have very limited access to international capital markets. This limited access is explained by investors' concerns about serious risks in these countries.

Further investment from capital markets in developed countries is a key challenge for LDCs. LDCs have to continue to rely essentially on the public sector in order to finance their infrastructure needs. In Africa, where 33 out of the 48 LDCs are located, public finance remains the dominant source to finance water, energy and transport (Foster 2008). New initiatives such as the issuance of foreign currency-denominated

Figure 4.20 Private investment commitments in infrastructure by sector of activity in LDCs



Source: World Bank, Private Participation in Infrastructure database

debt represent an opportunity for the infrastructure development of LDCs. For example, in 2012 Zambia successfully raised a USD 750 million 10-Year Eurobond to upgrade its infrastructure, particularly in the transport and energy sectors.

Leading emerging-market actors also need to cover more countries. International multilateral banks, as well as OECD country financial institutions such as the German development finance agency KfW, have been playing an important role in facilitating the creation of financial bonds in developing countries. These countries remain, however, largely ignored by brokers' analysts and therefore by the private sector. Increasing the scope of analysis to include information on such countries might help to attract more attention from investors and therefore potentially more capital flows. Country coverage by leading investment banks and leading emerging-market benchmarks like the EMBI produced by JP Morgan for the bond markets, or leading global banks such as Citigroup, Deutsche Bank, HSBC, JP Morgan or Morgan Stanley, rarely cover or sample more than 35 economies. The other 120 developing countries (all LDCs are included in that list) simply do not exist for global financial-market investors (Nieto-Parra and Santiso 2007).

Partnership agreements could be reached between leading international organisations, supported by donor agencies, and 'market makers' in emerging markets, in order to boost country coverage. This is particularly evident for LDCs where coverage is lacking. Examples of public–private partnerships have already been implemented in order to improve country coverage. In 2005, Standard & Poor's, one of the two leading rating agencies, initiated the rating coverage of some African sovereigns with the support of the UN Development Programme. In mid-2013, 21 sovereigns were rated. Five years earlier, and with the help of the European Commission, the OECD Development Centre and the African Development Bank launched the first edition of the African Economic Outlook. (Nieto-Parra and Santiso 2007). All these initiatives boosted the economic and rating coverage of a continent

lacking attention from investment banks. These initiatives could be complemented by similar agreements between international organisations and investment banks in order to boost the coverage by leading brokers and help to catch the attention of international investors.

In addition, a wide variety of financing instruments are being made available for infrastructure projects in developing countries on behalf of development partners and Development Finance Institutions. These increasingly stretch beyond traditional grants and loans. In 2012 the OECD Investment and Development Assistance Committees released a report entitled 'Mapping Support for Africa's Infrastructure Investment', which presents an overview of support by development partners as well as these financial instruments that serve as levers to private infrastructure investment. Such instruments include investment funds; blended grants (which combine concessionary financing with debt finance from international financial institutions or market-based sources); risk mitigation instruments (including credit guarantees and partial risk guarantees); and export credit agency instruments (which can provide export credits for their home companies overseas, and can also provide insurance and risk guarantees for investments abroad). All of these instruments enhance the volume of resources available for infrastructure projects and can thereby help to mobilise private investment, especially in countries with limited access to international capital markets.

4.3.4 The role of public–private partnerships

The IPoA considered raising the private investment in LDCs as a priority. The lack of quality in the provision of infrastructures by the public sector in LDCs highlights the limitations underlying public sector financing. Overall, these considerations are pushing LDCs to seek other forms of financing infrastructure, including further engagement from private partners. For this reason the IPoA calls on the development partners to actively promote private participation of investors in the LDCs' infrastructure projects. However, as highlighted below, a good regulatory and institutional framework is a key factor for a successful involvement of the private sector. Otherwise, the welfare cost of private sector participation could be extremely high and public–private infrastructure projects are likely to fall short of delivering the expected cost benefits.

In order to attract more private financial investment in LDCs' infrastructure, new financing schemes should arise. The insufficiency of the public sector in providing the necessary funding to close the LDCs' infrastructure gap, together with a volatile and also insufficient private investment, make desirable a considerable growth in both forms of financing. Therefore, instead of concentrating exclusively on models focused only on private or public investment, LDCs should explore forms of financing that mix both private and public participation and also boost the efficiency of infrastructure.

LDCs should avoid overcharging situations when establishing new financing schemes for infrastructure financing, namely public–private partnerships (PPPs).

Although spurring PPPs constitutes a good strategy to address the problem of both public and private infrastructure financing shortfall, LDCs should ensure the necessary conditions for the good implementation of such contracts. Infrastructure sectors present specific risks to private investors: projects tend to be large-scale, capital intensive and with long development timelines. Owing to the novelty and complexity of PPP projects for most LDCs and to the heavy contingent liabilities that such projects may entail for public finances, the shift from public to private provision of infrastructure services involves many risks and must be carefully prepared and managed.[10]

PPPs and other kinds of contracts that are established in order to attract more private investment participation in infrastructures therefore require a good institutional capacity and a clear and sound legal framework for investment activities. Otherwise, there is a risk of setting up inappropriate contracts, which could protect the private partner more than the public interest. In such a situation, these contracts can be extremely costly for governments, jeopardising their fiscal sustainability, requiring expensive and lengthy renegotiation, or resulting in high prices of the services provided.

Donors constitute an important vehicle for the promotion of private–public collaboration. Although ODA is the source of financing for infrastructure that presents the lowest participation in the total investment, it can constitute a key vehicle. The infrastructure sector continues to be an important field of business for the development agencies (Estache 2010). Furthermore, donors can support and promote public–private collaboration on LDCs (UN Global Compact 2011). In this sense, donors are not only expected to provide hard ODA (financing) to LDCs but also to enhance the conditions for further public–private collaboration. This can be done through diversity channels that can range from providing technical assistance to LDCs' governments to the creation of improved business conditions in order to attract and foster private investment participation.

4.4 The role of public policies in infrastructure

To ensure that infrastructure impacts economic growth, policies matter as much as finance. Economic growth is shaped not only by the level of infrastructure investment but also by the quality of policies. In that context, the design and implementation of infrastructure policies are key elements to increase the effectiveness of infrastructure investment in LDCs. The regulatory and institutional framework as well as the interactions between actors during the design process of infrastructure polices considerably affect the outcomes. More investment in infrastructure does not necessarily affect economic growth beyond the simple physical capital accumulation effect. A policy-making framework is needed to promote such investment in ways that are conducive to increasing economic growth through gains in total factor productivity (i.e. efficiency-enhancing externalities). Essential aspects of the decision-making process, such as assessing the costs and benefits of new investments and creating independent regulatory institutions, are key to efficiency (Égert et al. 2009).

4.4.1 The policy-making process in infrastructure in LDCs

The policy-making process can affect the nature and quality of public policies in infrastructure. Public policies are the translation of the political priorities and principles of governments into programmes and courses of action to deliver the desired outcomes (Goodin et al. 2006). They emerge from a policy-making process, which is a decision-making process involving a multiplicity of actors who interact in a variety of arenas. In view of the complexity of this process, it is fundamental to understand how it operates before designing public policies. In that context, country and sector specific analyses and the consideration of biased decision making should be integrated in the reform process of infrastructure (Benitez et al. 2010). This section analyses the policy-making process in infrastructure based on a survey of policy makers in developing countries (Box 4.1). This survey identifies four key phases to analyse the policy-making process in infrastructure, which are aligned with the pillars of the OECD's relevant investment policy tools (OECD 2007): (i) prioritisation and planning, (ii) execution, (iii) operation and maintenance and (iv) monitoring and evaluation. Although all four phases overlap to varying degrees in the real world, such a framework helps us understand better the prerequisites, elements and consequences of policy making. In each phase, governments have to consider assessments, accountability and oversight mechanisms to properly evaluate the progress of the project. Appropriate allocation of responsibilities at each phase, and adequate integration of policies throughout the whole project cycle help improve the effectiveness of public policies in infrastructure.

A sequence of activities – identification, screening and appraisal – is needed in the prioritisation and planning phase of an infrastructure project. Governments are usually called upon to undertake more projects than they can afford. A rigorous approach can help select those that provide the greatest net benefit to society and can be implemented efficiently (Fischer et al. 2007). This approach involves:

i. *Identification:* a sector review, linking planning at the macro and project levels, is crucial. The implications of infrastructure development on competitiveness of specific industries, the potential for tapping into regional infrastructure projects and the necessity of developing a multimodal infrastructure master plan which emphasises the links between infrastructure sub-sectors should be taken into account.

ii. *Screening:* before deciding whether to start the phase of project appraisal, a project profile should identify measurable objectives, specify the needed resources, identify the main constraints and put forward alternative means of attaining the project's objectives.

iii. *Project appraisal:* a complex and recurrent process is essential to provide a comprehensive assessment of the investment, *ex ante* and during the project's lifetime. This includes careful upstream project preparation, including a value-for-money assessment, so as to identify which mix of private and public provision is most suited to the infrastructure project at hand.

An infrastructure project appraisal should take into account financial, economic, technical, distributional, regulatory and environmental elements as well as risk

Box 4.1 OECD Development Centre survey on the infrastructure policy-making process

The OECD Development Centre conducted a survey that attempts to identify the main bottlenecks hindering effective infrastructure service delivery throughout the policy-making process. Derived from the OECD Survey on Water Governance (OECD 2011a), it is directed at policy makers in the infrastructure sectors at the national level; at the ministries of finance, planning or infrastructure or at the national development and planning agencies for general infrastructure questions; and at the ministry of transport for transport-specific questions. Respondents first completed the survey online and then complemented their answers through bilateral discussions. The survey was carried out in 2011–12 in Latin America (Brazil, Chile, Colombia, Costa Rica, Dominican Republic, Ecuador, El Salvador, Mexico, Paraguay, Peru and Uruguay), Africa (Benin, Botswana, Burundi, Cameroon, Cape Verde, Chad, Djibouti, Gambia, Kenya, Madagascar, Mauritius, Niger, São Tomé and Príncipe, the Republic of the Sudan and Tunisia), Asian and Pacific LDCs (Afghanistan, Bhutan, Samoa, Timor-Leste and Vanuatu) and Southeast Asia (Malaysia, the Philippines, Thailand and Vietnam). Consequently, this survey covers 14 LDCs (Afghanistan, Benin, Bhutan, Burundi, Chad, Djibouti, Gambia, Madagascar, Niger, Samoa, São Tomé and Príncipe, Sudan, Timor-Leste and Vanuatu). In the future the coverage of this pilot initiative could be widened to most of the LDCs. This would allow a representative global database on public policies related to infrastructure development.

This survey can be considered as a key input into the analysis of the effectiveness of public policies in infrastructure that complements existing quantitative surveys. However, because it is based on stated, and not on revealed, preferences, it is subject to possible biases. In addition, cross-country comparability is subject to preferences that vary from country to country. Finally, survey answers may be affected by the dominance of certain types of infrastructure in policy-making processes.

Source: OECD (2013) and Nieto-Parra et al. (2013) for Latin American countries.

assessments. Cost–benefit analyses can help assess the project's potential impact on social welfare, but these analyses involve difficult choices over what to include under both costs and benefits, and there is little consensus on how to estimate the impact of risk (OECD/International Transport Forum 2011; Fischer et al. 2007). The OECD Principles for Private Sector Participation in Infrastructure (OECD 2007) provide some guidance to public officials in this regard, with the objective of enabling the public sector to negotiate infrastructure contracts on an equal footing with private counterparts.

The analysis of the policy-making process can help to monitor key IPoA commitments. Key actions presented in the IPoA on infrastructure are linked to the effectiveness of public policies in infrastructure (and not specified in a unique infrastructure

sector). In order to capture these commitments, qualitative analysis on the quality of the policy-making process is fundamental to provide recommendations on the implementation of policies. In that context, the survey on infrastructure developed at the Development Centre can constitute a pillar of this study. It highlights questions on the effectiveness of infrastructure policies. Table 4.7 presents key actions that can be

Table 4.7 IPoA. Goals, targets and actions on the effectiveness of infrastructure policies

Actions	Proposed indicators	Source
Allocate and disburse annually an adequate percentage of the budget for the development and maintenance of infrastructure;	• Roles and responsibilities of the central government in the execution phase (question 5C) • Main obstacles for the transport sector at different stages of the infrastructure cycle (question 8A) • Operating and maintenance costs in the prioritisation and planning stage (question 9G) and in the operation and maintenance stage (question 11) • Main features of public policies in the transport sector (question 13)	OECD Development Centre survey
Develop and implement comprehensive national policies and plans for infrastructure development and maintenance encompassing all modes of transportation and ports. communications and energy;	• Quality of the institutional framework in the main infrastructure sectors (question 1A) • Roles and responsibilities in the infrastructure stages (question 2) • Coordination between infrastructure agencies and ministries (question 3)	OECD Development Centre survey
Promote public–private partnerships for the development and maintenance of transport and ICT infrastructure and their sustainability	• Private investment commitments in infrastructure in LDCs	World Bank Private Participation in Infrastructure database
	• Private investment commitments in infrastructure by sector of activity in LDCs	World Bank Private Participation in Infrastructure database

Note: See www.oecd.org/dev/partnerships-networks/QUESTIONNAIRE_OECD_Survey_on_Infrastructure_2011.pdf (accessed 1 April 2014).

monitored by proposed questions included in that survey and by data on private investment provided by the World Bank.

According to the OECD survey on the policy-making process in infrastructure, the execution phase is the most challenging for LDCs. In the sample, 10 out of 14 LDCs identified the execution phase as the most complex one in the policy-making process, whether alone or together with other phases. Large projects often encounter costs and time overruns during the construction. Few projects procured internationally are actually completed within the budget and time-frame originally estimated by the project's sponsor. These systemic failures often arise from inability to manage risks adequately and to anticipate them *ex ante* during contract negotiation (CABRI 2010; Fischer et al. 2007). In terms of broad risks, inflation and exchange rate fluctuations can have a significant impact on project financing. Political interference, community participation and environmental compliance are also factors that affect the implementation process. At the project level, some of the bottlenecks at the execution level are explained by the lack of an appropriate design of the project. Poor project management, changes in design, lack of finance or delays in payment for services, unexpected ground conditions and unsettled land acquisition claims are among the most important implementation risks. Shortfalls in the legal framework for investment (in particular weak safeguards for compensation in the event of an expropriation, and ineffective mechanisms for commercial dispute resolution and investor–State dispute settlement) can also significantly shake investor confidence and complicate contract renegotiations. Shortages of construction materials and equipment are also common, as well as an inability to find experienced contractors and technical staff in the public administration.

In order to ease the implementation phase, policy makers must assess broad- and project-level risks as part of the prioritisation and planning phase. The aim of risk management is to identify and manage those risks that could derail implementation, notably *ex ante*, by assigning risks to the public or private partner that is best capable to shoulder them. The line ministry or sponsoring agency has primary responsibility for this process, but when risks relate to financing, the ministry of finance should step in (CABRI 2010). PPP units can also be set up, most frequently within the Ministry of Finance, to guide the project preparation process and to ensure that value-for-money and fiscal feasibility concerns are well addressed. Furthermore, policy makers must take risk management into account throughout all phases of the project, which are all interdependent. Implementation is a political process in the course of which policies are often reshaped, redefined or even completely overturned (Égert et al. 2009). During selection of the project developer, the transparency of infrastructure procurement and bidding processes is also paramount; this applies not only to PPPs but also to more traditional forms of infrastructure procurement by the public sector.

The operation and maintenance phase also presents deficiencies across LDCs. Governments often prefer to finance new investment during their political cycle and postpone the less visible maintenance activities to later cycles (OECD/ECLAC 2011). Indeed, there is often a bias towards the realisation of new investments to the detriment of the maintenance of the existing stock. This bias usually generates higher operational costs for the infrastructure and for the private goods and services that

rely on it. In the context of African countries, enhancements in the quality of existing infrastructure stock seem to be less essential for LDCs' economic growth than enlargement of the stock (Calderón 2009). However, in order to boost sustainable economic growth, it is essential to plan the maintenance costs of the existing and new infrastructure and to implement adequate maintenance operations when needed. Otherwise, other sectors that rely on this infrastructure would increase their operational costs, affecting negatively the attraction of private sector investment. Authorities could set specific rules to quantify the yearly operation and maintenance costs of existing and planned infrastructure, and incorporate them into multi-year budgets (Mourougane and Pisu 2011). For example, road fund boards can play an important role (for instance in Zambia, but also in many other African countries) in ring-fencing and managing funds that are dedicated to maintaining the road network. Furthermore, aid-recipient countries should adequately account for maintenance costs in infrastructure projects when their construction is funded by donors.

In the absence of good policies, tapping private investment does not deliver effective economic outcomes. A set of reforms should be undertaken prior to attracting private participation in infrastructure. Past experiences in developing economies, and in particular Latin American economies, are useful for capturing the risks of private investment in infrastructure when the institutional and regulatory framework is not designed appropriately to deliver effective private investment. For instance, PPP projects have been extremely expensive for these economies given the high frequency of renegotiations in concession contracts (Straub 2008; Bitran et al. 2013). Consequently, reforms are needed that include a less dependent institutional and regulatory framework in infrastructure from the political cycle and an increase of competition among private actors. Empirical evidence also highlights positive outcomes of private investment after the implementation of good policies. For instance, the telecommunications sector in Africa has experienced successful examples of private involvement. After some regulatory changes in that sector, the liberalisation of this market improved its performance (Djiofack-Zebaze and Keck 2006). In that context, external players in the arenas of infrastructure investment are often influenced by the design of public policies in infrastructure.

To better leverage the impact of infrastructure investment policy reforms, LDCs stand to gain from greater regional co-operation and policy harmonisation. It is also fast becoming essential for countries to develop their institutional capacity for managing cross-border infrastructure projects. Regional projects (as recently identified in the Southern African Development Community's Regional Infrastructure Development Master Plan, for instance) can help overcome a binding constraint to private participation in infrastructure: the shallowness of utility markets. The emergence of platforms such as the SADC PPP Network (which brings together heads of PPP units from across the SADC) demonstrates the increasing importance that regional dialogue and experience-sharing for infrastructure investment is taking on government agendas in Africa. To ensure successful preparation and facilitation of the growing pipeline of regional infrastructure projects, neighbouring LDCs will need to closely co-ordinate regulatory and institutional reforms aimed at enhancing infrastructure investment. In this light the NEPAD-OECD Africa Investment Initiative has, for

instance, been collaborating with the SADC PPP Network since 2013 on promoting harmonisation in PPP policy and regulatory frameworks across Southern Africa, drawing on infrastructure OECD investment policy tools. Especially in the case of PPPs, co-operation on project financing (including consolidating national capital markets) will also become increasingly necessary.

4.4.2 Good environmental policies can promote sustainable infrastructure investment

The development of infrastructure in LDCs should preserve the environment. LDCs face serious environmental concerns, leading to a biodiversity loss. Biodiversity is a key asset in development in LDCs and it can constitute a comparative advantage with respect to other economies (Freytag and Vietze 2006). Nevertheless, biodiversity has not been exploited appropriately (UNDP 2011). A policy recommendation that emerges is that the development of infrastructure in LDCs should evolve hand in hand with respect for biodiversity.

Further green investments in infrastructure could achieve a sustainable development path in LDCs. The overall assessment of a country's environmental performance could be measured through the Environmental Performance Indicator (EPI). This index takes into account environmental public health as well as the vitality of the ecosystem. The lowest EPIs are shown by developing states, with LDCs ranking among the worst performers (e.g. Ethiopia, Chad and Niger). Economies with a high population density combined with stressed ecosystems (e.g. Bangladesh), economies experiencing dramatic urban growth unleashed by natural resources exports (such as Angola), or even arid states with limited natural resources (e.g. Mauritania, Mali) are exposed to environmental damage. Under-investment in environmental infrastructure and ineffective environmental governance are some of the key factors behind the low EPI scores of LDCs (UNDP 2011). In that context, policies emphasising the promotion of green investments as well as investments committed to low carbon emissions can also be useful (OECD 2012, Corfee-Morlot et al. 2012). For instance, transport infrastructure policies can promote multimodal strategies in order to reduce environmental costs and better exploit the geography of some LDCs.

Beyond green investments in infrastructure at large, in the energy sub-sector more specifically the choice between clean energy and conventional energy is crucial and requires strategic thinking for LDC governments. The very lengthy operational lifetimes of energy infrastructure and long time lags between planning and implementation make investment in a given form of energy infrastructure hard to reverse, with highly significant long-term implications for energy management and future resilience to climate change.

The development of green infrastructure projects requires innovative financing options. Finance is one of the main constraints on implementing green infrastructure projects. A considerable pool of capital under management by institutional investors (USD 71 trillion in 2010) could be attracted by green bonds in infrastructure. However, green investment remains low compared with what is necessary. The market size for all green bond issuances to 2011 was approximately USD 11 billion, and environmentally

focused ODA amounted to USD 25.4 billion in 2009/2010 (see OECD 2011b, 2012 for discussions on the financing of green infrastructure projects in developing economies and OECD economies).

4.5 Conclusions and policy recommendations

Through a variety of channels, infrastructure is a crucial element to boost economic growth and to reinforce economic diversification and FDI in LDCs. The IPoA sets a list of commitments for both LDCs and development partners in the area of infrastructure, but lacks important elements such as qualitative commitments, individualised targets and indicators of performance on investment and regulatory frameworks. This chapter has proposed a set of indicators to monitor IPoA commitments in infrastructure (transport and communication), energy, and water and sanitation. These indicators capture the stock of these infrastructures as well as the quality of the policy-making process in the infrastructure sectors.

Available indicators show that in all sectors (transport, telecommunication, energy and water) infrastructure efforts need to be reinforced in terms of both quality and quantity. After controlling for the level of development of these economies, this gap is particularly evident for African LDCs. These efforts could focus on two dimensions: investment and public policies. The two are inter-related as sound public policies can themselves help attract more investment into infrastructure.

On the investment side, reinforcing investment, both from the donor community and from the private sector, is particularly important, especially coming from emerging economies. The investment needs are estimated at 7 per cent of GDP, which is much higher than current levels of investment in infrastructure (around 3 per cent of GDP). This will require making the investment climate of LDCs more attractive on the public policy side. Country coverage by leading emerging-market actors could be improved in order to attract more international investors. New financing schemes such as PPP could be strengthened.

On the public policies side, all stages of the policy-making process require improvement, particularly at the execution level. Better infrastructure policies will improve the effectiveness of investment. More broadly, investment policy would need to be enhanced, so as to create a more attractive investment climate and make the most of infrastructure investment opportunities. Through innovative financing options green infrastructure projects could also be developed. Stronger regulatory and institutional frameworks are necessary before new sources of financing can be found. Past experiences in emerging and OECD economies recommend following a vigilant approach before increasing private participation in activities such as PPPs. Enhanced regional co-operation is needed on all of the above, which can help mitigate the constraints posed by narrow domestic market size. In particular, enhancing legal and regulatory frameworks for investment in infrastructure on a regional level can help facilitate cross-border infrastructure projects.

Finally, it is crucial to assess LDCs' institutional capacity to provide statistical data, in particular on the quantity and quality of infrastructure. Evidence suggests that

a country's statistical capacity depends on its institutional capacity, and vice versa. For instance, for Sub-Saharan Africa (where most LDCs are located) the countries' statistical capacity positively impacts the quality of their institutions (Kodila-Tedika 2012). In this sense, there is a need to endow LDCs with means that allow them to have further and more accurate statistical information. As a first step, this could be achieved through information provided by international, intergovernmental or regional organisations. Complementary to this, the technical assistance provided by the donors could also enhance these countries' statistical capacity.

Notes

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2 See Straub (2008) for an analysis of infrastructure through the lens of economic geography.
3 See Bennathan et al. (2006) on how infrastructure enters the production function through the services provided by this capital.
4 See Straub (2008) and Agénor and Moreno-Dodson (2006). For instance, in the nineteenth century railways and the telegraph made it possible to improve the speed, volume and regularity of the distribution of goods and information. Markets grew and new organisational practices emerged with better inventory management, more efficient market clearing, enhanced competition, faster diffusion of technology and changes in the pattern of specialisation. Overall, there is a reorganisation of production thanks to lower transaction and co-ordination costs.
5 The World Economic Forum's survey covers only 23 of the 48 LDCs.
6 See AfDB and OECD (2009) for the impact of mobile banking on development in Africa.
7 According to World Development Indicators (WDIs), access to improved sanitation facilities refers to the percentage of the population with at least adequate access to excreta disposal facilities (i.e. facilities that prevent human, animal and insect contact with excreta). Improved water sources refers to the percentage of the population (from either rural or urban areas) with access to adequate water (i.e. at least 20 litres per person per day from a source within one kilometre of the dwelling) from an improved source (i.e. a household connection, public standpipe, borehole, protected well or spring, or rainwater collection).
8 These data are available at http://ppi.worldbank.org/ and http://stats.oecd.org/Index.aspx?DatasetCode=CRSNEW respectively.
9 These values are overstated since they refer to private investment commitments and not to actual flows.
10 See the OECD PSPI – Principles for Private Sector Participation in Infrastructure – (OECD/Investment Committee 2007) for an elaborated guidance to policy-makers on addressing these potential pitfalls, notably through careful risk-sharing arrangements and upstream contract preparation. In addition, instruments derived from the PSPI Principles (such as the OECD Policy Guidance for Investment in Clean Energy Infrastructure) provide non-prescriptive guidance for tackling the policy bottlenecks specific to different infrastructure sub-sectors.

Annex 4.1 Methodology used to define infrastructure indicators and LDCs

4.1.1 Infrastructure indicators

Key infrastructure indicators shed light on the current stocks of infrastructures in LDCs. The choice of each indicator has been made by taking into account both its suitability and its availability for the specific context for which it is being considered.

The data on infrastructure were collected from different sources, mainly from international organisations such as the OECD, UNCTAD and the World Bank. The main sectors considered are energy, water supply and sanitation, telecommunications and transports. For each one of these sectors, key different indicators have been included. A comparative analysis of the data has been conducted, covering the following comparisons (always subject to data availability): time-trend and cross-group of countries with a comparison of the main indicators. Each group of LDCs has been compared, as well as developing and OECD countries. In addition, a cross-country comparison of the main indicators among different LDCs has been studied. Finally, in order to control for the level of development of each LDC, this analysis has compared the stock of infrastructure of all indicators by taking into account the GDP per capita.

4.1.2 Country classification

LDCs were split into different groups according to the classification adopted by UNCTAD, which includes African LDCs (and Haiti), Asian LDCs and island LDCs. There is no overlapping in the classification of these groups of economies. In addition, landlocked LDCs have been included. This last group is composed of LDCs that have no access to the sea.

African LDCs (and Haiti): Angola, Benin, Burkina Faso, Burundi, Central African Republic, Chad, Democratic Republic of the Congo, Djibouti, Equatorial Guinea, Eritrea, Ethiopia, Gambia, Guinea, Guinea-Bissau, Haiti, Lesotho, Liberia, Madagascar, Malawi, Mali, Mauritania, Mozambique, Niger, Rwanda, Senegal, Sierra Leone, Somalia, Sudan, Togo, Uganda, United Republic of Tanzania and Zambia.

Asian LDCs: Afghanistan, Bangladesh, Bhutan, Cambodia, Lao People's Democratic Republic, Myanmar, Nepal and Yemen.

Island LDCs: Comoros, Kiribati, Maldives, Samoa, São Tomé and Príncipe, Solomon Islands, Timor-Leste, Tuvalu and Vanuatu.

Landlocked LDCs: Afghanistan, Bhutan, Burkina Faso, Burundi, Central African Republic, Chad, Ethiopia, Laos, Lesotho, Malawi, Mali, Nepal, Niger, Rwanda, Uganda and Zambia.

Developing economies: The definition adopted in order to classify developing countries is that proposed by the World Bank. According to this classification. all low- and middle-income countries of the world are considered as developing countries.

OECD countries: Australia, Austria, Belgium, Canada, Chile, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Israel, Italy, Japan, Korea, Luxembourg, Mexico, Netherlands, New Zeeland, Norway, Poland, Portugal, Slovak Republic, Slovenia, Spain, Sweden, Switzerland, Turkey, United Kingdom and United States.

Annex 4.2 Proposed indicators by country

A4.1 Quality of overall infrastructure. From 1 to 7 (7 being the best ranking)

Country Name	2006–08	2009	2010	2011	2012
Afghanistan					
Angola					
Bangladesh	2.31	2.52	2.74	2.82	2.84
Benin	2.55	2.84	2.95	3.13	3.20
Bhutan					
Burkina Faso	2.36	2.79	2.79	2.73	2.73
Burundi	1.92	2.56	2.84	2.61	2.33
Cambodia	2.88	3.42	3.82	4.05	4.23
Central African Republic					
Chad	1.56	2.03	2.51	2.79	2.80
Comoros					
Congo. Democratic Republic of the (Dem. Rep.)					
Djibouti					
Equatorial Guinea					
Eritrea					
Ethiopia	2.39	3.18	3.76	3.62	3.58
Gambia, The	3.58	4.51	4.71	4.57	4.46
Guinea					2.13
Guinea-Bissau					
Haiti				1.82	1.89
Kiribati					
Lao People's Democratic Republic (PDR)					
Lesotho	2.10	2.95	3.43	3.22	3.40
Liberia					
Madagascar	2.45	2.92	3.23	3.00	3.00
Malawi	2.32	2.91	3.43	3.45	3.23
Mali	2.62	3.01	3.41	3.59	3.77
Mauritania	1.97	2.76	2.82	2.58	2.81
Mozambique	2.20	2.74	3.27	3.11	3.00
Myanmar					
Nepal	1.89	2.16	2.45	2.67	2.90
Niger					
Rwanda			4.31	4.65	4.90
Samoa					
São Tomé and Príncipe					
Senegal	3.06	3.72	3.86	3.63	3.38
Sierra Leone					2.92
Solomon Islands					
Somalia					
Sudan					
Tanzania	2.71	2.66	3.01	3.12	3.10
Timor-Leste	1.79	2.27	2.74	2.46	2.68
Togo					
Tuvalu					
Uganda	2.65	2.87	3.43	3.57	3.38
Vanuatu					
Yemen, Republic of (Rep.)				2.96	2.85
Zambia	2.06	2.89	3.44	3.65	3.87

(continued)

A4.1 Quality of overall infrastructure (continued)

Country Name	2006–08	2009	2010	2011	2012
Least developed countries	2.35	2.88	3.28	3.21	3.18
African LD Cs (and Haiti)	2.39	2.96	3.36	3.27	3.19
Asian LDCs	2.36	2.70	3.00	3.13	3.20
Island LDCs					
Landlocked LDCs	2.17	2.73	3.26	3.32	3.35
Developing Countries	3.20	3.59	3.88	3.88	3.89
OECD members	5.20	5.29	5.48	5.50	5.53

Source: UNCTAD 2011

A4.2 Percentage of paved roads across different regions

Country	2008
Afghanistan	29.30
Angola	10.40
Bangladesh	9.50
Benin	9.50
Bhutan	62.00
Burkina Faso	4.20
Burundi	10.40
Cambodia	6.30
Central African Republic	
Chad	
Comoros	76.50
Congo, Dem. Rep.	1.80
Djibouti	45.00
Equatorial Guinea	
Eritrea	21.80
Ethiopia	12.80
Gambia, The	19.30
Guinea	9.80
Guinea-Bissau	27.90
Haiti	24.30
Kiribati	
Lao PDR	13.40
Lesotho	18.30
Liberia	6.20
Madagascar	11.60
Malawi	45.00
Mali	18.00
Mauritania	26.80
Mozambique	18.70
Myanmar	11.90
Nepal	56.90
Niger	20.70
Rwanda	19.00
Samoa	14.20

(continued)

A4.2 Percentage of paved roads across different regions (continued)

Country	2008
São Tomé and Príncipe	68.10
Senegal	29.30
Sierra Leone	8.00
Solomon Islands	2.40
Somalia	11.80
Sudan	36.30
Tanzania	8.60
Timor-Leste	
Togo	31.60
Tuvalu	
Uganda	23.00
Vanuatu	23.90
Yemen, Rep.	8.70
Zambia	22.00
Least developed countries	22.27
African LDCs (and Haiti)	19.04
Asian LDCs	24.75
Island LDCS	37.02
Landlocked LDCs	25.36
Developing Countries	46.59
OECD members	79.25

Source: World Economic Forum, Global Competitiveness Index

A4.3 Quality of roads. From 1 to 7 (7 being the best ranking)

Country Name	2006–08	2009	2010	2011	2012
Afghanistan					
Angola					
Bangladesh	3.00	2.91	3.00	2.92	2.80
Benin	2.62	2.85	2.91	2.93	3.07
Bhutan					
Burkina Faso	2.41	2.77	2.59	2.50	2.61
Burundi	2.07	2.33	2.66	2.83	2.70
Cambodia	3.04	3.34	3.75	3.99	4.03
Central African Republic					
Chad	1.48	2.03	2.42	3.00	3.08
Comoros					
Congo, Dem. Rep.					
Djibouti					
Equatorial Guinea					
Eritrea					
Ethiopia	2.54	3.29	4.06	4.05	4.09
Gambia, The	3.45	4.03	4.32	4.45	4.50
Guinea					2.02
Guinea-Bissau					
Haiti				1.74	1.75
Kiribati					
Lao PDR					

(continued)

A4.3 Quality of roads. From 1 to 7 (7 being the best ranking) (continued)

Country Name	2006–08	2009	2010	2011	2012
Lesotho	2.09	2.55	2.86	2.72	2.90
Liberia					
Madagascar	2.67	2.95	2.93	2.71	2.53
Malawi		3.08	3.64	3.65	3.42
Mali	2.65	2.81	2.94	3.26	3.59
Mauritania	2.00	2.54	2.40	2.33	2.73
Mozambique	1.94	2.33	2.38	2.34	2.38
Myanmar					
Nepal	2.10	2.11	2.31	2.46	2.57
Niger					
Rwanda			4.15	4.61	4.96
Samoa					
São Tomé and Príncipe					
Senegal	2.90	3.34	3.31	3.33	3.19
Sierra Leone					2.75
Solomon Islands					
Somalia					
Sudan					
Tanzania	2.80	2.66	2.93	3.18	3.22
Timor-Leste	1.64	1.89	2.22	2.14	2.22
Togo					
Tuvalu					
Uganda	2.54	2.50	2.72	2.95	2.91
Vanuatu					
Yemen, Rep.				2.85	2.74
Zambia	2.33	2.62	2.85	2.92	3.19
Least developed countries	2.43	2.75	3.02	3.04	3.04
African LDCs (and Haiti)	2.42	2.79	3.06	3.08	3.08
Asian LDCs	2.71	2.79	3.02	3.06	3.03
Island LDCs					
Landlocked LDCs	2.25	2.61	3.02	3.18	3.27
Developing Countries	3.18	3.42	3.57	3.60	3.60
OECD members	5.00	5.02	5.12	5.13	5.19

Source: World Economic Forum, Global Competitiveness Index

A4.4 Quality of port infrastructure. From 1 to 7 (7 being the best ranking)

Country Name	2006–08	2009	2010	2011	2012
Afghanistan					
Angola					
Bangladesh	2.50	2.98	3.39	3.36	3.27
Benin	2.88	3.31	4.02	3.93	3.73
Bhutan					
Burkina Faso	3.24	4.00	3.93	3.66	3.60
Burundi	2.73	3.09	2.98	2.97	2.64
Cambodia	3.27	3.50	3.90	4.02	4.21

(continued)

A4.4 Quality of port infrastructure. From 1 to 7 (7 being the best ranking) (continued)

Country Name	2006–08	2009	2010	2011	2012
Central African Republic					
Chad	2.33	2.66	2.63	2.74	2.78
Comoros					
Congo, Dem. Rep.					
Djibouti					
Equatorial Guinea					
Eritrea					
Ethiopia	3.06	3.77	4.43	3.85	3.49
Gambia, The	4.03	4.67	5.09	4.88	4.83
Guinea					3.54
Guinea-Bissau					
Haiti				1.84	1.89
Kiribati					
Lao PDR					
Lesotho	2.40	2.98	3.06	3.35	3.43
Liberia					
Madagascar	2.48	3.03	3.38	3.29	3.23
Malawi	3.52	3.53	3.56	3.62	3.74
Mali	2.95	3.77	3.71	3.69	4.06
Mauritania	2.59	3.47	3.57	3.31	3.67
Mozambique	2.73	3.20	3.49	3.38	3.37
Myanmar					
Nepal	2.39	2.83	2.90	2.61	2.71
Niger					
Rwanda			2.81	3.22	3.52
Sa moa					
São Tomé and Príncipe					
Senegal	3.70	4.43	4.74	4.54	4.53
Sierra Leone					3.32
Solomon Islands					
Somalia					
Sudan					
Tanzania	3.11	2.82	3.04	3.33	3.33
Timor-Leste	2.09	2.26	2.50	2.61	2.72
Togo					
Tuvalu					
Uganda	3.22	3.44	3.53	3.68	3.77
Vanuatu					
Yemen, Rep.				2.86	2.99
Zambia	3.13	3.70	3.63	4.00	4.13
Least developed countries	2.87	3.37	3.54	3.42	3.46
African LDCs (and Haiti)	2.94	3.49	3.62	3.52	3.53
Asian LDCs	2.72	3.10	3.40	3.21	3.29
Island LDCs					
Landlocked LDCs	2.83	3.38	3.38	3.40	3.44
Developing Countries	3.41	3.76	3.90	3.88	3.89
OECD members	5.04	5.12	5.20	5.20	5.21

Source: World Economic Forum, Global Competitiveness Index

A4.5 Quality of air transport infrastructure. From 1 to 7 (7 being the best ranking)

Country Name	2006–08	2009	2010	2011	2012
Afghanistan					
Angola					
Bangladesh	3.04	3.39	3.50	3.55	3.46
Benin	3.34	3.30	3.94	3.78	3.38
Bhutan					
Burkina Faso	3.26	3.04	2.97	3.09	3.31
Burundi	2.93	3.47	3.29	3.19	2.80
Cambodia	4.01	4.08	4.28	4.29	4.40
Central African Republic					
Chad	2.58	2.54	2.75	3.16	2.92
Comoros					
Congo, Dem. Rep.					
Djibouti					
Equatorial Guinea					
Eritrea					
Ethiopia	4.71	4.71	5.38	5.26	5.13
Gambia, The	4.34	4.80	4.80	4.78	4.88
Guinea					3.65
Guinea -Bissau					
Haiti				2.08	2.20
Kiribati					
Lao PDR					
Lesotho	2.22	2.39	2.26	2.38	2.49
Liberia					
Madagascar	3.88	3.97	3.78	3.44	3.56
Malawi	2.87	3.08	3.35	3.27	3.06
Mali	3.41	3.36	3.21	3.65	4.17
Mauritania	2.84	2.95	2.88	2.53	2.82
Mozambique	3.46	3.74	4.05	4.11	3.89
Myanmar					
Nepal	3.40	3.52	3.55	3.38	3.15
Niger					
Rwanda				4.12	4.26
Samoa					
São Tomé and Príncipe					
Senegal	4.87	4.72	4.50	4.11	4.35
Sierra Leone					2.75
Solomon Islands					
Somalia					
Sudan					
Tanzania	3.62	3.40	3.43	3.51	3.49
Timor-Leste	2.44	2.66	2.89	3.15	2.92
Togo					
Tuvalu					
Uganda	3.25	3.50	3.88	3.89	3.78
Vanuatu					
Yemen, Rep.				3.96	3.46
Zambia	4.16	3.38	3.62	4.04	3.91
Least developed countries	3.42	3.50	3.62	3.60	3.53
African LDCs (and Haiti)	3.47	3.52	3.63	3.58	3.54

(continued)

A4.5 Quality of air transport infrastructure. From 1 to 7 (7 being the best ranking) (continued)

Country Name	2006–08	2009	2010	2011	2012
Asian LDCs	3.48	3.66	3.77	3.79	3.62
Island LDCs					
Landlocked LDCs	3.30	3.30	3.43	3.58	3.54
Developing Countries	4.16	4.27	4.31	4.29	4.24
OECD members	5.58	5.59	5.60	5.62	5.58

Source: World Economic Forum, Global Competitivences Index

A4.6 Available airline seat km/week, millions

Country Name	2006–08	2009	2010	2011	2012
Afghanistan					
Angola					
Bangladesh	147.56	173.41	197.17	202.37	205.64
Benin	11.82	13.81	18.73	19.08	20.87
Bhutan					
Burkina Faso	8.28	11.22	13.35	12.44	14.01
Burundi	1.42	2.33	2.14	2.22	2.31
Cambodia	44.56	44.90	49.63	57.75	63.06
Central African Republic					
Chad	7.01	7.34	7.66	9.30	9.12
Comoros					
Congo, Dem. Rep.					
Djibouti					
Equatorial Guinea					
Eritrea					
Ethiopia	107.32	142.76	152.30	186.83	223.78
Gambia, The	4.27	3.45	7.95	10.80	12.61
Guinea					9.47
Guinea-Bissau					
Haiti				24.12	24.43
Kiribati					
Lao PDR					
Lesotho	0.23	0.25	0.32	0.29	0.22
Liberia					
Madagascar	37.91	37.71	37.60	41.72	50.07
Malawi	8.18	8.82	7.30	7.14	5.75
Mali	22.29	23.07	26.56	28.80	23.63
Mauritania	8.00	7.15	7.19	7.84	9.85
Mozambique	28.55	22.82	23.23	29.46	31.05
Myanmar					
Nepal	44.69	59.32	66.00	80.28	86.20
Niger					
Rwanda			4.08	6.22	13.22
Sa moa					
São Tomé and Príncipe					
Senegal	124.41	125.94	107.02	91.62	86.94
Sierra Leone					6.70

(continued)

A4.6 Available airline seat km/week, millions

Country Name	2006–08	2009	2010	2011	2012
Solomon Islands					
Somalia					
Sudan					
Tanzania	49.82	54.15	56.95	69.58	80.23
Timor-Leste		7.43	9.76	11.52	11.15
Togo					
Tuvalu					
Uganda	35.15	41.54	40.84	35.06	43.30
Vanuatu					
Yemen, Rep.				40.75	35.52
Zambia	25.66	25.75	25.53	40.75	30.98
Least developed countries	37.01	40.66	41.01	44.17	44.00
African LDCs (and Haiti)	28.63	33.01	31.69	34.63	34.93
Asian LDCs	78.93	92.54	104.27	95.29	97.60
Island LDCs					
Landlocked LDCs	27.18	32.24	31.46	37.21	41.14
Developing Countries	349.82	389.39	413.29	452.56	464.80
OECD members	2,200.88	2,174.01	2,213.73	2,320.24	2,373.87

Source: World Economic Forum, Global Competitiveness Index

A4.7 Quality of railway infrastructure. From 1 to 7 (7 being the best ranking)

Country Name	2011	2012
Afghanistan		
Angola		
Bangladesh	2.50	2.48
Benin	1.93	1.63
Bhutan		
Burkina Faso	1.84	2.00
Burundi		
Cambodia	1.84	2.27
Central African Republic		
Chad		
Comoros		
Congo, Dem. Rep.		
Djibouti		
Equatorial Guinea		
Eritrea		
Ethiopia	1.30	1.43
Gambia, The		
Guinea		1.62
Guinea-Bissau		
Haiti	1.23	1.29
Kiribati		
Lao PDR		
Lesotho	1.30	1.56
Liberia		
Madagascar	1.55	1.87

(continued)

A4.7 Quality of railway infrastructure. From 1 to 7 (7 being the best ranking) (continued)

Country Name	2011	2012
Malawi	2.39	2.19
Mali	2.35	2.70
Mauritania	1.78	2.00
Mozambique	2.18	2.03
Myanmar		
Nepal	1.15	1.10
Niger		
Rwanda		
Samoa		
São Tomé and Príncipe		
Senegal	1.86	1.70
Sierra Leone		1.30
Solomon Islands		
Somalia		
Sudan		
Tanzania	2.42	2.26
Timor-Leste		
Togo		
Tuvalu		
Uganda	1.41	1.44
Vanuatu		
Yemen, Rep.		
Zambia	2.22	2.28
Least developed countries	1.84	1.85
African LDCs (and Haiti)	1.84	1.83
Asian LDCs	1.83	1.95
Island LDCs		
Landlocked LDCs	1.75	1.84
Developing Countries	2.46	2.50
OECD members	4.44	4.47

Source: World Bank, World Development Indicators, 2012

A4.8 Internet users per 100 people

Country Name	2005–08	2009	2010	2011
Afghanistan	1.63	3.25	3.65	4.58
Angola	2.71	6.00	10.00	14.78
Bangladesh	1.39	3.10	3.70	5.00
Benin	1.61	2.24	3.13	3.50
Bhutan	5.21	7.17	13.60	21.00
Burkina Faso	0.69	1.13	2.40	3.00
Burundi	0.68	0.90	1.00	1.11
Cambodia	0.45	0.53	1.26	3.10
Central African Republic	0.49	1.80	2.00	2.20
Chad	0.75	1.50	1.70	1.90
Comoros	2.43	3.50	5.10	5.50
Congo, Dem. Rep.	0.34	0.56	0.72	1.20

(continued)

A4.8 Internet users per 100 people (continued)

Country Name	2005–08	2009	2010	2011
Djibouti	1.53	4.00	6.50	7.00
Equatorial Guinea	1.45	2.13	6.00	
Eritrea	2.63	4.93	5.40	6.20
Ethiopia	0.34	0.54	0.75	1.10
Gambia, The	5.53	7.63	9.20	10.87
Guinea	0.72	0.94	1.00	1.30
Guinea-Bissau	2.13	2.30	2.45	2.67
Haiti	6.99	8.10	8.37	
Kiribati	5.38	8.97	9.07	10.00
Lao PDR	1.80	6.00	7.00	9.00
Lesotho	3.15	3.72	3.86	4.22
Liberia	0.54	0.51	2.30	3.00
Madagascar	0.87	1.63	1.70	1.90
Malawi	0.62	1.07	2.26	3.33
Mali	0.90	1.80	1.90	2.00
Mauritania	1.24	2.28	4.00	4.50
Mozambique	1.04	2.68	4.17	4.30
Myanmar	0.17	0.22	0.25	0.98
Nepal	1.28	1.97	7.93	9.00
Niger	0.40	0.76	0.83	1.30
Rwanda	2.39	7.70	8.00	7.00
Samoa	4.40	6.00	7.00	
São Tomé and Príncipe	14.50	16.41	18.75	20.16
Senegal	7.17	14.50	16.00	17.50
Sierra Leone	0.23	0.26		
Solomon Islands	1.87	4.00	5.00	6.00
Somalia	1.11	1.16		1.25
Sudan	7.05			
Tanzania	6.58	10.00	11.00	12.00
Timor-Leste	0.13	0.18	0.21	0.88
Togo	2.10	2.60	3.00	3.50
Tuvalu	12.50	20.00	25.00	30.00
Uganda	3.96	9.78	12.50	13.01
Vanuatu	6.25	7.50	8.00	
Yemen, Rep.	3.55	9.96	12.35	14.91
Zambia	4.36	6.31	10.13	11.50
LDCs	2.72	4.47	6.00	6.84
African LDCs (and Haiti)	2.28	3.60	4.91	5.26
Asian LDCs	1.93	4.02	6.22	8.45
Island LDCs	5.43	8.32	9.77	12.09
Landlocked LDCs	1.78	3.46	4.97	5.95
Developing Countries	13.72	21.79	26.56	30.73
OECD members	59.02	64.75	67.77	70.59

Source: World Economic Forum, Global Competitiveness Index

A4.9 Fixed broadband internet subscribers per 100 people

Country Name	2005–08	2009	2010	2011
Afghanistan	0.00	0.00	0.00	
Angola	0.05	0.11	0.10	0.13
Bangladesh	0.02	0.04	0.04	0.04
Benin	0.01	0.02	0.04	0.04
Bhutan	0.07	0.43	1.20	1.78
Burkina Faso	0.03	0.07	0.08	0.08
Burundi	0.00	0.00	0.00	
Cambodia	0.05	0.21	0.25	0.15
Central African Republic	0.00	0.00	0.00	0.00
Chad	0.00	0.00	0.00	0.00
Comoros	0.01	0.01	0.01	0.02
Congo, Dem. Rep.	0.00	0.01	0.01	0.02
Djibouti	0.11	0.61	0.91	1.25
Equatorial Guinea	0.03	0.03	0.17	
Eritrea	0.00	0.00	0.00	0.00
Ethiopia	0.00	0.00	0.00	0.03
Gambia, The	0.01	0.02	0.02	0.02
Guinea	0.00		0.01	0.01
Guinea-Bissau	0.00			
Haiti	0.00	0.00	0.00	0.00
Kiribati	0.50	0.78	0.85	0.91
Lao PDR	0.05	0.14	0.19	0.66
Lesotho	0.00	0.02	0.02	
Liberia	0.00	0.00	0.00	0.00
Madagascar	0.01	0.02	0.03	0.03
Malawi	0.01	0.03	0.05	0.06
Mali	0.02	0.02	0.02	0.01
Mauritania	0.08	0.17	0.16	0.17
Mozambique	0.02	0.05	0.06	0.07
Myanmar	0.01	0.04	0.05	0.06
Nepal	0.02	0.05	0.20	0.31
Niger	0.00	0.01	0.01	0.01
Rwanda	0.02	0.02	0.02	0.03
Samoa	0.06	0.11	0.11	
São Tomé and Príncipe	0.09		0.34	0.42
Senegal	0.29	0.49	0.63	0.73
Sierra Leone	0.00			
Solomon Islands	0.18	0.38	0.37	0.44
Somalia	0.00			
Sudan	0.06		0.03	0.04
Tanzania	0.00	0.01	0.01	0.01
Timor-Leste	0.00	0.04	0.04	0.05
Togo	0.01	0.05	0.06	0.08
Tuvalu	2.46	1.02	2.44	4.57
Uganda	0.01	0.02	0.16	0.26
Vanuatu	0.05	0.21	0.21	
Yemen, Rep.	0.05	0.23	0.35	0.44

(continued)

A4.9 Fixed broadband internet subscribers per 100 people (continued)

Country Name	2005–08	2009	2010	2011
Zambia	0.03	0.08	0.08	0.06
LDCs	0.10	0.13	0.21	0.33
African LDCs (and Haiti)	0.03	0.07	0.09	0.12
Asian LDCs	0.03	0.14	0.28	0.49
Island LDCs	0.44	0.32	0.55	1.07
Landlocked LDCs	0.02	0.06	0.13	0.25
Developing Countries	2.07	3.99	4.84	5.73
OECD members	18.09	23.17	24.65	25.70

Source: World Economic Forum, Global Competitiveness Index

A4.10 Fixed telephone lines per 100 people

Country Name	2006–08	2009	2010	2011	2012
Afghanistan					
Angola					
Bangladesh	0.72	0.83	0.94	0.61	1.06
Benin	0.97	1.23	1.42	1.51	1.68
Bhutan					
Burkina Faso	0.66	0.82	1.06	0.87	0.83
Burundi	0.39	0.34	0.38	0.39	0.39
Cambodia	0.25	0.31	0.37	2.54	3.70
Central African Republic					
Chad	0.14	0.13	0.12	0.46	0.27
Comoros					
Congo, Dem. Rep.					
Djibouti					
Equatorial Guinea					
Eritrea					
Ethiopia	0.78	1.07	1.10	1.10	0.98
Gambia, The	2.92	2.79	2.87	2.82	2.76
Guinea					0.18
Guinea-Bissau					
Haiti				0.50	0.50
Kiribati					
Lao PDR					
Lesotho	2.57	2.97	1.94	1.79	1.63
Liberia					
Madagascar	0.46	0.82	0.92	0.83	0.65
Malawi	0.99	1.26	1.15	1.07	1.13
Mali	0.64	0.65	0.62	0.74	0.66
Mauritania	1.25	2.38	2.26	2.07	2.04
Mozambique	0.35	0.36	0.36	0.38	0.37
Myanmar					
Nepal	1.90	2.80	2.80	2.81	2.77
Niger					
Rwanda			0.33	0.37	0.36
Samoa					
São Tomé and Príncipe					

(continued)

A4.10 Fixed telephone lines per 100 people (continued)

Country Name	2006–08	2009	2010	2011	2012
Senegal	2.33	1.87	2.22	2.75	2.71
Sierra Leone					0.24
Solomon Islands					
Somalia					
Sudan					
Tanzania	0.41	0.30	0.40	0.39	0.35
Timor-Leste	0.23	0.21	0.21	0.21	0.26
Togo					
Tuvalu					
Uganda	0.31	0.53	0.71	0.98	1.35
Vanuatu					
Yemen, Rep.				4.35	4.33
Zambia	0.81	0.75	0.70	0.69	0.64
Least developed countries	0.95	1.12	1.09	1.31	1.27
African LDCs (and Haiti)	0.97	1.14	1.09	1.09	0.99
Asian LDCs	0.95	1.31	1.37	2.58	2.97
Island LDCs					
Landlocked LDCs	0.91	1.13	0.99	1.02	1.00
Developing Countries	13.20	14.03	14.33	13.35	13.10
OECD members	46.28	42.75	41.16	40.90	41.46

Source: World Bank, World Development Indicators, 2012

A4.11 Mobile cellular subscriptions per 100 people

Country Name	2005–08	2009	2010	2011
Afghanistan	13.93	34.34	41.39	54.26
Angola	23.40	43.70	46.69	48.38
Bangladesh	18.60	35.66	46.17	56.48
Benin	22.48	58.52	79.94	85.33
Bhutan	18.87	47.49	54.32	65.58
Burkina Faso	10.81	23.92	34.66	45.27
Burundi	3.58	10.26	13.72	14.46
Cambodia	17.56	44.84	57.65	69.90
Central African Republic	3.97	15.74	22.25	25.04
Chad	7.66	20.86	25.61	31.80
Comoros	7.58	17.13	22.49	28.71
Congo, Dem. Rep.	9.75	14.73	17.92	23.13
Djibouti	8.09	14.77	18.64	21.32
Equatorial Guinea	21.40	29.36	57.01	59.15
Eritrea	1.55	2.77	3.53	4.47
Ethiopia	1.43	4.99	8.26	16.67
Gambia, The	41.04	78.07	85.53	89.02
Guinea	17.40	35.74	40.07	44.02
Guinea-Bissau	18.43	37.76		25.98
Haiti	19.22	36.98	40.03	41.49
Kiribati	0.82	10.11	10.64	13.64
Lao PDR	21.80	52.92	64.56	87.16
Lesotho	19.70	30.76	45.48	47.91

(continued)

A4.11 Mobile cellular subscriptions per 100 people (continued)

Country Name	2005-08	2009	2010	2011
Liberia	13.26	28.29	39.34	49.17
Madagascar	11.24	31.23	37.23	38.28
Malawi	6.62	17.21	20.92	25.07
Mali	14.69	29.92	48.41	68.32
Mauritania	41.46	64.61	79.34	92.71
Mozambique	13.02	26.12	30.88	32.83
Myanmar	0.51	1.05	1.24	2.57
Nepal	7.76	19.02	30.69	43.81
Niger	6.42	17.36	24.53	27.01
Rwanda	6.38	23.56	33.40	40.63
Samoa	38.53	82.78	91.43	
São Tomé and Príncipe	17.60	39.38	62.11	68.26
Senegal	29.99	57.00	67.11	73.25
Sierra Leone	16.07	20.21	34.09	35.63
Solomon Islands	2.70	9.54	27.87	49.77
Somalia	6.58	7.03	6.95	6.85
Sudan	16.49	36.11	41.54	56.25
Tanzania	18.14	40.14	46.80	55.53
Timor-Leste	6.74	31.90	53.42	53.23
Togo	17.18	37.06	40.69	50.45
Tuvalu	16.10	10.20	16.28	21.63
Uganda	13.15	28.99	38.38	48.38
Vanuatu	10.10	54.09	119.05	
Yemen, Rep.	18.33	35.63	46.09	47.05
Zambia	18.23	34.63	41.62	60.59
LDCs	14.43	30.93	40.77	44.49
African LDCs (and Haiti)	14.80	29.95	37.76	43.26
Asian LDCs	14.67	33.87	42.76	53.35
Island LDCs	12.68	30.62	48.38	39.21
Landlocked LDCs	10.94	25.75	34.26	43.87
Developing Countries	49.92	75.86	83.78	92.02
OECD members	89.92	101.06	103.28	109.83

Source: UNCTAD 2011

A4.12 Renewable net installed electricity capacity (% of total net installed electricity capacity)

Country	1990	2000	2008
Afghanistan	59.10	71.70	76.50
Angola	66.80	49.50	43.10
Bangladesh	9.10	6.40	4.20
Benin	0.00	1.90	1.70
Bhutan	96.90	97.20	98.90
Burkina Faso	14.30	26.40	12.70
Burundi	74.40	78.20	98.10
Cambodia	22.20	7.70	4.70

(continued)

A4.12 Renewable net installed electricity capacity (% of total net installed electricity capacity) (continued)

Country	1990	2000	2008
Central African Republic	51.20	47.20	54.30
Chad	0.00	0.00	0.00
Comoros	20.00	20.00	16.70
Congo, Dem. Rep.	97.90	98.70	98.70
Djibouti	0.00	0.00	0.00
Equatorial Guinea	20.00	16.70	3.20
Eritrea	0.00	0.00	0.00
Ethiopia	92.10	90.40	85.20
Gambia, The	0.00	0.00	0.00
Guinea	23.10	40.10	37.20
Guinea-Bissau	0.00	0.00	0.00
Haiti	39.40	25.80	25.80
Kiribati	0.00	0.00	0.00
Lao PDR	89.80	97.30	93.10
Lesotho	0.00	0.00	0.00
Liberia	0.00	0.00	0.00
Madagascar	48.20	46.30	50.40
Malawi	78.90	91.30	92.10
Mali	51.70	47.40	55.40
Mauritania	58.10	56.60	38.30
Mozambique	88.10	91.50	89.70
Myanmar	23.50	29.30	32.60
Nepal	84.70	85.90	92.10
Niger	0.00	0.00	0.00
Rwanda	88.20	83.30	55.20
Samoa	31.60	42.20	29.30
São Tomé and Príncipe	33.30	43.90	42.90
Senegal	0.00	0.40	0.40
Sierra Leone	1.60	7.30	7.70
Solomon Islands	0.00	0.00	0.00
Somalia	0.00	0.00	7.70
Sudan	45.00	39.90	43.40
Tanzania	65.00	65.00	60.50
Timor-Leste	0.00	0.00	0.00
Togo	69.10	72.80	78.80
Tuvalu	0.00	0.00	0.00
Uganda	95.70	98.60	61.20
Vanuatu	0.00	0.00	0.00
Yemen, Rep.	0.00	0.00	0.00
Zambia	98.20	99.10	99.50
Least developed countries	60.60	56.70	51.50
African LDCs (and Haiti)	77.20	73.80	67.20
Asian LDCs	28.20	29.40	32.80
Island LDCs	13.00	17.10	12.30
Landlocked LDCs	60.95	63.38	60.89
Developing Countries	31.50	46.80	75.00
OECD members			

Source: World Bank, World Development Indicators, 2012

A4.13 Quality of electricity supply. From 1 to 7 (7 being the best ranking)

Country Name	2006–08	2009	2010	2011	2012
Afghanistan					
Angola					
Bangladesh	1.83	1.82	1.55	1.56	1.79
Benin	2.46	2.91	3.26	2.72	2.54
Bhutan					
Burkina Faso	3.11	3.04	2.19	1.90	2.27
Burundi	2.11	2.68	2.54	2.37	1.88
Cambodia	2.55	2.57	3.06	3.45	3.57
Central African Republic					
Chad	1.30	1.41	1.45	1.50	1.53
Comoros					
Congo, Dem. Rep.					
Djibouti					
Equatorial Guinea					
Eritrea					
Ethiopia	3.79	3.18	2.72	2.84	3.16
Gambia, The	3.37	4.65	4.84	4.40	4.12
Guinea					1.46
Guinea-Bissau					
Haiti				1.49	1.56
Kiribati					
Lao PDR					
Lesotho	3.29	3.62	3.64	3.88	3.67
Liberia					
Madagascar	2.10	2.32	2.56	2.25	2.25
Malawi	2.69	2.57	2.04	1.88	2.23
Mali	3.35	3.29	3.34	3.39	3.45
Mauritania	3.16	3.48	2.99	2.98	3.70
Mozambique	3.48	3.66	3.33	3.33	3.17
Myanmar					
Nepal	1.98	1.32	1.22	1.30	1.39
Niger					
Rwanda			4.14	4.18	4.20
Samoa					
São Tomé and Príncipe					
Senegal	2.12	2.85	2.31	1.74	1.85
Sierra Leone					2.58
Solomon Islands					
Somalia					
Sudan					
Tanzania	2.28	2.47	2.54	2.24	1.93
Timor-Leste	1.78	2.03	1.61	1.81	2.91
Togo					
Tuvalu					
Uganda	1.71	2.63	2.83	2.70	2.18
Vanuatu					
Yemen, Rep.				1.54	1.40
Zambia	4.26	3.05	3.27	3.48	3.52
Least developed countries	2.64	2.78	2.73	2.56	2.57

(continued)

A4.13 Quality of electricity supply. From 1 to 7 (7 being the best ranking) (continued)

Country	2006–08	2009	2010	2011	2012
African LDCs (and Haiti)	2.80	2.99	2.94	2.74	2.66
Asian LDCs	2.12	1.91	1.94	1.96	2.04
Island LDCs					
Landlocked LDCs	2.76	2.68	2.67	2.67	2.68
Developing Countries	3.91	4.00	4.00	3.96	3.98
OECD members	6.04	6.08	6.13	6.16	6.13

Source: World Bank, Doing Business

A4.14 Getting electricity (worldwide ranking)

Country Name	2012	2013
Afghanistan	107	110
Angola	145	113
Bangladesh	185	185
Benin	135	136
Bhutan	133	141
Burkina Faso	132	139
Burundi	163	164
Cambodia	128	132
Central African Republic	171	173
Chad	147	149
Comoros	100	104
Congo, Dem. Rep.	134	140
Djibouti	138	142
Equatorial Guinea	87	86
Eritrea	93	93
Ethiopia	94	94
Gambia, The	121	119
Guinea	114	88
Guinea-Bissau	183	182
Haiti	73	71
Kiribati	156	159
Lao PDR	131	138
Lesotho	136	133
Liberia	146	145
Madagascar	181	183
Malawi	178	179
Mali	111	115
Mauritania	119	121
Mozambique	174	174
Myanmar		
Nepal	96	96
Niger	115	118
Rwanda	50	49
Samoa	34	33
São Tomé and Príncipe	71	72
Senegal	179	180

(continued)

A4.14 Getting electricity (worldwide ranking) (continued)

Country Name	2012	2013
Sierra Leone	176	176
Solomon Islands	118	125
Somalia		
Sudan	108	108
Tanzania	95	96
Timor-Leste	45	40
Togo	91	89
Tuvalu		
Uganda	124	127
Vanuatu	144	124
Yemen, Rep.	52	112
Zambia	148	151
Least developed countries	123.58	124.53
African LDCs (and Haiti)	131.00	130.10
Asian LDCs	118.86	130.57
Island LDCs	95.43	93.86
Landlocked LDCs	127.25	129.75
Developing Countries	109.10	108.92
OECD members	57.06	57.21

Source: World Bank, Doing Business

A4.15 Getting electricity (number of days)

Country Name	2010	2011	2012	2013
Afghanistan	424	191	109	109
Angola	69	69	69	55
Bangladesh	137	142	295	404
Benin	172	101	101	90
Bhutan	101	172	158	158
Burkina Faso	158	158	158	158
Burundi	188	188	188	188
Cambodia	183	183	183	183
Central African Republic	210	210	102	102
Chad	67	67	67	67
Comoros		120	120	120
Congo, Dem. Rep.	58	58	58	58
Djibouti	180	180	180	180
Equatorial Guinea		106	106	106
Eritrea	59	59	59	59
Ethiopia	75	75	95	95
Gambia, The	178	178	78	78
Guinea	69	69	69	69
Guinea-Bissau	455	455	455	455
Haiti	66	66	66	60
Kiribati	97	97	97	97
Lao PDR	134	134	134	134
Lesotho	140	140	140	125

(continued)

A4.15 Getting electricity (number of days) (continued)

Country Name	2010	2011	2011	2010
Liberia	585	585	585	465
Madagascar	450	450	450	450
Malawi	222	222	222	222
Mali	120	120	120	120
Mauritania	75	75	75	75
Mozambique	87	87	117	117
Myanmar				
Nepa l	74	74	70	70
Niger	165	120	120	115
Rwanda	30	30	30	30
Sa moa	34	34	34	34
São Tomé and Príncipe		89	89	89
Senegal	125	125	125	125
Sierra Leone	454	137	137	137
Solomon Islands	160	160	160	160
Somalia				
Sudan		70	70	70
Tanzania	382	109	109	109
Timor-Leste	39	39	63	63
Togo	74	74	74	74
Tuvalu				
Uganda	151	91	91	91
Vanuatu	257	257	257	122
Yemen, Rep.	35	35	35	110
Zambia	117	117	117	117
Least developed countries	167.22	140.40	138.60	135.89
African LDCs (and Haiti)	178.66	148.10	143.00	137.48
Asian LDCs	155.43	133.00	140.57	166.86
Island LDCs	117.40	113.71	117.14	97.86
Landlocked LDCs	148.50	131.81	120.06	118.81
Developing Countries	123.38	118.71	117.18	114.55
OECD members	105.85	98.35	98.35	95.47

Source: World Bank, Doing Business

A4.16 Cost of getting electricity (% of income per capita)

Country Name	2010	2011	2012	2013
Afghanistan	618.2	3,711.1	3,956.8	3,494.3
Angola	1,099.1	1,278.5	890.5	754.9
Bangladesh	6,462.6	5,576.1	5,122.7	5,193.8
Benin	15,016.7	1,261.1	1,265.4	1,149.6
Bhutan	1,416.4	1,5452	15,205.3	14,343.1
Burkina Faso	15,290.8	14,901.3	13,356.8	12,662.1
Burundi	43,020.5	36,696.7	34,477.1	21,481.7
Cambodia	3,854.2	3,581.5	3,062.5	2802
Central African Republic	14,390.3	13,298.3	12,852.1	12,603.6

(continued)

A4.16 Cost of getting electricity (% of income per capita) (continued)

Country Name	2010	2011	2012	2013
Chad	1,4057	14,719.8	13,123.8	11,017.6
Comoros		2,353.6	2,383.8	2,477.2
Congo, Dem. Rep.	33,520.3	32,434.1	28,801.5	27,211.6
Djibouti	10,165.8	8,816.7	8,799.1	7,776.5
Equatorial Guinea		833.3	571.1	456.5
Eritrea	5,051.6	4,156.7	4,436.6	3508
Ethiopia	4,897.9	3,661.7	3,320.8	2,544.3
Gambia, The	6,973.2	6,526.3	6,070.8	3,976.9
Guinea	12,592.9	13,275.4	10,421.7	8,377.7
Guinea-Bissau	4009	2,133.5	2,049.6	1,737.2
Haiti	3,887.9	3,345.3	4,032.8	4599
Kiribati	5,029.4	5320	5,162.7	5,199.7
Lao PDR	3,245.2	2,734.3	2,381.6	2,130.5
Lesotho	2,672.7	2,664.1	2,456.7	2,275.9
Liberia	5066	5,294.1	4,455.2	3,528.6
Madagascar	8,087.8	9,236.4	8,390.9	9,056.7
Malawi	11,655.6	11,703.9	9,665.8	8,854.9
Mali	4,229.2	3,877.9	4,397.7	4,187.8
Mauritania	9,906.2	8997	7,310.9	7,516.9
Mozambique	2979	2,523.9	2558	2,394.7
Myanmar				
Nepal	2,730.9	2,370.7	1,995.8	1,762.8
Niger	7982	7,886.7	6662	6,562.4
Rwanda	6,233.6	5,513.6	4,696.8	3,948.1
Sa moa	901.6	881.9	857.1	790.8
São Tomé and Príncipe		1,437.2	1,252.8	1,066.6
Senegal	6,051.1	5,997.9	5,938.9	5,624.9
Sierra Leone	2,014.5	2,914.1	2,466.3	2,124.4
Solomon Islands	1,950.8	2575	2,272.4	2,044.5
Somalia				
Sudan		4091	3,949.3	2,527.3
Tanzania	2,849.6	2,402.9	2,223.5	1,944.1
Timor-Leste	950.3	1,159.2	1,064.4	593
Togo	6,492.1	6,020.7	6,023.2	4,732.5
Tuvalu				
Uganda	6,761.7	5,765.4	5,130.1	4623
Vanuatu	1,398.7	1,266.1	1,238.8	1,248.1
Yemen, Rep.	5,024.5	4,973.4	4,569.8	3,921.2
Zambia	1,198.3	1,250.5	1,317.9	1,109.5
Least developed countries	7,359.4	6,597.1	6,058.7	5,287.5
African LDCs (and Haiti)	9,246.6	7,854.2	7,164.9	6,157.1
Asian LDCs	3,336.0	5,485.6	5,184.9	4,806.8
Island LDCs	2,046.2	2,141.9	2,033.1	1,917.1
Landlocked LDCs	8,775.0	9,138.0	8,437.3	7,100.1
Developing Countries	3,393.8	2,885.0	2,625.4	2,296.1
OECD members	124.3	120.7	118.7	113.3

Source: World Bank, Doing Business

A4.17 Percentage of the population having access to improved sanitation facilities

Country	2005–08	2009	2010
Afghanistan	36.00	37.00	37.00
Angola	53.00	57.00	58.00
Bangladesh	52.25	54.00	56.00
Benin	11.75	13.00	13.00
Bhutan	42.25	44.00	44.00
Burkina Faso	15.00	17.00	17.00
Burundi	46.00	46.00	46.00
Cambodia	25.75	29.00	31.00
Central African Republic	31.50	34.00	34.00
Chad	12.00	13.00	13.00
Comoros	35.75	36.00	36.00
Congo, Dem. Rep.	22.00	24.00	24.00
Djibouti	52.00	50.00	50.00
Equatorial Guinea	89.00		
Eritrea	13.75		
Ethiopia	16.25	20.00	21.00
Gambia, The	67.00	68.00	68.00
Guinea	17.00	18.00	18.00
Guinea-Bissau	18.00	19.00	20.00
Haiti	18.00	17.00	17.00
Kiribati	34.00		
Lao PDR	50.25	60.00	63.00
Lesotho	26.00	26.00	26.00
Liberia	15.50	17.00	18.00
Madagascar	14.00	15.00	15.00
Malawi	49.00	51.00	51.00
Mali	20.50	21.00	22.00
Mauritania	24.75	26.00	26.00
Mozambique	16.75	17.00	18.00
Myanmar	71.75	76.00	76.00
Nepal	27.50	30.00	31.00
Niger	9.00	9.00	9.00
Rwanda	52.75	55.00	55.00
Samoa	98.00	98.00	98.00
São Tomé and Príncipe	24.75	26.00	26.00
Senegal	49.50	51.00	52.00
Sierra Leone	12.00	12.00	13.00
Solomon Islands	32.00		
Somalia	22.75	23.00	23.00
Sudan	26.00	26.00	26.00
Tanzania	10.00	10.00	10.00
Timor-Leste	44.00	46.00	47.00
Togo	13.00	13.00	13.00
Tuvalu	83.50	84.00	85.00
Uganda	33.00	34.00	34.00
Vanuatu	51.50	55.00	57.00

(continued)

A4.17 Percentage of the population having access to improved sanitation facilities (continued)

Country Name	2005–08	2009	2010
Yemen, Rep.	49.50	52.00	53.00
Zambia	47.50	48.00	48.00
Least developed countries	34.54	35.84	36.32
African LDCs (and Haiti)	27.92	28.33	28.60
Asian LDCs	44.41	47.75	48.88
Island LDCs	54.07	57.50	58.17
Landlocked LDCs	32.16	34.06	34.44
Developing Countries	67.77	69.16	69.50
OECD members	97.19	97.66	97.75

Source: World Bank, World Development Indicators, 2012

A4.18 Percentage of the population having access to improved water sources in rural areas

Country	2005–08	2009	2010
Afghanistan	39.50	42.00	42.00
Angola	38.75	38.00	38.00
Bangladesh	79.00	80.00	80.00
Benin	64.50	67.00	68.00
Bhutan	89.50	93.00	94.00
Burkina Faso	66.25	71.00	73.00
Burundi	71.00	71.00	71.00
Cambodia	52.00	56.00	58.00
Central African Republic	50.75	51.00	51.00
Chad	42.75	44.00	44.00
Comoros	96.75	97.00	97.00
Congo, Dem. Rep.	27.00	27.00	27.00
Djibouti	55.50	54.00	54.00
Equatorial Guinea	42.00		
Eritrea	57.00		
Ethiopia	29.50	34.00	34.00
Gambia, The	83.50	85.00	85.00
Guinea	61.00	65.00	65.00
Guinea-Bissau	49.50	52.00	53.00
Haiti	51.00	51.00	51.00
Kiribati	53.00		
Lao PDR	53.25	59.00	62.00
Lesotho	74.00	73.00	73.00
Liberia	56.50	59.00	60.00
Madagascar	30.50	33.00	34.00
Malawi	71.75	77.00	80.00
Mali	45.75	50.00	51.00
Mauritania	44.75	48.00	48.00
Mozambique	28.25	29.00	29.00
Myanmar	71.50	76.00	78.00
Nepal	85.75	88.00	88.00
Niger	38.00	39.00	39.00

(continued)

A4.18 Percentage of the population having access to improved water sources in rural areas (continued)

Country Name	2005–08	2009	2010
Rwanda	63.00	63.00	63.00
Samoa	94.00	95.00	96.00
São Tomé and Príncipe	84.25	88.00	88.00
Senegal	53.25	55.00	56.00
Sierra Leone	33.25	34.00	35.00
Solomon Islands	65.00		
Somalia	7.75	7.00	7.00
Sudan	52.75	52.00	52.00
Tanzania	44.50	44.00	44.00
Timor-Leste	56.50	59.00	60.00
Togo	39.25	40.00	40.00
Tuvalu	96.00	97.00	97.00
Uganda	63.00	67.00	68.00
Vanuatu	81.00	85.00	87.00
Yemen, Rep.	47.75	47.00	47.00
Zambia	43.75	46.00	46.00
Least developed countries	56.86	58.82	59.39
African LDCs (and Haiti)	49.50	50.87	51.30
Asian LDCs	64.78	67.63	68.63
Island LDCs	82.12	86.83	87.50
Landlocked LDCs	57.97	60.50	61.19
Developing Countries	74.57	76.49	77.10
OECD members	96.32	97.06	97.24

Source: World Bank, World Development Indicators, 2012

A4.19 Percentage of the population having access to improved water sources in urban areas

Country	2005–08	2009	2010
Afghanistan	73.50	78.00	78.00
Angola	57.50	60.00	60.00
Bangladesh	85.00	85.00	85.00
Benin	82.00	83.00	84.00
Bhutan	99.00	100.00	100.00
Burkina Faso	91.50	94.00	95.00
Burundi	83.75	83.00	83.00
Cambodia	78.50	84.00	87.00
Central African Republic	90.50	92.00	92.00
Chad	66.50	69.00	70.00
Comoros	91.00	91.00	91.00
Congo, Dem. Rep.	80.25	79.00	79.00
Djibouti	97.25	99.00	99.00
Equatorial Guinea	66.00		
Eritrea	74.00		
Ethiopia	94.00	97.00	97.00

(continued)

A4.19 Percentage of the population having access to improved water sources in urban areas (continued)

Country	2005–08	2009	2010
Gambia, The	91.75	92.00	92.00
Guinea	89.25	90.00	90.00
Guinea-Bissau	83.25	89.00	91.00
Haiti	85.00	85.00	85.00
Kiribati	77.00		
Lao PDR	76.00	76.00	77.00
Lesotho	92.00	91.00	91.00
Liberia	83.00	87.00	88.00
Madagascar	75.00	75.00	74.00
Malawi	94.00	95.00	95.00
Mali	81.50	86.00	87.00
Mauritania	50.50	52.00	52.00
Mozambique	76.50	77.00	77.00
Myanmar	90.50	92.00	93.00
Nepal	93.00	93.00	93.00
Niger	92.75	98.00	100.00
Rwanda	79.50	77.00	76.00
Samoa	96.00	96.00	96.00
São Tomé and Príncipe	88.50	89.00	89.00
Senegal	92.00	93.00	93.00
Sierra Leone	83.00	86.00	87.00
Solomon Islands	94.00		
Somalia	62.75	66.00	66.00
Sudan	69.75	68.00	67.00
Tanzania	81.50	80.00	79.00
Timor-Leste	83.00	88.00	91.00
Togo	87.50	89.00	89.00
Tuvalu	97.50	98.00	98.00
Uganda	92.25	94.00	95.00
Vanuatu	97.00	97.00	98.00
Yemen, Rep.	74.00	72.00	72.00
Zambia	87.00	87.00	87.00
Least developed countries	83.58	85.27	85.64
African LDCs (and Haiti)	81.92	83.77	84.00
Asian LDCs	83.69	85.00	85.63
Island LDCs	91.26	93.17	93.83
Landlocked LDCs	86.67	88.13	88.50
Developing Countries	93.91	94.01	94.06
OECD members	99.55	99.61	99.70

Source: World Bank, World Development Indicators, 2012

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Chapter 5

Agriculture and Rural Development Status in LDCs

Hoseana Bohela Lunogelo and Solomon Baregu[1]

Summary

This chapter is a first attempt to monitor the actions of development partners – whether unilaterally or jointly with least developed countries (LDCs). In doing so, the chapter examines recent trends in LDCs' agricultural and rural development, with a particular focus on East African LDCs. The chapter attempts to assess the progress made towards achieving the Istanbul Programme of Action (IPoA) set targets, and proposes areas for monitoring with respect to resolutions and commitments to improve agriculture productivity, enhance food security and reform the rural sector.

The chapter provides five key messages as follows. First, there has been some awakening in both the governments of LDCs and the donor community to the need to improve agricultural production through yield-enhancing interventions and the application of sustainable management approaches for the LDCs' stock of natural resources. Also needed are productivity improvements along the commodity value chains in the agricultural sector, which will eventually result in a reduction of food and income poverty in these countries. Second, there is still room to improve donors' support approach through some stand-alone projects. With the increasing efforts that are made by the donors, having a unified approach towards development support amongst these partners would enhance progress in agricultural and rural development in the LDCs. This would also help to reduce duplication of projects, wasteful spending and, in some cases, outright conflicts among donors, and also between recipients at community levels. Third, this chapter reveals that there has been a positive increase in investments in public agricultural research and development (R&D) in the East African region. For instance, Uganda's investments in public agricultural R&D quadrupled during 2000–08, primarily as a result of increased donor funding and development bank loans. This has enhanced the country's agricultural productivity, enabling it to feed other countries in the region such as Sudan. Despite these promising developments, it is recommended that more resources are still required to promote R&D, especially in the deployment of skilled manpower to manage the national agricultural research systems (NARS). Fourth, there seems to be little progress in implementing common agricultural development strategies and investments in research, including developing and strengthening centres of excellence to be shared among the East African states. Each country has therefore proceeded to develop and use its own infrastructural facilities in the absence of a system to pool scarce resources from either internal sources or donors. This is an obvious weak link in the expected South–South co-operation

on development management. However, emerging Africa's home-grown initiatives under The Comprehensive Africa Agriculture Development Programme (CAADP), where countries have developed some compacts for attracting investments in the sector, offer some hope of cross-fertilisation of ideas and practical experiences in applied research for promoting a green revolution in Africa. Fifth, there appears to be some paradigm shift in the way multinational investments in the sector will be shaped in the future, with LDCs seeking a win–win partnership engagement with the smallholder interests in mind. The new thinking is meant to minimise challenges that come with land tenure and old forms of land grabbing.

Therefore, LDCs, at least those in Africa, offer a new frontier for food and industrial commodity production, which is much needed for the continent itself and for the rest of the world. The remaining challenges ahead include hastening technology transfer and improvements in rural infrastructure to facilitate productivity improvements and commodity value addition. Enhancing intra regional trade would appear as among the strategies to be pursued by African countries as they diversify markets for their commodities instead of relying on the traditional European and American markets and recently on ever-increasing importation of cheap goods from China (Wen Jiabao 2012).

5.1 Introduction

Among the East African countries, only Kenya does not belong to the list of 49 countries which constitute a group of LDCs, whose average income per capita per year is less than USD 1,000.[2] As shown in Table 5.1, the majority of LDCs come from Africa, Asia and the Pacific Islands, with more than 69 per cent located in Sub-Saharan Africa. The decision to give special attention to a list of LDCs was first endorsed in 1971, and this was followed by the first UN Least Developed Countries conference dedicated to the matter in 1981.[3] Among the follow-up initiatives of that conference was the establishment of the Group of Seventy-Seven (G77). This group had unqualified support from Tanzania, which hosted one of its meetings as part of building solidarity among LDCs and developing countries (South–South co-operation: SSC) as a way of seeking a new world economic order (WEO).

It is estimated that the donor states in the world provided about USD 44 billion to the LDCs in 2010, an increase of USD 6.6 billion from the previous year. This is equivalent to 0.11 per cent of their gross national product (GNP) in the form of official development assistance to the LDCs (UN CTAD 2012), which is still below the set 0.2 per cent of their GNP. The occasions for UN–LDC conferences have been used to remind these countries of their earlier commitments to allocate a higher proportion of their GNP in development support to LDCs and developing countries in general.

This chapter therefore attempts to propose areas for monitoring with respect to resolutions and commitments to improve agricultural productivity, enhance food security and reform the rural sector. It builds on some preliminary benchmarking work prepared by the Overseas Development Institute (ODI) for the Commonwealth Secretariat as an input to the first meeting of experts on the LDC IV Monitor project in Dhaka, Bangladesh (7–9 September 2012). The chapter, however, focuses on the

Table 5.1 List of least developed countries, 2012

List of UN categorised least developed countries, 2012			
Africa: 34 countries			
Angola	Central African Republic[a]	Djibouti	Gambia
Madagascar	Mozambique	Senegal	Togo
Benin	Chad[a]	Equatorial Guinea	Guinea
Malawi[a]	Niger[a]	Sierra Leone	Uganda[a]
Burkina Faso[a]	Comoros[b]	Eritrea	Guinea-Bissau[b]
Mali[a]	Rwanda[a]	Somalia	United Republic of Tanzania
Burundi[a]	Democratic Republic of the Congo	Ethiopia[a]	Lesotho[a]
Mauritania	São Tomé and Príncipe[b]	Sudan South Sudan	Zambia[a] Liberia
Asia: 14 countries			
Afghanistan[a]	Bhutan[a]	Kiribati[b]	Myanmar
Nepal[a]	Salomon Islands[b]	Tuvalu[b]	Yemen
Bangladesh	Cambodia	Lao People's Democratic Republic[a]	
Samoa[b]	Timor-Leste[b]	Vanuatu[b]	
Caribbean: 1 country			
Haiti			

[a] Also known as LDCs
[b] Small islands

LDCs found in the eastern part of Africa and anticipates integrating Caribbean, Asian and Pacific LDCs.

5.2 IPoA on rural development

5.2.1 Context

While opening the United Nations fourth conference on the Least Developed Countries in May 2011 in Istanbul, Turkey, the UN Secretary General Ban Ki Moon reminded the world that the 48[4] LDCs were home to more than 880 million people who represented 'the poorest and weakest segment of the international community'. It is estimated that 75 per cent of these people make less than USD 2 a day, which is less than about USD 900 a year. Since the majority of them live in rural areas it means that poverty is mainly a rural phenomenon, where there are minimal facilities and services in health, education, electricity, water and transport. In realisation of the need for African countries to improve the performance and contribution of agriculture to food security, wealth and job creation, in 2003 African countries agreed in Maputo to increase their annual allocation to the agricultural sector to at least 10 per cent of their national budgets. It included ensuring that agricultural gross domestic product (GDP) expands at an annual rate of at least 6 per cent in those countries where agriculture is the mainstay of the economy.

Within the horn of East Africa, the East African Community (EAC), which consists of four LDC countries,[5] has strategies for rural development and agriculture, both of which are implemented through five-year strategic plans, the current one running from 2011 to 2016. There is stress on the importance of investment in rural development projects, and in particular on promoting common interventions in agriculture, fisheries and forestry. The community has sector-based institutions such as the Lake Victoria Basin Commission, which among other things co-ordinates development interventions in, for example, the fisheries sector (e.g. Lake Victoria Fisheries Organisation – LVFO – which has a large programme on fisheries resource management and research funded by the European Union (EU) and the environment (e.g. World Bank-funded Lake Victoria Environment Management Programme – LVEMP), and overall economic management programmes such as the Nile Basin Subsidiary Action Programme (Nile-SAP), which covers water resource management and sharing, economic and social development projects, capacity-building initiatives and mobilisation of funding. In all these there are components covering research and development. The process of preparing the plan for the Nile basin, including the costs of running the secretariat in Uganda, was funded by a consortium of donors, including the World Bank and the EU. Among the successes from the EU-funded interventions in fisheries management in the Lake Victoria basin has been the use of research data on the fish species population and characteristics in guiding management plans, including designing open and closed fishing seasons. This has involved investments in marine research vessels and reconnaissance equipment.

5.2.2 Issues of focus for IPoA

As shown in Table 5.2, the main intervention areas for agriculture and rural development include promoting responsible international investment in agriculture and improving systems for collection and delivery of humanitarian food relief so as to minimise the impact on production systems of recipient communities, and reducing commodity price volatility so as to stabilise producer incomes and also prevent inflationary pressures among consumers. These issues were identified as requiring joint actions between LDCs and developed countries. Actions that will mostly be the responsibility of LDCs include strengthening institutions and policies that support productivity enhancement, and providing safety nets for vulnerable groups.

Despite the observed surge in the application of fertiliser by Tanzanian farmers, its scale of use is less than 10 kg per hectare (Figure 5.1), compared with the Sub-Saharan average of 16 kg per hectare, Malawi's average of 27 kg per hectare and Vietnam's average of 365 kg per hectare. The actual level of improved seeds application is only 10 per cent of the national requirements (MAFSC 2010).

5.2.3 Anecdotal evidence of impact of support in rural development in East Africa

The growth of the agricultural sector during the past 15 years has been slow and stagnated at between 3 and 5 per cent per annum for the EAC partner states. This has

Table 5.2 Agreed intervention areas for agriculture and rural development[a]

Objective	Indicators proposed	Examples of interventions in East Africa
Joint action		
(a) Promote responsible international investment in agriculture and call for all investors to conduct agricultural practices in accordance with national legislation, taking into account national sovereignty over natural resources, environmental sustainability and the importance of promoting the wellbeing and improving the livelihood of the local communities and indigenous people, as appropriate;	Aid and foreign direct investment (FDI) flows, Organisation of Economic Co-operation and Development (OECD) National Accounts; The OECD database will provide information on international investment (aid and FDI) flows to the agricultural sectors	Donor Joint Assistance Strategies in place in Rwanda, Ethiopia, Uganda and Tanzania. G8 committed in June 2012 to mobilise the private sector to support investments in the rural sector using some agreed principles for responsible partnerships. Should minimise displacement of smallholder farmers, but empower them as contract farmers. Example: Southern Agricultural Growth Corridor of Tanzania (SAGCOT) is a by-product of G8 support to engage the private sector to invest in modernising agriculture in partnership with government and smallholder farmers based on win–win conditions. SAGCOT is regarded as a pioneer programme in East and Central Africa where international capital is jointly mobilised by an LDC government, leaders of developed countries (through G8 and G20 forums) and the private sector (through the World Economic Forum). It is expected to have a regional impact in solving food insecurity
(b) Further explore the feasibility, effectiveness and administrative modalities of a system of stockholding in dealing with humanitarian food emergencies or as a means to limit price volatility;	Food Production Index, World Development Indicators; Food supply data, Food and Agriculture Organization (FAO) STAT; Food Hunger MAP, FAO STAT; The proposed World Development Index (WDI) and FAO indicators will provide supply-side information. The FAO Hunger Map will provide information on location of food insecurity	Already in place in Tanzania, where World Food Programme (WFP) purchases surplus food for distribution to famine areas and refugee camps in the region. Famine warning system in place, funded by, among others, the US Agency for International Development (USAID). FAO working with institutions in 7 countries in East Africa.[b] Donor support to the East African Grain Growers Council to establish a Commodity Exchange Market, in place. EAC states in advanced stages to establish border markets for food marketing. Tanzania to build two international food markets at Makambako (Njombe regions for grains) and Segera (Tanga region for horticultural products) by end of 2014

(continued)

Table 5.2 Agreed intervention areas for agriculture and rural development[a] (continued)

Objective	Indicators proposed	Examples of interventions in East Africa
(c) Pursue policy options to reduce price volatility, including improved information systems for stocks and production, greater transparency in commodity markets, and free movement of food supplies	Agricultural Price Statistics, FAO STAT; On stocks and production, the above 'food production index of WDI' and 'Food supply data of FAO'	Research in establishing a system for balancing free movement of cereals in the region and buffering supplies within the country of origin is needed. Capitalisation of National Food Reserve Agency (NFRA) has taken place and is already engaged in mopping up surplus to stabilise producer prices for grains and also to release stocks into the market when consumer prices escalate to unaffordable levels
Action by LDCs		
Strengthen institutions, including co-operatives, to boost smallholder farmer food production, agricultural productivity and sustainable agricultural practices;	Value of Agricultural Production, FAO STAT; The indicator will help measure the outcomes of the action	An African institution, AfDB, in collaboration with the International Fund for Agricultural Development (IFAD), the Organisation for Petroleum Exporting Countries (OPEC) Fund and some bilateral agencies such as the Belgian Survival Fund (BSF), has in recent years been working closely with EAC governments to strengthen farmer-based institutions and linkage between farmers and research institutions. For example, in Tanzania:[c] RFSDP (finance), followed by AMSDP (marketing), to current programme on promoting value addition. Pearl Capital Partners, a Kampala-based specialised African agricultural investment fund manager, received funds worth USD 25 million from a group of investors[d] to invest in at least 20 agricultural-related small and medium enterprises in East Africa

(continued)

Table 5.2 Agreed intervention areas for agriculture and rural development[a] (continued)

Objective	Indicators proposed	Examples of interventions in East Africa
Provide safety nets to poor smallholder farmers	Agricultural Price Statistics, FAO STAT; Note: these prices do not truly reflect the support the farmers might be receiving since not all support schemes may be captured by these statistics	Donors in recent years have offered financial support to governments of Malawi and Tanzania to provide subsidised agricultural inputs, irrespective of lack of empirical evidence on the economic returns. Use of fertilisers and improved seeds in Tanzania have increased (see Figure 5.1) Tanzania received support from World Bank for a second phase of Tanzania Social Action Fund (TASAF-II) that will provide targeted cash-in-kind grants to vulnerable households to support their capacity to raise productivity and engage in income-generating activities

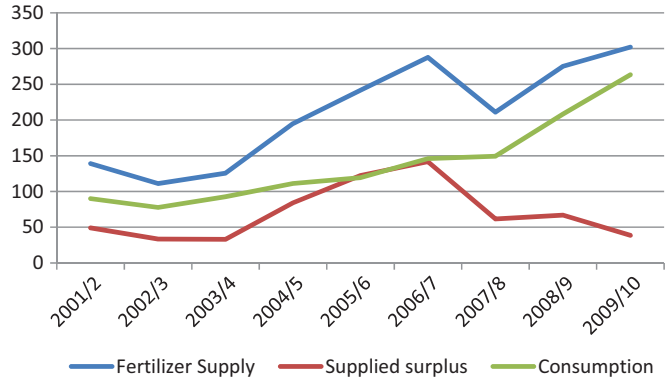
[a] Template based on paper prepared by ODI for the Commonwealth Secretariat in preparation for the LDC IV Monitor project meeting in Dhaka, Bangladesh (7–9 September 2012).

[b] Burundi, Ethiopia, Rwanda, Uganda, Kenya and Tanzania. Economic and Social Research Foundation (ESRF) is co-ordinating the project on behalf of Ministry of Agriculture, Food Security and Cooperatives (MAFSC) in Tanzania.

[c] Rural Financial Services Development Programme (RFSDP), Agricultural Marketing Services Development Programme (AMSDP).

[d] The fund has been invested into the African Agricultural Capital Fund (AACF) received from USAID, Bill and Melinda Gates Foundation, the Gatsby Charitable Foundation and the Rockefeller Foundation

Figure 5.1 Effect of subsidies on trend of fertiliser consumption in Tanzania (thousands of metric tons)



Note: Government fertiliser subsidies were stepped up in 2008.
Source: MAFSC (2012)

resulted in the observed reduced contribution of agriculture to the GDP relative to other sectors, such as the service sector. Its contribution decreased from about 45 per cent to about 25 per cent, while the service sector has increased to about 50 per cent. The massive support going to agriculture after years of neglect will certainly bring some positive impacts. This can be witnessed by some anecdotal evidence coming out of the five EAC partner states as a result of special rural development initiatives.

a) In Tanzania, some interesting results have been reported with respect to:

   i Input support subsidy to targeted areas and the increased supply of different categories of farm equipment (hand-held motorised tractors (power tillers) and tractors) to enhance production and productivity. Consequently, three of the five targeted regions for fertiliser and seed inputs have been reporting huge surpluses (e.g. Mbeya region alone had an officially recorded 2,000 tons surplus of rice[6]), such that at any one time government godowns (with a carrying capacity of about 250,000 tons) are always full, compelling the government to lift food export bans, which have prevailed since independence. The government announced in Parliament that it intends to promote cereals as a tradable good without export restrictions.

   ii The warehouse receipt system has stimulated the cultivation of cashew nuts and coffee, whose total production has been on the increase despite some teething problems in the functioning of the system for cashew nuts.

   iii A private–public partnership (PPP) approach in promoting farming as business by smallholder farmers with the support of large-scale commercial farmers has been piloted in Morogoro region for sugarcane and paddy crops. In paddy, individual farmers have achieved yields up to 8 tons per hectare, compared with the commercial farm's yield of between 4 and 5 tons per hectare.[7] This indicates that, given the right package of support, smallholder farmers can achieve the desired results.

iv The support to the private sector in promoting smallholder horticultural farmers in northern Tanzania has resulted in a fast-growing export industry in cut flowers, French beans and fruits.[8]

b) In Rwanda, the International Fund for Agricultural Development (IFAD) has supported a significant reduction of poverty through rural development projects such as the PDRCIU (Project d'Appui au Plan Stratégique de Transformation de l'Agriculture au Rwanda) which has facilitated construction and rehabilitation of feeder roads which, as a result, has provided access to markets, opened up new cultivation areas and reduced transport costs (Table 5.3). Eastern Province of Rwanda is among the most notable areas in which this project, along with other initiatives, has facilitated poverty reduction. Donor support to land conservation (like that funded by the US Department of Agriculture through the World Vision[9]) has also minimised land degradation and therefore increased land productivity.

   In 2012, the World Bank approved USD 80 million of project support to Rwanda, intended for the promotion of rural development activities. The fund aimed to support the Rural Sector Support Project (RSSP), third phase 2013–16.[10] Since the inception of this project in 2001, more than 200,000 farmers have benefited from it, and the fund now intends to target more than 100,000 in the current third phase.

c) In Uganda, support by 20 development partners (the major ones being the EU, Denmark, Sweden, Ireland, IFAD, African Development Bank, United Kingdom and the World Bank) to the Plan for Modernisation of Agriculture (PMA) and National Agricultural Advisory (extension) Services (NAADS) has proved useful as the country has been the main source of food for South Sudan and eastern parts of Democratic Republic of the Congo.

   In addition, since 2008, the country has also received a lot of support in water and sanitation through the Joint Water and Sanitation Programme (2008–13), which is also aligned with Uganda's 2004 Poverty Eradication Action Plan (PEAP). This programme costs around USD 150 million, being supported by the Danish International Development Agency (DANIDA), which alone provides USD 66 million. Other partners include the African Development Bank (USD 27 million);

Table 5.3 PDRCIU – Impact of road rehabilitation on transport costs

Distance	Transportation means	Cost (1999–2000)		Cost (2009–10)	
		RWF	USD	RWF	USD
Nyagatare–Rukomo (17 km)	Motorcycle	2,000–2,500	3.36–4.20	800–900	1.34–1.51
	Car	–	–	–	–
Gabiro–Ngarama (20 km)	Motorcycle	2,000–3,000	3.36–5.04	800–1,000	1.34–1.68
	Car	9,000–10,000	15.12–16.80	2,500–3,000	4.20–5.04

Source: IFAD (Rwanda), 2011

the Austrian Development Agency (ADA) (USD 19 million); the Swedish International Development Cooperation Agency (SIDA) (USD 14 million); the Department for International Development, United Kingdom (DFID) (USD 10 million); the EU (USD 9 million); and the German Deutsche Gesellschaft für Technische Zusammenarbeit und KfW (USD 6 million). Furthermore, the donor community, through the Water and Sanitation Subsector Working Group (WSSWG), contributes 40 per cent to the sub-sector and the rest is from the Government of Uganda (AfDB 2011).

d) In Burundi, the World Bank has provided loans for the revitalisation of the agricultural sector. On the other hand, the World Food Programme (WFP) has supported farmers by purchasing from them food stocks meant for food relief to internally displaced people. The same arrangement has been applied in Tanzania. Table 5.4 details some of the other initiatives from development partners in Burundi.

e) In Ethiopia, support by IFAD, African Development Bank (AfDB), World Bank, Government of Ireland and the Belgian Survival Fund (BSF) has enabled the country to make significant improvements in agriculture. Through support on small irrigation projects, the country has experienced a reduction of 'hungry months' from six to two months due to larger and more reliable yields as well as increase in income (IFAD 2009). Furthermore, there have been other initiatives supported by Canadian organisations. Such initiatives are the Agriculture Market Growth project (2012–13) which aims to increase the sustainable incomes of primarily women smallholder farmers and agro-pastoralists in the Ethiopian regions of Oromia and Southern Nations, Nationalities and People's Region.[11] Table 5.5 provides a list of other donor-supported projects in Ethiopia.

5.3 IPoA on food and agricultural productivity

In agriculture, productivity can be measured in terms of the optimal output possible from unit factors of production, the ones which are mostly used being those of land and livestock units (yield or output per unit area (e.g. hectare) of land and per animal) and manpower (output per unit level of effort, mostly man-day or adult equivalent). In crops, for example, productivity measurements have to take into account the 'technical potential maximum yields with latest available variety in an area, if all the constraints are removed, at generally prevailing solar radiation, temperature and daylight' (Biodiversity et al. 2012: 8).

5.3.1 Context

Lower productivity and slow growth in most of the developing countries and especially in small family farms are a major cause of the observed food insecurity. According to the Food and Agricultural Organisation (FAO) (Biodiversity et al. 2012), the gap between farmers' yields and technical potential yields[12] reflects largely sub-optimal use of inputs and insufficient adoption of most productive technology, often linked to lack of market integration. Yield gaps were estimated to range from

Table 5.4 Burundi donor projects matrix

Organisation	Key sectors of activity	Effective disbursements 2008–10 (USD)
EU Commission	Agriculture, humanitarian assistance, government and civil society, health, transport and warehousing	348.7 million
World Bank	Agriculture, water supply and sanitation, education, government and civil society, infrastructure, health, financial and private sector	218,5 million
USAID	Agriculture, humanitarian assistance, government and civil society, health	110.7 million
Belgium	Agriculture, water supply and sanitation, education, infrastructure, health	77 million
Germany	Agriculture, humanitarian assistance, water and sanitation, reintegration of refugees, health	76.8 million
Norway	Humanitarian assistance (construction of shelters), demobilisation programme, reinsertion and reintegration of demobilised persons	70.3 million
Netherlands	Government and civil society (land issues), financial and private sector (micro-finance and Burundi business incubator)	53.7 million
AfDB	Agriculture, budgetary support, water and sanitation, infrastructure	44 million
United Kingdom	Humanitarian assistance, education, government and civil society	43.5 million
Japan	Humanitarian assistance, support to the electoral process, construction, health, transport	42.7 million
France	Humanitarian assistance, education, government and civil society, health	32 million
China	Health, road transport	6.9 million

Source: CNCA (July 2011)

11 per cent in East Asia to 76 per cent in Sub-Saharan Africa in 2005. The average global rates of growth in yield of most of the major cereals are declining. According to FAOSTAT (Biodiversity et al. 2012), since the 1980s growth in wheat and rice yields has fallen from 2.53 per cent to around 1 per cent. The yield of maize, which is a major staple food in East Africa, showed growth of slightly less than 2 per cent over the last decade.

In East Africa, while it might seem that there is no co-ordinated approach to international support in agricultural R&D, the region has never been short of donor agencies, which are either fully or partially dedicated to the cause of improving Africa's

Table 5.5 Donor projects matrix for Ethiopia

Project name	Donor	Action area(s)	Objective(s)	Implementing agency/ government counterparts	Time period	Budget	Regions
Ethiopia Sustainable Tourism Development Project	World Bank	Private Sector development	Increasing the number of tourists, income and jobs from the tourism sector	Ministry of Culture and Tourism	2009/10–2014/15	USD 35 million	National
Economic growth corridors	UN Development Programme (UNDP)	Economic governance	Strategise on how best to develop and utilise Ethiopia's economic growth corridors and poles for enhancing growth	MOFED, with support from UNDP	2008–11	USD 1.6 million	Addis Ababa
Strengthen business associations to advocate for policy	Center for International Private Enterprise	BMO Promotion/ PPD	To build the capacity of Ethiopian business associations to mobilise coalitions around common policy concerns and partner with government in advancing market-based reforms	Precise Consult International PLC	2008–13	Around USD 200,000 annually	Addis Ababa, Amhara, Tigray, Oromia, SNNPR, Harar, Dire
Private sector development through value chains	GIZ/ Engineering Capacity Building Program (PSD Pillar)	1. Value chains 2. Firm level support	Upgrade value chains in the areas of agro processing, leather, textile and pharmaceuticals	GIZ/ECBP & DED/ DAAD/CIM / KfW/Sequa MoCB/MoE/ MoTI/MoST/ MoWUD	November 2005 – June 2015. Current phase: 2009–12	EUR 55 million	Addis Ababa, Amhara, Oromia, Tigray, SNNPR

Source: USAID (2010)

agriculture. They include, but are not limited to, multinational agencies such as the UN FAO, IFAD, AfDB, the World Bank, US Agency for International Development (USAID), the International Food Policy Research Institute (IFPRI) and, in most recent years, home-grown initiatives such as the African Green Revolution in Agriculture (AGRA) through the support of the Bill and Melinda Gates Foundation, the Gatsby Charitable Foundation and the Rockefeller Foundation. Additionally, there are new initiatives that follow the G8 and G20 commitments such as Feed the Future (FtF) and Grow Africa, CAADP, AGRA and others.

The eagerness among individual donors to brand their support, in fulfilment of their country's and the international mandate to support developing countries, has more often than not led to duplication of efforts, wasteful spending and, in some cases, outright conflicts among donors and also between recipients at community levels. The most recent case has been an apparent duplication of effort to support harmonisation of research to produce improved seeds and policies for bulking and marketing them within the EAC region. While the Food, Agriculture and Natural Resources Policy Analysis Network (FANRPAN) had already got some support from the Netherlands, AGRA is being supported by Grow Africa to intervene on the same project. A suggestion by delegates to the Annual Regional Policy Analysis Dialogue[13] on the possibility of harmonising the two interventions proved futile as each donor insisted on maintaining its own identity.

Fortunately, at the regional level there is hope of co-ordinating donor support through the Association for Strengthening Agricultural Research in East and Central Africa (ASARECA) – working to implement regional objectives as stipulated in the EAC Development Strategy (2011–16) – and, most recently, the EAC Food Security Action Plan, which was endorsed by the EAC Legislative Assembly in 2011.

Funding of research has traditionally come from a country's own government, especially in maintaining the basic research infrastructure, and from donors, for actual research and provision of equipment and technical assistance. Among the donors who have been in the forefront in support of research in East Africa are the World Bank, the EU, the Netherlands, Sweden, Denmark and, most recently, China, Korea and India.

Some of the support provided by donors for agricultural research in East African LDCs includes:

a) ASARECA: support for research on commodity value chains in 12 countries: Burundi, Democratic Republic of the Congo, Ethiopia, Eritrea, Madagascar, Sudan, Malawi, Kenya, Uganda, Tanzania, South Sudan and Rwanda. Focusing on main staple food crops (maize, bananas, cassava, sorghum, beans, paddy, etc.) and livestock (dairy and poultry) from production, storage and processing to marketing (ASARECA 2012).

b) Uganda: the United Kingdom (DFID) has supported the strengthening of client-oriented agricultural research and development (COARD), whose programme has been useful in responding to area-specific crop and livestock technology

requirements for improved productivity in Central Uganda (Serere Research Station, Soroti). This experience was taken from a pilot in Kenya. Uganda has also benefited from the EU support and DFID in establishing a NARS, with its headquarters in Entebbe (Flaherty et al. 2010a).

c) Tanzania: support by DFID in research on cashew nuts (coastal and southern Tanzania) and coffee (northern and southern highlands), as well as support by the Netherlands in soil characteristics and suitability research, which has been ongoing for several years now (Flahert and Lwezaura 2010). Among the newest entrants in support of agricultural research are the governments of Korea and China (both in paddy production). Recently, USAID and India have committed some funds for training agricultural sector experts at Masters and PhD levels.

d) Ethiopia: IFAD has supported Ethiopia through the introduction of a competitive research grants system; farmer research groups that enable farmers to get involved in research on an ongoing basis; and a system of research extension advisory councils that are supported by the public policy and government budget (IFAD 2009).

5.3.2 Issue of focus for IPoA

Among the issues agreed to be jointly pursued by both LDCs and donors to enhance agriculture, food and nutritional security is the need to reduce food price volatility and allow for free movement of food supplies between nations (see Table 5.6). Unpredictable food prices render planning by governments, the private sector and consumers rather difficult, and when there is a general movement upwards this makes things even worse in terms of fuelling inflation, a phenomenon witnessed since 2008 even before the onset of the global financial crisis. Historical evidence has generated the current wisdom that closing borders and restricting movement of food stocks across countries does not solve the underlying problem of food shortage but simply fuels smuggling. It is for this reason that countries are encouraged to build transparent commodity markets and allow for unrestricted movement of food supplies, without necessarily abdicating the government's responsibility to facilitate smooth operations by the private sector and step in to fill deficits where the private sector fails to deliver.

International investment in agriculture, and the need for all investors to conduct agricultural practices in accordance with national legislation, are amongst the issues agreed to be jointly pursued. Agricultural investment in countries in which the majority of the population depends upon food production would result in a substantial positive spillover effect to the majority. To the poor who depend on agriculture, improving the sector has a direct impact on their wellbeing by facilitating poverty reduction, income generation and an increase in food availability that leads to a reduction in hunger, job creation and wealth creation as well as the emergence of happiness and harmony in society. However, it is wise to note that such investments, especially from foreign investors, should be aligned to the respective country's legislation and laws so as to respect the sovereignty of the country.

The elimination of all forms of export subsidies and disciplines as an issue to be pursued tends to address the ever-growing discontent that has existed for many

Table 5.6 Agreed intervention areas for agriculture, food, nutritional security[a]

Objective	Indicators proposed	Some of the interventions in East Africa
Joint action		
Pursue policy options to reduce price volatility, including improved information systems for stocks and production, greater transparency in commodity markets and free movement of food supplies	Agricultural Price Statistics, FAO STAT. On stocks and production, the above 'food production index of WDI' and 'Food supply data of FAO'	Famine Early Warming System Network (FEWS-Net); FtF project on Marketing Policy (SERA); AGRA Marketing Policy; FAO
Action by LDCs		
Strengthen institutions, including co-operatives, to boost smallholder farmer food production, agricultural productivity and sustainable agricultural practices;	Value of Agricultural Production, FAO STAT; The indicator will help measure the outcomes of the action	National Agricultural Advisory Services (NAADS) (Uganda/World Bank); National Agriculture and Livestock Extension Program (NALEP) (Kenya/Sida); AMSDP (Tanzania/AfDB+IFAD) Services
Provide safety nets to poor smallholder farmers;	Agricultural Price Statistics, FAO STAT; It must be noted that these prices do not truly reflect the support the farmers might be receiving. For example, there could be guaranteed price support schemes or state-funded subsidised inputs that may not be captured by these statistics	Tanzania implementing agricultural input subsidy programmes in selected clusters with a highest potential to respond to the intervention. State agency intervenes to stabilise both producer prices and consumer prices for cereals (for now maize) World Bank supporting a safety net for most vulnerable groups through income support (TASAFII[b] launched July 2012) in Tanzania
Supply critical inputs such as locally adapted high-yielding varieties of seeds, fertilisers and other services;	Resources and Investment, FAO STAT; Most relevant here under resources would be 'Fertilisers', 'Pesticide consumption'. Also note: both 'resources' and 'investment' are under the main heading 'Resources'	Programmes to produce fertilisers started with Minjingu fertiliser factory currently supplying to Kenya and Tanzania markets Harmonisation of seed policies in EAC Partner States almost done Tanzania imports 75 per cent of improved seeds from, mostly, Kenya (S–S co-operation)

(continued)

Table 5.6 Agreed intervention areas for agriculture, food, nutritional security[a] (continued)

Objective	Indicators proposed	Some of the interventions in East Africa
Implement irrigation schemes with a view to strengthening sustainable agriculture systems, increasing agricultural production and improving food security;	AquaSTAT, FAO STAT; Agricultural Irrigated Land, World Development Indicators; The two indicators provide information on irrigation	Tanzania target to increase area irrigated from less than 400,000 ha to 1 million ha by 2017. Japan, China and Korea investments in irrigated agriculture in East Africa (Dakawa, Tanzania), Uganda (north of Lake Kioga) and Kenya (Mwea irrigation schemes)
Encourage small farmers and pastoralists to change gradually from the production of low-value to high-value products, taking into account specialisation, favourable market and infrastructural development conditions and improved access to financial and risk management	Value of Agricultural Production, FAO STAT; Agricultural Land, World Development Indicators; The above FAO and World Bank database on agricultural production will provide country-level aggregate information. But this point seems to be more of micro-level interventions	Private–public partnership (PPP) approach to uplift technology uptake through contract farming with smallholder farmers. Tanzania is piloting the use of geographical clusters to optimise supply of infrastructure (roads, electricity, water, warehouses), technical advice, finance and markets
Action by development partners		
Provide enhanced financial and technical support for the development of the agricultural sector;	Investment, FAOSTAT; The indicator will help measure investment flows to the agricultural sector	China, India, Korea and Japan have created special funds to support the development of the agricultural sector USAID is also funding heavily in policy studies

(continued)

Table 5.6 Agreed intervention areas for agriculture, food, nutritional security[a] (continued)

Objective	Indicators proposed	Some of the interventions in East Africa
Deliver on commitments made to achieve global food security and sustainable agricultural development, and provide adequate and predictable resources through bilateral and multilateral channels, including the commitments set out in the L'Aquila initiative on global food security;	Food Production Index, World Development Indicators; Food supply data, FAO STAT; Food Hunger MAP, FAO STAT; The three indicators provide information on agricultural production as well as on food hunger	Donor Joint Assistance Strategy in place in Uganda and Tanzania: follow the Paris/Rome declarations on donor harmonisation. Still challenge with US which doesn't follow the system, and channel funds direct to civil society organisations and the private sector
Support efforts aimed at increasing agricultural production and productivity;	Investment, FAOSTAT; The indicator captures investment in the agricultural sector	Donor support in all countries (Tanzania, through SAGCOT for PPP; research funding by China, DFID, WB, Korea)
Provide resources to the relevant United Nations agencies to expand and enhance food assistance and safety net programmes to address hunger and malnutrition, based on needs	Food Hunger Map, FAOSTAT; This provides information on the location of food hunger	WFP buying from Tanzania almost 200,000 tons of maize per year

[a] Template based on paper prepared by ODI for the Commonwealth Secretariat in preparation for the LDC IV Monitor project meeting in Dhaka, Bangladesh (7–9 September 2012).

[b] Tanzania Social Action Fund, phase II. To implement 'small cash transfer' programme based on experiences of Ethiopia and Bangladesh to support most vulnerable rural households

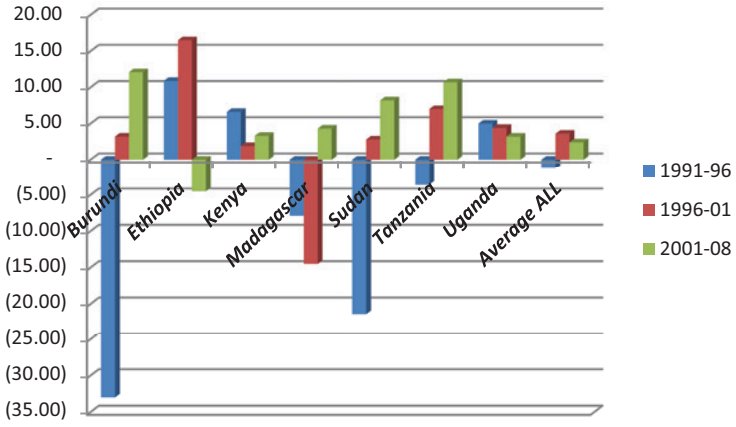
years. The LDCs view agricultural subsidies as one of the factors that make their commodities non-competitive in the global market. As developed countries provide subsidies to their farmers and traders, their goods tend to become cheaper than those produced in the LDCs. Elimination of such would thus imply that a 'level playing field' would be created that would enable traders and farmers from both the developed countries and the LDCs to compete.

5.3.3 Anecdotal evidence of impact of support in agricultural research in East Africa

One of the key pillars of CAADP is to increase investment in research, extension, education and training as a way of enhancing agricultural production and productivity on the continent (FARA 2006). As a follow-up to the 2003 Maputo Declaration, the CAADP Ministerial Council for Science and Technology resolved in 2006 that African countries should strive to allocate at least 1 per cent of their GDP to research and development. Looking at the cluster of time periods 1991–96, 1996–2001 and 2001–08, it can be seen that some countries (Tanzania, Sudan, Madagascar, Burundi) made some efforts to increase expenditure on R&D relative to previous time periods (Figure 5.2).

However, if the measure of intensity of investment in R&D is used, which is a proportion of expenditure on agricultural R&D to the total budget, it is seen that Burundi managed to invest an average of 1.8 per cent and Uganda 1.2 per cent (Figure 5.3). Some countries, such as Tanzania, invested about 0.5 per cent, while Sudan invested only 0.3 per cent of its GDP to R&D (ASARECA et al. 2011). Uganda seems to have made the highest leap towards meeting the benchmark ratio, having improved from an average of 0.5 in 1991 to about 1.2 per cent in 2008. These achievements were due, amongst other reasons, to an increase in donor funding

Figure 5.2 Average percentage of increase in public expenditure on research and development, 1991–2008



Source: ASARECA et al. (2011), Table 1A

and government loans as well as growth in government funding to the National Agricultural Research Organisation (Uganda) (NARO) after 2005.

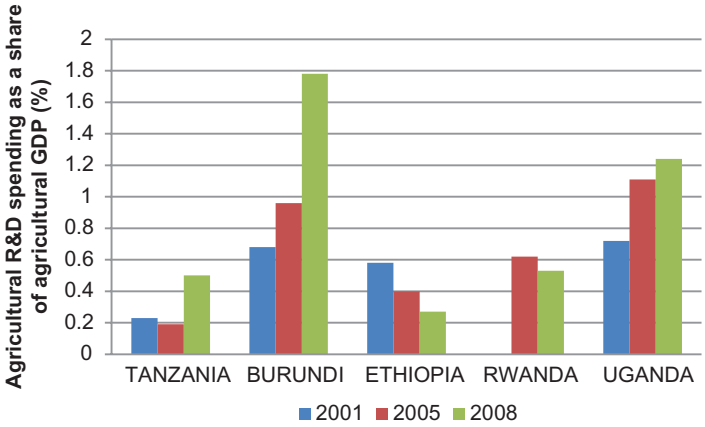
Another useful benchmark worth using in monitoring the commitment to R&D relates to the deployment of skilled manpower to manage the NARS. The region has only one-third of the number of researchers in the whole of Sub-Saharan Africa. Most of the countries have been recording a gradual increase in the stock of researchers, with the exception of Burundi, whose number has decreased from 130 to 98 between the periods 1991–95 and 2001–05; out of these 98 researchers, only two of them, who are employed in the principal agricultural research institute (ISABU), hold PhDs (Curtis 2013).

Ethiopia has the highest number of researchers amongst the East Africa LDC countries. However, Ethiopia's agricultural research staffing is viewed as amongst the least qualified in Africa in terms of postgraduate degree (ASTI 2010, Flaherty et al. 2010b). It will be interesting to see if these positive changes in investment in human resource manpower will be translated into enhanced productivity of different commodities.

In Uganda, investments in public agricultural R&D quadrupled during 2000–08, primarily as a result of increased donor funding and development bank loans, along with growth in government funding to NARO after 2005. Human resource capacity began to rebound in the mid-2000s after a period of falling staffing levels due to losses at NARO in response to low salaries and a freeze in hiring new staff.

However, in 2009, the East African Agricultural Productivity Programme was conceived by the governments of Ethiopia, Tanzania, Uganda and Kenya (not an LDC), in partnership with ASARECA and the World Bank.[14] The sole aim of this project is to establish Regional Centres of Excellence (RCoEs) for agricultural research in commodities identified as being of sub-regional importance for food

Figure 5.3 Intensity of agricultural R&D spending by country for 2001, 2005 and 2008



Source: ASARECA et al. (2011)

security. In this case, Tanzania became the centre for rice, Uganda for cassava and Ethiopia for wheat.[15]

5.3.4 Suggested indicators for monitoring investment in agricultural research

Information for measuring invesment in the agricultural sector and its contribution to GDP and livelihoods is easily captured and reported, and includes the proportion of a country's budget devoted to agriculture (Abuja Declaration for Africa set it at 10 per cent; IPoA set the growth rate of the sector at 7 per cent), recommended use of fertiliser per hectare (New Partnership for Africa's Development (NEPAD)'s target is 50 kg/ha by 2020, from the current level of less than 10 kg/ha (Tanzania: 9 kg/ha)). In order to monitor the changes in agricultural productivity, LDC IV Monitor will have to use a set of commodities and identify their respective baseline position (2011) for progressive monitoring of changes over time as a result of the investments to be made in the sector, and in R&D in particular. This will include measuring process and input indicators that contribute to changes in productivity. For example, it will be useful to monitor not only the investments in human skills (number of researchers and extension workers) but also the number of facilities such as laboratories, which are key to meeting sanitary and phytosanitary standards (SPS) requirements for enhancing trade among countries. Relative agricultural prices between LDCs can also be considered as good measures of food accessibility. To understand the changes in market access on agriculture, the propotion of agricultural sales and exports to the total production can be evaluated to understand changes in the volume and value of agricultural exports amongst the LDCs (see Table 5.7 for a description of the benchmark indicators).

Mechanisation in agriculture needs also to be monitored as it depicts the potentiality that lies in the agricultural sector that facilitates food and export demands of a country. To monitor, indicators such as amount of fertiliser used, ratio of total area irrigated, rate of improved seed variety and number of tractor-hours used may be considered.

Table 5.7 Number of skilled manpower for research in East Africa LDCs[a]

Country	1991–95	1996–2000	2001–05	2008
Burundi	130	61	69	98
Eritrea	Na	69	90	122
Ethiopia	425	610	1,028	1,318
Madagascar	189	204	209	212
Sudan	539	678	913	1,020
Tanzania	526	523	639	674
Uganda	238	257	240	299
Sub-total	2,047	2,402	3,188	3,743
Sub-Saharan Africa total	9,001	9,369	10,404	12,102

[a] Excluding Kenya as a non-LDC.
Source: ASARECA et al. (2011), Table 1B

Overall, it would be important to focus on a thorough analysis of the capacity and capabilities of the agricultural research systems in the LDCs, to understand the transfer and generation of technology in agriculture and then to assess the intermediate and long-term impacts of such initiatives.

Some of the preliminary benchmark indicators for the East African countries could be based on information such as commitments made to agricultre and to agricultural research in particular (Table 5.8). The targeting of donor funds to the sector could also be a useful indicator to measure the commitment by the international community to support productivity enhancement. For example, according to OECD (2009), the share of Development Assistance Committee (DAC) aid earmarked for agriculture in Africa declined from 17 per cent in the late 1980s to about 6 per cent in the mid-2000s, although it started to improve again in 2007. The main donors were USA (22 per cent), Japan (20 per cent), France (11 per cent) and EU institutions (11 per cent) (Hearn 2010).

5.4 Some preliminary results on productivity changes

There is no shortage of anecdotal examples of success stories in increased productivity and the application of value addition with respect to both crops and livestock in the region. As a result of reinforcing the partnership between government and the private sector in supporting smallholder farmers, a pilot programme in Kilombero, Tanzania,

Table 5.8 Description of the benchmark indicators

Level of indicator	Indicator	Responsible	Source of data
International	Resource committed to agricultural research Reforms in the international commodity trade system	Development partners	UN system and other multilaterals
National macro-economic	Proportion of budget to agriculture sector to the total national budget	Governments	Budget books
Sector level	Proportion of allocated budget to research and development Proportion of agricultural spending allocated to science and technology	Ministries responsible for agriculture/ livestock/ fisheries	Ministry budget expenditure tracking reports
Manpower	Number of skilled manpower (researchers, extension workers)	As above	
Systems	Effective national research systems (and extension system)	Government and ministries	Government
Commodity	Yield measures: weight per unit area; per unit livestock; returns per manhour; profitability measures	Farm level surveys; institutions	Government

Table 5.9 Some of the preliminary benchmark indicators for the East African countries

	Tanzania	Uganda	Rwanda	Burundi	Malawi	Ethiopia	Average	Sub-Saharan Africa
International commitments								
Resource (USD million) committed to agricultural research	n/a	n/a	n/a	n/a	n/a	n/a	0.2 per cent of GNP[a]	0.2 per cent of GNP[a]
National macro economy								
Food inflation rate (2012)	Above 10 per cent	Below 10 per cent	Below 10 per cent	Above 10 per cent	Below 10 per cent	Below 10 per cent	Above 10 per cent	Above 10 per cent
Proportion of agriculture sector budget, national (2011/12)[b]	6.8 per cent	5 per cent	6.3 per cent	10.9 per cent	12.6 per cent	8.8 per cent	6 per cent	5 per cent
Sector level								
Proportion of budget allocated to research and development (2011/12)	0.48 per cent of GDP	1.10 per cent of GDP	n/a	n/a	1.70 per cent of GDP	0.24 per cent of GDP	Above 1 per cent of GDP	Above 1 per cent of GDP
Manpower: number of skilled manpower (researchers, extension workers) per million agricultural labourers (2008)[c]	42	28	27[d]	32	n/a	43	Poor	70

Note: 'n/a: not applicable.'

[a] Based on calculations for all LDCs of about USD 0.791 billion per country over the eight-year period or about USD 99 million per country per year.

[b] Respective countries' national budgets.

[c] ASARECA (2011).

[d] 2007 figures

managed to raise paddy yields from less than 2 tons per hectare to about 8 tons per hectare in peasant farmers' plots, compared to 5 tons per hectare obtained in large-scale commercial farms. There are also success stories documented by ASARECA from supported programmes in Ethiopia (fodder productivity and feedlot management for improved milk production), Madagascar and Uganda (cassava disease control and processing of cassava), Tanzania (handling of beef and dairy products) and Sudan (sorghum productivity and processing of flour).

One of the underlying global phenomena, which seems to have undermined potential successes in increasing agricultural profitability, and by extension frustrated efforts by smallholder farmers to invest in fertilisers application, has been the global economic crisis, which has invariably affected prices of fertiliser and the fuel cost of transport. In Tanzania, the prices of fertilisers have tripled between the 2008–09 and 2011–12 seasons from an average of TZS 25,000 to TZS 70,000 per 50 kg bag, while the retail farm-gate prices for maize remained stuck at between TZS 35,000 and 45,000 per 100 kg bag. Meanwhile, the consumer prices in cities doubled, mainly attributed to rising transport costs and increased demand for cereals in the horn of Africa where some food was being taken from Tanzania. Some of the East Africa countries (e.g. Rwanda and Burundi) have used less fertiliser in the past five years, although they registered stable or increased yields per hectare (see Table 5.9). However, attributed to good and favourable weather conditions over time, the region has been experiencing reasonably positive cereal yields and livestock production (see Tables 5.10 and 5.11) during the same period; this is also due to the continuing efforts made by the governments and donor community. Malawi, Ethiopia and Uganda seem to have

Table 5.10 Cereal yield (kg/ha)

	2005	2006	2007	2008	2009	2010	2011
Tanzania	1,100	1,339	1,449	1,325	1,110	1,647	1,361
Uganda	1,532	1,523	1,525	1,538	2,063	1,997	2,099
Burundi	1,328	1,298	1,371	1,318	1,319	1,322	1,326
Rwanda	1,184	1,118	1,018	1,422	1,653	1,683	1,950
Ethiopia	1,362	1,652	1,392	1,279	1,748	1,930	1,761
Malawi	778	1,445	2,467	1,599	2,124	1,907	2,094

Source: World Bank data 2012 from http://data.worldbank.org/indicator/AG.YLD.CREL.KG

Table 5.11 Fertiliser consumption (kg/ha)

	2005	2006	2007	2008	2009
Tanzania	5.9	5.5	5.3	5.5	8.7
Uganda	1.0	1.3	1.2	3.0	2.1
Burundi	36	33	19	22	16
Rwanda	30	34	74	83	11
Ethiopia	10.8	11.1	16.0	7.2	17.7
Malawi	32.5	40.5	41.7	31.8	28.5

Note: 'n/a: not applicable.'
Source: World Bank data 2012 from http://data.worldbank.org/indicator/AG.YLD.CREL.KG

Table 5.12 Livestock production index 2005–10

	2005	2006	2007	2008	2009	2010
Tanzania	101.4	103.8	103.9	106.4	109.0	111.3
Uganda	100.8	101.3	105.3	107.6	111.7	114.5
Burundi	101.7	114.7	110.4	119.1	109.9	115.8
Rwanda	96.8	108.9	117.6	121.4	123	135.6
Ethiopia	96.7	105.2	108.6	120.2	115.1	118.8
Malawi	95.3	107.1	123.8	144.1	159.5	159.1

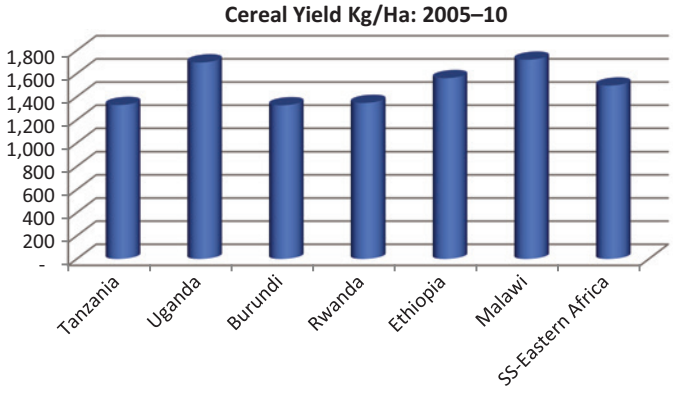
Source: FAO (2013).

performed above the average of the selected group of East Africa countries (Figure 5.4) in improving cereal yields per hectare as a result of almost doubling fertiliser use per unit area. Nevertheless, it would appear that despite the improvements in productivity, all the countries in East Africa have suffered from food price-induced inflation rates, which hovered on double-digit ranges for most of 2011 and 2012, thus undermining the impact from gains made in GDP growth[16] as it failed to translate to improved livelihoods among the region's citizens.

5.5 Conclusion

There has been, in most recent years, some marked increase in donor support to improve agricultural production through yield-enhancing interventions and the application of sustainable management approaches for the stock of natural resources in the region. There has also been an awakening by LDC governments to the fact that the success in reducing both food and income poverty will have to come from productivity improvements along the commodity value chains in the agricultural sector. Consequently, a number of programmes and projects, both national and multi-in coverage, have been mooted and implemented. This marks significant improvements towards the implementation of the set IPoA goals by both the developed and the developing countries.

Figure 5.4 Average cereal yield in kg/ha in selected East African countries



Source: World Bank data 2012 from http://data.worldbank.org/indicator/AG.YLD.CREL.KG

However, there is room for improvement in the approach used by most donors in supporting African countries. It is observed that most of the interventions to support agricultural productivity and rural development in the region are undertaken as stand-alone projects by development partners without seeking synergy to achieve a harmonised intervention.[17] This 'lone ranger' approach to donor support has persisted despite an agreed code of conduct as stipulated in the Paris and Rome declarations on harmonising donor support. There has also been some positive development under CAADP for African countries to prepare investment plans that complement each other, with countries such as Tanzania (URT 2011), Malawi, Ethiopia and Rwanda complying by the end of 2012. That notwithstanding, there seems to be little progress in implementing common agricultural development strategies and investments in research, including developing and strengthening centres of excellence to be shared among the East African states. Each country has therefore proceeded to develop and use its own infrastructural resources in the absence of a system to pool scarce resources from either internal sources or donors. This is an obvious weak link in the expected South–South co-operation for development management. However, emerging Africa's home-grown initiatives such as AGRA offer some hope of cross-fertilisation of ideas and practical experiences in applied research for promoting a green revolution in Africa through support and promotion of use of improved seed, proper soil health management, water management, value addition and marketing; and in ensuring that African governments adopt conducive policies that link research with extension and promote sustainable utilisation of land, forest and water resources.

It is observed that although the US government, through its FtF initiative, has committed a significant amount of funds to support the agriculture sector in Tanzania, for example, the channel of disbursement, unlike other donors, gives preference to US entities to manage programmes, which is likely to dilute the intended impact based on ownership of processes and consequences by recipients. This is due to the fact that the benefit of 'learning by doing' is hijacked by donor-based business interests that clinch contracts to manage 'development programmes' in Africa outside the already established public and private sector systems. This approach is not very different from that pursued in the 1970s and 1980s, when development aid was packaged in technical assistance of foreign experts embedded in ministries and departments, which resulted in minimal transfer of skills.[18]

Among the proposed indicators for monitoring agricultural productivity are changes in yields from crops, livestock, fisheries and forestry products, as a consequence of: (i) investment levels in the sector (such as public sector spending, percentage of budget allocation to the sector) and donor funding to improve research infrastructure, etc.; and (ii) improved human capital in terms of skilled manpower for research and extension, institutional frameworks for managing the agricultural sector and, in particular, NARS. Although this report looks critically at the support to NARS, it should not create the illusion that R&D alone can do what is ultimately needed for the sector to make a realistic contribution to improving the food security situation in Africa and other LDCs. Governments and donors will certainly have to pay attention

to other supply-side and demand-side facilitating factors, including infrastructure for transport, post-harvest handling (e.g. storage), marketing, electricity (for processing and cold storage), financing and conducive policies for domestic and international trading systems.

Notes

1 This chapter was written by Hoseana Bohela Lunogelo and Solomon Baregu from the Economic and Social Research Foundation (ESRF). ESRF is grateful for the generous support from the Commonwealth Secretariat, UNCTAD, CRDB Bank Plc Tanzania, and all the organisations involved in support of this work. Also highly appreciated are the contributions provided by both internal and external reviewers, specifically Ms Catherine Simonet of FERDI, Dr Ally Mbaye of CREA, Ms Lisa Borgatti from UNCTAD and Dr Rakesh Saksena from IRMA. It is from their thoughtful and in-depth review of this chapter that we have successfully accomplished the desired goal.
2 Described by the United Nations as 'the poorest and weakest segment of the international community' whose economic and social development presents a major challenge both for them and for their development partners.
3 When the concept of LDCs was first articulated in 1971, the list of LDCs comprised 25 countries, but has grown to the current list of 48 countries (and in 2011 to 49 after the creation of Republic of South Sudan). Since its listing as a group, only three countries have been able to graduate.
4 Effectively 49 when the newly independent Republic of South Sudan is included.
5 The newly created state of the Republic of South Sudan has applied for membership to the EAC.
6 President Kikwete, 5 September 2012, during his acceptance speech after being awarded the Leadership Award in Promoting Food Security in the region offered by the Food, Agriculture and Natural Resources Policy Analysis Network (FANRPAN).
7 Ibid.
8 Tanzania Association of Horticultural Growers.
9 World Vision and ADRA (2005), Rwanda Livelihood Security Program Development Assistance Programme (2005–2009). Baseline Survey Report by Agrisystems (EA) Ltd: Dr Lunogelo.
10 See: www.itezimbere.com/run-grow/3111/rwanda-receives-usd-80millions-rural-development/
11 See: www.acdi-cida.gc.ca/acdi-cida/contributions.nsf/Eng/BE3F0092D508B07985257A0F005FF0FF
12 According to Evans and Fischer (Biodiversity et al. 2012), several measures can be applied: economic yields, technical yields, experimental yields, modelled yields.
13 FANRPAN (2012), Annual High Level Stakeholder Conference and General Meeting, Dar es Salaam (3 September 2012).
14 The World Bank/IDA support was not less than USD 90 million.
15 See also: www.asareca.org/?q=content/eaapp
16 GDP grew at between 5 and 6.5 per cent per annum for most of the countries.
17 With the exception of the Lake Victoria Environmental Management Programme (LVEMP-II by the World Bank), the Lake Victoria Fisheries Management Plan (European Union) under the Lake Victoria Fisheries Organisation (LVFO) and regional food security monitoring and early warning system (funded by FAO, USAID and GIZ).
18 A similar fear has been expressed with respect to the approach used by Chinese companies working in Africa, which prefer bringing their own people in executing projects.

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Chapter 6

Commodities and the Istanbul Programme of Action: The First Two Years

Mehmet Arda[1]

6.1 Introduction

Many least developed countries (LDCs) depend heavily on commodity production and trade for the generation of employment, income, savings and foreign exchange. This implies that a 'successful' commodity sector is a prerequisite for graduation from the LDC category. However, the characteristics of the commodity sector, including unstable markets and prices, intense competition among suppliers, difficulties concerning effective participation in value chains and, particularly in the case of natural resource-based commodities, the necessity for sustainable exploitation and good management of resource rents, limit the potential of this sector as an engine of growth and development. The Istanbul Programme of Action (IPoA) identifies two areas of particular importance for action regarding commodities. These are dependence and vulnerability to external shocks.

Overcoming dependence on a small number of low-value commodities, often exported in an unprocessed form to a small number of destinations, is the overarching theme. Even if one cannot remedy the negative characteristics of commodities, reducing this dependence reduces, for a country, the problems associated with the sector. IPoA emphasises that 'efforts to reduce commodity dependence' include 'diversification of their export base' – they are not confined to that. Therefore, a variety of measures related to the commodity sector, including value addition and diligent use of resource rents, and not just diversification per se, address the problem of dependence.

Concerning vulnerability to external shocks, the aim is to 'mitigate and reduce the adverse effects of commodity price volatility'. While this vulnerability would be mitigated, to some extent, by reducing commodity dependence, further action is also called for. Reducing price volatility itself is not an objective of the IPoA. The focus is on the incidence of volatility in LDCs. The purpose is to create a wedge between international price volatility and the impact felt inside the LDC itself; more precisely, it is to shield the domestic producers (and consumers) from international price volatility.

There has been much written over the years on commodity policies. These include both domestic and international measures. This chapter refrains from trying to formulate a blueprint for successful commodity sector development. It takes IPoA – in particular, paragraphs 67–69 – as its starting point, classifies the relevant proposals according to their principal objectives and identifies what is actually being implemented. The need

for a supportive macroeconomic environment is taken as given, and the important issue of good governance is covered only as far as it concerns the commodities sector directly.

In line with the overall tone of paragraphs 67–69, policies and actions addressing export-oriented commodity production and export trade dominate the discussion. Apart from these paragraphs, situated under the title 'commodities', guidance has been sought from discernible links to the commodities sector in other parts of IPoA, particularly in the 'productive capacities' part. Two closely related areas, namely improving agricultural productivity and aid for trade, are not covered here despite their direct impacts on the commodity sector. They are the subjects of other studies of LDC IV Monitor.

The recommendations of IPoA on commodities are rather general. There are no benchmarks, no quantitative goals. The implementation, in particular, of exhortative statements such as LDCs should 'establish and strengthen, as appropriate, national commodity management strategies to maximise the benefits derived from their resource base' (IPoA paragraph 69.1.A) are very difficult to monitor. There is, however, an extremely concrete reference to the Extractive Industries Transparency Initiative (EITI), which is a global standard that promotes revenue transparency and accountability in the extractive sector.[2]

The structure of this study is as follows. After this introduction, Section 6.2 defines the coverage in terms of 'commodities', presents the state of commodity dependence of LDCs in 2011 (the latest year for which reliable and fairly complete data are available) and compares it with the situation in 2005. Section 6.3 examines commodity-related policies that are not of a commodity-specific nature. It presents, in Section 6.3.1, the pursuit of diversification as an overall objective of IPoA. In Section 6.3.2, the chapter discusses the emphasis put on the supply chain. Section 6.3.3 focuses on a topic much emphasised in IPoA, namely governance in natural resource exploitation. Section 6.3.4 discusses the crucial issue of financing, which was not directly mentioned in the commodities part of IPoA. Finally, Section 6.3.5 covers the mitigation of risks associated with price volatility. Section 6.4 deals with 'sector and commodity-specific policies, measures and strategies to enhance productivity and vertical diversification, ensure value addition and increase value retention' as mentioned in paragraph 69.1.b of IPoA. In Section 6.4.1, the chapter discusses actions that target individual supply chains; in Section 6.4.2, it covers product differentiation, which is an important way to increase the value of products. Section 6.4.3 examines the crucial issue of satisfying quality exigencies and standards. To conclude, Section 6.5 summarises the findings.

6.2 Commodities and LDCs' dependence on commodities

In this chapter, the term 'commodities' covers products of agriculture, mining, fisheries and forestry in their raw and simply processed forms. In the statistical tables taken from the United Nations Conference on Trade and Development (UNCTAD), 'commodities' are defined by three-digit level codes of the Standard International

Trade Classification (SITC) Revision 3 as the sum of the following items designated by the respective codes: 0+1+22+4, all food items; 2–(22+27+28), agricultural raw materials; 27+28+68+667+971, ores, metals, precious stones; and 3, fuels. Particularly when vertical diversification and processing are discussed, processed products such as leather (SITC 611), processed rubber (SITC 621) and textile yarn (SITC 651) should also be taken into account. A minor processed product for LDCs, ferroalloys (SITC 671), is also missing. three-digit SITC information is not very useful for differentiating some stages of processing. For example, the same three-digit code covers green coffee (071.1), roasted coffee (071.2) or extracts, essences and concentrates of coffee (071.3).

Commodities are generally thought to face stagnant demand, and this is one of the reasons for promoting diversification towards products thought to have a dynamic demand, particularly manufactured products. The concern about stagnant demand and falling terms of trade for commodities has receded over the last decade, however, owing to rising demand from emerging countries, particularly China, especially for raw materials. The recent slowing down of these economies and the likelihood that in China the basis of growth will shift from investment to consumption has curbed the optimism.

A simple analysis of 255 articles at three-digit SITC level[3] reveals the following. Compared with 2005, the biggest increase in world trade values of 2011 has occurred in six commodities, most of which are of export interest to LDCs, namely 971, 'Gold, non-monetary (excluding gold ores and concentrates)'; 281, 'Iron ore and concentrates'; 289, 'Ores and concentrates of precious metals; waste, scrap'; 231, 'Natural rubber, balata, gutta percha, guayule, chicle and similar natural gums, in primary forms'; 322, 'Briquettes, lignites and peat'; and 422, 'Fixed vegetable fats and oils, crude, refined, fractionated'. The set of the next five fastest growing items also includes two commodities of interest to LDCs, namely 075, 'Spices' and 222, 'Oil seeds and oleaginous fruits (excluding flour) of a kind'. Some commodities of actual or potential export interest to LDCs, however – namely 248, 'Wood, simply worked, and railway sleepers of wood'; 61, 'Leather, leather manufactures, n.e.s. and dressed furskins'; and 652, 'Cotton fabrics, woven (excluded narrow or special fabrics)– appear among the slowest growing items in world trade over the last six-year period. Naturally, the rapid (or slow) growth rates of trade values are much influenced by rising (or falling) prices. The danger exists of falling into the 'Dutch disease' when prices rise considerably, hence the particular importance of good macropolicies at times of rising commodity prices.

An advantage of diversifying from commodities to manufactured goods is the generation of positive externalities such as the adoption of relatively advanced technologies and modern business techniques, including international trade practices. This has significant dynamic implications. These products also secure a better place in global value chains and generate higher value added. However, similar characteristics can also be found in seemingly unsophisticated commodities. This is the case of high quality and differentiated commodities, attributes that can be gained in both production and marketing stages. Moreover, the value added generated domestically is often higher for commodities than for manufactured products. The Organisation

for Economic Co-operation and Development (OECD) World Trade Organization (WTO) Trade in Value Added database (which does not include data for any LDCs) reveals that the domestic value added share of exports is almost invariably higher in agriculture and mining and quarrying than in other material-producing sectors, but not in services.[4]

What is important from the point of view of diversification is not only to produce items that were not produced and exported before but also to produce 'better' products, those that create a higher proportion of value added in the country and generate forward and backward linkages and positive externalities. Improving the quality, differentiating the product so that it earns a premium and supplying more of the associated services domestically are all different aspects of reducing the negative aspects of dependency on commodities. Data presented in Annex 6.1 show the commodity dependence of LDCs. Nineteen LDCs generate more than 90 per cent of their merchandise export earnings from commodities (defined according to the UNCTAD criteria given above). For only nine of them this is less than 50 per cent. The part of gross domestic product (GDP) coming from commodity exports is more than 20 per cent for more than half of the LDCs. This means that a 25 per cent drop (or rise) in the price index of the top three export commodities, which is not exceptional, leads to a change of at least 5 per cent in the GDP of more than half of the LDCs. In either direction, this is a major macroeconomic problem and a constraint on the producers' and consumers' decision-making process. The variations in growth rates of LDCs reflect, above all, relative price movements of their major commodity exports. Commodity dependence, or the degree of diversification expressed as the share of commodities in exports or GDP, may be misleading as it is very much influenced by relative prices. An interesting and probably more robust alternative indicator of diversification could be the number of products exported by the country. Annex 6.1 includes these data, but they do not seem to be sufficiently meaningful as in many cases there are implausibly big variations between two years. These probably reflect either a statistical discrepancy or some marginal changes that should not be generalised (such as the export of a tiny amount of some item). A similar indicator which uses six-digit HS6 sub-heads, given in Annex 6.2, may suffer from the same deficiency but seems to be more meaningful as certain trends can be discerned. Based on any indicator, LDCs are highly commodity dependent.

6.3 The general framework[5]

6.3.1 Diversification as a general goal

Even a cursory reading of IPoA indicates that horizontal, vertical and geographic diversification is perceived as the principal avenue for increasing retained value added, reducing risks and generating dynamic linkages so that the contribution of commodities to development can be enhanced. Diversification of the economies of LDCs is mentioned as an objective not only in the part on commodities but also in many other parts of IPoA, notably 'productive capacities'. Given the commodity-dependent economic structure of LDCs, all references to diversification necessarily relate to the commodity sector.

Diversification within the commodity sector, be it horizontal or vertical, may increase the apparent importance of commodities in the economy, but if it means getting out of low-value items with declining demand, it cannot be construed as perpetuating commodity dependence. The more positive aspects of diversification would appear to be the benefits attributable to better stability, stronger linkages, spillover effects and positive externalities from higher skill content in sophisticated commodity production or manufacturing.[6] These are supportive factors for structural change pursued in LDCs. Moreover, some low-skilled manufacturing activities (like basic garment making) are low value added and less productive than some high-value agriculture and are shown to be subject to serious deterioration in terms of trade, largely because of massive competition.

The objective of diversification appears regularly in the stated policy objectives of LDCs, both before and after IPoA. In this context, in Burkina Faso 'the focus will be on the development of growth poles … to attract investors, in a bid to expand and diversify production and exports. … Each of these sectors has already been substantially studied, with action plans whose findings and recommendations remain valid. The work involved here will be to make use of the results of these studies to determine the sectors that are promising and likely to enhance export potential and contribute to the acceleration of economic growth. The task is to make them efficient and competitive (IMF 2012a)'.

Donors have often mentioned diversification as an objective of their assistance programmes. At times, however, 'diversification' seems to remain a concept to which lip service is paid, without the requisite targeted actions. For example, the Japan International Cooperation Agency (JICA) mentions the 'urgent needs for diversification of industrial structure as well as improvement of agricultural productivity' in Sudan.[7] But 'JICA's support to Sudan is focused on: (1) Assistance for Conflict-affected People and their Reintegration to Communities, (2) Assistance for Basic Human Needs, and (3) Development for Infrastructure of Food Production System', all of which are very important but only indirectly linked to the stated 'urgent need'. As another example, one can mention that the title of the first chapter of OECD's 2012 *Mutual Review of Development Effectiveness* is 'Trade and diversification'. But in the chapter itself the word 'diversification' is nowhere to be found.[8]

Diversification is not an easy feat. It not only requires information about business opportunities and management skills but also necessitates funds to invest. Moreover, undertaking new activities or entering new markets comes with considerable risks and search costs. These are particularly difficult to bear for the firms of LDCs with meagre resources. Regional markets may provide opportunities if production is in complementary products. Diversification thus requires assistance that provides guidance and reduces the risks involved. This assistance generates significant positive externalities by reducing search costs for the followers. Thus, assistance to diversification can be counted as the provision of a public good even when it is directed at specific sectors or even firms. Targeted public research that reduces risks, coupled with the requisite training, can be very valuable in bringing about diversification. A recent example in this regard concerns the mushroom sector in Tanzania, where

a Swedish-funded research programme has recently led to a successful new line of production by many small producers. 'Ten years ago there was not a single mushroom farmer in Tanzania. Now there are over 4,000'.[9]

While horizontal and vertical diversification necessarily requires action on the part of the producing countries, geographic diversification can come about as a result of changes in the world economy. The increasing role of the emerging economies, in particular China, as an important destination for LDCs' commodity exports has occurred without any effort from the LDCs themselves. Naturally, the supply capacity must be there in order to benefit from such opportunities. Geographic advantages may also be a factor facilitating diversification. For example, the World Bank's emphasis on diversification in Benin recognises both the importance of supply capacity and the potential advantage of the country's 'geographic position in serving the Nigerian market and its role as a gateway to land-locked countries to its North'.[10]

In general, diversification policies are associated with the agriculture sector as it is there that conscious decisions to go into new activities can be made. Endowment of mineral resources is given and, unless new ones are discovered, diversification in this field is not possible. Discovering new mineral resources requires costly prospecting and exploration activities, often beyond the financial means of LDCs. Nevertheless, there are strong reasons for the government to commission the generation of good geological information which it then makes publicly available prior to selling the rights to prospecting (Collier 2011). Geological surveys are crucial for correctly evaluating the resource base and fully exploiting its potential. Diversification can also take place in the mineral sector when known resources are insufficiently exploited. This is the case in Solomon Islands where the World Bank places emphasis on 'diversifying the economy (notably through new mining operations)', and in Madagascar where 'beyond the existing industry of precious stones, the potential to develop the mining and petroleum sector is large'. Increasing prices of metals, minerals and fuels can turn previously unprofitable activities into viable operations.

Diversification in other natural resource-based sectors, namely fisheries and forestry, can take place through the commercial exploitation of hitherto neglected marine species or forest products, as well as the cultivation of marine organisms. In these sectors, further processing also presents the potential for vertical diversification. For example, in Mauritania, a project implemented by the German Federal Ministry for Economic Cooperation and Development (BMZ) has the objective of diversifying the use of marine resources, and supports the private sector with regard to mariculture through public–private partnerships. Considering diversification in the forestry sector, the government of Burkina Faso has focused on non-wood forest products in general, and on gum harvested from acacia trees in particular. This gum is exported to Europe for processing (UNDP, Burkina Faso 2009). Vertical diversification through local processing would probably lead to greater value being retained in the country. However, the critical concern is the optimal use of society's resources, which may not always be the case with vertical diversification. Further processing of mineral resources is also a possibility, but it requires extensive funding and complementary inputs such as energy, which are often the determining factors in the choice of

location. A possibly more important reason, particularly when semi-fabricated metal products are concerned, is logistics and the ability to ship a wide range of products to different locations.

In agriculture, production decisions are based on price signals and policy-generated incentives. Therefore, within the confines of climatic as well as other physical conditions and limited by know-how, diversification opportunities are much wider and the production of alternatives is more feasible in agriculture. Diversification is more costly for tree crops because the gestation period must be financed until results are obtained. The processing of agricultural products requires, in general, lower investments than do minerals.

Thus, policies and targeted assistance can play a major role in bringing about diversification in agriculture, and good intentions abound in this context. Sometimes, these take the form of simply expressing the desire to diversify without many specifics, mentioning only a few products that seem to have potential. For Samoa, the 2012–16 Strategy for the Development of Samoa says that 'opportunities to transform viable agricultural products to higher value added processing for the export market will be given attention', illustrated to some extent by naming a few niche exports of Samoa (particularly the export of nonu juice to China and virgin coconut oil). Intended investments will also assist small farmers to 'take greater advantage of market opportunities, particularly by accessing supply chains for tourism operators in Samoa'.[11] These are very laudable intentions but there is no indication of how this will be brought about. The current United Nations Development Assistance Framework (UNDAF) for Ethiopia has an important diversification element which calls for investing in medicinal and aromatic plants. Although such proposals, without commensurate funding, are bound to remain as exhortations, the fact that these are signalled in credible sources may attract the attention of investors and help to generate some funding.

Just as fortuitous events such as the rise of China create opportunities, events outside the control of a country can endanger existing patterns of trade and necessitate diversification. In Malawi, for example, diversification of export-oriented agriculture has been prompted particularly by the worldwide movement against tobacco use. In this case, a multidonor project is underway 'with a clear objective of diversification' and integration into agricultural value chains.

6.3.2 Supply chains as the framework for action

Most commodities pass through a complicated processing phase before reaching the final consumer. Even fresh fruit and vegetables require a cold chain and appropriate handling before being shipped out of the exporting country. The design and implementation of commodity development policies need to have full consciousness of the complexities, intricacies and inter-relationships within that supply chain, both inside the exporting country and beyond. Successful participation in global value chains cannot be secured by good performance at a single point along the chain. This requires not only production, per se, but also production that meets many exigencies. The provision of a wide variety of services ranging from information to quality

control and financing is indispensable. For example, good-quality products produced efficiently on the farm will remain uncompetitive if handling and preservation are unsatisfactory or if the necessary trade finance is unavailable. Therefore, commodity policies and related assistance frequently mention supply chains as the overall centre of attention. The strategy should be to unblock bottlenecks, to look beyond the skills of the individual and think of the supply chain as a whole. The chain can only be as good as its weakest link.

While the targeting of specific activities within a supply chain will be discussed below, some examples of more general statements, expressing a consciousness of supply chains for defining a framework, are given here. For example, Burkina Faso's Agricultural Development Programme (2004–15) follows the value chain approach, 'based on the assumption that an overall increase in value creation can be achieved by analyzing and eliminating bottlenecks at every stage in the agricultural production chain, to increase incomes for actors at all levels of the value chain'. The Ministry of Agriculture of Burkina Faso has adopted an action plan to promote value chains and has set up a department for rural economic development to implement the plan. Similarly, the UN Development Assistance Framework Republic of Yemen (2012–15) mentions the development of value chains in agriculture and fisheries as the avenue for creating sustainable and diversified employment opportunities. Rwanda's Third Rural Sector Support Project with the World Bank uses value chains as a fundamental perspective and contains a specific sub-component on 'Capacity building for value chain development'. The concept of value chains is explicitly used as an intended framework for commodity policy in Nepal also, for 'cereal seeds, dairy products, ginger and coffee' for 'identifying the major bottlenecks and preparing commodity specific value chain development plans for the promotion of high value commodities'.

On the part of development partners, G20 had adopted an integrated 'value chain' approach to assisting agriculture, after the Seoul Summit and particularly at the Cannes Summit and at the Fourth United Nations Conference on the Least Developed Countries (UN LDC IV). 'We stress the need to support public–private partnership on investments, based on a value-chain approach, for services (such as access to financial services, agricultural education and extension services), and for infrastructure and equipment for production (such as irrigation), for agroprocessing, for access to markets (such as transport, storage, communication) and for reducing pre- and post-harvest losses (G20 2012)'. This strong commitment to the value chain approach is also reflected in the Agriculture Vice Ministers and Deputies Report of the Los Cobos meeting (G20 2012).

6.3.3 Good governance and transparency, basically for natural resources

Governance and transparency permeate throughout the IPoA. Their importance has been acknowledged by all parties. Elements of good governance appear as explicit conditions for some assistance programmes such as the African Growth and Opportunity Act. In the context of the commodities part of IPoA it is specifically associated with the exploitation of natural resources and the use of resource rents.

Minerals sector, particularly the Extractive Industries Transparency Initiative

As seen in Annex 6.1, the importance of the mineral sector and of rents in GDP is quite high for many LDCs. IPoA explicitly calls for 'taking note of Extractive Industries Transparency Initiative', and this seems to be one of the areas that attract most attention from development partners. They provide considerable assistance for securing compliance by LDCs with EITI. For example, in Togo, Solomon Islands and Guinea, specific projects are being implemented. The emphasis on EITI compliance is partly to stimulate foreign direct investment (FDI). Many LDCs are not capable of garnering the required funds for the development of the mining sector, and FDI and funds from international financial institutions are often contingent upon an adequate institutional infrastructure. Table 6.1 shows EITI compliance as of 15 August 2013.

Given the overwhelming dominance of the mining sector in some countries, the whole economic performance is determined by what happens in this sector. Therefore it becomes crucially important to manage mining revenues, both as taxes and as foreign exchange earnings. While oil is not treated as a commodity that merits special attention, most of what is said below for other metals and minerals is true for oil as well. In particular, the management of oil wealth (and other wealth accumulated rapidly from exhaustible resources), possibly through sovereign wealth funds, is worth considering. As a result, policies to improve the governance of the mining sector and co-operation in this area are widespread. In most co-operation programmes, administrative and institutional improvements, good governance and transparency retain the top spot. For example, in Mozambique aluminium smelting dominates the economy (only 14 other products register exports in excess of USD 1 million) and recent discoveries of gas deposits indicate another gigantic activity. A specific Mining and Gas Technical Assistance Project is designed to support reforms, initiatives and capacity building to enhance the efficiency and accountability of institutions involved in the management and planning of the mining and hydrocarbon sectors (World Bank 2012a). In Democratic Republic of the Congo, reviving the mining sector is crucial for the revival of the whole economy and for poverty reduction. Related activities include improving institutional and administrative capacities, geological surveys, improving social and environmental aspects, small-scale mining and transparency.[12]

Often, mineral exploitation takes place in remote parts of a country and requires considerable investment in infrastructure. Guinea's experience is an example of a comprehensive and co-ordinated approach to the development of the mining sector. The World Bank's Extractive Industries Technical Advisory Facility (EI-TAF) and

Table 6.1 EITI compliance as of 15 August 2013

EITI compliant LDCs	EITI candidate LDCs	Suspended
Mauritania, Mozambique, Timor-Leste, Zambia, Liberia, Mali, Niger, Tanzania, Yemen, Burkina Faso, Togo	Afghanistan, Chad, Guinea, São Tomé and Príncipe, Solomon Islands	Central African Republic, Democratic Republic of the Congo, Madagascar, Sierra Leone

Public–Private Infrastructure Advisory Facility (PPIAF) trust funds were mobilised to support the 'development of a due process for the review of mineral agreements and to design a mining ancillary infrastructure master plan for railroad and ports'. France is supporting the drafting of the mining code, while the African Development Bank is supporting the Ministry of Mines on EITI and some capacity building. The European Union (EU) is supporting the development of a master plan for roads, and this is being co-ordinated with the PPIAF-funded mining ancillary infrastructure development master plan. The United Nations Development Programme (UNDP) African Center for Economic Transformation and Revenue Watch support Guinea in the renegotiations of mining agreements (World Bank 2012b).

In Sierra Leone and Liberia, and even in Ethiopia and Malawi where mining is not the dominant sector, assistance is provided for improving regulation of the minerals sector and institutional strengthening, particularly to ensure good sector governance, emphasising the establishment of a transparent non-discretionary and efficient minerals administration. In some cases, strategies to stop illegal exploitation are also required, as is the case in Democratic Republic of the Congo where the Department for International Development, United Kingdom (DFID) provides assistance in this context. Artisanal mining, which can be considered on the same basis as any activity in the informal sector, has received almost no support from donors in respect of marketing, organisation, environmental management and prevention of health hazards. The Communities and Small Scale and Artisanal Mining (CASM) programme, established in 2001 by the World Bank and DFID, has failed to attract sufficient support.

The importance of the mining sector is going to continue and may even become bigger. Harnessing the opportunity requires a capacity to resist pressures of both corruption and populism, calling for even more attention to be paid to governance and transparency. There is thus a strong case for LDC governments to adopt voluntary norms that are pertinent for developing countries and are independent of interest groups (Collier 2011: 6). Negotiations with investors on well-evaluated and realistic bases, and making sure of the quality of advice received in this respect, are crucial for successful agreements. Current African resource reserves, an important part of which are in LDCs, may be underestimated given the fact that less investment in exploration has taken place on the continent compared with other regions (Africa's Pulse 2012). A call for more exploration and for funds to be used in exploration and capacity building for the analysis of survey results is one of the areas neglected in IPoA.

Fishery and forestry resources

Securing full benefits from fishery and forestry resources also requires transparency. As LDCs do not have the capacity to reap full benefits from exploiting these resources, foreign concerns are allowed, in fact encouraged, as in the case of mining, to operate in the waters and forests of LDCs. In many cases this is done under the terms of long-term agreements between governments and private companies. The terms and conditions of these agreements can often be much improved for the benefit of the LDCs. Although economic and legal aspects are complicated, transparency alone could

help in some cases: 'the individual agreements made between West African countries and foreign companies are mostly secret' and 'Governments have become dependent on the income received by selling fishing rights to foreign corporations and countries (Vidal 2012)'. With this concern, the World Bank's 'Economic Reform Development Policy Grant – 2012' to Comoros made the 'availability of public information on fishing licenses and agreements issued by the government, with annual disclosure to the public' one of the principal points of that grant (World Bank 2012c).

For fisheries, the strategy for improved governance and development must be regional in many cases. The project 'Governance, marine resources management policies and poverty reduction in West African Marine Eco region' was launched in 2012. Co-financed by the EU and UNDP, involving also the World Wildlife Fund (WWF), it will be implemented in six LDCs, namely Mauritania, Senegal, Gambia, Guinea, Guinea-Bissau, Sierra Leone, and also in Cape-Verde. This project and Norway's assistance to Mozambique include measures and a surveying vessel for policing illegal fishing that deprives the coastal states of significant revenues from fishing. Civil society also becomes an important actor to help in transparency. Greenpeace, for example, monitors some of the fishing activity in West African waters and reports on the losses.[13]

Illegality is a significant concern in the forestry sector as well. Organised crime and smuggling are reported to be behind up to 90 per cent of tropical deforestation (UNEP 2012), accounting for 15 to 30 per cent of the overall timber trade. Possibly with traders from developed countries benefiting from this activity and much of the illegal timber imported into developed countries, this particular area of weak governance does not seem to attract as much attention as do other areas. Inability to control illegality may lead to banning of exports, such as in Madagascar's case with illegal rosewood logging, and cause significant losses of export earnings.

As a concept, good governance should include making clear the objectives of each action. From the point of view of IPoA, the principal objective of every action should include poverty reduction. Recently, a significant debate has been launched based on a report by the World Bank's Independent Evaluation Group (IEG). It is argued that orientation of activities towards large operations and industrial logging in officially managed forests may have helped to develop a sustainable export-oriented forestry but has not helped to alleviate poverty for the rural poor (Vidal 2013).

6.3.4 Financing commodities

Financing of the commodities sector has important links with governance. Better governance will generate higher financial resources. The commodities part of IPoA does not talk about financing, except obliquely by mentioning transfer of technology. Calls are abundant in other parts of IPoA, however, for mobilising financial resource flows to LDCs and for increasing FDI in LDCs. Paragraph 121 calls for FDI to diversify LDCs' economies.

A very important piece of news after UN LDC IV regarding financing the commodity sector is a reform package that includes changes in the objectives, functions and activities of the Common Fund for Commodities (CFC). This institution has been

unique as a source of financing dedicated to the commodities sector. The maintenance of the specificities of CFC funding, which was very significant for LDCs, would be a significant demonstration of interest in LDC development. Failure to do that will leave a significant void.

Individual LDCs find it difficult to generate support for commodity sector development even when the objective is diversification. Burundi, for example, was not successful at an international conference convened specially to generate concrete support for the development of its agriculture, with diversification and promotion of non-agricultural rural activities. The conclusion of the meeting says only that the Cadre Stratégique de Croissance et de Lutte contre la Pauvreté CSLP II would be used as the framework for co-operation with Burundi, and has no action that could be considered a concrete implementation of IPoA (Conférence des partenaires au développement du Burundi à Genève 2012).

A discussion of FDI is beyond the scope of this study, and FDI data are not up to date (FAO 2013). The latest data for FDI in LDCs are for 2011 – the year that IPoA was adopted. In 2011, LDCs as a group were further marginalised in terms of FDI inflows which remained small, particularly 'with the continuous fall of FDI to Angola – by far the largest recipient among 48 LDCs for a decade'. Most FDI that went to LDCs was for power generation, be it from fossil fuels (Mozambique and Tanzania) or from renewable energy (Lao People's Democratic Republic, Rwanda). Nevertheless, between 2010 and 2011 there was a clear shift in FDI flows away from fuels to other commodities (UNCTAD 2012a).

The impact of FDI in the commodity sector sometimes goes beyond the commodity sector itself. Some FDI in the mining sector is so large that it overwhelms the macroeconomic balances of an LDC, requiring special attention to secure positive impacts for long-term development, diversifying the economy, securing benefits for poverty reduction and breaking the predicament of path dependency. For example, in Sierra Leone, the 'commencement of iron ore mining in 2012 is expected to increase total GDP in the space of one year from USD 2.2 billion to USD 3.6 billion', with new challenges for economic management and governance (World Bank 2012d) which are addressed in the World Bank's Fifth Governance Reform and Growth Credit Programme. Similar concerns are valid for Guinea, where expected new investment in the mining sector could average 40 per cent of GDP or more per year. 'A large new iron ore mine—with a total investment of about three times GDP—is expected to start production by the middle of the decade (IMF 2012b)'.

Negotiating the financing of mega projects so that the country obtains significant benefits is a complicated matter. There are many fiscal and legal intricacies as well as uncertainties about the future. Moreover, the 'benefits' themselves are not easy to define as they concern a variety of areas from foreign exchange to fiscal revenues, and positive externalities such as the construction of roads to far-away projects. There is also the issue of divergent time preference rates among the stakeholders that can generate serious disagreements. Incentive systems to attract foreign investment may be overly generous. For example, aluminium smelting in Mozambique is said to 'have had limited fiscal benefits – a legacy of the Government's tax incentives to lure foreign investors'.

On the other hand, in Afghanistan 'a proposed mining law vital to attract foreign investment … was rejected by the Cabinet' as it was found to be 'too generous to Western interests (Bowley 2012)'. This underlines the importance of the call in paragraph 122 of IPoA for assistance to negotiate 'mutually beneficial investment agreements'.

Financing of activities in the agricultural supply chain is naturally a different matter from financing large projects in the mining sector. One difference is that because of the relatively smaller size of investments, local sources of financing gain importance. In this case innovative schemes can be devised to stimulate domestic sources. Recent innovations such as mobile phone banking have been largely neglected by the donor community. The use of warehouse receipts as collateral for financing, which has had some successful applications in emerging economies such as India and an LDC, Ethiopia, is among innovative schemes that can also be associated with the operation of commodity exchanges. Its implementation, however, requires much careful preparation. The Ethiopian experience mentioned in the next section is attractive to replicate and worthy of study. Nevertheless, 'the requirements for warehouse receipts are quite demanding even if the concept is simple and appealing (World Bank 2012e)'.

External sources of funding will remain crucial for LDCs, including for the development of the commodity sector. In this context, diaspora communities have recently become an important source. They can channel substantial amounts of funds for development and at times they can prompt official development agencies to match their efforts (UNCTAD 2012b: 108). The Regroupement des organismes canado-haïtiens pour le développement (ROCADH) has supported commodity processing in Haiti by channeling funds through the Canadian International Development Agency. Civil society's financing of the commodity sector is not confined to diaspora communities. IPoA has been instrumental, on at least one occasion, for the mobilisation of commodity-oriented financing from civil society. In Turkey, SenDeGEL was established in 2012, partly inspired by IPoA, to provide assistance for sustainable development with a special emphasis on LDCs. So far it has been focusing its activities in The Gambia and on the fishing and animal husbandry value chains, but intends to expand into other LDCs with the considerable experience gained in The Gambia.

6.3.5 Impact of price fluctuations

Commodity prices fluctuate more than those of other products. Over the years, there have been several attempts to implement measures to reduce their extreme volatility. International buffer stocks in international commodity agreements encouraged in UNCTAD's Integrated Programme for Commodities, and supply management schemes implemented from time to time, have temporarily reduced the volatility of international prices but generated different problems, such as oversupply. The idea of market intervention was revived recently, particularly in the context of G20 around the Cannes meeting. This time the issue was not low or declining prices but the high prices of foodstuffs, and the interest has subsided.

There are no calls in IPoA for international measures to reduce volatility, neither through price stabilisation measures nor through regulation of financialisation

of commodity markets. This is claimed by a considerable number of commodity market analysts to have an important aggravating effect on price volatility. The risks are not just loss of export revenue and of purchasing power for consumers of imported products, including food. Aggravated human suffering is the biggest risk. Decision making at both micro and macro levels becomes very difficult. The call is for assistance to mitigate the risks associated with price volatility, not volatility itself. Domestic price guarantees for suppliers or buyers come to mind in this context, but they require financial resources that are often non-existent in LDCs and may at times send wrong signals to producers. Various types of crop insurance schemes (such as the one based on a weather index in Bangladesh) are also innovative schemes that would help mitigate the negative impact of price volatility.

The risks of price volatility may be reduced to some extent by market transparency and correct anticipation of price movements. In this respect, and as a result of the G20 Cannes summit which took place a short time after UN LDC IV, the 'Global Agricultural Geo-monitoring Initiative' and the 'Agricultural Market Information System' (AMIS) were launched in 2011. Although the focus is only on wheat, maize, rice and soybeans, it may provide a good example for market transparency in other commodity markets.

Price risk management mechanisms such as commodity exchanges provide a tool to cushion the impact of price fluctuations. Based on the success of the Ethiopia Commodity Exchange, there seems to be a strong interest in the creation of commodity exchanges in LDCs. Although IPoA does not explicitly name commodity exchanges or call for their establishment, 'strengthening and expanding existing facilities' can be understood to refer to such exchanges. Satisfying the regulatory preconditions of establishing a successful commodity exchange or attaining the necessary financial depth are not easy, however, and have prevented the example of Ethiopia from being replicated. In Nepal, for instance, where the intention exists to expand the functioning of the existing exchange, as stipulated in IPoA, 'a regulatory regime … is yet to be instituted (Kharel 2012)'.

6.4 Commodity-specific measures for diversification and value addition

Within the general framework set above, the key to diversification, enhancing productivity, ensuring value addition and increasing value retention rests in sector- and especially commodity-specific policies, measures and strategies as mentioned in paragraph 69.1(b) of IPoA. Given the prevalence of supply chains as the centre of attention, this part starts with a review of policies that treat the supply chain as a whole. UN Economic Commission for Africa's 2013 Economic Report on Africa places a very strong emphasis on value addition in Africa (UNECA 2013).

6.4.1 Focus on organisational aspects of supply chains

A general characteristic of commodity markets, apart from mineral products, is the small, if not atomistic, nature of suppliers/exporters and the large, if not

monopsonistic, nature of buyers/importers. Producers are, in general, price takers. A good organisation of suppliers along the supply chain is vital for producing goods that satisfy buyers' exigencies as well as reducing the imbalance of power among the parties involved. Organising producers in co-operatives or similar arrangements and providing information about market exigencies to all participants in the chain fall into this group of actions. Although 'co-operatives' have negative implications in some countries due to past experiences, group action rather than an individualistic approach is better for successful participation in modern value chains.

An interesting example of organisational assistance on a sectoral supply chain basis is the African Cashew Initiative (ACi) of the BMZ and the Bill and Melinda Gates Foundation, implemented in Benin, Burkina Faso and Mozambique (as well as in two non-LDCs, Côte d'Ivoire and Ghana). This is based on the observation that 'Cashew farmers in Africa rarely organize themselves into associations, which weakens their bargaining position with dealers. Furthermore, because of the poor quality of their produce they are not sufficiently integrated into international markets. Another weak point is the fact that less than two per cent of Africa's raw cashews are actually processed in Africa'. ACi advises companies that process cashew nuts on economic and technical matters, and is working on data systems to supply market information to farmers and processing companies. 'Moreover, it will use additional advertising of the African brands to improve the worldwide marketing of African cashews, and it is trying to persuade decision makers in the project countries to improve the business climate for cashew production'. Co-operation is also underway with 'the African Cashew Alliance, an international platform of public and private partners involved in the cashew value chain, FairMatchSupport, a Dutch non-profit organisation, and the US-based NGO for rural business TechnoServe'.[14]

Other recent examples of organisational approach to value chains in LDCs include UNDP's Private Sector Development Initiative for Somalia's livestock and meat sector and an Agence Française de Développement (AFD) project on coffee in Haiti, in co-operation with Agronomes et Vétérinaires Sans Frontières, Inter-American Development Bank, Government of Colombia and Nestlé.

The Centre for Promotion of Imports from Developing Countries (CBI), which helps developing country enterprises enter European markets in specific sectors, also employs a supply-chain approach in its assistance. Apart from promoting traditional products and their organic varieties, recently an emphasis on diversification has been added. In Afghanistan, Benin, Burkina Faso, Ethiopia, Mali, Madagascar, Mozambique, Myanmar, Nepal, Rwanda, Senegal, Tanzania, Uganda and Zambia, natural food ingredients, home decoration/home textiles, fresh fruit and vegetables supply chains are supported as a means for diversification.[15]

A supply chain approach can be observed in forestry as well. Forest Connect's programmes cover 12 countries, of which seven are LDCs (Burkina Faso, Ethiopia, Laos, Liberia, Mali, Mozambique and Nepal), and aim to link 'small and medium forest enterprises to each other, to markets, to service providers and to policy processes such as national forest programmes' (IIED online).

Ignoring one link in the supply chain can lead to undesirable consequences. In Ethiopia, UNDP support led to (i) considerable capacity to be accumulated at the Leather Industry Development Institute for providing consultancy and technical services to private sector operators, and (ii) increased capacity of the Ethiopian Leather Industry Association to promote Ethiopian leather products in the local and international markets. These were remarkable achievements. But full benefits are not being realised because raw material supply is negatively affected by inadequate animal husbandry practices and the artisanal nature of slaughterhouses, where the hide is often damaged. The poor standards at slaughterhouses also generate incentives for exporting live animals, thus reducing further the supply of hides and skins. There has been much investment in the tannery segment of the value chain. But they generally operate at 40 per cent of capacity for lack of hides and skins, which need to be imported (UNDP Evaluation Resource Centre 2011).

An agricultural value chain extends backwards from the farm as well, and the supply of good inputs such as seeds is crucial for upgrading the local value chain. In this context, seed-producing companies participating in the Program on Africa's Seed System (PASS) and agro-dealer networks, for example in Tanzania, receive assistance that will improve the availability of good quality local seeds and reduce dependence on imports. 'By 2017, PASS will add 40 new private, independent seed companies to the 60 already established under the first phase of the program (Wa Simbeye 2012)'.

6.4.2 Product differentiation – organic and fair trade certified products

One of the most obvious but difficult ways to add value to commodities is to differentiate one's product from the competitor's and display a (real or perceived) superiority. This is difficult, but possible, on a firm basis, through trademarks. Differentiation can also be envisaged by origin. Particularly the former requires considerable sophistication, advertisement and financial and organisational acumen, normally unavailable for LDC firms. Assistance to Tanzanian firms to improve the perceived quality of their coffee, and support by UNDP to the Ethiopian Fine Coffee Trade Marking and Licensing Initiative, have been recent examples of co-operation in this vein (World Bank 2012f).[16]

Differentiation through fair trade or organic certification may be potentially more promising as it requires less marketing skills – certification largely takes care of that. Assistance comes from both non-governmental organisations (NGOs) active in the field and governmental organisations to help LDC producers and supply chains abide by the rules and requirements of organic certification and fair trade.

The large potential for organic agricultural products covers almost all commodities, ranging from cotton to vanilla. AFD, for example, is assisting l'Association des Producteurs de Coton Africains (AproCA) to develop a regional strategy in four LDCs (Benin, Burkina Faso, Mali, Senegal) and in Cameroon in this domain.[17] Governments are becoming cognizant of the potential of trade in organic products. In this connection (although it is not an exclusively LDC affair) the Lusaka Declaration, adopted in May 2012 at the 2nd African Organic Conference, calls on UNCTAD

and other development partners to support the mainstreaming of organic agriculture practices on the continent.[18] In this regard, a declaration adopted at the conference welcomed the institutionalisation of African Organic Network (AfroNet) and called upon the African Union to mainstream organic agriculture into all areas of its work, and to take the lead in the implementation of the African Organic Action Plan. LDCs with lower chemical use than most other countries may find it easier to convert to certifiable organic production.

'Fair trade' certification is another means for differentiation and the retention of a higher value added. Seventeen agricultural products and gold, all of which are among the commodities produced and exported by LDCs, are subject to fair trade certification, but LDCs are not as active in fair trade markets as the producers from relatively more advanced developing countries in Latin America.[19] Organic supply capacity of LDCs appears to attract considerably more assistance than fair trade. As fair trade is basically a civil society initiative, presumably the organisations involved are continuously working with the suppliers. Nevertheless, this may be an area where governments, aid agencies and NGOs may co-operate to alert the LDCs (and the fair trade community) to the potential that exists in the LDCs.

At times differentiation may become a necessity to avoid negative occurrences outside the control of a government. For example, in order to avoid being associated with 'conflict minerals' coming from Democratic Republic of the Congo, Rwanda has set up a mineral tagging and sealing scheme, internationally recognised as the International Tin Standard Certification (iTSCi) with World Bank support. Similar technology also exists for other products such as timber and could be a useful method for differentiation.

Competition with synthetics and substitutes has long been a concern for commodities, although it is not among the current concerns. Commodity producers must not only defend themselves against onslaught from synthetics but also develop new uses for their products. One recent example in this regard from an LDC has been the development of an innovative building material based on jute. It has won the top award of USD 50,000 at the Global Innovation through Science and Technology (GIST) 'I Dare' business plan competition. Co-operation in the field of technology between LDCs and development partners is a promising avenue for multiplying such innovations.[20]

6.4.3 Quality and standard issues

Meeting the quality standards and other exigencies of buyers has become, arguably, the most important barrier to entering markets, especially for LDCs. Even when market 'access' is assured in terms of overcoming governmental trade barriers and exigencies, such as those implemented within the sanitary and phytosanitary standards agreement, private standards may prevent successful market 'entry'. Moreover, there is no instance of a body such as the Dispute Settlement Body of WTO disputing the latter when standards appear unjustified. These can be purchasing firms' own standards or have very wide coverage such as for good agricultural practices (GAP or GlobalGAP) or Hazard Analysis Critical Control Point (HACCP) standards. The

multiplicity of these standards generates increased transaction costs for suppliers. Furthermore, demanding leniency on standards is not a viable option because that would be tantamount to admitting inferiority even when this is not the case, and accepting a low value, if demand is not totally cut. Therefore, all efforts must be oriented towards improving quality and meeting standards.

Recent examples in this regard include Uganda's Sida-financed Quality Infrastructure and Standards Programme (QUISP), where standards, metrology and accreditation are emphasised in particular for food safety and animal health. This is an area that is stressed by LDC governments and attracts considerable assistance from development partners, particularly regarding the establishment of laboratories and testing infrastructure. The appropriate functioning of a cold chain is necessary for meeting most HACCP standards, and Norway's assistance to the fisheries sector in Mozambique involves laboratory tests, control of contagious diseases in fish farming and availability of ice for cooling of the catch. The United Nations Development Assistance Framework for Mozambique, 2012–15, is also focusing on supporting 'fisheries communities to adopt improved and more productive techniques concerning handling, storage and conservation of fishery products (UNDP, Mozambique online)'. The World Bank's Private Sector Development Project in South Sudan includes significant activities related to producing products meeting normal standards in agriculture, livestock (grazing, slaughterhouses, veterinary clinics) and fisheries (including disposal of bactericides used in fish processing activities). It is, naturally, important to reach the minimum standards but going beyond is important for improving the image of quality. An example in this regard is the putting in place of 'a world-class centre of excellence for agricultural commodities, medicinal and aromatic plants research', namely the Ethiopian Institute for Agricultural Research (EIAR) Crop Quality Testing Laboratory, through UNDP's assistance (UNDP, Ethiopia online).

It is not only scientific interventions that improve or ensure quality. Price policies may also have a significant impact by differentiating among different grades of the same commodity. While this is routinely done by the market, government intervention that assigns the same price without differentiation among quality grades disrupts this function. In such cases inferior products chase the good products off the market. A reform by the Rwandan Government in the pricing of greenleaf tea aims at motivating farmers to produce more quality volumes.

6.5 Conclusion

In this study on monitoring the implementation of IPoA, an attempt was made to identify actions that are being carried out, which can be considered to fall within the realm of IPoA, whether or not this is explicitly stated. In fact, such an explicit statement that is related to commodities is imperceptible.[21] Another complicating factor is the fact that many actions are undertaken in the context of multi-year projects and are continuing. Few are reported to have started since the Istanbul conference. This holds true for the various strategic documents such as the Poverty Reduction

Strategy Paper (PRSP) and Diagnostic Trade Integration Studies (DTIS), which already contain much that is in the IPoA. Much is also included in the relatively more recent Millennium Acceleration Framework (MAF) documents. Therefore, it has been necessary to confine this study to a survey of actions, trying to focus on recent ones since the Istanbul conference, necessarily including many projects or policies started earlier, but continuing.

At this stage, it is impossible to identify any discernible impact due to the implementation of IPoA. Not only does data availability preclude any such assessment, but also in many cases the impact of actions will be felt with a considerable time lag. A clear message obtained from projects and policies implemented in the commodities sector, which can be related to IPoA, is the strong emphasis on governance and transparency. This manifests itself in declared intentions and actions of development partners and LDC governments. This is a development in line with IPoA but one can neither evaluate the impact of this on LDCs' progress towards graduation, nor profess that the emphasis is the result of IPoA – in fact it is probably the other way around. The impression from the observed actions is that rather than diversification out of the commodity sector, there is an emphasis on diversification within the commodity sectors, towards higher value added items, and towards unrealised resource potential.

It is also noteworthy that most of the actions by development partners are not specifically aimed at LDCs. A regional focus is prevalent, generally on Africa, and links to IPoA are considered as incidental (this may have no operational significance for the LDCs concerned, as far as actions are implemented). Although the priority work areas of most aid agencies include at least some aspects of commodity development, the declared priority countries are often non-LDCs. For example, among Canada's 22 'focus countries' there are no more than 10 LDCs. Denmark's list of 26 priority countries includes 17 LDCs. The Swiss Agency for Development has activities in about one-third of LDCs, but the focus is not on the issues that concern us in this chapter. For DFID, 19 out of 28 focus countries are LDCs, and its assistance is mostly directed at basic services, health and education, but also at governance issues which are relevant to the commodity sector.

It has been difficult to identify policies and actions by LDCs themselves. Concerning the strengthening of national commodity management strategies, it is possible to identify various actions that could be considered elements of such a strategy, rather than an explicit commodity strategy itself.[22] Moreover, in most cases these were identified through the publications of the donor community. Nevertheless, it can be assumed that whatever is being done carries at least the stamp of approval by the LDC governments. It would have been interesting to assess how much of the assistance is donor driven and how much is actually demand driven, but it is impossible to do so. This, of course, is a matter to be dealt with in the context of the 'aid efficiency' debate. It is acknowledged that in spite of all the care on the part of the author, a heavy reliance on literature from the donor side probably created an overly optimistic perception of their activities.

Annex 6.1 Indicators of commodity dependence in least developed countries

Country	Commodity exports, % of merchandise exports (2009–10)	Commodity exports, % of GDP (2009–10)	Three leading commodity exports (SITC) as % of total exports (2009–10), total of the three and individual	Resource rents: oil, natural gas, coal, minerals, forests as % of GDP (2011)	Number of products exported, 2005 and 2011	Export diversification index, 2005 and 2011	Export concentration index, 2005 and 2011
Afghanistan	53	2	Three-product total 61 057 fruits nuts 42 292 veg. materials 10 263 cotton 9	2.1	229 234	0.710 0.618	0.260 0.176
Angola	100	nr	Three-product total 99 333 petroleum 97 667 prec. stones 1 334 petr. oils bitumn min. 1	46.6	71 72	0.833 0.816	0.944 0.971
Bangladesh	8	2	Three-product total 71 03 fishery 48 264 jute 15 334 petr. oils bitumn min. 8	3.4	166 221	0.828 0.876	0.381 0.364
Benin	91	18	Three-product total 63 263 cotton 38 334 petr. oils bitumn min. 17 057 fruits nuts 8	1.7	90 147	0.778 0.767	0.435 0.276
Bhutan	51	21	Three-product total 76 351 electricity 56 075 spices 11 682 copper 9	8.4	55 82	0.761 0.807	0.278 0.322

(continued)

Annex 6.1 Indicators of commodity dependence in least developed countries (continued)

Country	Commodity exports, % of merchandise exports (2009–10)	Commodity exports, % of GDP (2009–10)	Three leading commodity exports (SITC) as % of total exports (2009–10), total of the three and individual	Resource rents: oil, natural gas, coal, minerals, forests as % of GDP (2011)	Number of products exported, 2005 and 2011	Export diversification index, 2005 and 2011	Export concentration index, 2005 and 2011
Burkina Faso	94	12	Three-product total 88 263 cotton 44 971 gold 35 222 oilseeds 9	11.8	96 143	0.812 0.808	0.743 0.525
Burundi	91	6	Three-product total 83 071 coffee 61 074 tea 12 971 gold 10	10.3	17 50	0.789 0.740	0.608 0.537
Cambodia	10	5	Three-product total 55 231 nat. rubber 21 971 gold 18 273 stone sand 16	1.3	98 165	0.829 0.803	0.354 0.348
Central African Republic	90	6	Three-product total 83 24+25 forestry 41 667 prec. stones 27 277 nat. abrasives 15	5.1	32 50	0.798 0.758	0.440 0.339
Chad	96	40	Three-product total 99 333 petroleum 89 334 petr. oils bitumn min. 8 263 cotton 2	38.4	162 53	0.774 0.793	0.720 0.927

(continued)

Annex 6.1 Indicators of commodity dependence in least developed countries (continued)

Country	Commodity exports, % of merchandise exports (2009–10)	Commodity exports, % of GDP (2009–10)	Three leading commodity exports (SITC) as % of total exports (2009–10), total of the three and individual	Resource rents: oil, natural gas, coal, minerals, forests as % of GDP (2011)	Number of products exported, 2005 and 2011	Export diversification index, 2005 and 2011	Export concentration index, 2005 and 2011
Comoros	29	1	Three-product total 96 075 spices 92 971 gold 2 03 fishery 2	1.1	9 7	0.679 0.747	0.543 0.514
Democratic Republic of the Congo	99	63	Three-product total 88 333 petroleum 79 334 petr. oils bitumn min. 5 24+25 forestry 4	35.2	193 214	0.778 0.784	0.415 0.430
Djibouti	85	6	Three-product total 55 022 milk 24 001 animals 23 971 gold 8	..	217 214	0.650 0.815	0.168 0.947
Equatorial Guinea	98	72	Three-product total 99 333 petroleum 81 343 nat. gas 15 342 liq. prop. but. 3	41.4	32 131	0.787 0.749	0.922 0.705
Eritrea	46	0.2	Three-product total 43 001 animals 19 03 fishery 14 211 hides 10	0.6	178 30	0.658 0.815	0.168 0.947

(continued)

Annex 6.1 Indicators of commodity dependence in least developed countries (continued)

Country	Commodity exports, % of merchandise exports (2009–10)	Commodity exports, % of GDP (2009–10)	Three leading commodity exports (SITC) as % of total exports (2009–10), total of the three and individual	Resource rents: oil, natural gas, coal, minerals, forests as % of GDP (2011)	Number of products exported, 2005 and 2011	Export diversification index, 2005 and 2011	Export concentration index, 2005 and 2011
Ethiopia	90	7	Three-product total 67 071 coffee 30 054 vegetables 19 222 oilseeds 18	6.0	119 115	0.643 0.796	0.379 0.361
Gambia	82	1	Three-product total 63 057 fruits nuts 42 421 veg oils 13 03 fishery 8	2.3	177 50	0.692 0.751	0.340 0.271
Guinea	85	24	Three-product total 78 285 alum. ores 51 333 petroleum 17 971 gold 10	20.1	51 151	0.845 0.755	0.643 0.456
Guinea-Bissau	99	14	Three-product total 98 057 fruits nuts 91 333 petroleum 6 282 ferrous waste 1	4.6	11 21	0.722 0.753	0.926 0.894
Haiti	12	1	Three-product total 49 071 coffee 18 057 fruits nut 16 072 cocoa 15	0.7	59 64	0.771 0.749	0.552 0.449

(continued)

Annex 6.1 Indicators of commodity dependence in least developed countries (continued)

Country	Commodity exports, % of merchandise exports (2009–10)	Commodity exports, % of GDP (2009–10)	Three leading commodity exports (SITC) as % of total exports (2009–10), total of the three and individual	Resource rents: oil, natural gas, coal, minerals, forests as % of GDP (2011)	Number of products exported, 2005 and 2011	Export diversification index, 2005 and 2011	Export concentration index, 2005 and 2011
Kiribati	85	10	Three-product total 98 03 fishery 94 422 vegetable oils 3 334 petr. oils bitumn min. 1	0.0			
Lao People's Democratic Republic	81	19	Three-product total 71 682 copper 30 283 copper ore 25 351 electricity 16	16.8	189 103	0.767 0.785	0.266 0.341
Lesotho	31	13	Three-product total 99 667 prec. stones 99	1.3	43 63	0.852 0.834	0.414 0.326
Liberia	62	12	Three-product total 77 231 nat. rubber 54 971 gold 13 333 petroleum 10	11.0	8 171		
Madagascar	50	6	Three-product total 57 03 fishery 26 075 spices 20 287 ores 11	5.7	231 162	0.732 0.760	0.228 0.211
Malawi	90	20	Three-product total 80 121 tobacco 65 074 tea 8 061 sugar 7	3.9	215 115	0.825 0.809	0.565 0.449

(continued)

Annex 6.1 Indicators of commodity dependence in least developed countries (continued)

Country	Commodity exports, % of merchandise exports (2009–10)	Commodity exports, % of GDP (2009–10)	Three leading commodity exports (SITC) as % of total exports (2009–10), total of the three and individual	Resource rents: oil, natural gas, coal, minerals, forests as % of GDP (2011)	Number of products exported, 2005 and 2011	Export diversification index, 2005 and 2011	Export concentration index, 2005 and 2011
Mali	88	18	Three-product total 93 971 gold 59 263 cotton 30 001 animals 4	14.2	215 186	0.812 0.804	0.576 0.602
Mauritania	100	50	Three-product total 84 281 iron ore 45 03 fishery 26 333 petroleum 13	58.5	156 187	0.858 0.820	0.540 0.482
Mozambique	93	20	Three-product total 63 684 aluminium 46 351 electricity 11 121 tobacco 6	8.7	101 229	0.812 0.739	0.633 0.368
Myanmar	78	31	Three-product total 74 343 nat. gas 40 24+25 forestry 22 054 vegetables 12	..	149 168	0.827 0.817	0.337 0.381
Nepal	31	2	Three-product total 44 054 vegetables 25 292 veg. materials 10 075 spices 9	3.0	100 136	0.520 0.648	0.136 0.142

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Annex 6.1 Indicators of commodity dependence in least developed countries (continued)

Country	Commodity exports, % of merchandise exports (2009–10)	Commodity exports, % of GDP (2009–10)	Three leading commodity exports (SITC) as % of total exports (2009–10), total of the three and individual	Resource rents: oil, natural gas, coal, minerals, forests as % of GDP (2011)	Number of products exported, 2005 and 2011	Export diversification index, 2005 and 2011	Export concentration index, 2005 and 2011
Niger	68	13	Three-product total 65 286 uranium 28 001 animals 26 334 petr. oils bitumn min 11	2.4	228 98	0.776 0.843	0.314 0.388
Rwanda	88	4	Three-product total 83 074 tea 30 287 ores 28 071 coffee 25	3.3	186 77	0.756 0.849	0.444 0.422
Samoa	23	2	Three-product total 77 03 fishery 55 422 veg. oils 15 112 alcoholic bev. 7	0.3	139 143	0.707 0.731	0.717 0.579
São Tomé and Príncipe	47	2	Three-product total 92 072 cocoa 86 334 petr. oils bitumn min. 4 057 fruits nuts 2	0.9	136 15	0.675 0.611	0.614 0.586
Senegal	66	11	Three-product total 65 334 petr. oils bitumn min 37 03 fishery 21 971 gold 7	3.4	182 206	0.679 0.728	0.208 0.227

(continued)

Annex 6.1 Indicators of commodity dependence in least developed countries (continued)

Country	Commodity exports, % of merchandise exports (2009–10)	Commodity exports, % of GDP (2009–10)	Three leading commodity exports (SITC) as % of total exports (2009–10), total of the three and individual	Resource rents: oil, natural gas, coal, minerals, forests as % of GDP (2011)	Number of products exported, 2005 and 2011	Export diversification index, 2005 and 2011	Export concentration index, 2005 and 2011
Sierra Leone	69	8	Three-product total 66 667 prec. stones 35 285 alum. ores18 287 ores 13	3.6	211 127	0.677 0.676	0.498 0.276
Solomon Islands	99	25	Three-product total 92 24+25 forestry 75 03 fishery 11 422 veg. oils 6	14.1	16 33	0.824 0.842	0.705 0.615
Somalia	99	18	Three-product total 85 001 animals 35 971 gold 32 24+25 forestry 18	..	153 32	0.777 0.734	0.567 0.497
South Sudan				..			
Sudan	99	15	Three-product total 94 333 petroleum 80 334 petr. oils bitumn min 8 971 gold 6	15.1	75 136	0.804 0.786	0.607 0.772
Timor-Leste	91	2	Three-product total 98 342 liq. prop. but. 77 333 petroleum 13 071 coffee 8	0.2	178 187	0.789 0.746	0.825 0.419

(continued)

Annex 6.1 Indicators of commodity dependence in least developed countries (continued)

Country	Commodity exports, % of merchandise exports (2009–10)	Commodity exports, % of GDP (2009–10)	Three leading commodity exports (SITC) as % of total exports (2009–10), total of the three and individual	Resource rents: oil, natural gas, coal, minerals, forests as % of GDP (2011)	Number of products exported, 2005 and 2011	Export diversification index, 2005 and 2011	Export concentration index, 2005 and 2011
Togo	61	17	Three-product total 55 072 cocoa 19 272 crude fert. 18 334 petr. oils bitumn min 18	4.8			
Tuvalu	33	0.3	Three-product total 80 03 fishery 59 684 aluminium 13 24+25 forestry 8	0.0	84 1	0.588 0.652	0.254 0.682
Uganda	70	9	Three-product total 50 071 coffee 30 03 fishery 13 121 tobacco 7	5.4	239 213	0.749 0.730	0.259 0.211
United Republic of Tanzania	83	12	Three-product total 43 971 gold 22 289 ores prec. met. 14 03 fishery 7	8.4	174 254	0.760 0.762	0.235 0.198

(continued)

Annex 6.1 Indicators of commodity dependence in least developed countries (continued)

Country	Commodity exports, % of merchandise exports (2009–10)	Commodity exports, % of GDP (2009–10)	Three leading commodity exports (SITC) as % of total exports (2009–10), total of the three and individual	Resource rents: oil, natural gas, coal, minerals, forests as % of GDP (2011)	Number of products exported, 2005 and 2011	Export diversification index, 2005 and 2011	Export concentration index, 2005 and 2011
Vanuatu	85	7	Three-product total 91 03 fishery 86 223 oilseeds oil fruits 3 422 veg. oils 2	0.5	140 16	0.781 0.826	0.563 0.632
Yemen	97	24	Three-product total 95 333 petroleum 8 334 petr. oils bitumn min 8 03 fishery 3	23.1	135 177	0.814 0.744	0.817 0.587
Zambia	89	35	Three-product total 87 682 copper 80 283 copper ore 5 287 ores 2	27.0	245 211	0.876 0.850	0.519 0.646

Source: First three columns: UNCTAD (2012), The State of Commodity Dependence 2012, UNCTAD/SUC/2012/8, Geneva, April. Resource Rents in GDP: World Bank Development indicators, available at: http://data.worldbank.org/indicator/NY.GDP.TOTL.RT.ZS. Last three columns: UNCTAD (2012), Handbook of Statistics 2012, TD/STAT. 37, Table 4.1.1

Annex 6.2 Index of number of exported products at six-digit HS6 subheads (earliest year=100)

Country	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Bangladesh	100	107	121	154	186	192	200	198				
Tanzania	100	115	117	134	141	154	168	180	220	218	216	
Uganda	100	171	176	220	222	240	349	369	388	335	367	
Burundi	100	90	81	264	263	323	125	432	282	303	311	
Cambodia	100	98	101	121	106	103	108	118	94	104	114	
Ethiopia	100	261	304	328	315	242	291	736	765	711	877	
Gambia, The	100	68	61	80	70	65	69	89	104	129	109	
Madagascar	100	108	96	102	112	117	121	117	128	121	122	
Malawi	100	100	84	89	120	128	131	121	128	139	147	
Mozambique	100	124	155	188	150	142	186	157	170	160	99	
Niger	100	75	85	75	65	71	93	61	57	59	55	
Rwanda		100	116	135	239	301	315	471	499	591	589	
Samoa		100	70	62	60	62	60	58	44	44	56	
São Tomé and Príncipe	100	56	137	190	124	165	119	163	192	140	190	
Senegal	100	105	73	121	136	145	110	145	144	134	137	
Zambia	100	90	100	106	120	126	149	172	186	187	172	
Benin	100	112	117	87	81	94	103		132	166	119	
Burkina Faso	100	74	74	66	74	74		80	64	72	70	
CAR	100	104	31	29	51	65	28	41	37	35		
Mali	100	181	151	190	194	158	188	210	237		184	
Mauritania	100	91	82	82	136	136		118	291	291	600	

(continued)

Annex 6.2 Index of number of exported products at six-digit HS6 subheads (earliest year=100) (continued)

Country	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Togo	100	102	96	106	100	99		82	64	68	58	66
Afghanistan									100	91	97	
Bhutan						100	89	86	45	75	71	
Comoros	100	85	88	60	49	59	56	4				
Djibouti										100		
Guinea	100	147	63		83	87	82	101	109			
Guinea-Bissau				100	121	66						
Kiribati						100						
Lesotho	100	285	480	393	458				444	369		
Myanmar											100	
Nepal	100			331						355	347	
Sudan	100	27	86	26	24	17	19		34	79		
Sierra Leone	100		181									
East Timor					100	110						
Tuvalu			100	55	145	106						
Vanuatu							100	82				
Yemen					100	114	108	116	123	126		

Source: Table 3 of Commonwealth Secretariat, Preliminary draft of The Istanbul Programme of Action for LDCs: A Benchmarking Exercise, August 2012 (derived from data from UN COMTRADE database)

Notes

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2 See: http://eiti.org/eiti
3 Based on UNCTAD (2012c), Table 4.1.1.
4 See: 'TIVA indicators by industry with partner world', available at: http://stats.oecd.org/Index.aspx?DataSetCode=TIVA_OECD_WTO#
5 In this report many examples are cited. In order not to clutter the text with footnotes, when just the name of a programme or project is mentioned as an example, the bibliographic reference is not given. The internet addresses were accessed on 30 August 2013.
6 For a discussion, see Lederman and Maloney (2012).
7 See: www.jica.go.jp/sudan/english/index.html
8 See: www.oecd.org/site/africapartnershipforum/mrde/50362685.pdf
9 See: www.sida.se/English/Countries-and-regions/Africa/Tanzania/Programmes-and-projects1/Research-on-mushrooms-provides-nourishment/
10 See: www-wds.worldbank.org/external/default/WDSContentServer/WDSP/IB/2013/03/20/000356161_20130320114416/Rendered/INDEX/748660PGD0P1270Official0Use0Only090.txt
11 See: www.mof.gov.ws/Portals/195/Services/Economy/SDS%202012%20-%202016%20ENGLISH%20VERSION.pdf
12 Document de la Stratégie de Croissance et de Réduction de la Pauvreté, 2ème génération: 2011–2015, October 2011, Ministère du Plan, available at: www.cd.undp.org/mediafile/DSCRP%202.pdf
13 See: www.greenpeace.org/africa/en/News/news/Greenpeace-protests-against-EU-subsidised-plunder-of-West-African-Waters-/
14 See: www.giz.de/en/worldwide/19011.html (accessed 1 April 2014).
15 From: www.cbi.eu/ for supply chain emphasis, especially www.cbi.eu/CBI%20Services.
16 For a critical view of the Ethiopian Initiative, see Mezlekia (2012).
17 No information could be found on the AproCA website.
18 See: http://unctad.org/en/pages/newsdetails.aspx?OriginalVersionID=98
19 For a good survey and most of the information here, see Elliott (2012).
20 See: http://gist.crdfglobal.org/Feeds/news
21 Specific references to IPoA have been made by ESCAP and WTO in their recent work relevant to the subject of this study, but in both cases, the work is prescriptive and does not cover implemented actions and projects.
22 Ministries of Agriculture or of Mining are traditionally responsible; in Rwanda a Ministry of Natural Resources was established in May 2011.

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Chapter 7

Harnessing Trade for Structural Transformation in LDCs

Vinaye Ancharaz, Christophe Bellmann, Anne-Katrin Pfister and Paolo Ghisu

7.1 Introduction

The Istanbul Programme of Action (IPoA) lists two key goals in the priority area of trade: first, to increase least developed countries' (LDCs) exports significantly with a view to doubling their share of world exports by 2020; and, second, to 'make substantial efforts' to conclude the Doha Round at the earliest point, with an outcome beneficial to LDCs. In pursuit of these goals, the IPoA lists a total of 16 actions to be pursued by LDCs and their development partners.[1] In short, LDCs should mainstream trade into their national development strategies; improve competitiveness and diversify their production base and exports; and also facilitate trade through better institutional processes. Development partners, for their part, should support LDCs through Aid for Trade (AfT) and technical assistance to help them engage more effectively in the trade negotiations; improve their capacity to trade in goods and services; and implement their obligations in the areas of sanitary and phytosanitary (SPS) measures and technical barriers to trade (TBT). The international community should also facilitate the transfer of technology and support the process of regional co-operation and integration in LDCs. Joint actions include addressing supply-side constraints and other impediments to LDCs' trade, including trade-distorting measures and non-tariff barriers; and providing enhanced trade preferences through a comprehensive duty-free and quota-free (DFQF) scheme, more favourable rules of origin and effective special and differential treatment, thus facilitating LDCs' accession to the World Trade Organization (WTO). Annex 7.1 provides an overview of actions in the IPoA priority area of trade and comments on their implementation status.

This chapter is a first attempt to monitor the actions by development partners – whether unilaterally or jointly with LDCs. In doing so, the chapter examines recent trends in LDC trade to see if there is any discernible progress towards the IPoA targets; critically reviews a number of multilateral developments of key concern to LDCs; and considers other international co-operation arrangements that could provide new opportunities for LDCs' export growth and diversification. It should be noted, however, that comprehensive monitoring of each and every action listed in the IPoA is well beyond the scope of this chapter. Indeed, the chapter neither intends nor attempts to be all-encompassing. Instead, it focuses on a narrower range of issues, including some of those that are most critical to LDCs, and – inevitably – those that lend themselves effectively to monitoring.

While graduation from LDC status is the ultimate objective of the IPoA, the chapter argues that graduation in itself cannot ensure sustainable development in LDCs.

Evidence from countries that have graduated in the past (e.g. Botswana) or are about to graduate (Equatorial Guinea) suggests that these countries continue to suffer from low levels of human development and remain extremely vulnerable to external shocks due to their heavy concentration on a few export products and markets. Hence, beyond graduation, the long-term structural transformation of LDCs' economies should be a central objective underlying the IPoA monitoring exercise.

The IPoA highlights – but only tangentially – the importance of structural transformation for LDCs' long-term development when it states that the goal of doubling LDCs' share of global trade is to be achieved both through export growth and through export diversification. However, several of the actions called for – by both LDCs and their development partners – make explicit reference to export diversification and related concepts, such as increasing productivity and competitiveness, and boosting capacities for LDC firms to integrate global value chains. In this chapter, the role of trade and trade policy as a critical factor in promoting structural transformation in LDCs will be the guiding theme. Instead of just focusing on the narrow area of export growth, the chapter highlights the implications for structural transformation of recent trends in LDC trade and a number of developments at the multilateral level and beyond. Given the breadth of issues related to LDC trade, the chapter is inevitably selective, focusing on those of key or immediate concern to LDCs, including market access preferences in goods and in services, the case of cotton, AfT and trade facilitation, WTO accession guidelines and South–South co-operation.

7.2 Why structural transformation in LDCs?

LDCs, of which currently there are 48, lie consistently at the bottom of the World Economic Forum's Global Competitiveness and United Nations Industrial Development Organization's Competitive Industrial Performance rankings, and the World Bank's Doing Business league. They typically have very concentrated economic structures; rely heavily on primary production for income and jobs; and face daunting challenges to integrate global markets. LDCs' exports remain small in relative terms – both because their comparative advantages are confined to a narrow set of products, and because their exports are subject to numerous supply-side constraints. While LDCs' share of world exports has increased over the past decade, it has barely crossed the 1 per cent level – a stark testimony to their state of marginalisation in world trade. Moreover, LDCs export to just a few countries, and are consequently vulnerable to external shocks.

Remarkably, however, many LDCs have recorded impressive economic growth rates recently. African LDCs have led the pack, with real gross domestic product (GDP) growth averaging 10.3 per cent in Ethiopia, 8.2 per cent in Rwanda and 7.2 per cent in Chad over the period 2008–10. Stellar performers in Asia include Lao People's Democratic Republic (PDR), Bhutan and Bangladesh, with average growth of 7.9 per cent, 6.2 per cent and 6 per cent respectively over the same period. Moreover, growth prospects in these countries look good in spite of the economic slowdown in the Organisation for Economic Co-operation and Development (OECD) as well as among the emerging economies.

LDCs' growth performance spans beyond Africa's oil exporters. In Ethiopia, Rwanda and Uganda, growth has been boosted by public investments, improved economic governance and increases in both the volume and the prices of key export commodities. In the case of the Asian LDCs, on the other hand, strong growth in manufactured exports underpins the recent growth performance of Bangladesh, Bhutan and Lao PDR. Notwithstanding these developments, LDCs – especially African LDCs – continue to suffer from a 'structural deficit' (Page 2012). UNCTAD (2012) claims that Africa's growth has been accompanied by de-industrialisation – as evidenced by the fact that the share of manufacturing in GDP declined from 15 per cent in 1990 to 10 per cent in 2008 – although, in absolute terms, manufactured exports have more than tripled over the past decade. For African LDCs this share is even lower, and has shown no progress either. One might even argue that the oil-exporting LDCs have seen industrial production take a back seat as their growing engagement with China has pushed them increasingly to concentrate on raw material exports.

While a number of LDCs have performed well recently by carrying on with business as usual – that is by exploiting their traditional exports buoyed by rather exceptional conditions – this strategy may not be sustainable over the long term. As such, there is an urgent need for structural transformation in these economies. Structural transformation can be defined as a process of structural change and economic diversification through which an economy shifts from low-productivity, low-value-added activities and sectors (such as traditional agriculture) to higher-productivity sectors (such as manufacturing and services). The IPoA states that the goal of doubling LDCs' share of global trade is to be achieved both through export growth and a broadening of the export base. Indeed, no lasting structural transformation could be achieved without export diversification.

There are strong arguments why LDCs should diversify their export base. A classic argument is that diversifying out of commodities could help exporters escape a long-term decline of their terms of trade (the so-called Prebisch–Singer hypothesis). This argument, however, does not seem to hold any more since many LDCs have actually seen a steady rise in the prices of the commodities they export. Nevertheless, there is strong evidence that a well-diversified economy is resilient to external shocks and creates enhanced opportunities for inclusive growth through better jobs. Moreover, there is a growing body of evidence that links export diversification to economic growth. The seminal work of Hausmann et al. (2007) suggests that more prosperous countries tend indeed to be more diversified than other countries. It is also clear that countries that produce and export more sophisticated products tend to grow faster (Hidalgo et al. 2007; UNIDO 2009).

7.3 Trends in LDC trade

Structural transformation is a complex process of which export diversification is one of several drivers, albeit one of critical importance. Consistent with the IPoA goals and targets, this section will therefore assess progress towards structural transformation of LDC economies using various quantitative indicators of export diversification. Specifically, the section examines recent data on LDCs' trade in goods and in services to determine whether their exports are increasing rapidly

enough and whether they are exporting a bigger range of products and serving new markets. Two caveats are in order. First, it is probably too early to assess progress on the IPoA targets.

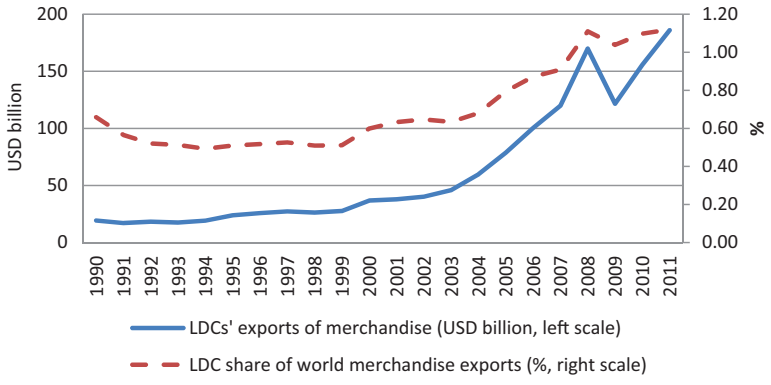
The IPoA does not state clearly which year/s is/are to be used as the base for the purpose of monitoring partners' actions. The same problem applies when the IPoA speaks of 'doubling the share of least developed countries' exports in global exports by 2020'. This objective may be rendered incrementally more difficult to achieve the closer is the base period to 2011, the year in which the Istanbul summit took place. Given the depressing effects of the 2008–09 financial crisis on trade, the LDV IV Monitor has decided that a three-year average over the period 2005–08 be chosen as the baseline. To give due credit to the rapidly increasing share of LDCs' exports in more recent years, this chapter uses the average over 2006–08.

Second, LDCs are generally among the countries with the biggest data gaps, and this is no exception when it comes to the data requirements for the purpose of this monitoring exercise. Lack of data constrains the scope of the study since not all the desirable quantitative indicators could be constructed for all countries. Data problems extend to qualitative variables also. For example, the absence of a comprehensive database on SPS/TBT measures and other non-tariff barriers makes it difficult to assess progress in these areas. The following analysis should therefore be taken with these caveats in mind.

7.3.1 Increasing exports but stagnating share in world trade

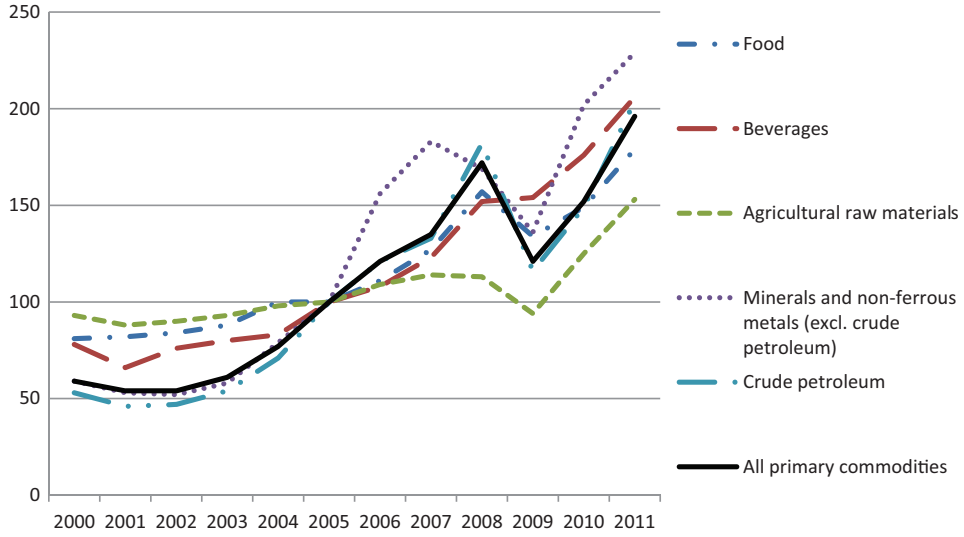
LDC exports have increased sharply – from USD 36.8 billion in 2000 to USD 186 billion in 2011 – but this had a negligible effect on LDCs' share of world merchandise exports. This share crossed the 1 per cent mark in 2008 but fell slightly to 1.02 per cent in 2009. Since then, the share has climbed up 0.1 percentage point, reaching 1.12 per cent in 2011 (Figure 7.1). This is a small but positive development, considering that it occurred at a time of sluggish growth in world trade beset by the global economic crisis. Another positive feature of LDC trade is that, since 2004, exports have expanded more rapidly than imports, thus allowing LDCs to close their historical trade deficit

Figure 7.1 LDCs' merchadise exports, values and shares



Source: Author's computation using data from World Integrated Trade Solution (WITS), available at: http://wits.worldbank.org/about_wits.html (accessed May 2013).

Figure 7.2 Export prices of primary commodities, 2000–11 (2005=100)

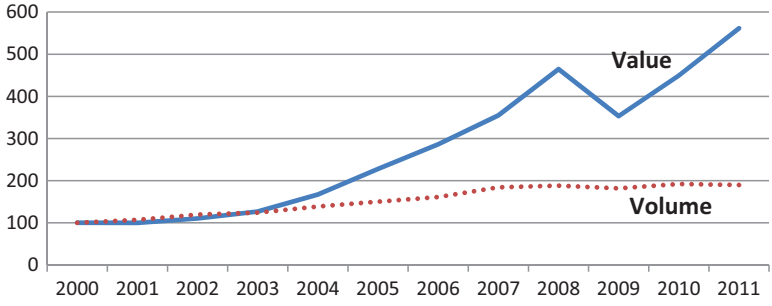


Source: Author's computation using data from *IMF Commodity Prices*

and enjoy a small aggregate surplus between 2005 and 2008 before the financial crisis took its toll. In 2011, LDC trade was, on average, balanced but this average masks significant variations across LDCs.

Much of the recent growth of LDC exports is likely to have been driven by high and rising prices of primary commodities, which constitute the bulk of LDC exports. The composite index of primary commodity prices increased sharply between 2002 and 2008 and, although it took a dip in 2009, it recovered thereafter and has maintained the upward trend in more recent years (Figure 7.2). These trends are reflected in Figure 7.3, which shows the evolution of value and volume indices of LDC exports. While the value of exports has increased over five-fold between 2000 and 2011, the effect in real terms was a mere doubling of exports over this period. Adjusting for export prices does not alter the global share of LDC exports.[2] However, the fact remains that LDC exports are not growing as fast as one might expect, and this growth becomes

Figure 7.3 Value and volume indices of LDC exports, 2000–11 (2000=100)



Source: Author's computation using data from WTO (2012)

even less impressive when we factor out oil and mineral exports and realise that a few agricultural commodities continue to dominate LDC exports (see below).

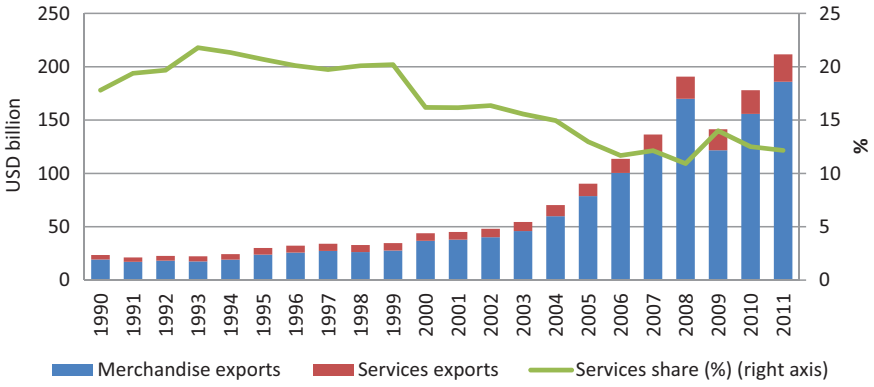
LDCs' share of world exports of goods and services has traditionally been smaller than their share of merchandise exports, echoing the fact that LDCs are negligible players in the global trade in services. Significantly, however, the share of services in LDCs' total exports has declined progressively over the years. In 1993, services' share peaked at 21.8 per cent of LDC exports; this share was down to 12.2 per cent in 2011 (Figure 7.4). The increasing marginalisation of LDCs in services trade has occurred at a time when the global services market was booming. This means that LDCs have failed to take advantage of emerging opportunities to export services.[3] Since this trend is likely to continue, it is critical that LDCs prepare themselves to claim a share of the expanding services trade market. Section 7.4 discusses the potential of LDCs to benefit from a possible operationalisation of the proposed services waiver.

Looking beyond aggregates, it is evident that LDCs' merchandise exports are dominated by mineral fuels. UNCTAD (2012) identifies five LDCs – Angola, Chad, Equatorial Guinea, Sudan and Yemen – as fuel exporters. These countries collectively accounted for 63 per cent of LDCs' exports in 2008, although in recent years this share has declined and stabilised at 52 per cent (Figure 7.5). This means that the other 42 LDCs, or about 90 per cent of all LDCs,[4] represent just under half of the total of LDC exports, pointing to the huge disparity that exists among countries in the LDC group. Regionally, African LDCs account for the bulk of LDC exports. But this is more due to large oil exports from four countries than the disproportionately large number of LDCs – 33 out of the 48 – being African.

7.3.2 Increasing concentration of exports

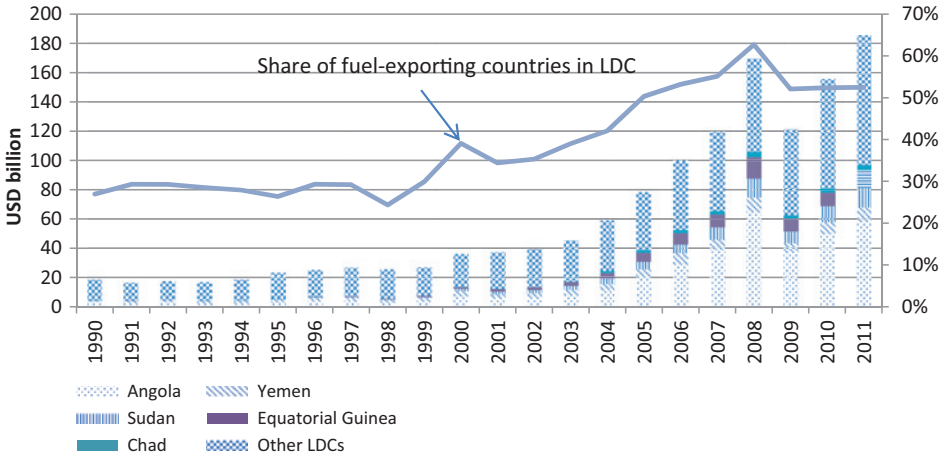
The concentration of LDC exports in a few products is already evident from the large share of fuel exporters in LDC exports. Figure 7.6 provides a breakdown of merchandise exports by product group, further showing the dominance of mineral

Figure 7.4 Share of services in LDCs' total exports



Source: UNCTAD Stat, accessed May 2013

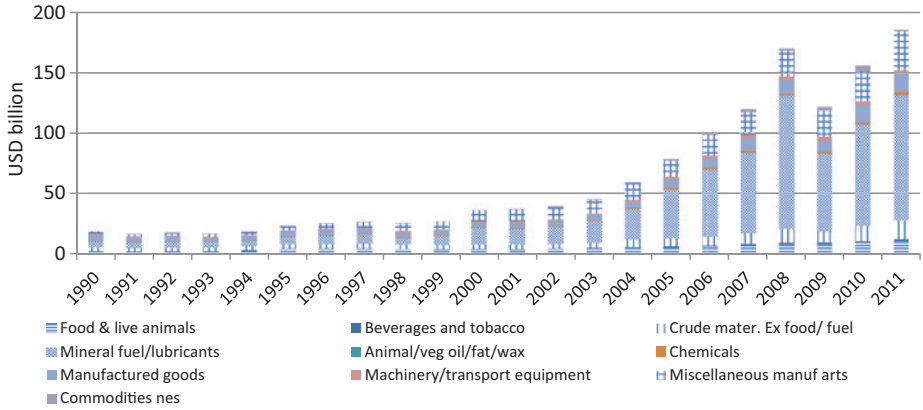
Figure 7.5 Share of fuel in LDCs' exports



Source: WITS, available at: http://wits.worldbank.org/about_wits.html (accessed May 2013).

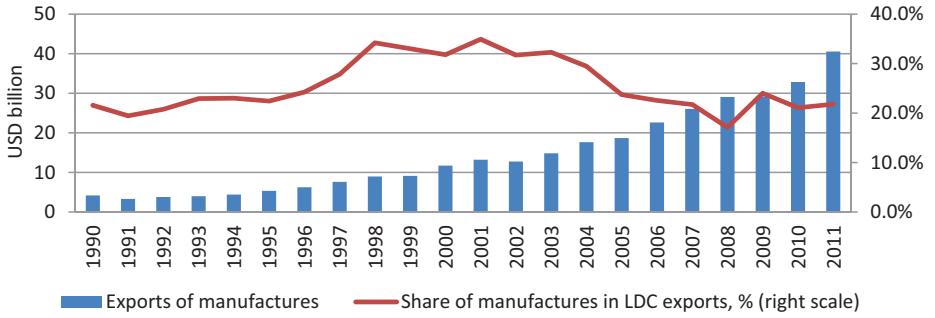
fuels in LDC exports. Mineral fuels represented 24.6 per cent of LDC exports in 1991. This share increased over the years to reach a peak of 64.4 per cent in 2008 before falling off to 55.4 per cent in 2011. Few LDCs export manufactures. Manufactures' share of LDC merchandise exports has declined from a peak of 35 per cent in 2001 to 22 per cent in 2011 (Figure 7.7). Thus, while LDCs have managed to increase their exports significantly over the past decade, they have failed to broaden their export base. It appears that many LDCs have simply ridden the wave of increased demand for the raw materials and commodities they export, benefiting from improved terms of trade. Indeed, much of the increase in LDC exports in recent years is attributable to rising prices rather than to higher export volumes (UNCTAD 2012).

Figure 7.6 LDC exports by major categories



Note: The category 'Miscellaneous manuf arts' includes building fixtures, furniture and furnishings, travel goods, handbags, apparel, clothing and accessories, footwear, scientific instruments, photographic equipment, clocks and miscellaneous manufactures not elsewhere specified.
Source: WITS, available at: http://wits.worldbank.org/about_wits.html (accessed May 2013).

Figure 7.7 LDC exports of manufactures, value and share



Source: WITS, available at: http://wits.worldbank.org/about_wits.html (accessed May 2013).

Export diversification is more than just exporting bigger volumes of manufactures. For a country specialising in manufactures (e.g. Bangladesh), diversification should entail a broadening of the export base (export at the 'extensive margin'), beyond the products currently being exported. Inevitably, this means that the country produces new products or improved varieties of existing products. For LDCs whose exports are concentrated in oil or raw materials, or a specific agricultural product, diversification will probably mean producing and exporting manufactures. In all cases, export diversification can also manifest itself through expanding shares of services in a country's total exports.

Even using the narrow definition of diversification – that is changes in the share of manufactures in merchandise exports – it is evident that LDCs as a group have failed to achieve export diversification on a lasting basis since 2000. As noted above, the average LDC share of manufactures in exports has declined from 35 per cent in 2001 to 21.8 per cent in 2011. However, this aggregate trend masks significant achievements in export diversification in several LDCs. Bangladesh, for example, progressively increased its share of manufactures in exports from an already high level of 80 per cent in 1990 to 94 per cent in 2011. In Cambodia, much of the success was achieved in the 1990s; in the past decade, the country has struggled to maintain its share of manufactures around 90 per cent. Outside of Asia, Haiti stands out as a success story in diversification into manufactures. Its share of manufactures in merchandise exports increased from 67.4 per cent in 1995 to over 90 per cent in 2011. Unfortunately, no African LDC can boast a similar performance. Madagascar, one of the largest manufactures exporters in sub-Saharan Africa, saw its share of manufacturing in exports eroded by various episodes of political crisis in recent years. After reaching a peak of 58.3 per cent in 2007, this share has plummeted to 36.6 per cent in 2011. Lesotho, for its part, witnessed a reversal of industrialisation in the run-up to the end of apparel quotas in January 2005 and the expected tidal wave of Chinese clothing exports. Lesotho's share of manufactures plunged from a peak of 99 per cent in 2003 to 47 per cent in 2011.

Since export diversification need not be limited to shifts into manufactures, especially for those countries that already export a high share of manufactured products, it

is important to consider other, broad-based measures of export concentration or diversification. Here, we examine the Hirschman–Herfindahl index of export concentration and the export diversification index. Data on these indicators are not available consistently for all LDCs. We try to make the most of the available data by looking at the two indicators together to pick out clear trends. Where the absence of data precludes meaningful analysis, or where no discernible trend emerges, we will shy away from making any conclusions.

On the whole, it appears that there are relatively few strong cases of export diversification in recent years. Six LDCs, namely Cambodia, Lesotho, Liberia, Madagascar, Nepal and Yemen, show significant decreases in either or both indices since 2000 or in more recent years. Lesotho witnessed its share of manufacturing take a nosedive after 2003, yet the country has registered a sharp reduction in its export concentration since that year. Madagascar's export concentration index has fluctuated cyclically but the general tendency is a long-term decline since 2002. Both Nepal and Yemen exhibit a sharp downward trend in export concentration even though the movement on the export diversification index is milder. It will be important to see whether these encouraging trends are maintained into the future, and to understand the dynamics of export diversification in these countries through more focused case studies.

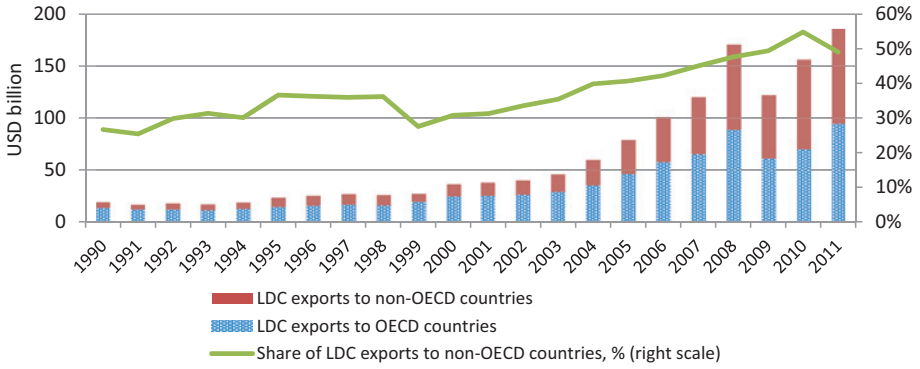
7.3.3 But more export markets

Product diversification is one side of the bigger diversification story; the other side is market diversification. The current economic crisis has highlighted the importance of entertaining a broad range of export partners. A recent study shows that African countries that export primarily to the European Union (EU) or the USA, or both, are more vulnerable to economic shocks than those exporting to a larger set of countries, including developing economies (African Development Bank 2011). If this was true of LDCs generally, then there is good news: LDCs have significantly reduced their reliance on traditional markets since 2000.

LDCs' merchandise exports to non-OECD countries have increased twice as fast as to OECD countries, driven mainly, but not exclusively, by emerging economies like the BRICS (see below).[5] Developing countries' share of LDC exports rose from 31 per cent in 2000 to a peak of 55 per cent in 2010 before falling off to 49 per cent in 2011 (Figure 7.8). However, an unwelcome by-product of this trend is that it is accentuating the concentration of LDC exports into low-value-added, unprocessed goods. This is because oil and raw materials make up a significantly bigger share of LDC exports to emerging economies than to traditional partners.[6] Thus, while LDCs should take full advantage of the new trade dynamics, they should take care to ensure that their engagement with emerging economies does not compromise their efforts to industrialise.

In conclusion, while the year-on-year change in the LDC export share may look insignificant, the change from the base period (2006–08) average to the 2011 level is a notable 0.16 percentage points. What makes this increment even more commendable is that it occurred against the backdrop of sluggish growth in world markets, even though LDC exports were buoyed by emerging economies' continued rapid growth.

Figure 7.8 LDC exports to OECD and non-OECD countries



Source: WITS, available at: http://wits.worldbank.org/about_wits.html (accessed May 2013).

It is difficult to predict whether, at this rate, the IPoA target of doubling LDCs' export share by 2020 is realisable. Much will depend on the state of the world economy and on the ability of emerging partners to maintain their growth momentum.[7] On the downside, however, except for a few countries that have made serious efforts to diversify their export base, most LDCs' exports continue to remain highly concentrated. Aggravating this tendency is the shifting pattern of trade in favour of emerging countries, which is accentuating dependence on raw materials and minerals in many – in particular, African – LDCs. On the whole, structural transformation has lagged behind economic growth in the majority of LDCs and, in the absence of drastic measures – including several of the actions identified by the IPoA – these LDCs may ultimately graduate but remain extremely vulnerable and fragile economies.

7.4 Multilateral developments

While the Doha Round was officially declared at an impasse at the December 2011 WTO meeting, interest, especially among researchers, in a likely completion of the round, and its implications for development, has always been rife and active. The December 2013 WTO Ministerial Conference in Bali (MC9), which was concluded with the first multilateral trade pact in nearly 20 years of existence of the organisation, has generated hope that the WTO could move away from this impasse. The final outcome of the Bali ministerial was a trade facilitation agreement, along with decisions and declarations on four agricultural issues, and select development-focused provisions – including four that are specific to LDCs. Though many have been quick to note that the package agreed in Bali represents just a fraction of the outstanding issues in the Doha Round negotiations – and has skirted the most difficult ones – trade officials have generally stressed that the achievement in Indonesia may have a much greater systemic value: that of reinstating confidence in the WTO's negotiating abilities.

This section starts by reviewing the evidence to date on the gains to LDCs in a 'successful' Doha Round scenario. It goes on to consider developments achieved in Bali on the so-called 'LDC package'[8] that could play a critical role in helping LDCs

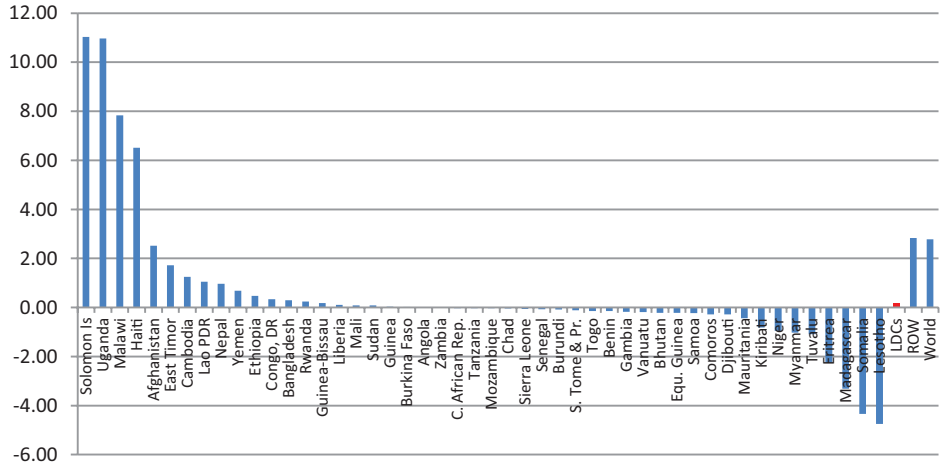
achieve the IPoA target in the area of trade. Two other issues that are not part of the LDC package but are nevertheless of concern to LDCs are also discussed in this section. These are the WTO accession guidelines for LDCs, approved in July, and the Trade Facilitation Agreement reached at MC9.

7.4.1 Doha deadlock: much ado about nothing?

A number of studies have simulated the likely impacts of the Doha Round on economic variables such as trade, GDP and employment in developed and developing countries. However, most of the research has focused on scenarios that can be quantified, such as agricultural trade liberalisation or industrial tariff cuts, or both, leaving out a wide range of development-oriented issues that promise significant gains to most developing countries. These include services, AfT and trade facilitation, technical assistance and technology transfer, special and differential treatment, and more flexible rules of origin and rules relating to TRIPS. For this reason, even the most comprehensive study is at best a partial approximation to gains (or losses) arising from a successful conclusion of the Doha Round. This caveat must be kept in mind while reviewing the results of modelling exercises, including those described below.

Most studies have confirmed that sub-Saharan Africa would invariably lose in any Doha Round scenario.[9] Welfare losses are estimated to range from USD 197 billion in the Carnegie model to USD 400 billion in the World Bank model. The International Centre for Trade and Sustainable Development's (ICTSD) recent work,[10] focused on LDCs, shows that the aggregate impact of a successful Doha Round on LDC exports will be a measly 0.16 per cent, with wide dispersion of gains and losses across countries (Figure 7.9). It appears that most of the gains to LDCs from emerging economies

Figure 7.9 Percentage change in LDC exports under a specific NAMA scenario*



* The simulations are based on NAMA proposals, with a Swiss coefficient of 8 for the developed countries and 25 for developing countries.

Source: Author's calculations based on Laird (2012)

such as China and India, from Korea and, to a lesser extent, from the USA will be offset by losses in the existing preference-granting countries, namely Canada, those in the EU and Japan (Table 7.1).

It is also clear that not all LDCs will benefit from an eventual conclusion of the Doha Round, featuring significant liberalisation in both agriculture and non-agricultural market access (NAMA). Even if overall gains could be assured for the LDC group, the *ex post* distribution of gains and losses, and the absence of a mechanism to compensate losers, could effectively wreck support for a Doha deal.

The issue of preference erosion in the context of the ongoing Doha negotiations is a critical factor holding back consensus in the LDC group. LDCs, especially those from Africa, which enjoy duty-free access to the US market under the African Growth and Opportunity Act (AGOA) will be facing preference erosion, to varying degrees, in view of tariff cuts under the proposed NAMA scenarios. The losses to Lesotho and Madagascar (see Figure 7.7) are precisely due to such preference erosion, but it is also clear that not all countries that will see their preferences eroded in an eventual Doha deal will actually lose in terms of exports. Uganda, Malawi and Haiti are good examples. In any case, a 'successful' Doha Round will need to factor in additional measures to compensate potential losers so as to ensure that it benefits a wide cross-section of the WTO membership. Perhaps an enhanced special and differential treatment (S&D) chapter could do this.

For the majority of LDCs, therefore, the deadlock in the larger Doha talks is much less a concern than the lack of progress on the LDC package issues, for example, on which an 'early harvest' was expected in December 2011 but which largely failed to materialise.

7.4.2 The WTO MC9 decisions on LDCs

The LDC package discussed in Bali included four items of special interest to LDCs: DFQF access for 97 per cent of LDC exports; more favorable rules of origin for their goods; 'a step forward on cotton';[11] and a waiver to allow LDCs special access to the services markets of developed countries. It is important to recall that the decision to provide DFQF market access to LDCs and to cut cotton subsidies had already been made at the Hong Kong ministerial meeting six years earlier; only the implementation modalities needed to be worked out.

Table 7.1 Effects of NAMA scenarios on LDCs by selected donors: effects on donors' imports

	Total	Canada	EU	Japan	USA	China	India	Korea
LDCs	0.2	–3.4	–0.9	–2	0.1	0.8	7.7	4.8
Rest of world	2.8	0.4	1	1	0.1	6.5	1	13.1
World	2.8	0.4	0.9	1	1.6	6.4	1	13

Note: The simulations are based on NAMA proposals, with a Swiss coefficient of 8 for the developed countries and 25 for developing countries.
Source: Laird (2012)

Duty-free and quota-free market access scheme

At the 2005 Ministerial Conference, WTO members agreed that: 'Developed-country Members shall, and developing-country Members declaring themselves in a position to do so should, provide duty-free and quota-free market access on a lasting basis, for all products originating from all LDCs by 2008…'. However, developed-country members added a convenient 'escape clause': 'Members facing difficulties at this time to provide market access… shall provide duty-free and quota-free market access for at least 97 per cent of products originating from LDCs defined at the tariff line level…' while taking steps to progressively achieve 100 per cent DFQF.

Since then, the debate has focused on the potential gains under a 97 per cent DFQF scheme versus full product coverage and on related rules of origin. Available evidence shows that gains would be rather limited under a 97 per cent DFQF scheme since the 3 per cent of excluded tariff lines could potentially cover between 90 and 98 per cent of all LDC exports (Laborde 2008). LDC negotiators therefore face the difficult task of ensuring that the 3 per cent exception does not exclude products of critical export interest to their countries.

Most developed countries as well as some emerging economies are already implementing DFQF schemes of various levels of ambition (Table 7.2). The USA has since 1976 implemented a generalised system of preferences (GSP) scheme for developing countries that was set to expire in July 2013. It is also implementing two regional duty-free schemes. AGOA provides 40 designated African countries, including 26 LDCs, duty-free treatment on some 1,835 products. The Caribbean

Table 7.2 Existing trade preference schemes for LDCs

Country (year)	Brief description of scheme
Canada (2003)	DFQF excluding over-quota tariff items for dairy, poultry and egg products
China (2010)	Zero-tariff treatment to 4,788 tariff lines (60%) to be extended eventually to 97%
EU (2001)	The Everything But Arms (EBA) initiative provides DFQF access for all products from LDCs (except arms and ammunition)
India (2008)	Duty-free access on 85% of tariff lines at the HS six-digit level
Japan (2007)	DFQF market access on 8,859 tariff lines (or 98% at the tariff line level), covering over 99% in terms of imports value
Korea (2000)	DFQF access extended to 95% of total tariff lines in 2010
US LDBC (1976)	3,451 products admitted duty-free under GSP; an additional 1,430 products for least-developed beneficiary developing countries (LDBDC)
US AGOA (2000)	1,835 products from qualifying African countries available for duty-free treatment in the US market in addition to those under GSP
US CBTPA (2000)	Duty-free market access for most products, including textiles and apparel, for 17 designated beneficiaries in Central America and the Caribbean. Special programs for Haiti

Basin Trade Partnership Act (CBTPA) offers 17 beneficiary countries from Central America and the Caribbean (including one LDC – Haiti) duty-free access to the US market for most products, including textiles and apparel. AGOA is set to expire in 2015, and CBTPA in 2020.

Whereas the DFQF schemes of Canada, Japan and the EU provide duty-free coverage to over 98 per cent of tariff lines and feature few exclusions, it is estimated that, on the whole, US trade preference schemes admit on average only 82.4 per cent of imports duty-free, with exclusions hitting 1,834 national tariff lines (WTO 2012). Excluded products of key export interest to LDCs include dairy products, sugar, cocoa, leather and footwear, cotton, and textiles and clothing. It is therefore clear that any further gains from improvement to existing preference schemes will come from the USA implementing a broad and comprehensive DFQF scheme. However, it is also clear that this is unlikely unless the USA takes bold steps to tackle local, powerful interest groups who fear that opening up the US market in clothing could lead to increased competition from countries such as Bangladesh and Cambodia.[12]

Research confirms that existing DFQF schemes are highly beneficial to LDCs. A recent study employing a computable general equilibrium model estimates that full implementation of DFQF by OECD countries would boost LDC exports by about USD 2 billion (or 17 per cent) without affecting preference-granting countries in any major way (Bouët et al. 2010). Another study – commissioned by the ICTSD – uses a partial equilibrium model to examine the impact of providing 100 per cent duty-free treatment to LDC exports by a selected group of trade partners – including four major developed economies with long-standing trade preference schemes (Canada, the EU, Japan and the USA), one with a fairly recent duty-free scheme (Korea), and two emerging economies (China and India).

The results show that LDC exports would expand by 2.9 per cent, with the biggest impacts coming from India (21.7 per cent increase in imports from LDCs), Korea (12.9 per cent) and USA (11.8 per cent). Impacts on the rest of the world will be negligible (Table 7.3).

Not surprisingly, the ICTSD study shows that countries with close-to-full duty-free coverage, such as Canada and those of the EU, will register very small increases in exports from LDCs. But China's rather small (1.7 per cent) impact is puzzling. It indicates little potential for LDCs' exports to China to grow even if China extended its duty-free coverage from the current 60 per cent to 100 per cent. One possible explanation is that the bulk of China's imports (90 per cent in 2011) from LDCs consist of raw materials and mineral fuels, which already attract little or no duty.

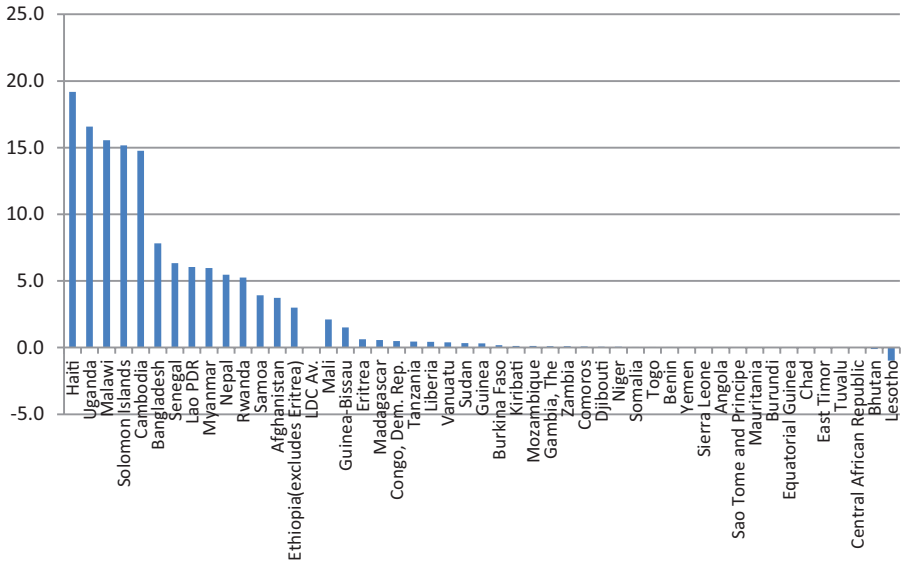
Country-wise, Haiti, Uganda, Malawi, Cambodia, Bangladesh and Nepal are among the biggest gainers. At the other extreme, Lesotho appears as the only country to lose in a rather significant way (Figure 7.10). Even so, its loss is a mere 1 per cent of imports, or about USD 5 million, and is totally offset by AfT flows in recent years.[13] The loss derives from the erosion of Lesotho's preference margins, mainly in the USA, to the benefit of other competing LDCs such as Bangladesh and Cambodia.[14] On the whole, however, Lesotho's loss should not be a barrier to negotiations by

Table 7.3 Effects on selected LDCs' exports of full duty-free treatment by selected donors

LDC	Total	Canada	China	EU	Japan	Korea	USA
Angola	0	0	0	0	0	3.6	0
Bangladesh	7.8	0	63.5	0	0	73.8	22.2
Burkina Faso	0.2	0	0	0	0	20.8	27.9
Cambodia	14.8	0	19.3	0	0.1	4.1	27.8
Ethiopia	3	–	0.7	0	0.7	139	–0.1
Haiti	19.2	0	9.5	0	0	13.7	21.4
Lao PDR	6	0	8.3	–0.1	2.4	0.1	15.5
Madagascar	0.6	0	5.6	0	0	10.5	–1.4
Malawi	15.6	–	58.7	0	0	0	109.3
Nepal	5.5	0	66.1	0	0.1	3.2	7.6
Rwanda	5.2	–	0.2	0	0	0.1	0.2
Senegal	6.3	1.2	12	0	5.5	27	1.5
Tanzania	0.5	–	1.3	0	0.2	0.1	0
LDC total	2.9	0	1.7	0.2	0.1	12.9	11.8
Rest of world	0	0	0	0	0	0	–0.1
Total	0	0	0	0	0	0	0.1

Source: Adapted from Laird (2012)

Figure 7.10 Percentage change in imports from LDCs from implementation of a full DFQF scheme



Source: Adapted from Laird (2012)

LDCs for the implementation of a DFQF scheme as agreed at the Hong Kong ministerial meeting in 2005. This loss may be addressed through targeted measures aimed at increasing export competitiveness or through assistance for adjustment, including AfT (Bouët et al. 2010).[15] Alternatively, the USA could extend duty-free access to Asian LDCs while preserving existing preferences to less competitive LDCs like Lesotho by selectively excluding their key export products from the duty-free list (Elliott 2012).

So far, however, tensions among the LDCs themselves around those issues have weakened the group's negotiating position, which largely explains the lack of significant progress in Bali on this particular topic. As a result, the Bali decision on DFQF largely reiterates what had been agreed at the 2005 Hong Kong ministerial meeting with only minor procedural improvements. In particular, ministers decided that 'Developed-country Members that do not yet provide duty-free and quota-free (DFQF) market access for at least 97 per cent of products originating from LDCs, defined at the tariff line level, shall seek to improve their existing DFQF coverage for such products, so as to provide increasingly greater market access to LDCs, prior to the next Ministerial Conference.' Moreover, 'developing-country Members, declaring themselves in a position to do so, shall seek to provide DFQF market access for products originating from LDCs, or shall seek to improve their existing duty-free and quota-free coverage for such products, so as to provide increasingly greater market access to LDCs, prior to the next Ministerial Conference'.

Preferential rules of origin

Rules of origin (RoO) confer an economic nationality on products traded across borders, defining how much processing must take place locally before goods are considered to be the product of the exporting country. In the case of LDCs, preferential RoO are often considered too restrictive and inflexible, making it difficult for the LDCs to take advantage of the intended preference. Furthermore, these are currently designed on a unilateral basis, without any harmonised standard. LDCs have long strived to introduce modalities on preferential RoO on the argument that these could further improve preference utilisation.[16] They ultimately managed to have some language on rules of origin included into the Hong Kong Ministerial Declaration. The decision states, inter alia, that WTO members agreed to 'ensure that preferential rules of origin applicable to imports from LDCs are transparent and simple, and contribute to facilitating market access'. However, the decision does not say specifically what the rules of origin should be and how they would be implemented (UNOHRLLS 2008).

In their submission to the WTO in view of the Bali Ministerial,[17] the LDC group opted for an across-the-board rule of origin based on a percentage value-added criterion to be defined. However, they noted that the choice of a single rule should not preclude preference for product-specific rules where these are in the interest of LDCs, for example in the clothing sector. In this sector, the proposal was for a single transformation rule, modelled on EU RoO. The submission also contained a proposal on calculating substantive transformation, namely using the percentage criterion

based on the value of materials. These choices were based on a careful consideration of the benefits and limitations of alternative methods.

Building on the LDC proposal, the Bali decision on RoO contains a set of multilateral guidelines for the RoO that WTO members apply to their non-reciprocal preference schemes for LDCs. It reiterates some of the principles adopted in Hong Kong and recalls that preferential RoO should be as transparent, simple and objective as possible. It recognises that each country granting trade preferences to LDCs has its own method of determining RoO, and it invites members to draw upon the elements contained in the decision when they develop or build on their individual RoO arrangements applicable for LDCs. The decision then recognises ways in which origin can be conferred – e.g. using the *ad valorem* percentage criterion; change of tariff classification; or specific manufacturing or processing operation – and provides some illustrations in which preferential RoO can be made easier to comply with. In this respect, the decision constitutes a step forward. For the first time, governments have established a set of multilaterally agreed guidelines, which should help make it easier for LDC exports to qualify for preferential market access. The decision is, however, in the form of non-binding guidelines, implying that developed country members are free to choose to adopt these guidelines or not.

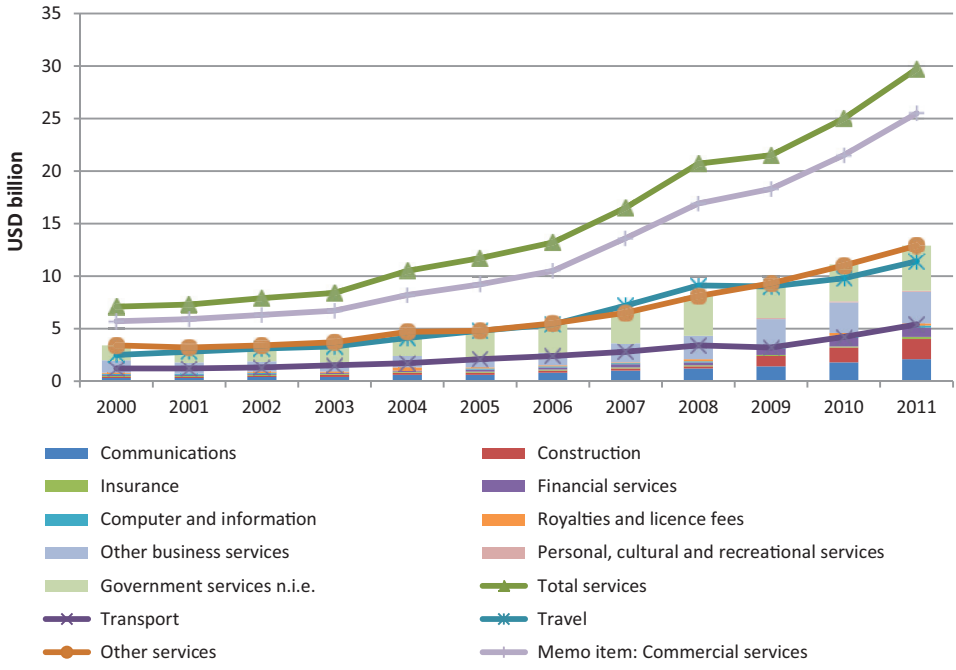
The services waiver

LDCs accounted for a negligible 0.5 per cent of world trade in services between 2009 and 2011. Travel services are the single largest category of service exports from LDCs and have shown a marked upward trend, especially since 2003 (Figure 7.11). In 2011, travel services represented 44.7 per cent of LDC exports of commercial services, and transport services another 21 per cent. Beyond these sectors, LDCs are virtually absent in non-traditional services. Exports of communication and other business services, for example, have more than tripled in value since 2000 but their combined share has stagnated around 20 per cent in recent years, lower than in 2000.

The quasi-absence of LDCs in the global services market, worth USD 4.2 trillion in 2011, suggests that the potential for these countries to tap this market is huge. While several studies have documented the state of services liberalisation in LDCs, few have actually explored their potential to expand services exports. Inevitably, the assumption has been that LDCs will remain marginal players in services trade because they lack the infrastructure and skills to make a dent in the rapidly growing segment of commercial services. This assumption, however, is not justified. A number of LDCs are already important players in specific sectors of services; many have good information technology (IT) infrastructure and a critical mass of skills; and, perhaps more importantly, most LDCs realise that services trade provides a unique opportunity for structural transformation by bypassing the elusive manufacturing phase.

ITC (2013) has documented some success stories of LDCs diversifying into tradable services and witnessing a rapid increase in their service exports as a result. Rwanda and Senegal, for example, have developed a fledgling outsourcing industry based on back-office operations (BPOs) and call centres respectively. Furthermore, Rwanda's

Figure 7.11 LDC services export by sector, 2000–11



Source: UNCTAD Stat, accessed August 2013

Vision 2020 charts out a strategy to move from an agriculture-based to a knowledge-based economy, which would boost its service exports. Bangladesh has moved up the BPO value chain by specialising in services such as software design and data access solutions. Cambodia's financial services sector is taking off, aided by high growth rates in the region.

Despite the role of services in global value chains of goods as well as that of services in their own right, little is known about strategies by LDCs to integrate world service markets by specialising in specific service-related tasks. Even the IPoA is silent on services while speaking more eloquently of the need for merchandise export diversification. Accordingly, it would be useful to inform LDCs where their potential to engage in services trade lies while they negotiate the services waiver.

At the eighth WTO Ministerial Conference in December 2011, trade ministers adopted a waiver to enable developing- and developed-country members to provide preferential treatment to services and service suppliers of LDCs. The waiver, which will last initially for 15 years from the date of adoption, releases WTO members from their legal obligation to provide non-discriminatory treatment to all trading partners (General Agreement on Trade in Services (GATS) Article II) when granting trade preferences to LDCs. It effectively operates as a new LDC-specific 'enabling clause' for trade in services. As such, the waiver is meant to promote LDCs' service trade in sectors and modes of supply that are of particular export interest to them. It allows members to automatically grant preferential market access to the services and service suppliers

of LDCs on the quota-type measures listed in GATS Article XVI. More favourable treatment with respect to other measures, such as those relating to national treatment, domestic regulations defined in Article VI:4 and other obligations under the GATS, requires prior approval by the WTO Council on Trade in Services (WTO 2013).

While representing a significant win for LDCs, the waiver itself does not confer any direct economic benefit. In order to operationalise it, it is important to identify preferences – by mode and sector – that could provide significant economic benefits to LDCs. At the very least, this requires reliable economic data on services trade and information on applied regimes of preference-granting countries. Existing data, however, is neither sufficiently available nor detailed enough to allow a meaningful analysis of LDCs' service export potential. Published data are limited to modes 1 and 2 and does not adequately cover LDCs. Data on mode 4 – which is of special interest to LDCs – are generally not available. Furthermore, no consistent database on applied regimes exists to date, and members' schedules of commitments are of little use since they are likely to diverge from applied measures. Finally, where information on applied regimes is available, care must be exercised in analysing it since a number of domestic regulations may appear neither as market access limitations under Article XVI nor as national treatment limitations under Article XVII but which may nevertheless be burdensome and have a depressing effect on LDCs' service exports.[18]

A number of studies have tried to assess the economic benefits of expanded services trade.[19] The evidence suggests that the greatest potential gains from trade (goods and services combined) are associated with the liberalisation of mode 4 – temporary movement of service suppliers – a sensitive area in the negotiations where efforts so far have largely fallen behind commitments or declarations of intent. Jansen and Piermartini (2005) show that the temporary movement of persons, by reducing transaction costs for merchandise trade between home and the host country, causes bilateral trade to expand in a statistically significant way. Walmsley and Winters (2005) have focused on the direct welfare effects of liberalising trade in mode 4 in a general equilibrium framework. They show that if OECD countries allowed temporary migration of workers to increase by the equivalent of 3 per cent of their labour force, the resulting global gains would be greater than those under full liberalisation of merchandise trade. Moreover, both developed and developing countries would share in the gains, which would be largest if migration of both professionals and unskilled workers were permitted. These results broadly suggest that operationalising the services waiver could be win–win for both the LDCs and the preference-giving countries.

As a step forward in the operationalisation of the waiver, ministers agreed in Bali that the Council for Trade in Services (CTS) should initiate a process aimed at promoting the expeditious and effective operationalisation of the LDC services waiver. Moreover, 'with a view to accelerating the process of securing meaningful preferences for LDCs' services and service suppliers, the Council for Trade in Services shall convene a High-level meeting six months after the submission of an LDC collective request identifying the sectors and modes of supply of particular export interest to them. At that meeting, developed and developing Members, in a position to do so, shall indicate

sectors and modes of supply where they intend to provide preferential treatment to LDC services and service suppliers.' Finally, the decision highlights the importance of enhanced technical assistance and capacity building to help LDCs benefit from the operationalisation of the waiver.

Cotton

In many ways, cotton is the one issue that singularly brought to attention the trade-related development challenges facing LDCs and formed the basis for their explicit inclusion in the multilateral trade negotiations through, inter alia, the LDC package. The battle on trade-distorting cotton subsidies led by Africa's four biggest cotton producers (Burkina Faso, Chad, Mali and Benin – collectively known as the C4) has fallen short of a victory but has chalked up a number of smaller successes. However, since negotiations on agriculture have stalled, and in spite of the commitment by ministers in Hong Kong to 'address cotton ambitiously, quickly, and specifically', no deal on cotton has come. In Bali WTO minsters adopted a decision that recognised that the organisation is yet to deliver on the trade-related components of the 2005 Hong Kong Ministerial Declaration, but agreed on the importance of pursuing progress in this area. Members will meet twice each year to study the latest information and to discuss the latest developments on market access, domestic support and export subsidies for cotton, particularly from LDCs.

Although the issue of cotton concerns many WTO members, the largest and most trade-distorting payments have historically come from the USA. A change in US policy, at the bilateral level, would therefore go a long way in addressing LDCs' grievances over cotton. The USA has been under pressure to reform its Farm Bill since 2002 when the WTO ruled in favour of Brazil that US cotton subsidies were excessive and unfair. The USA refused to cut the subsidies but, when faced with the threat of retaliation by Brazil, agreed to pay a compensation of USD 147 million annually until the Farm Bill was reformed.

The 2014 Agricultural Act was finally signed into law by the president of the United States on 7 February 2014. The Farm Bill had proved divisive for several reasons – mostly over disagreement on the areas of spending cuts – leading to protracted talks over a period of two years. The compromise reached by lawmakers involves slashing direct payments and instituting new crop insurance subsidies, which altogether will trim the agricultural budget by USD 16 billion over the next 10 years. Several farm subsidy programmes that were seen as WTO-illegal – such as the Countercyclical Payment Program and the Average Crop Revenue Program – have been either scrapped or modified. Conversely, the bill introduces five new crop subsidy programmes and replenishes four disaster programmes, set up in 2008 and only partially funded through to 2011, for the next five years.

Whereas disaster aid programmes have been structured in ways that broadly comply with WTO law, the new subsidy programmes have been introduced 'with the specific intent of providing farmers substantial subsidy payments rather than moderate risk management protection' and so are ostensibly trade-distorting (Smith 2014). Of

these programmes, of particular relevance to the cotton issue is the Stacked Income Protection (STAX) programme, a supplemental insurance plan proposed to address the cotton dispute with Brazil. The programme is an area-based insurance product where payments are triggered whenever actual average revenues at the area level fall below 10 per cent of their expected levels.

Under the STAX insurance programme, indemnity payments are more likely and subsidies are larger on a *per-unit basis*. These subsidies are 'amber box' payments that count towards the United States' Aggregate Measure of Support (AMS). It is therefore unlikely that the programme itself could address the policy problem raised by Brazil's complaint to the WTO – for, although the STAX is a domestic production subsidy (and not an export subsidy), in practice, it is trade-distorting.

Earlier in the debate, there was a fear that the Farm Bill would retain a proposal by the House of Representatives involving a minimum price on cotton, which would have resulted in significant trade and production distortions. Fortunately, neither version of the Farm Bill, passed independently by the House and the Senate in 2013, makes any reference to minimum prices. On the downside, there are concerns that the increase in amber box subsidies that the new programmes entail will further dampen the United States' willingness to support effective reductions in AMS caps under a future WTO agreement. Furthermore, since all five insurance schemes (but perhaps less so the STAX programme) are designed to give US farmers large subsidies when the prices of the commodities they produce fall, they potentially open the gates to trade disputes, including in the case of cotton.

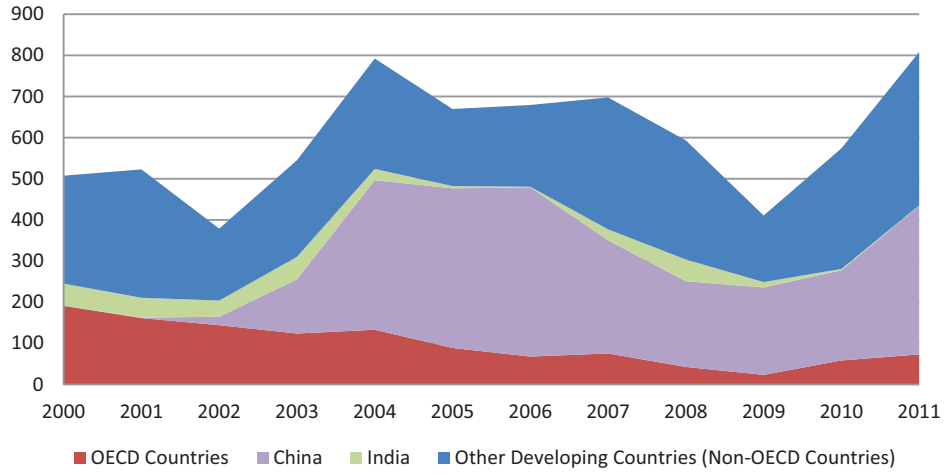
In the meantime, a series of recent developments has reduced the pressure on West African cotton producers. First, cotton prices – even after crashing down from an all-time peak in mid-2011 – remain high by historical standards, and subsidies as a share of farm revenue have declined over the years.[20] This means that a cotton deal will have limited impact on the world price. Simulations indicate that the highest price increase – occurring under the scenario of full implementation of the December 2008 Revised Draft Modalities – will be no more than 10 per cent. In most other scenarios, the projected increase in world cotton price will be considerably smaller (Jales 2010).

Second, higher prices for alternative crops, such as corn and wheat in the USA, together with declining yields and rising production costs, on the one hand, and expectations of long-overdue farm reforms that would substantially reduce subsidy pay-outs, on the other, are pushing farmers away from cotton production.

Third, world prices of cotton are set more by China's trade policy than by US or EU subsidies. China has emerged as a major cotton importer, absorbing an increasing share of the C4 exports – 45 per cent in 2011 (Figure 7.12). Indeed, the hike in cotton price in 2011/12 is largely attributed to massive purchases by China to rebuild its national reserves even as global stocks increased and demand dwindled.

These developments have also eased the political challenge in reforming trade-distorting cotton subsidies. Along with budgetary pressures in the USA and elsewhere, they suggest that the time for cotton reform has never been better.

Figure 7.12 C4 Cotton exports by destination, 1990–2011 (USD million)



7.4.3 Other issues

LDC accession to WTO

The IPoA states that one of the joint actions to be taken by LDCs and their development partners should be to 'Facilitate and accelerate negotiations with acceding least developed countries based on the accession guidelines adopted by the World Trade Organization General Council in December 2002' (IPoA 2011: 20). Becoming a member of the WTO is not an easy task. Usually, the full scale of the numerous politically challenging reforms that applicants are required to undertake as part of the accession process becomes clear only after the process has started. The process itself can be long drawn, tedious, complex and demanding on the resources and capacity of LDCs.

LDCs have long complained that WTO members routinely ask them to take on commitments beyond their capacities during the bidding process. These commitments also tend to exceed those required of LDCs and other developing countries that joined the organisation in its early years (Table 7.4). On average, bound agricultural tariffs are

Table 7.4 Market access conditions in agriculture and NAMA

	Market access conditions	30 original LDC members (%)	5 recently acceded LDCs (%)
Agriculture	Average bound tariffs	78.8	31.6
	Average applied tariffs	15.3	17.9
	Binding coverage	100	100
NAMA	Average bound tariffs	44.4	23
	Average applied tariffs	11.9	12.3
	Binding coverage	48.4	100

Source: Author's computation, using data from the WTO

47.2 percentage points lower in the case of the five recently acceded countries, whereas for NAMA products they are 21.4 percentage points lower. Similar differences between original LDC members and recently acceded LDCs exist in the level of binding coverage, i.e. the percentage of tariff lines that members agree to bind at a certain level upon joining the organisation. While the WTO Agreement on Agriculture requires all members to bind all agricultural tariff lines, the level of binding coverage in industrial goods varies considerably among the LDCs. Among recently acceded LDCs, Nepal has bound 99.3 per cent of its NAMA tariff lines, whereas the other four agreed to a 100 per cent binding coverage. In contrast, only eight of the original LDC members have bound all their industrial tariffs, with several LDCs leaving the vast majority of their NAMA lines unbound.[21]

In 2002, WTO members agreed on guidelines that aimed at facilitating the negotiations for the accession of LDCs to the WTO through simplified and streamlined accession procedures in the areas of market access, WTO rules, process, trade-related technical assistance and capacity building.[22] Despite these guidelines, only seven LDCs – Cambodia (2004), Nepal (2004), Cape Verde (2008), Samoa (2012), Vanuatu (2012), Laos (2013) and Yemen (2013) – have acceded to the WTO since its establishment in 1995. Most LDCs (30) entered the global trade body as part of the Uruguay round, nine are currently negotiating their accession and five are still outside the legal system (see Annex 7.2).

At the 2011 Ministerial Conference, it was decided to 'further strengthen, streamline, and operationalize the 2002 LDC accession guidelines,' with the inclusion of benchmarks, particularly in the area of goods, that take into account the level of commitments undertaken by existing LDC members.[23] Members were also urged to explore possible benchmarks in the area of services. After intense negotiations in the WTO LDC Sub-Committee, the General Council formally approved new guidelines in July 2012. The decision establishes benchmarks on goods and services, as well as elements on special and differential treatment, transition periods, transparency and technical assistance. The main difference between the two sets of guidelines is that the new ones include quantitative benchmarks in the area of goods, which comprise the main bulk of LDC trade.

The negotiations on goods benchmarks focused on defining an appropriate overall level of average bound rates for both agricultural and NAMA products, as well as an agreed level of binding coverage for NAMA. Importantly, the text states that establishing benchmarks on average bound rates does not prejudge the right of members to negotiate the level of bound rates in individual lines of interest to them. In this respect, the agreed benchmarks do not establish a minimum or maximum bound tariff but rather a set of multilaterally agreed reference points that should guide bilateral market access negotiations between acceding LDCs and their trading partners. The LDC group initially proposed an average bound rate of 70 per cent in agriculture and 40 per cent in NAMA, with 55 per cent binding coverage of NAMA lines. At the other end of the spectrum, the European Commission proposed a 40 per cent and 30 per cent benchmark respectively for agriculture and NAMA, along with

100 per cent binding coverage of NAMA lines in order to ensure predictability. The final agreed text is a compromise between the two approaches. It aims to ensure an appropriate balance between predictability of tariff concessions – a key element of the multilateral trading system – and the need to address the specific constraints or difficulties of LDCs and reflect their 'legitimate development objectives'.

According to the text, acceding LDCs shall bind all agricultural tariff lines at an overall average rate of 50 per cent. This level is about 28 percentage points lower than the average of the 30 LDCs that joined the organisation in its early years, but 18 percentage points higher than the five recently acceded LDCs. With regard to non-agricultural products, the decision provides two options: acceding LDCs shall bind 95 per cent of their NAMA lines at an overall average rate of 35 per cent, or they can undertake more comprehensive binding coverage. In the latter case, the acceding country shall be afforded proportionately higher overall average rates, to be agreed with WTO members. The text also specifies that 'in such cases the acceding LDC shall be entitled to transition periods of up to 10 years for up to 10 per cent of their tariff lines'.

The guidelines will contribute to the bidding process during the bilateral accession negotiations between WTO members and the acceding LDC. However, the accession process itself could be strengthened in a way that it becomes a collective effort of the global community to assist the acceding countries in integrating the world economy in order to enhance trade and sustainable development in the countries.[24] This would go beyond the action outlined in the IPoA about facilitating WTO accession for LDCs as well as supporting the goal of substantially increasing LDC trade.

Trade facilitation

The Bali trade facilitation agreement (TFA), reached in December 2013, constitutes without doubt the main outcome of the ninth WTO Ministerial Conference. Paradoxically, despite the fact that LDCs were not the main *demandeurs*, this might be the area of the Bali package which will generate the largest benefits to LDCs. The negotiations basically aimed to simplify customs rules and reduce inefficiencies that create long lag times in cross-border flows of trade by clarifying and improving three articles of the WTO's General Agreement on Tariffs and Trade (GATT), 1994.[25] More specifically, the negotiations involved areas such as improving transparency, standardising documentation requirements and trade-related fees, and streamlining existing border procedures, with specific disciplines designed on issues such as transit of goods, single window clearance, customs co-operation, expedited shipments or the use of customs brokers, to list just a few.

In the run-up to Bali, many developing countries were suspicious about the proposed agreement. Some saw it as a device to dodge more important issues related to the Doha talks. There were also concerns that a TFA may lock LDCs into costly commitments, with little aid from development partners to implement those commitments. From a narrow perspective, many of the above concerns were valid. First, the definition of 'trade facilitation' adopted by the WTO is limited to port efficiency and customs

facilitation, and misses out on the larger issue of infrastructure for trade. Second, although trade facilitation is meant to cover both exports and imports, there were fears that a TFA would cause imports to increase first and foremost, and that any increase in exports would be incidental. Since exports in LDCs face formidable supply-side constraints, and are unlikely to receive much of a boost from greater customs efficiency, such fear is probably justified. Third, implementing the TFA could involve important investments in customs modernisation and port logistics (on the 'soft' side), which may be neither a priority for LDCs at this time nor within their financial reach.

Reflecting these concerns, the final text adopted in Bali is divided into two parts: the first involving specific commitments countries will take to improve their customs procedures (Section I); the second involving special and differential treatment for developing countries and LDCs (Section II). Achieving this balance between firm commitments in Section I with developing countries' respective needs for technical assistance and capacity-building to implement them, as outlined in Section II, has long been a major stumbling block. In this respect, the final agreement contains a set of landmark provisions allowing for flexibility in the scheduling and sequencing of implementation, and linking commitments to acquired capacity resulting from technical assistance. More specifically, commitments for the developing countries and LDCs can fall under three potential categories. Category A includes those provisions that will be implemented immediately upon the agreement's entry into force; category B includes those commitments that will require a transition period; and category C involves those commitments that will require both a transition period and technical assistance.

Beyond short-term implementation concerns, LDCs should see the long-term benefits of the agreement in a world characterised by global value chains (GVCs). The rise of GVCs has underlined the need to source inputs competitively in order to remain internationally competitive. High tariffs on imported goods – especially capital goods, raw materials and intermediates – may result in negative effective protection to an export industry, further constraining its insertion into the GVC. By allowing imports to flow more easily, the TFA could provide the potential benefits of import liberalisation without having to incur all of its political costs.

Trade facilitation is aimed at reducing the transaction costs associated with trade. These costs are estimated to range from 1 to 15 per cent of the value of trade transactions (OECD 2005). A study on APEC economies finds that trade formalities are more costly than tariffs (Commonwealth of Australia 2001). Transaction costs are particularly high in African countries because of complex and cumbersome procedures, inefficient customs, obsolete machinery and corrupt practices among customs officials. Hummels (2001) finds that inefficiencies at African ports add a cost of 8.1 per cent to the value of transactions.

Many studies have demonstrated substantial gains from trade facilitation. For example, Cali and te Velde (2011) find that AfT facilitation and AfT disbursements on economic infrastructure tend to reduce trading costs and boost exports in a

significant manner. More efficient customs procedures are found to cause trade flows to increase by as much as 30 per cent in developing countries (Wilson et al. 2003). Similarly, cutting the number of days required to clear customs in Ethiopia by half could cause total factor productivity to increase by 18 per cent. A study on APEC economies shows that clearing the red tape at borders could generate approximately twice as much gain in GDP terms than trade liberalisation (Asia Pacific Foundation of Canada 2000).[26]

Non-tariff barriers

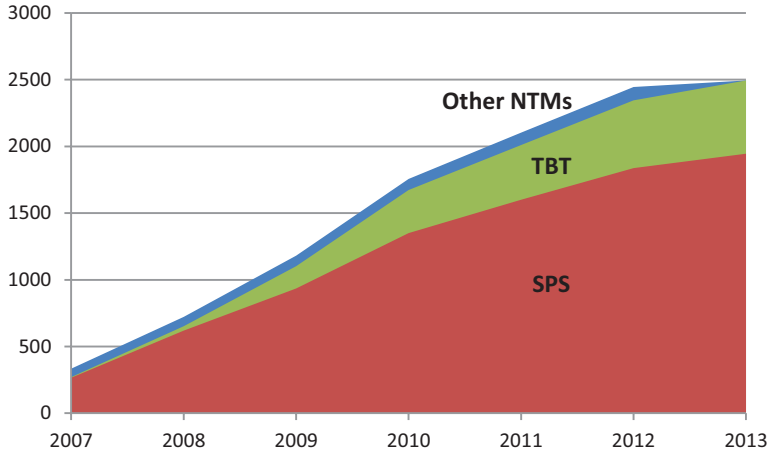
Non-tariff measures (NTMs) have emerged as significant barriers to trade as tariffs have fallen. While most NTMs are meant to address public policy concerns – both economic (such as market failures) and non-economic (e.g. to protect health, animal and plant life) – they may actually serve a protectionist purpose, whether intended or incidental. For example, the WTO registered a sharp increase in the number of countervailing measures and safeguards initiated in 2008 and 2009 as crisis-hit economies took 'emergency' measures to limit the spread of systemic damage. Fortunately, the use of NTMs subsided in subsequent years, assuaging fears of a protectionist backlash.

In practice, it has proved difficult to disentangle the legitimate aspect of NTMs from their effect as a disguised restriction on trade. LDCs claim that NTMs such as TBT and SPS measures continue to restrict their exports – even to developed-country markets where they benefit from preferential access. Indeed, the prevalence of TBT/SPS measures on exports of key interest to LDCs is a key reason why many of these countries have not been able to effectively utilise preferences, diversify their exports or move up in the value chain. From the perspective of structural transformation, therefore, addressing burdensome NTMs is critical to enabling LDCs' integration into the global economy. Even DFQF market access – if achieved – would have little impact on many LDC exports if NTMs, including RoO, are not relaxed, or if LDCs' capacity to comply with such measures is not substantially improved.

There is now a wealth of evidence on the prevalence of NTMs in developing countries and of their impacts on trade. Business surveys conducted by the International Trade Centre (ITC) in 2010 in 11 developing countries, including three LDCs (Burkina Faso, Madagascar and Rwanda), reveal that TBT/SPS measures – accounting for 48 per cent of NTMs on a trade-weighted basis – are the most burdensome for exporters. More recent surveys of exporting firms in Malawi and Burkina Faso suggest that technical measures, such as technical requirements and conformity assessment, which correspond broadly to TBT/SPS measures, are even more burdensome for LDC exporters: 75 per cent and 62 per cent of all NTMs encountered by Malawian and Burkinabe exporters respectively related to TBT/SPS measures.

Data from the WTO I-TIP database suggests that the number of NTMs applied to LDC exports has increased significantly over the past seven years (to August 2013) (Figure 7.13).[27] In particular, there has been an explosion in TBT cases (from 5 in 2007 to 549 at the end of August 2013) notified to the WTO over this period. SPS measures, which accounted for 78 per cent of all NTMs in 2013, have also witnessed

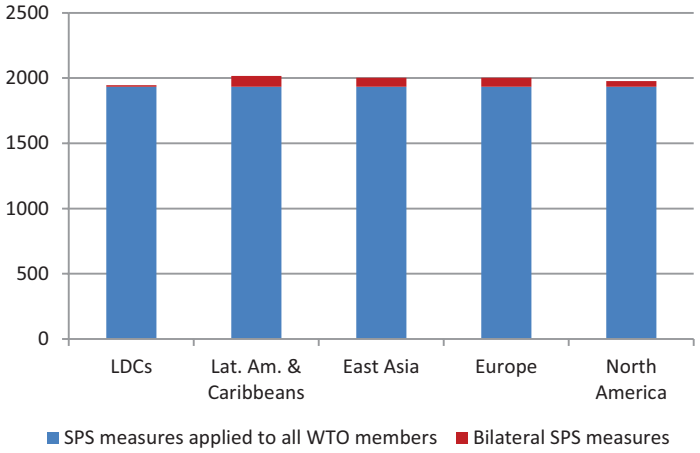
Figure 7.13 Number of non-tariff measures applied to LDC exports (WTO notifications 2007 to August 2013)



rapid growth, increasing at an average rate of 27 per cent per year over the past six years. This, together with further evidence that the bulk of SPS measures (94 per cent according to WTO 2012) affect primarily the agricultural sector while a large number of NTMs apply to apparel (Andriamananjara et al. 2004), and that these measures have a stronger effect on small than on large firms (Reyes 2011), confirms the plight of LDCs, which tend to specialise in these products and whose firms are typically small and face formidable barriers to access credit, among other things.

The debate on NTMs is clouded by several myths that need to be dispelled. First, there is a general presumption that NTMs are targeted at LDCs. This is, however, not borne out by the data. NTMs are generally imposed on an most favoured nation (MFN) basis; however, there exist cases where such measures are applied on selected countries. Focusing on SPS measures, we note from Figure 7.14 that there were 11 cases where these measures were applied bilaterally on LDCs, over and above the 1,934 MFN-type measures as of August 2013. These LDC-specific cases are the smallest among all regional groupings, suggesting that LDCs actually attract a slightly smaller number of NTMs than the average. The second misconception is that NTMs are predominantly a developed-country instrument. This again is a fallacy. Available data shows that Europe and North America – the two regions that represent the majority of developed countries – account for 11 per cent and 25 per cent respectively of SPS measures in force in 2013 (Figure 7.15). Conversely, Latin America and the Caribbean, and East Asia – two developing regions – together account for 49 per cent of all SPS measures, and each applies more such measures than Europe. More generally, NTMs are often perceived as beyond-the-border constraints imposed by the importing country. In reality, a whole range of 'behind-the-border' measures, such as pre-shipment export inspection, certification required by local authorities, export licensing (or prohibitions), export taxes and charges, and foreign exchange regulation, tend to constrain LDC exports and raise the cost of exporting. In some

Figure 7.14 Number of SPS measures applied to selected groups of WTO members (WTO notifications as of August 2013)

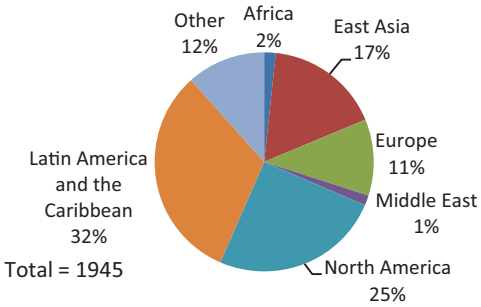


Source: Author's computation using data from WTO I-TIP database

cases, these barriers are more burdensome than NTMs applied by the importing country at the border. For example, the ITC survey of Malawian exporters registered 58 NTM cases applied by the government of Malawi compared with 48 by importing partners (ITC 2012). Indeed, to the extent that domestic NTMs affect exports to *all* countries (perhaps some more than others), they are a more serious concern for exporters than are NTMs applied by importing countries.

Of equal concern to LDC exporters is the rise of private standards, of which social compliance requirements – freedom of association, absence of child labour, conditions of work, respect for the environment – are perhaps the most common form. These standards are present not only on agricultural products, but also in the apparel sector, and so could be a formidable challenge to LDCs' efforts at export diversification through labour-intensive manufacturing. The diversity of private standards and the

Figure 7.15 SPS measures applied on LDCs by regional group, 2013



Source: Author's computation using data from WTO I-TIP database

inadequacy of assistance to comply with them make adjustment particularly difficult for LDCs. Added to the problem of private standards are emerging NTMs in the areas of climate change and the environment. LDC exporters of cut flowers and fresh produce are already facing growing pressure to disclose the carbon footprint of their products through proper eco-labelling. Moreover, in the absence of a global climate deal, countries facing high emissions cuts may resort to border tax adjustments, subsidies and other regulatory measures to protect domestic competitiveness. These measures could have important effects on LDC exports.

In the area of services, where domestic regulation is often cited as a major barrier to LDC service exports, the paucity of data precludes a meaningful analysis of burdensome services measures. WTO members' schedules of commitments provide information on bound policies, but this is of little help since applied regimes tend to be generally more open. Some attempt has recently been made to proxy for domestic regulation using OECD's Product Market Regulation (PMR) indicators, but these fail to capture the sector-specific aspects of domestic regulation. With the spotlight currently on the LDC services waiver, there is a pressing need to take stock of measures restricting LDC services exports beyond those related to market access.

The Doha Declaration mandates that negotiations should aim to reduce or eliminate tariffs as well as non-tariff barriers. With the current stalemate in the Doha Round, it is unlikely that an agreement on NTMs will emerge any time soon. Significantly, NTMs have never been an active area of negotiations, which may reflect both a focus on more pressing issues and a tacit acceptance among trade negotiators of the fact that NTMs are here to stay, and so the best strategy is to adapt to them. In this regard, development partners, through the AfT initiative, are making significant efforts to help LDCs design and implement national quality policies, enhance human capacity through training and build the infrastructure needed for testing, accreditation and certification. UNIDO (2013) has compiled a number of case stories of effective technical assistance in developing countries, including several LDCs. These include improved quality and food safety standards for Burundi's coffee producers and Tanzanian cashew processing plants; helping Cambodian rubber obtain international accreditation; and setting up national quality infrastructure in Malawi, Myanmar, Sierra Leone and Zambia, among others. These are vivid examples of how AfT is helping LDC exporters integrate into GVC or upgrade their products to capture greater value.

Moving forward, it would be desirable to provide scaled-up AfT resources to support initiatives – such as those described above – to build LDCs' compliance capacity. LDCs themselves can do much to tackle export-related barriers at home. Policy actions to streamline administrative procedures and rationalise export taxes could be particularly fruitful. Over the long term, governments can help build a national quality culture aimed at improving product competitiveness. All along, LDCs and development partners should continue to scrutinise NTMs to make sure that they serve legitimate public policy interests rather than specific lobby interests.

7.5 Other international/regional co-operation arrangements

While LDCs should continue to lobby for a timely and effective delivery of the LDC package, they should, in parallel, seek to make the best of other opportunities for structural transformation outside of the WTO negotiation context (WTO 2011). These opportunities include developments such as emerging economies, which are altering the dynamics of LDC trade; and the rise of value chains, which has – arguably – made it easier for LDCs to integrate global markets. There are also two other existing, and perhaps less obvious, 'opportunities' that could be further exploited. These are the AfT initiative, which, as discussed below, has delivered tangible development outcomes in a number of countries, and regionalism, which could offer enhanced market access opportunities, especially to landlocked countries, if pursued strategically and with greater policy zeal.

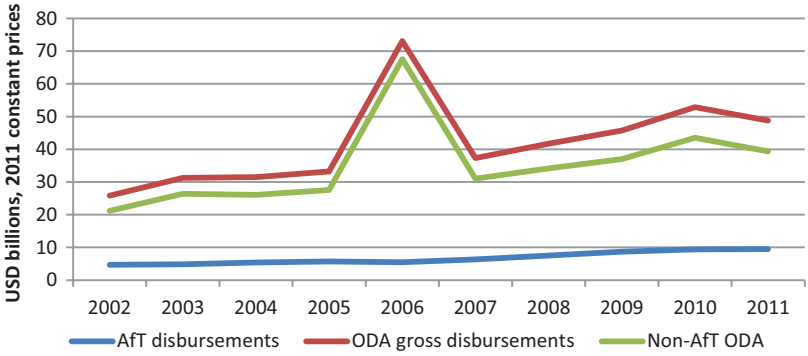
7.5.1 Aid for Trade

AfT can be another important tool for advancing structural transformation in LDCs. The AfT initiative was launched at the Hong Kong Ministerial Conference of December 2005 with the stated objective of helping developing countries build the trade capacity and infrastructure needed to benefit from trade opening. The IPoA explicitly refers to AfT in paragraph 66(2)(e) when it calls on development partners to devote a larger share of AfT resources to 'implement effective trade-related technical assistance and capacity-building' in LDCs. However, since this particular category of AfT has traditionally accounted for no more than 3 per cent of total AfT disbursements to LDCs, it is rather surprising that the IPoA did not give due consideration to the other AfT categories, namely economic infrastructure and productive capacity building, that make up the bulk of AfT flows and that show the biggest impacts in practice. Perhaps an implicit reference is made to these areas of AfT in paragraph 62 when the IPoA states that development partners can support LDCs' efforts to tackle supply-side capacity constraints, including through private sector development, with a view to boosting and diversifying LDC exports. On the whole, the case for AfT in building and enhancing the export competitiveness of LDCs is not made strongly enough, despite the controversy surrounding the initiative.

Trends in AfT flows

AfT commitments and flows to LDCs have increased rapidly since 2005, and have weathered the financial crisis of 2008/09. In general, disbursements have fallen short of, and lagged behind, commitments, and in recent years this gap has widened. On a positive note, Figure 7.16 shows that AfT in LDCs appears to have been additional since both AfT and non-AfT official development assistance (ODA) have generally increased since 2005.[28] More worrying, in 2011, total ODA flows declined while AfT slightly increased. Since 2005, LDCs' share of AfT over global disbursements has hovered at about 25–28 per cent (Figure 7.17). On the other hand, in the period 2002–04, this share fluctuated between 32 per cent and 29 per cent. Given LDCs' AfT needs, one can only hope that the downward trend in AfT is reversed and that a

Figure 7.16 AfT and non-AfT ODA disbursements in LDCs

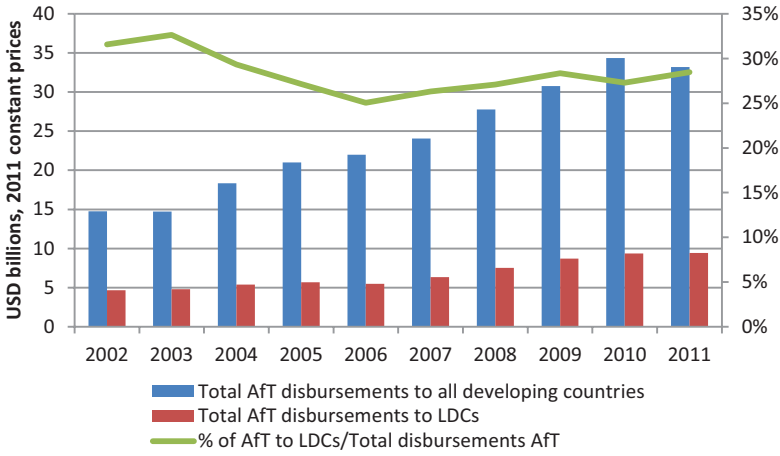


Source: OECD CRS database and OECD StatExtracts, accessed June 2013

bigger share of AfT will flow to LDCs, without diverting resources from other ODA sectors.

The bulk of AfT resources has been targeted at economic infrastructure (roads, telecommunications, etc.) and to building productive capacity (enhancing productivity of key sectors such as agriculture, industry and services). A closer inspection of country-specific data shows that AfT flows vary quite significantly among LDCs. Indeed, 20 out of 49 LDCs have attracted 65 per cent of total disbursements. The smallest amounts of funds have been directed at small islands and small LDCs, which by contrast have usually received more AfT per capita than other countries. Moreover, OECD data reveal that some of the poorest LDCs have received very little in per capita terms – typically less than USD 10 over the period 2006–11.[29] While there is no available benchmark to determine the adequacy of AfT funding, these figures indicate that LDCs might not have received a share of AfT resources proportionate to their needs.

Figure 7.17 Share of AfT disbursements to LDCs



Source: OECD CRS database and OECD StatExtracts, accessed June 2013

AfT works...under the right conditions

A growing body of recent evidence, including ICTSD's work on the effectiveness and impact assessment of AfT projects, suggests that in a number of countries, including LDCs, AfT has delivered concrete results on the ground.[30] Where AfT has been less successful, this is almost always due to the absence of the basic conditions for aid effectiveness. Cambodia, for example, channelled AfT resources in support of a 'rice export strategy'. In recent years, the country has increased its competitiveness, boosting its rice exports and creating gainful jobs. Conversely, Malawi's experience with recent AfT projects has been rather dismal. The country lacked critical absorptive capacity, trade was not fully mainstreamed into its national development strategy and there was little local ownership of the AfT projects. Some of the shortcomings were exogenous to the country itself and included lack of additionality of AfT funds, poor donor co-ordination and misalignment of donor objectives with the country's priorities.

A surprising finding from the ICTSD case studies is that there is serious lack of awareness about AfT and on AfT projects, even in implementing agencies. This may be partly due to definitional problems and partly the result of poor information flow and lack of co-ordination among line ministries and implementing agencies. The WTO Task Force defined AfT as 'whatever a partner country considers trade-related'. Therefore, no common definition of AfT exists. *Ex post* reporting highlights the potential mismatch between what donors record as AfT and what recipients consider as AfT. Moreover, it is difficult to differentiate AfT projects from the ODA bundle when AfT projects (i) are not presented or implemented as AfT per se, or (ii) span across several sectors. Ambiguity about what constitutes an AfT project can lead to problems in monitoring and impact assessment. At a time when donors are increasingly allocating aid resources based on prior expectations of effectiveness, such problems could potentially lead to reduced AfT commitments, or disbursements only to countries where AfT projects appear to have been successful, rather than to countries that are most in need of aid.

Overall, AfT resources have not been additional in countries analysed in ICTSD studies. Only in two (one of which, Cambodia, is an LDC) of the six countries studied were AfT disbursements found to be additional according to the methodology developed jointly by ICTSD and SAWTEE.[31] A strong correlation exists both between additionality and predictability of AfT funds and between additionality and overall effectiveness of AfT. Taken together, these results suggest that, for AfT to be effective, AfT flows must be additional. However, additionality is not a sufficient condition for AfT effectiveness. Local ownership, including, crucially, political ownership; donor alignment with local priorities; appropriate institutional and absorptive capacities; and mainstreaming of trade, is essential conditions for AfT to make the desired impact.

Going forward, it would be desirable to draw lessons from these experiences to improve both the design and implementation of AfT. In particular, AfT projects must address local capacity constraints and institutional weaknesses in their very design, and, more generally, the initiative should tackle problems related to additionality and misalignment. In addition, other efforts, such as the Diagnostic Trade Integration

Studies (DTIS) undertaken by the Enhanced Integrated Framework (EIF), should not only identify the obstacles that LDCs are facing to integrate world markets, but also link these obstacles to AfT options in the respective countries, keeping in mind the lessons learned on the design and implementation of AfT programmes.

7.5.2 Regional trade/co-operation

For a variety of reasons – economic as well as political – regional trade is as important for LDCs, if not more so, as trade with emerging partners. For many landlocked countries, regional markets offer a rare outlet for their exports and regional co-operation in infrastructure; a unique chance to connect to the world.[32] Regional integration allows small countries to reap economies of scale and conflict-prone neighbouring countries to maintain peace and security. It can also reduce member countries' dependence on traditional trading partners, increase their global competitiveness and raise their resilience against external shocks. For these reasons, LDCs participate in a number of regional integration initiatives (see Annex 7.3). Multiple membership raises various technical issues, but LDCs do not seem to be bothered about these as they are focused on maximising gains from regional trade and co-operation.

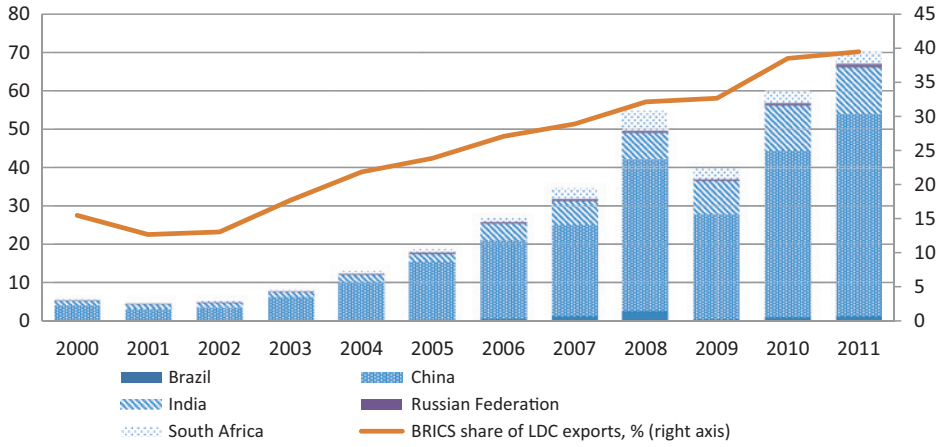
Evidence, however, shows that regional integration initiatives are more likely to succeed when they are driven by strong economic considerations rather than mere political motives. For this reason, Asian regional groupings, with their overt emphasis on market access, have proved more effective than their African counterparts, where the focus has historically been on regional co-operation rather than trade. Intra-Africa trade has remained below 10 per cent (compared with about 48 per cent in developing Asia) primarily because of a lack of trade complementarity, compounded by an array of structural constraints. Political rhetoric has typically fallen short of commitment to implement tariff liberalisation schedules and to tackle non-tariff barriers.

However, a number of positive developments are under way. Intra-Africa trade is expanding rapidly, and it is more diversified than Africa's exports to the rest of the world, which are concentrated in oil and minerals. There is also renewed effort – reiterated by political leaders at the African Union Summit in 2011 – to promote a tripartite free trade agreement (FTA) comprising the Common Market for Eastern and Southern Africa (COMESA), the East African Community (EAC) and the Southern African Development Community (SADC), which collectively would represent 16 of the 34 African LDCs. Development partners have traditionally supported regional integration in Africa through a number of successful projects – both hard (transport corridors, one-stop border posts, customs systems) and soft (technical assistance, regional trade agreements trade facilitation). They should provide greater AfT resources to support deeper integration initiatives involving LDCs.

7.5.3 Emerging economies

The rise of countries such as China, India and, to a lesser extent, Brazil, South Africa and the Russian Federation (BRICS) has fundamentally altered the dynamics of trade and international co-operation. OECD (2010) speaks of a shift of the centre of gravity towards the East since these economies are set to become major players on the global

Figure 7.18 LDCs' exports to BRICS (values in USD billion and share, %)

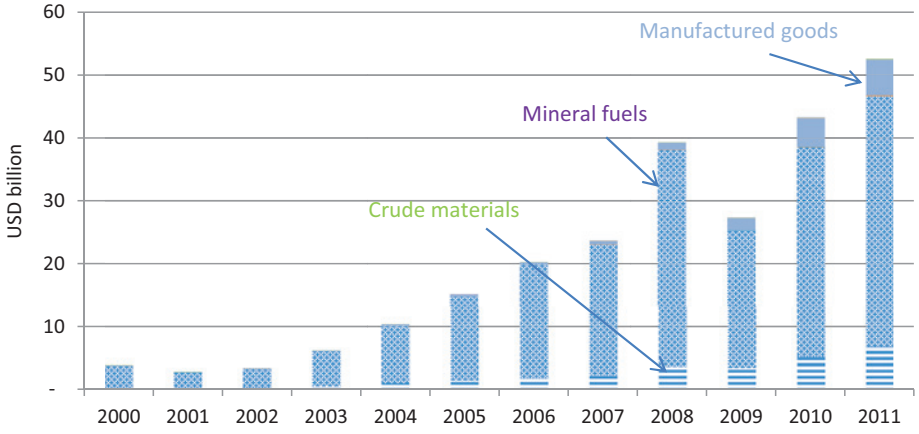


Source: WITS, available at: http://wits.worldbank.org/about_wits.html (accessed May 2013).

platform. China's GDP is projected to stay flat in 2014 at 7.7 per cent, slowing to 7.5 per cent for the next two years, reflecting deleveraging and less reliance on policy-induced investment. India's growth is projected to rise to over 6 per cent in FY 2014–15, increasing to 7.1 per cent by FY 2016–17 (World Bank 2014).

These growth trends will entail a deepening of the emerging economies' engagement with LDCs while traditional partners will see their role eroded. LDC exports to the BRICS increased five-fold between 2000 and 2011, raising LDCs' share of world exports from 15.5 per cent to 39.5 per cent over this period (Figure 7.18). China alone accounts for three-quarters of the 2011 share. Unfortunately, the bulk of LDC exports to China has been limited to oil and minerals, mainly from Africa (Figure 7.19). Mineral fuels represented 67 per cent of Africa's exports to India in 2011, and chemicals, crude materials and commodities made up a further 27 per cent. Africa's

Figure 7.19 LDC exports to China by product group, USD



Source: WITS, available at: http://wits.worldbank.org/about_wits.html (accessed May 2013).

LDCs accounted for 21.5 per cent of Africa's exports to India in 2011, but excluding Angola – a major oil exporter – this share was a meagre 6.4 per cent. Beyond oil, and a few other commodities, African (and other) LDCs' exports are very limited.

While the onus of maximising gains from South–South relationships lies with the LDCs themselves, emerging partners can greatly facilitate this process if they support capacity-building efforts in LDCs, share relevant policy lessons and provide alternative sources of finance (UNCTAD 2011). Technology transfer between LDCs and their Southern partners has assumed significant proportions as emerging economies have themselves become major technological leaders and as their investment activities in LDCs have expanded. While much of this process has, to date, been government led, the private sector is now showing an active interest in technical capacity building in, and knowledge transfer to, LDCs (Box 7.1 provides an example from India).

Emerging economies have become important providers of aid in developing countries, including LDCs. While DAC donors have traditionally focused on the social sectors, Southern partners have been directing aid[33] to productive sectors (including agriculture) and infrastructure (including transport and energy). Evidence from the ground suggests that emerging partners have also provided significant amounts of AfT, although this goes largely unrecorded. In the future, there might therefore be a greater need to monitor more effectively Southern partners' AfT activities in LDCs to capture more fully their impact on host economies.

Finally, if trade can be a vehicle for growth and structural change in LDCs, then the trade preference schemes that some emerging economies have recently launched in favour of LDCs can be an important step in that direction. China launched a duty-free scheme for LDCs' exports in 2010. While it is too early to meaningfully assess the impact of the scheme, available evidence seems to suggest that it has not stimulated non-oil exports from LDCs. India's duty-free scheme, effective since August 2008, has similarly had little impact on LDC exports to India. Brazil is now expected to propose a trade preference scheme for LDCs of its own. There is considerable scope to improve these initiatives so that they have the desired impact on LDC exports. If properly designed and implemented, they could be a real agent of structural transformation in LDCs.

7.6 Global value chains – a boon for LDCs?

The pattern of world trade has witnessed remarkable changes over the past 25 years, not least because of reductions in transport costs, the information technology revolution and more open economic policies. Today, companies divide their operations across the world – from the design of the product and manufacturing of components to assembly and marketing – creating international production chains. While the concept of GVCs is not new, there has been a recent explosion of research into value chains against the backdrop of a sharp increase in intermediates trade. Indeed, trade in components now represents more than half of the goods imported by OECD economies, and close to three-quarters of the imports of large developing economies such as China and Brazil (Ali and Dadush 2011). Similarly, services, including transport, communications and other business services, have

Box 7.1 India's technology transfer to African LDCs

There is a dearth of evidence on Indian technology transfer to African countries, and evidence from elsewhere is not very encouraging (Kathuria 2011). It appears that the transfer of technology could be undermined by a lack of technological capability in the host country to adapt and diffuse the technology. African LDCs are notoriously deficient in such capacity. Hence, a prior step in technology transfer should be to build the beneficiary's capacity to adopt and adapt the technology being transferred.

India's endeavour in this regard is commendable. The India Technical Economic Cooperation (ITEC) programme has provided training, technical assistance and project co-operation to a number of Commonwealth member countries since 1964. Training of African researchers and co-operation for institutional strengthening are key components of the more recent India–Africa Science and Technology (S&T) Initiative, and several countries are already benefiting from these activities. However, of the nine African countries that have bilateral S&T co-operation agreements with India, only three – Mozambique, Sudan and Zambia – are LDCs, and none is an East African country. Thus, there is a need for scaling up and expanding the coverage of the S&T initiative.

Technological collaboration between the Indian and African governments in the area of renewable energy technologies (RETs) is also very significant. The Lighting a Billion Lives (LaBL) initiative is a fitting example for such technological collaboration. Launched in 2008, the initiative has allowed some 35,000 rural households in India to replace their kerosene lamps with solar lanterns. The initiative is currently being piloted in Uganda in partnership with local, private distribution networks. There is significant scope for such initiatives to be implemented on a larger scale and in other African LDCs facing acute energy poverty.

Real and durable technology transfer can happen only with the active participation of the private sector. This is because the ultimate test of technological learning is the development of new products or processes, which is in the domain of the private sector of receiving countries. In this regard, the transfer of technology from India is likely to be the most appropriate since it is led by Indian private firms and is suitable for the African context, since India faces many of the same development challenges as Africa, including, in particular, job creation and social inclusiveness. A number of Indian companies – such as Cipla (pharmaceuticals), Tata (automobiles, IT), Mahindra Group (automobiles, IT), Ashok Leyland (automobiles), Essar Group (power, steel, mining, telecommunications, construction), Bharti Telecommunications (Airtel), Karuturi Global (commercial agriculture), Godrej (consumer products) – are seizing emerging business opportunities in Africa and, in the process, transferring state-of-the-art technology to host African countries.

become key components of global production networks. As a result, specialisation in international trade is no longer based on the balance of comparative advantage of countries in producing a final good, but on the comparative advantage of 'tasks' that these countries complete at a specific step along the GVC.

From an LDC perspective, global production networks offer significant integration opportunities through specialisation in specific tasks. Page (2012) argues, for example, that trade in tasks provides a window of opportunity for African countries to industrialise, provided they can create the right set of conditions including infrastructure, skills and a sound policy environment. Beyond goods, services – whether embedded in goods supply chains or constituting GVCs of their own – are equally, if not more, important for some LDCs in view of the fact that distance and physical infrastructure play a less important role for certain services (e.g. IT-enabled BPO) than for goods. In this respect, they offer a promising avenue for small firms to enter world markets and a unique opportunity to leapfrog to a superior stage of development.

But GVCs also come with challenges. First, GVCs are more regional than truly global in nature. They are essentially concentrated in the USA, the EU and East Asia, but remain largely underdeveloped in other regions of the world. Some authors have argued that the geography of production networks might change in the future; some value chains might even relocate to lower-income economies if the right conditions are in place. While this might be true, not all LDCs will be in a position to turn themselves into trade hubs in the next 15–20 years even if they do all the right things. In this respect, small landlocked economies might face more difficult challenges than large coastal economies. Second, while the emergence of GVCs might make it easier for LDCs to industrialise and integrate into world markets, it also makes LDCs more vulnerable to the intrinsically 'volatile' nature of modern production networks.

The recent WTO Global Review on AfT, which focused on 'Connecting to value chains', showcased several cases of LDCs successfully harnessing GVCs as a vehicle for development. Ethiopia, for example, was able to break into the EU horticulture market with assistance from the Dutch, who provided critical technology and investment, set up appropriate quality systems, trained workers and provided an end-market for the product (Keane 2013). However, the evidence generally suggests that most LDCs that managed to integrate a given value chain have remained at the low end of it. Therefore, further research is needed to understand how LDCs could use GVCs not only to enter export markets but also to promote economic transformation through export diversification and product upgrading, and hence capture sustainable gains from their participation in GVCs.

7.7 Conclusion and the way forward

Achieving the ambitious IPoA goal of doubling the share of LDCs' trade by 2020 requires urgent and bold actions by both LDCs themselves and their development partners. However, this goal should not be seen as the end, and it should not be viewed merely in the narrow context of LDCs graduating out of the LDC status. This chapter argues that structural transformation through trade should be the ultimate

goal of LDCs. However, the IPoA only implicitly refers to this objective when it calls for a doubling of LDCs' share of trade.

Structural transformation is critical to LDCs' long-term development since many of them are extremely vulnerable to trade shocks due to their very concentrated export structures. This remains true even of LDCs that have graduated and moved up on many dimensions of human development. If entering export markets can be a challenge for LDCs, diversifying the export base would be no less of a Herculean task. Thus, helping LDCs better integrate into world markets, and achieving structural change, will require not only that outstanding international commitments be implemented fully and urgently but also that donors provide scaled-up aid, enhanced trade preferences and more flexible RoO beyond the actions outlined in the IPoA.

The Bali package that was agreed at the ninth WTO Ministerial Conference in December 2013 has been broadly welcomed as a 'historic' achievement (see WTO 2013a–f). In addition to the economic benefits that such a deal could provide, the news has also sparked renewed interest and debate over what 2014 may bring for the international organisation. The next step will therefore consist of capitalising on the Bali success to move forward and ultimately address the unfinished business under the LDC package and the Doha Round. However, notwithstanding the Bali success, in the absence of a significant change in the border policy environment a 'business as usual' approach is unlikely to yield results that are radically different from what WTO members have achieved so far. Mindful of this reality, several members are exploring new ways of conducting negotiations, as already hinted at by ministers at the December 2011 Ministerial Conference. Under this scenario, the single undertaking principle is likely to be further questioned and pushes for plurilateral approaches will probably intensify. The proposed plurilateral on services – the so-called TISA – is symptomatic of this trend, but plurilaterals might also be initiated in areas such as environmental goods and services or IT.

From the perspective of LDCs that essentially remain 'deal takers' in multilateral negotiations, the prospect of plurilaterals outside of the WTO realm is of particular concern. This is both because such agreements tend to be exclusive, and because removing certain elements from the Doha equation would result in fewer trade-off opportunities for LDCs to advance their priorities in areas such as food security or market access. Under such a scenario, the risk is therefore high that LDCs' specific concern will retain less attention and become increasingly marginalised, as larger trading powers focus their attention on their own priority issues. While the LDCs are not in a position to stop plurilaterals from happening, they should use their limited influence to ensure that such agreements remain as much as possible under the purview of the WTO, while devising strategies to advance their priorities under the new negotiating configuration.

With this in mind, the following agenda is proposed in support of structural transformation in LDCs through increased exports and export diversification:

1. AfT has worked when the right conditions were present. While donors are now focused on impact evaluations to justify their aid policy at a time of fiscal austerity,

it is important that they understand that, where AfT fails, they are sometimes as much to blame as local impediments, such as lack of ownership, low absorptive capacity and weak alignment with recipients' priorities. Hence, it is critical that donors share responsibility for ensuring that their AfT involvement is internally effective. Beyond ensuring that AfT flows are additional to ODA, donors must devote adequate AfT resources to build the governance structures critical to the success of AfT projects.

2. In a world increasingly dominated by GVCs, the gains occurring from trade facilitation, including simplified customs procedures and lower transaction costs, are well established. Besides GVCs, significant gains are likely to arise from a possible boost in intra-regional trade where a considerable growth potential remains untapped. Granted, some countries will have real difficulties in implementing certain elements of the agreement in the absence of technical assistance and capacity building. However, the final deal contains a set of landmark provisions allowing for flexibility in the scheduling and sequencing of implementation, and linking commitments to acquired capacity resulting from technical assistance. Beyond the short-term costs, LDCs should see in the TFA an opportunity for export development and structural transformation. The agreement could also help LDCs to lock in politically challenging customs reforms. As we move towards implementation, LDCs should focus on assessing their particular technical assistance and capacity-building needs to fully take advantage of the agreement in a way that supports structural transformation objectives.

3. This chapter shows that gains to LDCs from implementing a comprehensive DFQF scheme are significant. On the other hand, since LDCs account for a mere 1 per cent of developed countries' imports, adverse effects on preference-granting countries should be small, if any. This fact should provide the impetus to the USA – the largest industrial country not to be implementing a comprehensive trade preference scheme for LDCs – to reassess its historical position on this matter. It should also encourage other countries – including emerging economies – to improve their preferential regimes by proposing more flexible RoO and shorter exclusion lists.

4. Theoretically, LDCs' current share (0.5 per cent) of the global services market presents enormous potential to export to the rapidly growing market[34] and, in principle, the services waiver can help LDCs' exports of services to flourish in some sectors. However, little is known about LDCs' potential to export services and, too often, it is simply assumed that LDCs cannot export services just because they have not done so in a significant way until now. However, the LDC group has stepped up efforts to develop a set of commercially meaningful requests in view of operationalising the services waiver. It should continue to do so and focus on presenting such a request to potential preference-granting countries as a first step in the preparation for the high-level meeting envisaged by ministers in the Bali decision. While the focus is likely to be on further exploiting their comparative advantage in mode 4, some LDCs have recently made significant strides in exporting non-traditional services, such as IT-enabled BPO. These LDCs could see in the waiver an opportunity to tackle perceived constraints to emerging service

exports. For the waiver to be effective at all, it is critical that preferences go beyond the narrow confines of market access measures to embrace national regulations as well. This is where some of the most severe constraints to LDCs' service exports lie.

5. On cotton subsidies, LDCs should, in the short term, lobby for the adoption of the US Senate version of the Farm Bill, which does not feature a minimum price and, so, will limit payments in times of low prices. However, they should continue to press for a comprehensive deal on cotton, taking advantage of opportunities, such as the historically high prices of cotton, which have eroded the significance of subsidies, and budgetary pressures in the USA and the EU.

Given the uncertainty surrounding the Doha Round, LDCs should not pin all their hopes for economic growth and structural transformation on preferences that may not come soon, or whose impact may be diluted by weaknesses such as critical exclusions. While the focus of this chapter has been on what the international community could do to help LDCs to engage more effectively in global trade, it is important to emphasise that LDCs can do much to help themselves. LDC governments should continue with policy reforms, improve their absorptive capacity through appropriate human resource and institutional development, address a range of supply-side constraints and provide the right incentives, through judicious use of industrial policy instruments, to steer the economy in the direction of higher value-added industrial diversification.

Concurrently, LDCs should make better use of the opportunities presented by emerging economies. These developments also bring with them certain challenges that LDCs should address. A major risk facing African LDCs, for example, is that South–South trade, dominated by emerging economies, can push them into the raw materials corner and inhibit, rather than help, structural change in their economies. To avoid such a predicament, it is imperative that LDCs manage their natural resource rents prudently and use them to diversify into other activities according to their comparative advantage. They should also engage strategically with both traditional and emerging partners in ways that maximise the development benefits that each has to offer.

Emerging economies can bring to LDCs aid, technology and management practices which, if effectively tapped, could help spur industrial development in their economies. Southern partners can also provide better market access for LDC exports. While China and India already have duty-free schemes in place, they (especially India's DFQF scheme) could be improved in terms of product coverage and RoO while addressing potential non-tariff barriers to LDC exports. Existing schemes should also consider extending preferential market access to services. Other emerging economies (for example Brazil) should consider setting up their own DFQF scheme. On the other hand, greater AfT resources should be directed at support efforts at deepen regional integration or co-operation, especially in Africa.

The rise of value chains and the rapid proliferation of trade in tasks present new opportunities for LDCs to enter export markets. Development partners should support research into LDCs' ability to plug themselves into value chains. It is time to ask what products LDCs can export and whether GVCs also offer LDCs the potential to export services.

Annex 7.1 Monitoring IPoA in the priority area of trade: methodology and status

Goals and targets	Interpretation	Status	Information in chapter	Source
a) Significantly increase the share of least developed countries' (LDCs) trade in global trade with the aim of doubling the share of LDCs exports in global exports by 2020, including by broadening LDCs export base;	Within the time period of the IPoA, the share of LDC exports in global exports will be doubled, at the latest by 2020	• LDCs' exports increased five-fold – from USD 36.8 billion in 2000 to USD 186 billion in 2011 • This had a small, but positive, effect, on LDCs' share of world merchandise trade. This share increased from 1.04 per cent in 2008 to 1.12 per cent in 2011	Provided analysis on trends of LDC exports	• WITS/UN Comtrade for merchandise trade and UNCTADstat for services trade • Benchmark is the average of 2005/06 to 2007/08. In the future, when further data becomes available, the benchmark of 2010 will be used
b) Make substantial efforts for an early and successful conclusion of the Doha Round of trade negotiations with an ambitious, comprehensive, balanced and development-oriented outcome	*Substantial efforts* = efforts which are directed towards an early and successful conclusion of the Doha Round *Development-oriented outcome* = outcome that promotes development in LDCs	• The Bali package agreed at the ninth World Trade Organization (WTO) Ministerial Conference contains several decisions in favour of LDCs, notably in the area of duty-free and quota-free (DFQF) market access, cotton subsidies, more favourable rules of origin, a services waiver for LDCs and an agreement on trade facilitation	Provided analysis of efforts made until December 2013	• News on trade negotiations • Official WTO documentation

(*continued*)

Annex 7.1 Monitoring IPoA in the priority area of trade: methodology and status (continued)

Goals and targets	Interpretation	Status	Information in chapter	Source
Joint actions				
a) Resist protectionist tendencies and rectify trade-distorting measures, including in agriculture, that are inconsistent with multilateral obligations;	N/A	N/A	N/A	N/A
b) Address non-tariff measures and reduce or eliminate arbitrary or unjustified non-tariff barriers, that is those that are not in conformity with WTO rules; standards and technical regulations must be developed transparently and applied in a non-discriminatory manner, and should be technically justified and not constitute a disguised restriction on international trade;		• Non-tariff measures (NTMs) have emerged as significant barriers to trade as tariffs have fallen • Significant increase in NTMs applied to LDC exports – from 334 in 2007 to 2,494 as of August 2013 • SPS measures, representing 78% of all NTMs, and technical barriers (22%) are the most burdensome for LDC exporters • Domestic NTMs, which affect exports to all countries, are a more serious concern for exporters than NTMs applied by importing countries • With the current stalemate in the Doha round, it is unlikely that an agreement on NTMs will emerge any time soon • However, development partners, through the Aid for Trade (AfT) initiative, are making significant efforts to help LDCs build compliance capacity	Provided analysis on NTM developments by LDCs and development partners (non-exhaustive, as it is beyond the scope if this paper)	• WTO ITiP database • Literature on NTMs several sources, United Nations Industrial Development Organization International Trade Centre

(*continued*)

Annex 7.1 Monitoring IPoA in the priority area of trade: methodology and status (continued)

Goals and targets	Interpretation	Status	Information in chapter	Source
c) Realise timely implementation of DFQF market access, on a lasting basis, for all LDC consistent with the Hong Kong Ministerial Declaration adopted by the WTO in 2005;	*Timely implementation* = within the time period of the IPoA, that is 2011 to 2020, 'Developed-country members shall, and developing-country Members declaring themselves in a position to do so should, provide duty-free and quota-free market access on a lasting basis, for all products originating from all LDCs by 2008…' and 'Members facing difficulties at this time to provide market access… shall provide duty-free and quota-free market access for at least 97% of products originating from LDCs defined at the tariff line level…' while taking steps to progressively achieve 100% DFQF	• The onus to tackle domestic NTMs lie with LDC governments themselves • Little progress on DFQF • Available evidence shows that gains would be rather limited under a 97% DFQF scheme since the 3% of excluded tariff lines could potentially cover between 90% and 98% of all LDC exports (Laborde 2008) • LDC negotiators therefore face the difficult task of ensuring that the 3% exception does not exclude products of critical export interest to their countries • Implementation of a 100% DFQF could hurt some (the African Growth and Opportunity Act beneficiary) LDC However, these losses could be addressed through targeted measures, including AfT	Provided assessment of DFQF schemes of major markets and emerging economies	• Official WTO documentation • WTO market access reports • Studies on DFQF implementation such as Laird (2012); Bouet et al. (2010); Carrère and de Melo (2009)

(*continued*)

Annex 7.1 Monitoring IPoA in the priority area of trade: methodology and status (continued)

Goals and targets	Interpretation	Status	Information in chapter	Source
d) Reaffirm the provision of special and differential treatment for LDCs in the WTO agreements;	*Reaffirm* = officially reaffirm the provision of special and differential treatment for LDCs in the WTO agreements	• Some progress made on the monitoring of S&D; establishment of a mechanism agreed in Bali • The six Agreement-specific Cancun proposals have been postponed until after Bali • Discussion on the remaining Cancun proposals is on going. However, interest on these proposals seems to have waned – on both sides.	Not discussed in the chapter	• Official WTO documentation • WT/COMTD/W/196 • WT/MIN(11)/11
e) Facilitate and accelerate negotiations with acceding LDCs based on the accession guidelines adopted by the WTO General Council in December 2002	*Facilitate and accelerate negotiations with acceding LDCs* = more LDCs become WTO members, at least 6 by 2020 (out of 48 LDCs, 34 are members of the WTO (including Laos, Vanuatu, Samoa), nine are in the accession process (observer) and five are still outside the legal framework)	• Laos, Vanuatu and Samoa became WTO members • WTO Members validated their decision to streamline and facilitate the accession process for LDCs • New WTO accession guidelines for LDCs were agreed by the WTO General Council in July to facilitate the process	Provided analysis on recently acceded countries, and on the difficulty for LDCs to accede to the WTO. Reported on developments regarding the MC8 decision on establishing new guidelines for the LDC accession to WTO	• Official WTO documentation • LDC accession guidelines (WT/COMTD/LDC/21) • ICTSD (2012a, b)

(*continued*)

Annex 7.1 Monitoring IPoA in the priority area of trade: methodology and status (continued)

Goals and targets	Interpretation	Status	Information in chapter	Source
Actions by LDCs				
a) Integrate trade and trade capacity-building policies into national development strategies;		N/A		
b) Improve productivity and competitiveness and diversify production bases into dynamic new products and services;		N/A		
c) Diversify export products and markets to non-traditional destinations;	*Diversify export products* = changes in the share of manufactures in merchandise exports *Diversify export markets* = LDCs trade with a broader range of export partners	• LDC exports continue to be dominated by mineral fuels exports from a few oil-rich African LDCs • 42 LDCs, or about 90% of all LDCs represented just under half of total LDC exports in 2011 • Manufactures' share of LDC merchandise exports has declined from a peak of 35% in 2001 to 22% in 2011 • The share of services in LDC total exports has also declined over the years to 12.2% in 2011	Provided analysis on LDC exports by product and markets	• WITS/UN Comtrade data • Official WTO documentation • AfDB (2011)

(*continued*)

Annex 7.1 Monitoring IPoA in the priority area of trade: methodology and status (continued)

Goals and targets	Interpretation	Status	Information in chapter	Source
d) Improve efficiency, efficacy and transparency of institutions and processes to better facilitate trade and improve standards and quality control		N/A		
Actions by development partners				
a) Support LCDs' efforts to strengthen their human, institutional and regulatory capacities in trade policy and trade negotiations in areas such as market entry and access, tariffs, customs, competition, investment and technology, and regional integration;		N/A		

(*continued*)

Annex 7.1 Monitoring IPoA in the priority area of trade: methodology and status (continued)

Goals and targets	Interpretation	Status	Information in chapter	Source
b) Provide technical and financial support to national and regional projects that are aimed at increasing the productivity, competitiveness and diversification of LDCs' economies, including through strengthening the capacity of their trade in goods and services and of least developed countries' firms to integrate into international value chains;		N/A		

(*continued*)

Annex 7.1 Monitoring IPoA in the priority area of trade: methodology and status (continued)

Goals and targets	Interpretation	Status	Information in chapter	Source
c) Provide financial and technical support aimed at the diversification of LDCs' economies, while providing financial and technical assistance through appropriate delivery mechanisms to meet their implementation obligations, including fulfilling Sanitary and Phyto-sanitary Agreement and Agreement on Technical Barriers to Trade requirements, and to assist them in managing their		N/A		

(*continued*)

Annex 7.1 Monitoring IPoA in the priority area of trade: methodology and status (continued)

Goals and targets	Interpretation	Status	Information in chapter	Source
adjustment processes, including those necessary to face the results of most favoured nation multilateral trade liberalisation;				
d) Ensure that preferential rules of origin applicable to imports from LDCs are simple, transparent and predictable and contribute to facilitating market access;	*Ensure* = improve rules of origin in such a way that they are simple, transparent and predictable and contribute to facilitating market access	• Multilateral non-binding guidelines adopted at the Bali ministerial meeting providing guidance in the design of preferential rules of origin that are easier to comply with	Provide information on discussion of rules of origin between developing countries and LDCs	• UNOHRLLS (2008) • TN/CTD/W/30 • Cadot and de Melo (2008)
e) Implement effective trade-related technical assistance and capacity-building to LCDs on a priority basis, including by enhancing the share of assistance to LDCs for AfT and support for the Enhanced Integrated Framework (EIF), as appropriate,	Share of AfT to LDCs is increasing AfT is effective in the countries	• AfT commitments and flows to LDCs have increased rapidly after 2005 • Disbursements have fallen short of, and lagged behind, commitments, and in recent years, this gap has widened • AfT in LDCs appears to have been additional since both AfT and non-AfT official development assistance have generally increased since 2005	Provided assessment of AfT flows to LDCs	• OECD CRS database • ICTSD (2012a) • OECD (2011)

(*continued*)

Annex 7.1 Monitoring IPoA in the priority area of trade: methodology and status (continued)

Goals and targets	Interpretation	Status	Information in chapter	Source
and strengthening their capacity to access available resources, in support of the needs and demands of LDCs expressed through their national development strategies;		• On the effectiveness and impact assessment of AfT projects, in a number of countries, including LDCs, AfT has delivered concrete results on the ground • During Global Review on AfT 2013, heads of agencies of EIF recommitted to helping the world's poorest communities get more from global trading networks		
f) Provide, in accordance with article 66.2 of the TRIPS Agreement, incentives to enterprises and institutions in developed country member territories for the purpose of promoting and encouraging technology transfer to LDCs in order to enable them to create a sound and viable technological base;		N/A		

(*continued*)

Annex 7.1 Monitoring IPoA in the priority area of trade: methodology and status (continued)

Goals and targets	Interpretation	Status	Information in chapter	Source
g) Support LDCs' efforts in promoting sub-regional and regional co-operation, including export promotion and improving regional connectivity through trade-facilitating measures, such as joint projects on customs and border procedures, and insofar as is possible transport infrastructure and linkages, telecommunications facilities and energy	Achievement of Trade Facilitation Agreement (TFA) within the time period of the IPoA, at the latest by 2020	• Agreement on Trade Facilitation reached in Bali • The agreement contains a set of landmark provisions allowing for flexibility in the scheduling and sequencing of implementation, and links implementation commitments to acquired capacity resulting from technical assistance • Commitments for developing and LDCs can fall under three potential categories: category A includes provisions that will be implemented immediately; category B includes commitments that will require a transition period; and category C involves commitments that will require both a transition period and technical assistance	Provided information on the discussions and final agreement on trade facilitation	• OECD (2005) • Hummels (2001) • Cali and te Velde (2011) • Wilson et al. (2003) • Asia Pacific Foundation of Canada (2000) • Cadot et al. (2011)

N/A denotes = beyond the scope of this paper.

Annex 7.2 LCDs and the WTO

LDC WTO Members (status February 2013) (34)
Angola, Bangladesh, Benin, Burkina Faso, Burundi, Cambodia, Central African Republic, Chad, Democratic Republic of the Congo, Djibouti, Gambia, Guinea, Guinea Bissau, Haiti, Laos, Lesotho, Madagascar, Malawi, Mali, Mauritania, Mozambique, Myanmar, Nepal, Niger, Rwanda, Samoa, Senegal, Sierra Leone, Solomon Islands, Tanzania, Togo, Uganda, Vanuatu, Zambia
LDCs negotiating to join WTO – observer status (9)
Afghanistan, Bhutan, Comoros, Equatorial Guinea, Ethiopia, Liberia, São Tomé and Príncipe, Sudan, Yemen
LDCs outside the WTO accession negotiations (5)
Eritrea, Kiribati, Somalia, Timor Leste, Tuvalu

Annex 7.3 LDCs in regional groupings

Africa		**Asia**	
Angola	SADC	Afghanistan	
Benin	ECOWAS, WAEMU	Bangladesh	APTA, SAFTA, SAPTA, BIMSTEC
Burkina Faso	ECOWAS, WAEMU	Bhutan	India-Bhutan, SAFTA, SAPTA, BIMSTEC
Burundi	COMESA, EAC	Cambodia	ASEAN, ASEAN FTA
Central African Republic	CEMAC	Lao	ASEAN, ASEAN FTA, APTA
Chad	CEMAC	Myanmar	ASEAN, ASEAN FTA, BIMSTEC
Comoros	COMESA	Nepal	India-Nepal, SAFTA, SAPTA, BIMSTEC
Democratic Republic of the Congo	SADC	Timor-Leste	
Djibouti	COMESA	Yemen	PAFTA
Equatorial Guinea	CEMAC		
Eritrea	COMESA	**Americas**	
Ethiopia	COMESA	Haiti	CARICOM
Gambia	ECOWAS		
Guinea	ECOWAS	**Pacific**	
Guinea-Bissau	ECOWAS, WAEMU	Kiribati	PICTA, SPARTECA
Lesotho	SADC	Samoa	PICTA, SPARTECA, Melanesian Spearhead Group
Liberia	ECOWAS	Solomon Islands	PICTA, SPARTECA
Madagascar	SADC	Tuvalu	PICTA, SPARTECA
Malawi	SADC	Vanuatu	PICTA, SPARTECA, Melanesian Spearhead Group
Mali	ECOWAS		
Mauritania	WAEMU		

(*continued*)

Annex 7.3 LDCs in regional groupings (continued)

Africa	Asia
Mozambique	SADC
Niger	ECOWAS, WAEMU
Rwanda	COMESA, EAC
São Tomé and Príncipe	...
Senegal	ECOWAS, WAEMU
Sierra Leone	ECOWAS
Somalia	...
Sudan	COMESA, PAFTA
South Sudan	...
Togo	ECOWAS, WAEMU
Uganda	COMESA, EAC
Tanzania	SADC
Zambia	SADC

APTA = Asia-Pacific Trade Agreement
ASEAN = Association of Southeast Asian Nations
BIMSTEC = Bay of Bengal Initiative on Multi-Sectoral Technical and Economic Cooperation
CARICOM = Caribbean Community and Common Market
CEMAC = Central African Economic and Monetary Community
ECOWAS = Economic Community of West African States
PAFTA = Pan-Arab FTA
PICTA = Pacific Island Countries Trade Agreement
SAFTA = South Asian FTA
SAPTA = South Asian Preferential Trade Agreement
SPARTECA = South Pacific Regional Trade and Economic Cooperation Agreement
WAEMU = West African Economic and Monetary Union
... = No data

Notes

1 IPoA, pp. 20, 21.
2 This share stands at 1.15 per cent (WTO 2012).
3 Poor infrastructure, limited skills and lack of financial resources – among other factors – continue to hinder LDC export performance in services trade.
4 South Sudan, which joined the LDC group recently and on which no data are available as yet, is not included in this analysis.
5 Whereas exports to the OECD increased less than four-fold between 2000 and 2011, exports to developing countries grew eight-fold over the same period.
6 Mineral fuels and crude materials represented 77 per cent of LDCs' exports to non-OECD countries in 2011, compared with 51 per cent for OECD countries.
7 The IPoA targets an average GDP growth rate of 7 per cent per annum in LDCs in furtherance of its broad objectives. But after reaching a high of 8 per cent in 2007, LDCs' growth has tapered off, hovering around 5 per cent in recent years. Growth in industrialised countries has been sluggish since 2008 and is expected to remain so at least until the end of 2013. These trends do not augur well for LDC exports.
8 The 'LDC package' refers to a set of LDC-specific issues – duty-free and quota-free market access, rules of origin, LDC services waiver and cotton subsidies – that were slated for an early harvest at the WTO Ministerial Conference (MC8) in December 2011 (South Centre 2011). However, other than a decision on the services waiver that remains to be operationalised, MC8 did not deliver

on the LDC package. The various elements contained in the package were discussed again in the run-up to the ninth WTO Ministerial Conference held in Bali in December 2013, and incremental progress was achieved on a number of elements as described in the following sections.

9 See Laird (2012) for a summary and the references cited therein for further details on the studies.

10 Based on Laird (2012). The study simulates the impact of a non-agricultural market access tariff cut, assuming a Swiss formula with a coefficient of 8 for developed countries and 25 for developing countries. Since 90 per cent of world trade is in industrial products, this scenario provides a good estimate of Doha's overall impact.

11 From Pascal Lamy's statement to an informal Trade Negotiations Committee meeting on 31 May 2011.

12 According to emerging research, this fear seems, however, largely exaggerated. For example, computable general equilibrium (CGE) estimates suggest that the potential impacts on welfare, exports and domestic production of the USA providing full DFQF market access to LDCs will be very close to zero (Bouët et al. 2010).

13 In 2010, for example, Lesotho received USD 194 million in AfT (at 2000 prices), and the amount has consistently increased since 2005.

14 The gains to the other countries are the result of a combination of specific products and market access conditions. For example, Haiti would gain from improved market access to Korea and better product coverage under a US scheme over and above the current LDBDC scheme. Similarly, Malawi would register a 109 per cent increase of its exports to the USA since a 100 per cent DFQF scheme would allow greater access for its agricultural exports, including tobacco, than under AGOA. Uganda's gain derives largely from a sharp boost to its exports to the Indian market, especially of coffee, which is currently excluded from the DFQF scheme (not shown in Table 7.3).

15 Other studies concentrating on DFQF market access for LDCs find rather small gains. For example, Carrère and de Melo (2009) estimate that, once the erosion from preferential access into the EU to non-LDCs is taken into account, LDCs have a mere 3 per cent preferential margin in the EU market. In the US market, in spite of preferences under AGOA, on a trade-weighted basis, LDCs are discriminated against (since exports from some larger LDCs are excluded). Moreover, under various 'Swiss formulas' for industrial tariff cuts, the effective preference margin for LDCs' exports into the EU will average 1.4 per cent while being negative but close to zero in the USA. If the USA implemented a 97 per cent DFQF scheme, LDCs' exports could increase by 10 per cent or about USD 1 billion annually.

16 WTO's World Trade Report (2011) suggests that preference utilisation rates, by all countries and not just LDCs, for the EU and US regimes are rather high – at 87 per cent and 92 per cent respectively.

17 See WTO/TN/C/W/63.

18 An example of such domestic regulations is the very exacting qualification requirements and procedures that LDC natural persons must satisfy under mode 4 (WTO 2013).

19 See Hoekman (2006) for a review of some of these studies.

20 Cotton subsidies as a percentage of total farm revenue peaked at over 100 per cent in 2001. In 2012, this share was below 20 per cent.

21 For further information on the benchmark decision see ICTSD (2012b).

22 WT/L/508.

23 WT/COMTD/LDC/W/55/Rev.2.

24 For more on this, see Imboden (2012).

25 Article V, involving freedom of transit; Article VIII, which deals with limiting border fees and formalities; and Article X, regarding publication and administration of regulations.

26 See Cadot et al. (2011) for an up-to-date survey of the evidence.

27 Some caution is warranted when interpreting the NTM data. Since this is compiled on the basis of notifications, it could be that the rising numbers reflect better reporting of NTMs that have been in force for some time rather than an actual increase in new NTMs.

28 The spike in gross ODA (and non-AfT ODA) disbursements is related to the implementation of the Multilateral Debt Relief Initiative by multilateral donors (especially the African Development Fund) in 2006. The trend of ODA for Development Assistance Committee (DAC) donors only (not shown) remains rather smooth throughout the period under analysis.

29 Angola, Bangladesh, Central African Republic, Comoros, Chad, Democratic Republic of the Congo, Eritrea, Equatorial Guinea, Ethiopia, Yemen, Guinea, Lesotho, Malawi, Myanmar, Nepal, Niger,

Somalia, Sudan and Togo have received less than USD 10 per capita in the period 2006–11. Some of them received less than USD 5 per capita.

30 See, for example ICTSD (2012a) and OECD (2010).

31 South Asian Watch on Trade, Economics and the Environment. See Adhikari (2011). The methodology proposes a range of qualitative and quantitative indicators to measure critical aspects of AfT, including ownership and mainstreaming, additionality and predictability, alignment with recipients' strategies, donor co-ordination and environmental sustainability and South–South co-operation. AfT flows over a given period of time are defined as being additional under the following necessary conditions: (i) AfT must have increased between the two years, and (ii) non-AfT ODA (i.e. ODA excluding AfT) must not have decreased.

32 Of the 49 LDCs, 16–12 in Africa and 4 in Asia – are landlocked.

33 The term 'aid' may be misleading when applied to emerging donors since it may not meet the grant threshold set by the OECD.

34 Global services exports grew faster than merchandise exports during the period 2000–11.

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Chapter 8

Facing Climate Change in the LDCs: How to Fit the Istanbul Programme of Action

Patrick Guillaumont and Catherine Simonet[1]

Summary

The climate change issue is briefly considered in Section IV. Priority areas for action, F. Multiple crises and other emerging challenges of the Istanbul Programme of Action (IPoA). In section F, climate change is examined along with environmental sustainability, economic shocks and disaster risk reduction. The monitoring of the recommendations in this section on climate change is fairly complex, since the actions do not refer to monitoring indicators, either measurable or observable. In order to monitor these actions we propose, first, to identify, through an indicator of physical vulnerability to climate change, the level and type of vulnerability to climate change of the least developed countries (LDCs). Second, we evaluate two types of actions recommended by the IPoA: establishment of national adaptation programmes of action (NAPAs) and the LDC Fund orientation. The first part of this chapter shows the high level of vulnerability of the LDCs and their heterogeneous profiles of vulnerability to climate change. The second part is an assessment of the actions recommended by the IPoA for adaptation to climate change, considering the needs of the countries as identified by the index.

8.1 Introduction

The international community has recognised that climate change has an unbalanced impact on developing countries and poor populations. The Fourth Assessment Report of the Intergovernmental Panel on Climate Change (IPCC) establishes that developing countries are expected to suffer the most from the negative impacts of climate change. As their economies strongly rely on climate-sensitive sectors (noticeably agriculture) and are particularly exposed to the impacts of climate change due to their geographic and climatic conditions, these countries are likely to be the first victims of climate change. Moreover, they often display a low adaptation capacity due to institutional weaknesses, particularly in the financial sector. In many developing countries, climate change increases stresses from climate variability (IPCC 2007).

The LDCs are characterised by low income per capita and structural handicaps to growth, in particular high economic vulnerability. As climate change exacerbates the existing economic vulnerabilities, LDCs are expected to be the most affected among the developing countries. The IPoA (May 2011) states that 'Climate change

disproportionately affects the socio-economic development of least developed countries, considering that they have contributed least to the problem, and also threatens to reverse some of the development gains that have been achieved to date' (paragraph 99).

The IPoA considered climate change and environmental sustainability among the 'priority areas of action' (Chapter 4, section F, under the heading 'Multiple crises and other emerging challenges'), This section of the IPoA contains two other major issues: economic shocks and disaster risk reduction. Moreover, 4 pages out of 74 dedicated to the priority area are related to climate change and environmental sustainability. Thus, the climate change issue is not presented clearly in the declaration, although the recommendations made are highly important for the international community. One of the main goals as stated at the beginning of section F (paragraph 94) is to 'Strengthen least developed countries' ability to withstand and overcome the adverse effects of climate change, enhance sustainable growth and protect biodiversity'. Regarding the actions to be taken by the LDCs (seven actions) and the development partners (nine actions), those related to climate change are essentially focused on adaptation (see Annex 8.1). However, monitoring the recommendations about climate change is rather difficult since the actions of the IPoA on this topic do not refer to monitoring indicators, either measurable or observable.

The fact that the countries which are not the most responsible for climate change suffer disproportionately from climate change is not debated. Neither is the need for additional resources to finance adaptation. But research is needed to evaluate the extent to which LDCs are affected and are vulnerable to climate change since the impacts of climate change widely vary across geographical regions (IPCC 2007). As the characteristics of each country are heterogeneous, the vulnerability to climate change in each country is also variable. To monitor how IPoA is addressing the issue, we propose to first identify, through an indicator of physical vulnerability to climate change, the level and type of vulnerability to climate change of the LDCs. This first step (Section 8.2) is needed to obtain a quantitative and objective index of vulnerability which could be used to monitor the actions recommended by the IPoA. Revealing the overall characteristics of the LDCs in terms of vulnerability to climate change as well as their heterogeneity in this respect, and consequently in the required adaptation policies, constitutes the first step of this chapter. We highlight the highest vulnerability of LDCs to climate change compared with other developing countries and we analyse the heterogeneity of their vulnerability profiles.

If the vulnerability of LDCs to climate change is high, it requires resources for adaptation as is claimed by the IPoA (both for adaptation and mitigation): 'Least developed countries need additional, predictable and adequate technical and financial support for climate change adaptation and mitigation in line with international commitments. Progress has been achieved in this regard under the United Nations Framework Convention on Climate Change (UNFCCC) through the adoption of decisions at the sixteenth Conference of the Parties to the Convention in Cancun, Mexico, in 2010.' We assess the implementation of IPoA related to climate change

with regard to an appropriate index of vulnerability. Section 8.3 looks at monitoring the main actions taken for helping LDCs to face climate change. As these countries are less responsible for the phenomenon but suffer more as victims, we focus on the adaptation challenge underlined in the IPoA. We examine the international support to the adaptation policies, in particular through the LDC Fund, noticeably in the implementation of NAPAs of the LDCs.

Thus, the first part of the chapter examines to what extent and how LDCs are vulnerable to climate change by using a new index of physical vulnerability to climate change. In the second part, we examine the extent to which resources and climate policies implemented since 2011 meet the guidelines of the IPoA and whether they are consistent with the assessment of vulnerability made in the previous section.

8.2 To what extent are LDCs particularly vulnerable to climate change? A preliminary to the assessment of the IPoA as regards adaptation

In general, it is recognised that the the LDCs are victims of climate change. However, this view generally does not rely on a quantitative evaluation. Here, we show that these countries are vulnerable to climate change, using a physical vulnerability index that is independent of policies. The idea of an assessment of physical vulnerability is consistent with common vulnerability frameworks, as explained in Guillaumont and Simonet (2011a), and also with the SREX (2012) conceptual framework, but it involves making a systematic distinction between what is and what is not independent of a country's policy to be more accurate with the development challenges. This section relies on a new index of physical vulnerability to climate change, as presented by Guillaumont and Simonet (2011a), that has already been applied to differentiate African countries from other developing countries (Guillaumont and Simonet 2011b). The index qualifies the vulnerability of the LDCs and underlines the heterogeneity of the vulnerability among them.

8.2.1 Composition

The expanding literature on the economic consequences of climate change leads us to distinguish between two kinds of physical impacts of climate change and related risks: risks of progressive shocks and risks of increasingly recurrent shocks.

Starting from this distinction between the risk of progressive shocks and the risk of increasing intensity of the shocks, we identify reliable indicators to compose an index of physical vulnerability to climate change. Differing from other attempts to assess vulnerability to climate change, our assessment only considers the expected impact of climate change on physical variables.[2] These variables are of course likely to have socio-economic consequences, but they are not socio-economic variables. The rationale behind such an index is two-fold. First, using physical indicators (e.g. sea level, rainfall, temperature) means using only objective or neutral data and avoiding any reference to indicators partly influenced by policy or resilience factors:

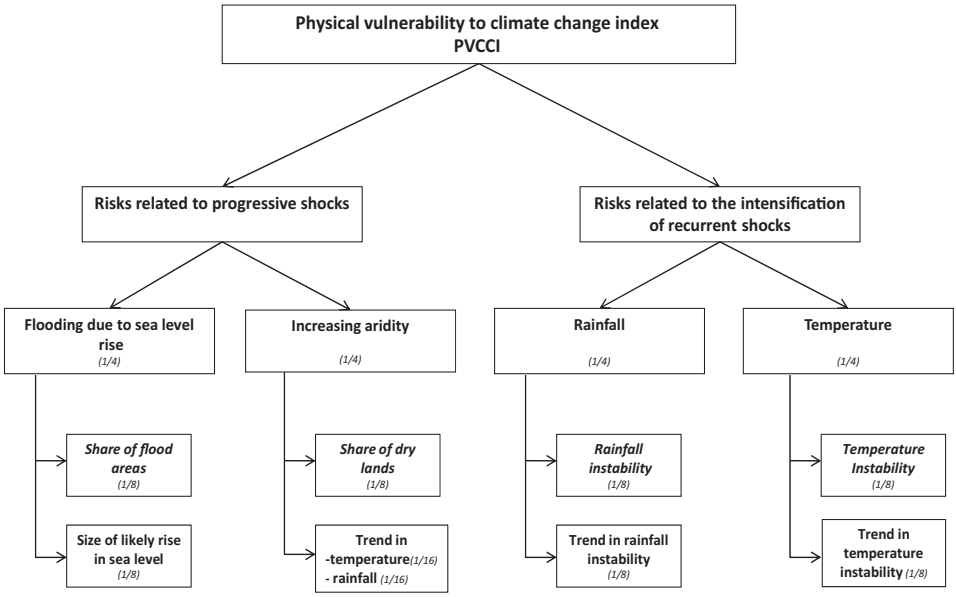
this is abolutely necessary if the index is to be used as a criterion for the allocation of international ressources, as explained below. Second, this physical index does not involve an assessment of the expected impact of climate change on variables such as health and agriculture, which unavoidably is highly uncertain and debatable. The physical index can simply be seen as an intermediary step to assess the link between climate change and these economic variables.

The risks related to progressive shocks (or continuous hazard) refer to possible persistent geophysical consequences of climate change at the country level. The two main kinds of such risks, as identified in the literature, are a rise of sea level, possibly leading to flooding, and an increase of aridity, possibly leading to desertification. The vulnerability of a country to sea level rise is shown by the risk of this country being flooded. Its assessment involves making a distinction between the likely size of this shock (rise of the sea level) and the exposure to this shock (altitude). The indicator of the risk of increasing aridity and desertification relies on the same distinction between the exposure to a shock and the size of the shock. The exposure can here be proxied by the actual share of dry land in the country (or the actual average level of rainfall in the country). The higher the share of dry land (or the lower the rainfall level), the higher is the risk of being affected. As for the size of the shocks, it appears to be relevant to retain the trend in the annual average temperature in each country over the last few decades. A complementary proxy of this shock measurement can also be found in a decreasing trend of the average rainfall level.

The risks of an increasing intensity of recurrent shocks generated by climate change include more frequent or more acute natural shocks in rainfall and temperature (such as droughts, typhoons, floods). Vulnerability to rainfall and temperature shocks has, again, two main components, corresponding to the previous distinction between exposure and shocks. The exposure component is related to the size and frequency of the shocks during past years (or the past rainfall and temperature instabilities). The shock component here is the risk of an increase in the size of the recurrent shocks as a result of climate change, and is more forward looking; it is reflected by the trend in the frequency and size of past shocks (or the trends in rainfall and temperature instabilities), supposing that these trends are determined by climate change and are likely to continue in the future. These two components are measured in the same way as for rainfall and temperature. Each of the eight components is normalised following the min–max method. As for averaging, equal weights are given to the two main categories of shocks, then to the four main components and finally to the eight sub-components. The usual practice is to calculate an arithmetic average. However, any of the main components may be of crucial importance for a country, more or less independently of the level of the other components. It is then relevant to use an averaging method that reflects this limited substitutability between components, either by a quadratic average of the components or by a reversed geometric average (as discussed in Guillaumont 2009a,b).

The structure of the index is presented in Figure 8.1, which distinguishes between risks related to progressive shocks and risks related to more intense recurrent shocks, both considered as resulting from climate change. The progressive shocks cover those due to the sea level rise and the trend in average rainfall and temperature. The

Figure 8.1 Composition of the physical vulnerability to climate change index



Note: The boxes corresponding to the two last rows of the diagram refer to exposure components (in italics) and size of the shocks components (roman) respectively

intensification of recurrent shocks corresponds to rainfall shocks and temperature shocks. For each of these four main components, an exposure index (marked on Figure 8.1 in italics) and a shocks index have been computed.

The physical vulnerability to climate change index (PVCCI) thus gathers eight sub-components into four components reflecting two kinds of shocks (progressive ones and increasingly recurrent ones), following a unified framework.

The companion database gives the measure of each component and sub-component, allowing one to use his own averaging method or to use each separately. Data are obtained from the works of Dasgupta et al. (2009) for the calculation of exposure to rise of sea level. Rainfall and temperature data come from Global Air Temperature and Precipitation: Gridded Monthly and Annual Time Series (Version 2.01, Cort J. Willmott and Kenji Matsuura, University of Delaware).[3]

The physical vulnerability to climate change index (PVCCI) still meets some limitations and can of course be refined. For instance, it currently fails to take into account the vulnerability to melting snow and glaciers, which is a major issue for countries such as Bhutan. However, this can be remedied by not limiting the risk of flooding to that resulting from the sea level rise. Nevertheless, it seems that this is the first index to allow one to compare the vulnerability to climate change for most countries from only physical data, reflecting the most likely major impacts of climate change in developing countries that have been identified.

8.2.2 LDCs are physically more vulnerable to climate change than other developing countries

As is stated in the IPoA, the population of LDCs is highly vulnerable to climate change. Using our PVCCI, we indeed find evidence of a high vulnerability to climate change. The reasons behind this vulnerability are revealed through the lens of the components of the index. While the index does not incorporate socio-economic factors, it is useful to have in mind the socio-economic background of climatic vulnerability.

Four main issues related to the high vulnerability of developing countries to climate change should be taken into consideration.

First, most of these countries, and in particular African and South Asian economies, are very dependent on climate-sensitive sectors such as agriculture, forestry and fisheries. Agricultural production in many of these countries and regions is likely to be severely affected by climate change. Many African countries are classified as arid or semi-arid, and climate change is likely to reduce the length of the growing season in these regions. Projected reductions of yields could be as much as 50 per cent by 2020 in some countries (IPCC 2007, Chapter 9). The small-scale low-income farmers will probably be the most affected. This effect on agriculture would result both in lower economic growth and in lower food security.

Second, extreme events, such as droughts or floods, have major effects on developing countries. The impact of droughts has been thoroughly documented in numerous studies, which show their economic and social consequences, including on migration (World Bank 2010). During the mid-1980s, the economic losses due to droughts were estimated at several hundred million US dollars (Tarhule and Lamb 2003). Droughts are prevalent in the Sahel, the Horn of Africa and Southern Africa. Some African and Asian countries also experience flood events, which can result in significant economic deprivation (Mirza 2003).

Third, climate change exacerbates the water stress currently faced by some countries. It also generates water stress in countries where this problem did not previously exist.

Finally, the sea level rise strongly affects small low-income islands, often considered as particularly vulnerable. Small island developing states (SIDS) and most island LDCs are those most exposed to this trend.

Differences by category

The index of vulnerability to climate change presents a higher level for LDCs than for other developing countries. The LDCs are more exposed to climate change impacts and are suffering from severe shocks due to climate change. The high vulnerability of the category is due to various impacts assessed by the components of the index. This situation of extreme vulnerability of the category reveals heterogeneous profiles of vulnerability among the group.

In Table 8.1 (find an extension in Annex 8.2a and 8.2b), we compare LDCs to other developing countries (low income and lower middle income) or other geographical groups of developing countries (landlocked countries and small islands) using the

Table 8.1 PVCCI quadratic, by group of countries (1/3)[a]

Group of countries	PVCCI				Progressive shocks				Increasing recurrent shocks			
	Number of countries	Mean	Median	Standard deviation	Number	Mean	Median	Standard deviation	Number	Mean	Median	Standard deviation
All developing countries	118	42.23	41.62	7.95	118	32.67	28.87	15.28	144	47.41	46.10	7.62
Least developed countries (LDCs)	46	44.61	44.17	8.33	46	33.20	26.32	16.84	49	51.82	51.71	7.65
All developing countries, non-LDCs	72	40.79	39.34	7.37	72	32.51	29.49	14.33	95	45.14	44.76	6.60
Low-income countries (LICs) and lower middle-income countries (LMICs)	84	43.62	43.72	7.81	84	33.98	30.43	15.82	95	49.19	49.21	7.66
LICs and LMICs, non-LDCs	39	42.21	41.87	7.08	39	34.49	32.18	14.72	47	46.35	45.52	6.61
Small islands developing states (SIDS)	29	42	37.14	10.33	29	32	24.93	18.76	31	47	45.92	7.17
SIDS, non-LDCs	18	38.82	36.86	7.98	18	28.23	24.41	14.70	20	45.60	45.47	4.88
SIDS–LDCs	11	46.60	45.34	12.21	11	38.55	28.85	23.36	11	50.49	49.84	9.59
Landlocked developing countries (LLDCs)	27	44.51	45.75	7.33	27	38.07	42.54	16.34	29	47.52	48.97	8.26
LLDCs, non-LDCs	11	47.30	48.45	6.08	11	49.54	49.96	9.81	13	44.02	42.99	6.43
LLDCs–LDCs	16	42.59	40.31	7.67	16	30.19	23.92	15.36	16	50.35	49.66	8.66
African developing countries	44	44.50	44.67	6.74	44	33.63	31.13	13.02	48	51.69	51.01	7.17
African LDCs	30	44.97	45.52	6.35	30	32.71	27.66	12.72	32	53.15	53.11	7.24
African LICs and LMICs	37	44.39	44.98	6.09	37	33.05	29.60	12.22	40	51.99	51.38	7.18
South-Asian developing countries	8	44.24	43.14	10.33	8	35.43	29.99	22.31	8	48.89	49.76	4.72
South-Asian LDCs	5	45.29	40.42	12.78	5	35.32	16.48	28.34	5	49.54	49.84	49.84
South-Asian LICs and LMICs	8	44.24	43.14	10.33	8	35.43	29.99	22.31	8	48.89	49.76	4.72
Latin American and Caribbean developing countries	25	38.16	36.78	5.62	25	26.19	25.15	7.68	27	46.33	44.98	7.15

Table 8.1 PVCCI quadratic, by group of countries (1/3)[a] (continued)

Group of countries	PVCCI				Progressive shocks				Increasing recurrent shocks			
	Number of countries	Mean	Median	Standard deviation	Number	Mean	Median	Standard deviation	Number	Mean	Median	Standard deviation
Haïti	1	33.48	33.48		1	23.72	23.72	–	1	40.98	40.98	–
Latin American and Caribbean LICs and LMICs	9	39.53	36.58	7.55	9	36.37	27.22	7.14	10	48.47	44.58	9.72
East Asia and Pacific developing countries	23	41.24	36.87	10.56	23	29.14	19.56	20.04	24	48.67	47.96	7.45
East Asia and Pacific LDCs	8	44.53	38.61	12.92	8	33.68	19.57	25.67	9	50.50	49.59	9.76
East Asia and Pacific LICs and LMICs	19	42.90	38.34	10.83	19	31.94	20.08	21.01	20	49.53	49.04	7.68
Europe and Central Asia developing countries	9	43.88	45.45	8.00	9	46.21	49.25	14.58	23	40.13	40.17	4.54
Europe and Central Asia LDCs	–	–	–	–	–	–	–	–	–	–	–	–
Europe and Central Asia LICs and LMICs	5	47.96	46.72	3.14	5	52.23	52.74	6.51	8	41.65	41.17	4.28
Middle East and North African developing countries	9	41.51	42.88	5.46	9	39.04	37.58	12.00	13	43.64	42.66	5.02
Middle East and North African LDCs	2	43.43	43.43	0.78	2	37.94	37.94	8.95	2	47.50	47.50	8.59
Middle East and North African LICs and LMICs	6	42.85	43.43	4.29	6	40.49	40.93	12.79	9	43.74	42.66	5.11

[a]Some developing countries may be missing due to the lack of data

PVCCI. The LDCs are more vulnerable than other groups of countries on average (44.6 compared with 40.8 for developing countries that are not LDCs). The component 'risk of progressive shocks' presents almost the same value for LDCs than for the other countries (33.2 v. 32.5 in other developing countries). The risk of increasingly recurrent shocks is higher than for other developing countries (54.1 v. 51.8).[4]

Within the LDC category, the SIDS–LDCs countries seem most vulnerable (46.6), with also the highest standard deviation. This sub-category presents an average level of vulnerability higher than the entire SIDS group and the LDCs category. SIDS and particularly SIDS–LDCs are mostly vulnerable to progressive shocks (and more precisely to sea level rise). The landlocked developing country (LLDC)–LDCs category presents a high level of vulnerability, but this vulnerability is no higher than the vulnerability of LLDCs, which is very important (the LLDC–LDCs category is more vulnerable to risk of increasingly recurrent shocks, but non-LDC LLDCs are particularly vulnerable to the risk of desertification of the progressive shocks component).

Differences by region

In each world region, LDCs are more vulnerable than developing countries of the same region. The LDCs of South Asia are the most vulnerable to climate change (45.29). The second category of vulnerable LDCs are African LDCs. The category of LDCs in South Asia and the Pacific displays the highest standard deviations (more than 12 points), a result reflecting a wide range of vulnerability profiles in these two groups.

LDCs exhibit a level of vulnerability to progressive shocks almost identical to that of other developing countries in their region, except for the Pacific, where LDCs are more vulnerable to progressive shocks than other developing countries. On average, LDCs are more vulnerable than developing countries to the risk of increasingly recurrent shocks. The Middle East LDCs and South Asian LDCs are the most vulnerable to progressive shocks (37.9 and 35.3). African LDCs and East Asian and Pacific LDCs are the most vulnerable to the increase of recurrent shocks (53.15 and 50.5).

8.2.3 Heterogeneity of physical vulnerability among LDCs

Since the index is estimated country by country, it exhibits a large heterogeneity in the levels and types of vulnerability among countries as highlighted by Figure 8.2. It measures a high average vulnerability to climate change for LDCs, but also shows levels to be very uneven across LDCs, and resulting from various components (see Annex 8.3).

The four most vulnerable LDCs with regard to the PVCCI are The Gambia, Kiribati, Senegal and Tuvalu; Maldives, a former LDC, were also in this group. These countries present a high level of overall physical vulnerability, generally due to a high level of several components of the index.

As for vulnerability to progressive shocks, the level of this component (due to two sub-components, sea level rise and increase in aridity) is for some LDCs (Tuvalu, Afghanistan, Kiribati, Maldives, Senegal) at the highest level in the world. For

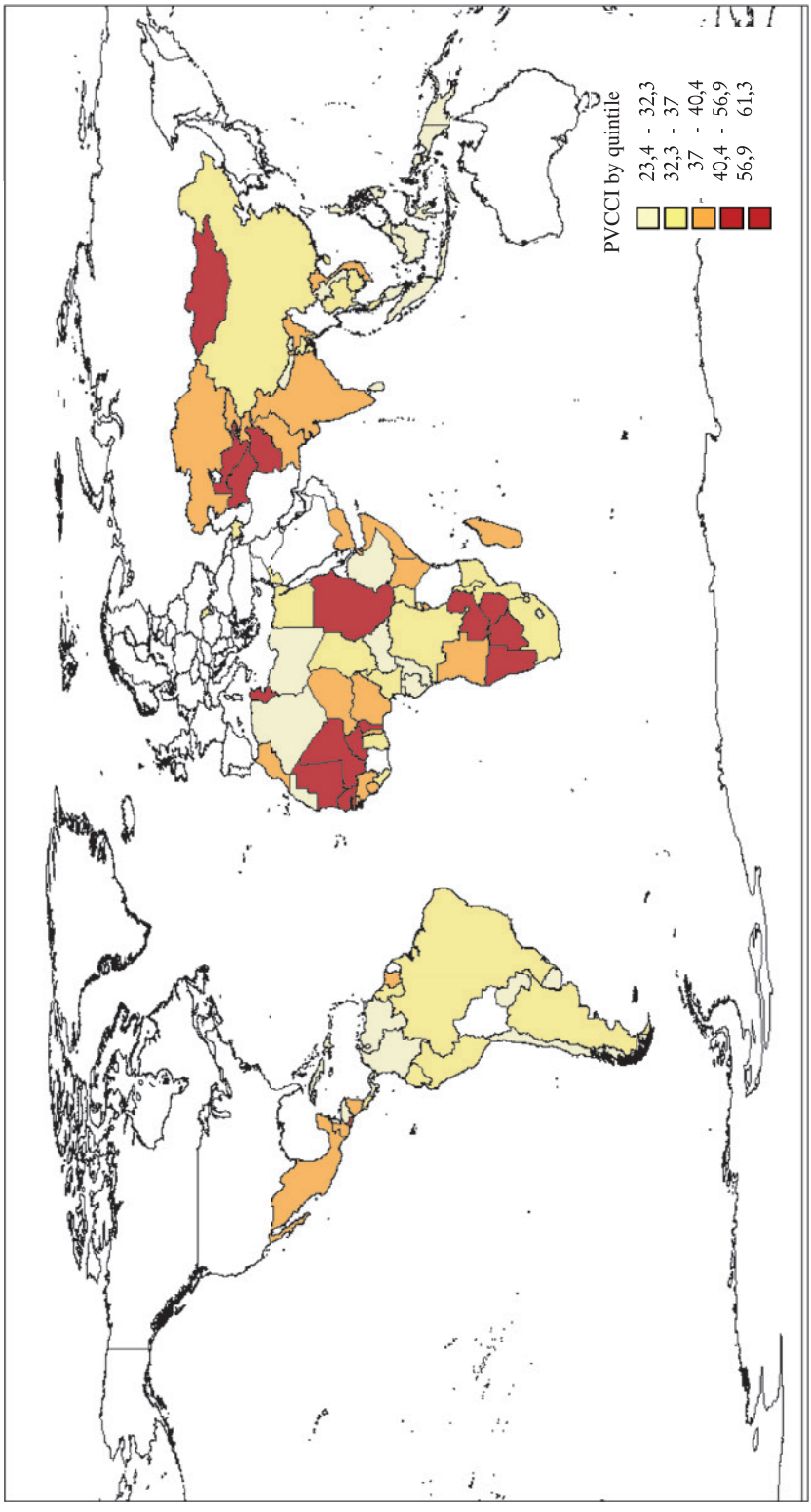


Figure 8.2 PVCCI for developing countries

SIDS–LDCs, noticeably, this high level of vulnerability to progressive shocks is due to sea level rise. For other countries, and noticeably for LLDC–LDCs located in desert areas, the high level of vulnerability is due to the risk of over aridity. For instance, Kiribati and Tuvalu are, with Maldives, the countries of the world that are most exposed to sea level rise, and Afghanistan is particularly exposed to the risk of over aridity. The ranking of African LDCs vulnerable to aridification is the highest in the world, along with some Central Asian countries (e.g. Afghanistan, Turkmenistan). Some LDCs also face both types of progressive shock: Senegal is highly vulnerable to progressive shocks because of a high level of vulnerability to an increase of aridity in the east of the country, but also because of sea level rise in the Senegal river delta (a similar vulnerability is found in The Gambia).

As for the 'risk of intensification of recurrent shock', this component, which on average is high for LDCs, also shows a significant variation within the category. The LDCs most vulnerable to an intensification of rainfall and/or temperature recurrent shocks are Burundi, Madagascar, Sierra Leone, Timor-Leste and Zambia.These high levels are either due to a very high level of the indices of intensification of both rainfall and temperature shocks (Sierra Leone, Madagascar), or mainly due to the intensification of temperature shocks (Burundi, Timor Leste) or rainfall shocks (Guinea-Bissau, Myanmar, Zambia). Of course, those countries that are among the most vulnerable to the intensification of recurrent shocks are to a large extent vulnerable to both types of shock. A few other LDCs appear to be essentially vulnerable to one kind of shock (Comoros to temperature; Zimbabwe, Malawi and The Gambia to rainfall).

Thus, although many LDCs seem to be highly vulnerable to climate change for physical reasons, the precise reason or channel of this (physical) vulnerability may significantly differ from one country to another. These various profiles of vulnerability to climate change, summarised in Table 8.2, may help in the design of appropriate adaptation policies.

8.2.4 PVCCI and EVI: are the two vulnerabilities correlated?

The UN Economic Vulnerability Index (EVI) has been proposed for use as one of the criteria for the allocation of development assistance between countries (Guillaumont 2008; Guillaumont et al. 2010), and development partners have been recently invited to use it for that purpose in a UN General Assembly resolution (A/C.2/67/L.51, December 2012). Similarly, the PVCCI could be used as one of the main criteria for the allocation of international resources available for the adaptation to climate change. Reflecting the likely needs for adaptation, it would be a relevant criterion precisely because it does not depend on present policy (Guillaumont 2013). The two indices, EVI and PVCCI, can have a complementary role in the allocation of international resources, as far as these resources are provided from separate sources. The significant differences in ranking between PVCCI and EVI support the idea of two specific assessments of 'needs'.

We compared PVCCI and EVI in 2012 (see Figure 8.3 and Annex 8.4), calculated with both the current and 2009 formulae. As the current formula includes the component 'Share of population in low elevated coastal zones' the EVI 2012 is

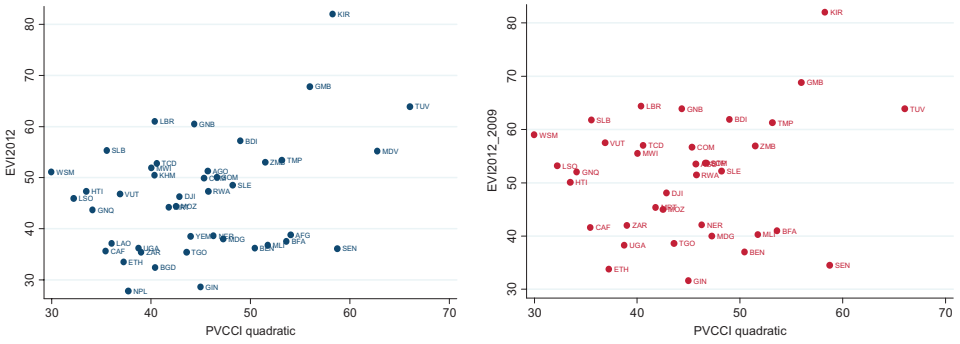
Table 8.2 Various sources of vulnerability to climate change in LDCs

Name of category	Progressive shocks		Increase in recurrent shocks		Example of countries concerned
	Sea level rise	Increasing aridity	Rainfall shocks	Temperature shocks	
Global high vulnerability	+++	+++	+++	+++	Senegal, The Gambia
Vulnerability to progressive shocks	+++	+++			Benin
Vulnerability to recurrent shocks			+++	+++	Burundi, Sierra Leone, Zambia, Madagascar
Vulnerability to sea level rise	+++				Kiribati, Maldives, Tuvalu, Bangladesh
Vulnerability to increasing aridity		+++			Burkina Faso, Afghanistan
Vulnerability to increasing rainfall shocks			+++		Bangladesh, Myanmar, Guinea-Bissau, Angola
Vulnerability to increasing temperature shocks				+++	Timor-Leste, Comoros, Rwanda, Timor-Leste

more correlated to quadratic PVCCI (0.34) than the EVI in 2012 based on the 2009 composition (0.16).

The first part of this study, which relies on PVCCI and gives an objective and quantitative assessment of the vulnerabilities of the LDCs' category, has shown a greater vulnerability of LDCs compared with other developing countries and an

Figure 8.3 PVCCI and EVI for LDCs



important heterogeneity within the category. These results challenge the choice of appropriate adaptation policies for the LDCs.

8.3 The international support for adaptation since IPoA

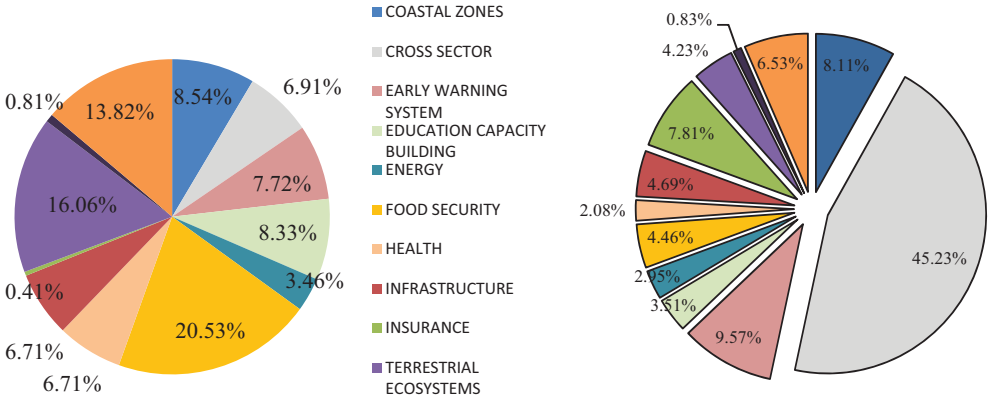
Having in mind the high level and various sources of vulnerability to climate change shown by the LDCs, we now examine what has been the response of the international community in particular for supplying LDCs with adequate adaptation resources. It should be recognised that the change observed since the adoption of the IPoA is rather limited. We limit our remarks related to adaptation to one of the main external supports given to them for this purpose that is supplied by the LDC Fund in relation to the implementation of NAPAs. Indeed, many other sources of international finance can contribute to support the adaptation of LDCs to climate change (multilateral development bank, United Nations Development Programme (UNDP), bilateral donors, etc.). But the IPoA underlines two actions we focus on, because they are additional. The IPoA strongly advises LDCs to 'mainstream and implement National Adaptation Programmes of Action (NAPAs)…' (Action 1a.) and, for the development partners, it recommends, 'in line with international conventions and agreements, [to] provide adequate financial and technical assistance and support, as appropriate to least developed countries to access appropriate, affordable and sustainable technologies needed for the implementation of NAPAs…' and to 'replenish and expedite, as appropriate, the disbursement of funds for adaptation to least developed countries under UNFCCC, including the Least Developed Countries Fund.'

8.3.1 'To mainstream and implement NAPAs'

The NAPAs aim to participate in the development of the country in a way appropriate to the local context. Each project presented in the NAPA must also demonstrate a positive impact on mitigation or attenuation of climate change. Countries have prepared their NAPAs since 2003. In January 2013, the UNFCCC Secretariat counted 47 NAPAs submitted to the Secretariat. The latest NAPA received is from Angola, in December 2011. Cape Verde and Maldives, now no longer LDCs, have NAPAs. Bangladesh is the most advanced LDC in the process, having been the first country to post a NAPA in December 2005. This country now has 15 projects in this framework, ordered by priority. UNFCCC distinguishes 11 sectors and 1 'cross-sectors' category, making clear that adaptation policies are related to all sectors in the economy and often difficult to disentangle from general development purposes.

Based on data collected from the UNFCCC, Figure 8.4 shows that the number of projects is quite balanced, divided according to the type of sector. 'Terrestrial ecosystems' and 'food security' appear to be the two sectors grouping the largest number of projects in LDCs. 'Cross-sectors' projects are those that have the highest costs. From a sectorial perspective, the most costly projects are, on average, in the sectors of 'early warning systems' and 'coastal areas'.

Figure 8.4 Development sector prioritised by project and costs in NAPAs (%)



As NAPAs provide a prioritisation of projects, it is interesting to note that those sectors accounting for the largest share of the costs of NAPAs are also areas of highest priority projects in each country, as shown by their own declarations (see Table 8.3).

As for the repartition of project costs by country groups, we can note that the countries of South Asia have on average a higher cost per project. Regarding the number of projects per country, the largest is in Haïti. Leaving Haiti (a Latin American and Caribbean country) aside, Figure 8.5 particularly emphasises the large number of projects and low-cost countries in sub-Saharan Africa and the Pacific. These countries indeed offer a very large number of projects in all sectors. The number of projects is accompanied by a low-cost way in each case.

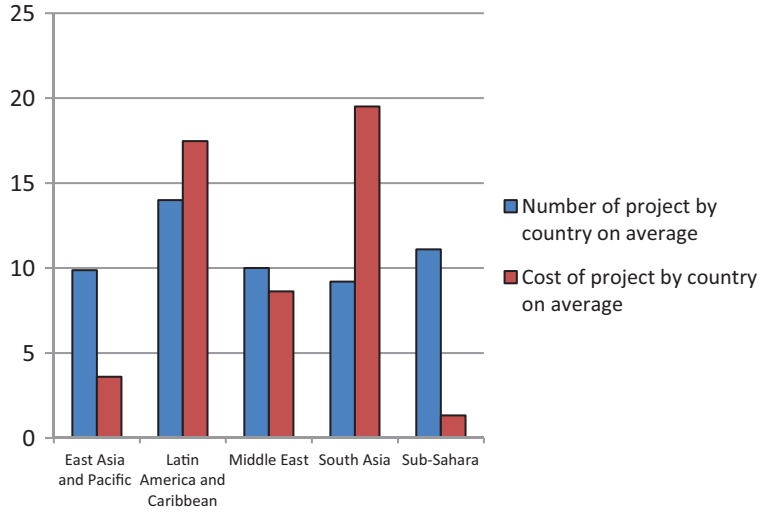
Finally, there does not seem to be any correlation between each country's NAPA indicators, such as the number of projects or the cost of the NAPA, and their vulnerability to climate change as measured by the PVCCI. This result is not surprising,

Table 8.3 Mean rank of priority of project, by sector

	Priority order (on average)
Early warning system	4
Cross sector	5
Water resources	6
Terrestrial ecosystems	6
Coastal zones	6
Food security	7
Tourism	7
Insurance	8
Infrastructure	8
Education	8
Health	9
Energy	9

Source: UNFCCC website, authors' calculations (January 2012 database)

Figure 8.5 Number and costs of project by country



Source: UNFCCC website, authors' calculations (January 2012 database)

since these indicators are supposed to correspond to the economic structure of each country rather than to its level of vulnerability.

At the end of 2011 almost all LDCs had filed their NAPAs and started the phase of implementation. The drafting of these plans shows the sensitivity of these countries to climate change. The plans reflect the multidimensional nature of the phenomenon, since most of the projects proposed in the NAPAs are multisectoral (UNFCCC website). The NAPAs also provide a rough assessment of the estimated costs of adapting to climate change. To carry out these projects, financial support of the community is necessary. The LDC Fund is specially devoted to financing adaptation of LDCs to climate change.

8.3.2 'To replenish and expedite the disbursement [...] of the LDC Fund'

In Article 4.9, the UNFCCC recognises the special situation of LDCs. For this purpose the LDC Fund was established in 2001 (during the COP 7). The fund addresses the special concern of the LDCs that are recognised to be especially vulnerable to the adverse impact of climate change. The major action for the LDC fund is to support LDCs in the preparation of NAPAs.

It is striking that the IPoA considers climate change in the LDCs (section F on multiple crises and other emerging challenges). In this context adaptation is key. Indeed, LDCs are also concerned with mitigation issues, as it also appears in the IPoA and the list of actions to be taken by LDCs and their development partners as well. But the policy focus is mainly on the way in which LDCs can face climate change, the path of which is determined by countries other than themselves. In this respect some indicators

seem to be missing in the IPoA, namely to follow the extent to which the LDCs are on the way to address the specific adaptation issues they are facing.

For that reason, as a very partial substitute for such indicators, we wonder whether the adaptation funds disbursed in the direction of LDCs seem to respond to their physical vulnerability to climate change.

8.3.3 Is there a link between LDC Fund disbursements by country and the country's physical vulnerability to climate change?

In June 2012, USD 537 million had been pledged to the LDC Fund. Germany, the United Kingdom, the United States, Sweden and Denmark are the five main contributing countries. Germany's contribution is twice that of the second donor.

Official development assistance (ODA) disbursements to LDCs from all donors, reported to the Development Assistance Committee of the Organisation for Economic Cooperation and Development (OECD/DAC), reached USD 26 billion in 2012. In the same year, the amount of grants from the LDC Fund was USD 86 million. From the beginning, the LDC Fund supported 74 projects in 44 countries, totalling USD 334.6 million and leveraging USD 1.59 billion in co-financing. The most important aim of the fund is to finance the preparation and implementation of NAPAs. As of June 2012, USD 346 million has been approved for projects and enabling activities. Since its inception, the LDC Fund has funded the preparation of 48 NAPAs, of which 47 have been completed while the remaining one is in the final stage of preparation. Moreover, 46 countries have officially submitted NAPA implementation projects. Preparation of NAPAs is for LDCs one of the main objectives of IPoA in relation to climate change.

At first glance, there is no simple correlation between the level of the PVCCI and the accumulated LDC Fund grants, as shown in Figure 8.6. But of course the allocation of these grants is likely to depend on the other usual factors of aid allocation, primarily the level of income per capita and the population size.

For exploratory purposes, we perform estimates of the allocation of LDC Fund grants. The results of the following analysis must be interpreted with caution, due to the small number of countries and the lack of temporal data. But the analysis, even when limited, shows some tracks of research to study the issue of the allocation of adaptation assistance.

We regress by ordinary least squares (OLS), the amounts of grants by country. The model estimated is, for each *i*, LDC:

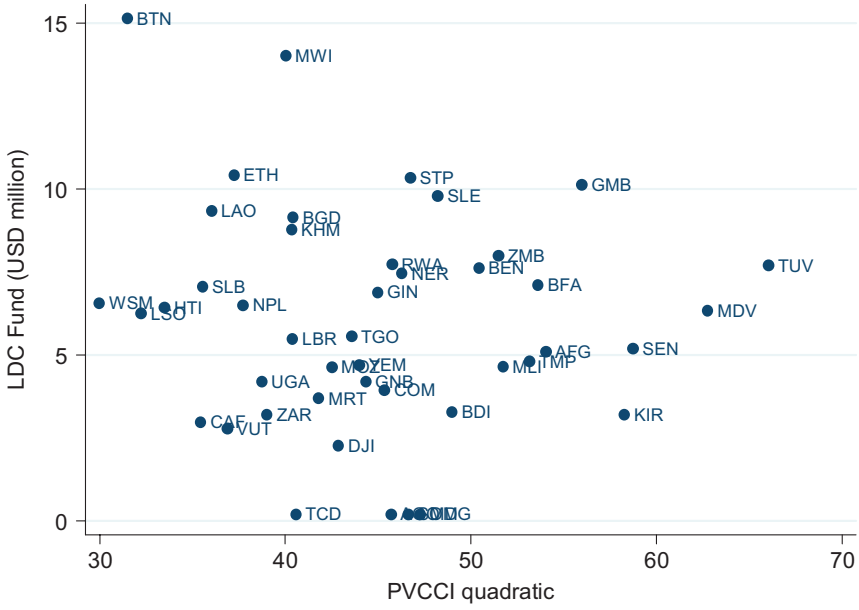
$$\text{Log}\,(G_i) = \alpha + \beta_1 \text{PVCCI}_i + \beta_2 \text{Log}\,(\text{GNI}_i) + \beta_3 \text{Log}\,(\text{GNI}_i)^2 + \beta_4 \text{Log}\,(\text{Pop}_i) + \varepsilon_i$$

where:

G = grants amounts of LDC Fund in US constant dollars

PVCCI = index of physical vulnerability to climate change, as described above

Figure 8.6 LDC Fund grants (all projects) and PVCCI



Source: Authors' calculation

GNI = gross national income

Pop = population

PPG = Project Preparation Grants by the LDCF (in US dollars)

All data refer to 2012, and come from the World Development Indicators database. The amounts of grants data come from the Global Environment Facility (GEF) database.[5] Table 8.4 presents some results of the estimations, which are still very tentative. We obtain a positive but not significant impact of the vulnerability index on the grants, the more significant (i.e. the less not significant) being when grants are considered with their co-financing. In column 1 the coefficient is not significant. Finally, the coefficient is close to significance but still non-significant for completed projects (column 3).

These results suggest that the allocation of adaptation grants does not clearly respond to the physical vulnerability of the countries. With more data, this relation might be more thoroughly studied.

When we introduce each sub-component of the PVCCI (Table 8.5), only the component 'sea level rise' is significant and positive, and then only for the 'grants of LDCF for all projects' and for 'LDCF grants and co-financing projects'.

While, by definition, the adaptation resources mobilised by the LDC Fund are directed at the countries that are among the most vulnerable in the world, these

Table 8.4 LDC Fund grants and PVCCI

	(1)	(2)	(3)
Variables	**LDC Fund grants and co-financing projects**	**LDC Fund grants, all projects**	**LDC Fund grants, completed projects**
PVCCI quadratic	0.0242	0.00823	–7.37e-06
	(0.0146)	(0.00859)	(0.000293)
Log (GNI)	1.914	0.329	–0.0405**
	(1.793)	(1.122)	(0.0184)
Log (GNI)2	–0.140	–0.0118	0.00281**
	(0.134)	(0.0843)	(0.00130)
Log (Pop)	0.134	0.117**	–0.000525
	(0.0821)	(0.0492)	(0.00102)
Observations	35	35	35
R-squared	0.392	0.325	0.119

Note: Robust standard errors in parentheses; ***$p < 0.01$, **$p < 0.05$, *$p < 0.1$; $^{+}p < 0.15$

Table 8.5 LDC Fund grants and PVCCI by components

	(1)	(2)	(3)
Variables	**LDC Fund grants and co-financing projects**	**LDC Fund grants, all projects**	**LDC Fund grants, completed projects**
SLR	0.0188*	0.0125**	–6.86e-05
	(0.00956)	(0.00562)	(0.000103)
OA	–0.000732	–0.000444	3.96e-05
	(0.00589)	(0.00344)	(0.000124)
RS	0.0110	0.00106	0.000125
	(0.0120)	(0.00672)	(0.000149)
TS	0.00936	–0.00134	–0.000148
	(0.00904)	(0.00525)	(0.000199)
Log (GNI)	4.616*	2.188	–0.0578*
	(2.447)	(1.398)	(0.0338)
Log (GNI)2	–0.357*	–0.163	0.00413^{+}
	(0.193)	(0.111)	(0.00259)
Log (Pop)	0.120	0.109*	–0.00122
	(0.102)	(0.0586)	(0.00138)
Observations	35	35	35
R-squared	0.469	0.451	0.380

Note: Robust standard errors in parentheses; ***$p < 0.01$, **$p < 0.05$, *$p < 0.1$; $^{+}p < 0.15$

Table 8.6 LDC Fund grants by sector and PVCCI by components

	(1)	(2)	(3)	(4)	(5)
VARIABLES	**Food security and agriculture**	**Water resources**	**Early warning systems**	**Coastal management**	**Disaster risks management**
SLR	–0.00366	0.0112	0.0154	0.00414	–0.0201***
	(0.00993)	(0.00786)	(0.0151)	(0.00937)	(0.00341)
OA	0.00648	0.0276**	0.00679	0.0424**	–0.0257*
	(0.00615)	(0.00963)	(0.0134)	(0.0147)	(0.0126)
RS	0.0324*	0.00593	–0.00442	–0.000502	0.0836**
	(0.0171)	(0.0181)	(0.0336)	(0.0410)	(0.0214)
TS	–0.0364*	0.00752	0.0109	0.0151	0.0415***
	(0.0187)	(0.0182)	(0.0320)	(0.0192)	(0.00849)
Log (GNI)	–2.028	8.886	4.264	–9.635**	–0.930
	(3.095)	(6.250)	(5.218)	(3.557)	(2.857)
Log (GNI)2	0.140	–0.711	–0.337	0.731**	–0.0107
	(0.252)	(0.459)	(0.407)	(0.267)	(0.188)
Log (Pop)	–0.100	–0.199	0.0493	0.484	–0.679**
	(0.169)	(0.248)	(0.263)	(0.270)	(0.184)
Observations	25	14	17	14	13
R-squared	0.450	0.637	0.161	0.822	0.908

Note: Robust standard errors in parentheses; ***$p < 0.01$, **$p < 0.05$, *$p < 0.1$; $^{+}p < 0.15$

results indicate that within this group there is no evidence of an allocation guided by an assessment of the relative vulnerability of countries to climate change. Among the components of the PVCCI, only sea level rise seems to have an impact.

Let us now divide the grants received by each country by sector (Table 8.6); the estimations are rather weak, since data are rare. However, these preliminary results show a possible positive relationship between the kind of vulnerability faced by each country and the kind of project funded. The choice of project seems to be in line with the vulnerability of the country.

The second part of this study compared adaptation policies adopted by the LDCs through their NAPAs, the allocation of adaptation funds and the countries' vulnerability to climate change. Two major points can be noted in the context of IPoA Monitor. LDCs have almost all set up NAPAs since May 2011 (except Equatorial Guinea, Myanmar and Uganda), and the LDC Fund has increased significantly its grants towards the countries. But this section also shows a weak correlation between adaptation grants and the countries' physical vulnerability to climate change, as measured by our index, although the kind of projects financed seem to some extent to correspond to the kinds of vulnerability faced by each country. These results suggest

that more thinking is needed about the criteria of adaptation assistance to LDCs, and to other developing countries as well.

8.4 Conclusion

The IPoA considers the challenge of climate change in the LDCs. It noticeably recommends the implementation of national adaptation plans by the LDCs and the disbursements of funds for adaptation by the development partners. To be well grounded, the monitoring of such actions involves reference to an assessment of the level and nature of the country's vulnerability to climate change. For that we use a 'physical vulnerability to climate change index' showing the level and the various sources of vulnerability of each country. Because, through its components, it shows the kind of vulnerability to climate change each LDC has to face, it can be used for the orientation of adaptation policies. Because it relies only on physical and policy-neutral components, it can be used as a major criterion for the allocation of international resources available for adaptation.

This chapter has shown the relatively high vulnerability of LDCs to climate change and its main sources. It has also examined the advancement of NAPAs. But the adequacy of the response of the international community to this vulnerability in order to make the adaptation to climate change easier has appeared more uncertain, as revealed by the allocation of the LDC Fund for adaptation, which has been of only a part of these resources. One should recognise the difficulty of assessing this adequacy, due both to a lack of data and to the absence of a clear border between the supply of resources specifically devoted to adaptation and the more traditional development assistance. This may also explain why there is little academic and research literature on the subject of NAPAs and adaptation assistance. More research on this topic would help the orientation of these plans and the evaluation of their implementation.

Annex 8.1 Actions relative to climate change in the IPoA

General goal	Strengthen least developed countries' ability to withstand and overcome the adverse effects of climate change, enhance sustainable growth and protect biodiversity (paragraph 94)
Hypothesis	Climate change disproportionately affects the socio-economic development of least developed countries, considering that they have contributed least to the problem [...] (paragraph 97)

Action by development partners

(a) [...] provide adequate financial and technical assistance and support, as appropriate, to least developed countries to access appropriate, affordable and sustainable technologies needed for the implementation of NAPAs and nationally appropriate mitigation actions (NAMAs) and the transfer of such technologies under mutually agreed terms;

(*continued*)

Annex 8.1 Actions relative to climate change in the IPoA (continued)

(b) Facilitate least developed countries' access to required resources from different environment and climate funds, including the Global Environment Facility (GEF);
(c) Provide financial and technical assistance and facilitate technology transfer under mutually agreed terms to least developed countries' efforts to develop and implement national strategies for sustainable use, preservation and protection of the national environmental resources and the sustainable management of marine biodiversity and ecosystems in line with their broader sustainable development strategies;
(d) Replenish and expedite [...] the disbursement of funds for adaptation to least developed countries under the United Nations Framework Convention on Climate Change (UNFCCC), including the Least Developed Countries Fund, the Adaptation Fund, and other funds disbursed through other global and bilateral programmes;
(e) Accelerate the legal and institutional arrangements for the establishment and full operationalisation of the Green Climate Fund [...];

Action by development partners

(f) Implement measures to promote and facilitate clean development mechanism projects in least developed countries [...];
(g) Help least developed countries address the challenges of livelihood and food security and health of the people affected by the adverse impact of climate change [...] at national, regional and international levels;
(h) Support enhancing the capacity of meteorological and hydrological services of least developed countries;
(i) Assist least developed countries to enhance capacities in clean energy production, trade and distribution, including renewable energy development.

Action by least developed countries

(a) Mainstream and implement NAPAs, medium- and long-term national adaptation plans and NAMAs, and integrate these into national development plans;
(b) Build and strengthen national capacity to access and efficiently absorb relevant funding mechanisms;
(c) Strive to ensure that development plans and programmes integrate adaptation considerations [...];
(d) Develop and implement national strategies for sustainable use, preservation and protection of the national environmental resources;
(e) Develop or update and implement national action plans stemming from biodiversity-related conventions;
(f) Mainstream policies dealing with climate change, biodiversity conservation and sustainable use of the ecosystem [...];
(g) Take measures to mainstream sustainable management of marine biodiversity and ecosystems

Annex 8.2a PVCCI quadratic, by group of countries (1/2, *extension of Table 8.1*)

Group of countries	Progressive shocks				Sea level rise				Increasing over aridity			
	Number of countries	Mean	Median	Standard deviation	Number of countries	Mean	Median	Standard deviation	Number of countries	Mean	Median	Standard deviation
All developing countries	118	32.67	28.87	15.28	124	6.07	0.99	18.71	136	43.44	37.44	18.77
Least developed countries (LDCs)	46	33.20	26.32	16.84	48	7.51	0.67	24.19	47	42.50	36.41	18.48
All developing countries, non-LDCs	72	32.51	29.49	14.33	76	5.17	1.29	14.32	90	43.93	39.06	19.00
Low-income countries (LICs) and lower middle-income countries (LMICs)	84	33.98	30.43	15.82	88	6.70	0.84	21.22	91	45.64	40.70	19.00
LICs and LMICs, non-LDCs	39	34.49	32.18	14.72	41	5.59	1.00	17.06	45	48.48	45.49	19.28
Small island developing states (SIDS)	29	32	24.93	18.76	29	23	3.80	34.39	31	31	28.14	7.81
SIDS, non-LDCs	18	28.23	24.41	14.70	18	19.98	5.83	26.36	20	29.32	27.79	7.38
SIDS–LDCs	11	38.55	28.85	23.36	11	29.10	2.84	45.54	11	34.29	33.48	7.87
Landlocked developing countries (LLDCs)	27	38.07	42.54	16.34	28	0.12	0.00	0.62	28	54.55	60.33	22.98
LLDCs, non-LDCs	11	49.54	49.96	9.81	12	0.00	0.00	0.00	12	70.35	72.16	13.27
LLDCs–LDCs	16	30.19	23.92	15.36	16	0.21	0.00	0.82	16	42.69	33.82	21.71
African developing countries	44	33.63	31.13	13.02	46	1.87	0.28	6.49	46	46.62	41.28	19.10
African LDCs	30	32.71	27.66	12.72	31	1.01	0.36	1.42	31	46.75	40.70	17.91
African LICs and LMICs	37	33.05	29.60	12.22	39	0.94	0.16	1.34	38	47.13	44.02	17.23
South-Asian developing countries	8	35.43	29.99	22.31	8	13.81	1.26	34.88	8	40.51	30.72	23.57
South-Asian LDCs	5	35.32	16.48	28.34	5	21.21	0.00	44.12	5	34.60	23.31	26.82
South-Asian LICs and LMICs	8	35.43	29.99	22.31	8	13.81	1.26	34.88	8	40.51	30.72	23.57

(*continued*)

Annex 8.2a PVCCI quadratic, by group of countries (1/2, *extension of Table 8.1*) (continued)

Group of countries	Progressive shocks				Sea level rise				Increasing over aridity			
	Number of countries	Mean	Median	Standard deviation	Number of countries	Mean	Median	Standard deviation	Number of countries	Mean	Median	Standard deviation
Latin American and Caribbean developing countries	26	26.19	25.15	7.68	27	4.63	1.78	9.01	27	35.46	34.67	10.13
Haïti	1	23.72	23.72		1	2.28	2.28	–	1	33.48	33.48	–
Latin American and Caribbean LICs and LMICs	9	36.37	27.22	7.14	10	0.00	0.00	0.00	8	54.87	59.84	23.60
East Asia and Pacific developing countries	23	29.14	19.56	20.04	24	17.38	2.36	33.37	23	30.17	27.06	11.55
East Asia and Pacific LDCs	8	33.68	19.57	25.67	9	23.81	2.36	43.20	8	29.33	27.58	8.21
East Asia and Pacific LICs and LMICs	19	31.94	20.08	21.01	20	20.45	2.36	35.90	19	31.83	28.09	11.94
Europe and Central Asia developing countries	9	46.21	49.25	14.58	11	0.00	0.00	0.00	21	52.57	44.24	20.29
Europe and Central Asia LDCs	–	–	–	–	–	–	–	–	–	–	–	–
Europe and Central Asia LICs and LMICs	5	52.23	52.74	6.51	5	0.00	0.00	0.00	8	68.30	71.66	13.13
Middle East and North African developing countries	9	39.04	37.58	12.00	9	2.16	1.46	1.93	13	58.71	62.34	15.47
Middle East and North African LDCs	2	37.94	37.94	8.95	2	3.23	3.23	3.74	2	53.52	53.52	12.47
Middle East and North African LICs and LMICs	6	40.49	40.93	12.79	6	2.41	1.83	2.32	9	61.58	65.51	15.88

Annex 8.2b PVCCI quadratic, by group of countries (2/2, *extension of Table 8.1*)

Group of countries	Number of countries	Increase in recurrent shocks			Rainfall shocks			Temperature shocks		
		Mean	Median	Standard deviation	Mean	Median	Standard deviation	Mean	Median	Standard deviation
All developing countries	144	47.41	46.10	7.62	43.29	108.00	55.76	50.22	46.74	10.08
Least developed countries (LDCs)	49	51.82	51.71	7.65	47.74	49.06	11.91	54.32	50.18	10.90
All developing countries, non-LDCs	95	45.14	44.76	6.60	41.00	40.62	9.28	48.11	45.09	8.97
Low-income countries (LICs) and lower middle-income countries (LMICs)	95	49.19	49.21	7.66	45.71	45.60	10.73	51.37	48.11	10.71
LICs and LMICs, non-LDCs	47	46.35	45.52	6.61	43.45	43.25	8.86	48.26	45.63	9.55
Small island developing states (SIDS)	31	47	45.92	7.17	40.72	41.18	9.75	52.10	48.50	10.97
SIDS, non-LDCs	20	45.60	45.47	4.88	40.70	41.18	5.90	49.39	47.15	8.94
SIDS–LDCs	11	50.49	49.84	9.59	40.77	39.62	14.81	57.02	52.47	12.95
Landlocked developing countries (LLDCs)	29	47.52	48.97	8.26	44.57	43.53	11.37	49.47	46.05	9.61
LLDCs, non-LDCs	13	44.02	42.99	6.43	40.95	38.06	10.78	46.33	44.39	4.91
LLDCs–LDCs	16	50.35	49.66	8.66	47.51	49.57	11.31	52.02	46.15	11.73
African developing countries	48	51.69	51.01	7.17	47.75	49.03	11.44	54.12	50.97	10.50
African LDCs	32	53.15	53.11	7.24	49.36	50.43	10.87	55.52	53.37	11.04
African LICs and LMICs	40	51.99	51.38	7.18	48.26	49.57	11.56	54.25	51.79	10.40
South-Asian developing countries	8	48.89	49.76	4.72	50.26	50.56	9.58	46.97	46.61	2.79
South-Asian LDCs	5	49.54	49.84	49.84	51.80	54.47	10.39	46.56	45.10	3.58
South-Asian LICs and LMICs	8	48.89	49.76	4.72	50.26	50.56	9.58	46.97	46.61	2.79
Latin American and Caribbean developing countries	27	46.33	44.98	7.15	39.97	38.81	6.56	51.15	46.26	11.86

(*continued*)

Annex 8.2b PVCCI quadratic, by group of countries (2/2, *extension of Table 8.1*) (continued)

Group of countries	Number of countries	Increase in recurrent shocks			Rainfall shocks			Temperature shocks		
		Mean	Median	Standard deviation	Mean	Median	Standard deviation	Mean	Median	Standard deviation
Haïti	1	40.98	40.98		34.93	34.93		46.26	46.26	
Latin American and Caribbean LICs and LMICs	10	48.47	44.58	9.72	41.53	39.22	6.36	53.82	47.60	15.30
East Asia and Pacific developing countries	24	48.67	47.96	7.45	45.63	44.31	11.05	50.26	46.80	11.12
East Asia and Pacific LDCs	9	50.50	49.59	9.76	43.69	44.31	15.62	54.75	50.18	12.86
East Asia and Pacific LICs and LMICs	20	49.53	49.04	7.68	46.87	47.18	11.66	50.58	46.80	11.87
Europe and Central Asia developing countries	23	40.13	40.17	4.54	34.67	34.92	6.87	44.64	43.98	4.65
Europe and Central Asia LDCs	–	–	–	–	–	–	–	–	–	–
Europe and Central Asia LICs and LMICs	8	41.65	41.17	4.28	37.48	36.91	4.45	45.28	43.98	5.84
Middle East and North African developing countries	13	43.64	42.66	5.02	39.89	38.14	8.87	46.42	44.81	6.30
Middle East and North African LDCs	2	47.50	47.50	8.59	36.22	36.22	5.08	56.57	56.57	11.17
Middle East and North African LICs and LMICs	9	43.74	42.66	5.11	39.68	38.14	6.93	46.96	43.57	7.49

Annex 8.3 PVCCI quadratic by countries

	Sea level rise		Increasing over aridity		Increase in rainfall shocks		Increase in temperature shocks		Progressive shocks		Recurrent shocks		PVCCI quadratic	
	Value	Rank	Value	Rank	Value	Rank	Value	Rank	Value	Rank	Value	Rank	Value	Rank
Afghanistan	0.00	1	82.14	47	54.47	35	44.39	8	58.08	43	49.69	18	54.05	41
Angola	0.08	18	36.41	24	63.36	45	54.91	30	25.74	21	59.29	42	45.70	27
Bangladesh	6.05	45	17.97	3	64.85	46	44.39	8	13.41	3	55.57	36	40.42	17
Benin	2.11	30	68.55	42	52.90	30	51.76	26	48.49	38	52.33	27	50.45	35
Bhutan	0.00	1	21.46	4	37.25	10	46.05	13	15.17	4	41.88	7	31.50	2
Burkina Faso	0.00	1	78.47	44	53.20	33	50.18	24	55.49	40	51.71	25	53.63	40
Burundi	0.00	1	33.00	18	49.06	25	78.15	48	23.34	16	65.25	47	49.00	34
Cambodia	2.30	32	26.86	9	57.15	39	50.18	24	19.06	9	53.78	29	40.35	15
Central African Republic	0.00	1	29.70	15	46.99	21	44.01	5	21.00	13	45.53	10	35.45	6
Chad	0.00	1	62.13	37	24.24	2	46.25	15	43.93	34	36.92	1	40.58	18
Comoros	2.84	37	40.70	28	25.00	3	77.04	47	28.85	25	57.27	38	45.34	26
Congo, Democratic Republic of the	0.01	16	25.96	7	45.22	19	58.03	36	18.35	7	52.02	26	39.01	13
Djibouti	5.87	44	62.34	38	32.63	7	48.67	21	44.27	35	41.43	6	42.88	21
Equatorial Guinea	0.38	21	25.51	6	39.47	12	49.51	22	18.04	6	44.77	9	34.13	5
Eritrea			62.39	39	57.84	40	42.59	2			50.79	23		
Ethiopia	3.29	41	51.28	34	31.03	6	44.12	7	36.33	31	38.14	4	37.25	10
Gambia, The	5.31	43	79.80	45	54.86	36	55.96	31	56.55	41	55.41	35	55.99	42
Guinea	0.82	27	36.57	25	53.60	34	62.30	38	25.86	22	58.12	41	44.98	25
Guinea-Bissau	3.08	40	33.90	20	65.07	47	49.78	23	24.07	18	57.93	40	44.36	24
Haiti	2.28	31	33.48	19	34.93	8	46.26	16	23.73	17	40.99	5	33.49	4
Kiribati	100	46	28.09	13	27.12	4	45.44	11	73.45	44	37.42	2	58.29	43
Lao People's Democratic Republic.	0.00	1	16.60	1	52.90	30	46.05	13	11.74	1	49.59	16	36.04	8
Lesotho	0.00	1	17.94	2	43.53	16	44.03	6	12.69	2	43.78	8	32.23	3
Liberia	0.42	22	26.82	8	49.00	24	58.38	37	18.96	8	53.89	30	40.40	16

(*continued*)

Annex 8.3 PVCCI quadratic by countries (continued)

	Sea level rise		Increasing over aridity		Increase in rainfall shocks		Increase in temperature shocks		Progressive shocks		Recurrent shocks		PVCCI quadratic	
	Value	Rank	Value	Rank	Value	Rank	Value	Rank	Value	Rank	Value	Rank	Value	Rank
Madagascar	0.78	26	36.99	26	59.15	42	63.82	39	26.16	23	61.53	45	47.28	32
Malawi	0.00	1	34.64	21	58.17	41	42.74	3	24.49	19	51.04	24	40.03	14
Maldives	100	46	28.14	14	46.65	20	52.84	29	73.46	45	49.84	19	62.77	45
Mali	0.00	1	69.63	43	56.35	38	51.83	27	49.24	39	54.14	32	51.74	38
Mauritania	2.77	35	51.92	35	44.41	18	48.11	19	36.76	32	46.30	11	41.80	19
Mozambique	0.54	23	46.19	32	59.23	43	39.85	1	32.66	29	50.48	20	42.51	20
Myanmar	2.88	39			69.62	49	42.74	3			57.76	39		
Nepal	0.00	1	23.31	5	55.79	37	45.10	10	16.48	5	50.73	22	37.72	11
Niger	0.00	1	61.47	36	50.09	26	47.82	18	43.47	33	48.97	15	46.30	29
Rwanda	0.00	1	31.11	16	38.46	11	76.99	46	22.00	14	60.85	44	45.75	28
Samoa	2.36	33	28.09	12	27.12	4	45.44	11	19.94	12	37.42	2	29.98	1
São Tomé and Principe	2.78	36	49.77	33	63.23	44	47.50	17	35.25	30	55.92	37	46.74	31
Senegal	3.34	42	80.22	46	48.57	23	70.71	44	56.78	42	60.66	43	58.75	44
Sierra Leone	1.39	28	34.85	22	47.70	22	76.22	45	24.66	20	63.58	46	48.22	33
Solomon Islands	2.84	37	26.89	10	39.62	13	52.47	28	19.12	10	46.49	12	35.55	7
Somalia	0.36	20	65.37	40	35.46	9	56.23	32	46.22	36	47.01	13	46.62	30
Sudan	0.08	19	65.96	41	52.23	29	58.03	35	46.64	37	55.21	33	51.10	36
Tanzania, United Republic of	0.07	17			52.90	30	48.11	19			50.56	21		
Timor-Leste	1.56	29	44.91	31	51.41	28	81.53	49	31.77	28	68.15	49	53.17	39
Togo	0.75	25	41.86	29	50.77	27	57.14	33	29.60	26	54.05	31	43.57	22
Tuvalu	100	46	36.16	23	44.31	17	64.64	42	75.19	46	55.41	34	66.05	46
Uganda	0.00	1	32.80	17	39.62	13	57.96	34	23.19	15	49.64	17	38.75	12
Vanuatu	2.36	33	27.06	11	23.99	1	64.23	40	19.21	11	48.48	14	36.87	9
Yemen	0.58	24	44.70	30	39.81	15	64.46	41	31.61	27	53.57	28	43.99	23
Zambia	0.00	1	37.44	27	68.97	48	66.64	43	26.47	24	67.82	48	51.48	37

Annex 8.4 Ranking comparison between EVI and PVCCI

	EVI 2012	Rank (1)	EVI 2012 (Basis 2009)[a]	Rank (2)	PVCCI quadratic	Rank (3)	Rank variation (3-1)	Rank variation (3-2)
Afghanistan	38.8	17	41.0	14	54.05	41	–24	27
Angola	51.3	33	53.5	27	45.7	27	6	0
Bangladesh	32.4	3	24.3	1	40.42	17	–14	16
Benin	36.2	9	37.0	7	50.45	35	–26	28
Bhutan	44.2	19	53.6	28	31.5	2	17	–26
Burkina Faso	37.5	13	41.0	13	53.63	40	–27	27
Burundi	57.2	40	61.9	40	49	34	6	–6
Cambodia	50.5	31	49.9	21	40.35	15	16	–6
Central African Republic	35.6	7	41.6	15	35.45	6	1	–9
Chad	52.8	35	57.0	35	40.58	18	17	–17
Comoros	49.9	29	56.7	33	45.34	26	3	–7
Congo, Democratic Republic of the	35.4	5	36.1	6	39.01	13	–8	7
Djibouti	46.3	24	48.1	20	42.88	21	3	1
Equatorial Guinea	43.7	18	52.0	24	34.13	5	13	–19
Ethiopia	33.5	4	33.8	4	37.25	10	–6	6
Gambia, The	67.8	44	68.8	44	55.99	42	2	–2
Guinea	28.6	2	31.6	3	44.98	25	–23	22
Guinea-Bissau	60.5	41	63.9	41	44.36	24	17	–17
Haiti	47.3	26	50.1	22	33.49	4	22	–18
Kiribati	82	45	82.0	45	58.29	43	2	–2
Lao People's Democratic Republic	37.1	12	42.4	17	36.04	8	4	–9
Lesotho	45.9	23	53.2	26	32.23	3	20	–23
Liberia	61	42	64.4	43	40.4	16	26	–27
Madagascar	38	14	40.0	10	47.28	32	–18	22
Malawi	51.9	34	55.5	32	40.03	14	20	–18

(*continued*)

Annex 8.4 Ranking comparison between EVI and PVCCI (continued)

	EVI 2012	Rank (1)	EVI 2012 (Basis 2009)[a]	Rank (2)	PVCCI quadratic	Rank (3)	Rank variation (3-1)	Rank variation (3-2)
Maldives	55.2	38	53.7	30	62.77	45	–7	15
Mali	36.8	11	40.3	11	51.74	38	–27	27
Mauritania	44.2	19	45.4	19	41.8	19	0	0
Mozambique	44.4	21	45.0	18	42.51	20	1	2
Nepal	27.8	1	30.0	2	37.72	11	–10	9
Niger	38.6	16	42.1	16	46.3	29	–13	13
Rwanda	47.3	26	51.5	23	45.75	28	–2	5
Samoa	51.1	32	59.0	37	29.98	1	31	–36
São Tomé and Principe			53.7	29	46.74	31	–31	2
Senegal	36.1	8	34.5	5	58.75	44	–36	39
Sierra Leone	48.5	28	52.2	25	48.22	33	–5	8
Solomon Islands	55.3	39	61.8	39	35.55	7	32	–32
Somalia	50.1	30	53.7	31	46.62	30	0	–1
Sudan	44.4	21			51.1	36	–15	36
Timor-Leste	53.4	37	61.3	38	53.17	39	–2	1
Togo	35.4	5	38.6	9	43.57	22	–17	13
Tuvalu	63.9	43	63.9	42	66.05	46	–3	4
Uganda	36.2	9	38.3	8	38.75	12	–3	4
Vanuatu	46.8	25	57.5	36	36.87	9	16	–27
Yemen	38.5	15	40.7	12	43.99	23	–8	11
Zambia	53	36	56.9	34	51.48	37	–1	3

[a]See Cariolle et al. 2014

Notes

1 The substance of this chapter has been presented at the LDC IV Monitor Expert group meetings in Dhaka (September 2012) and Dar EGM, Dar Es Salaam (February 2013), and in London (June 2013), where authors benefited from useful comments supplemented by relevant remarks of external referees: Y. Sokona, South Center; Nina Becker and Tom Mitchell, ODI. All are acknowledged, without their being responsible for any opinion expressed or possible errors in the present chapter.

2 Among various instability indices, the Notre Dame Global Adaptation Institute Index (NDGAIN 2013), the Climate Vulnerability Monitor of DARA (2012) and the vulnerability to climate change assessment established by Wheeler (2011) are set up to be operational, but they mix assessment of the 'structural' or physical vulnerability to climate change and the overall vulnerability, which also depends on the country's policies. As such, they seem less appropriate.

3 Data on the exposure of dry lands come from the United Nations Development Program/ Office to Combat Desertification and Drought (UNDP/UNSO 1999), and from the United Nations Environment Program/Global Resource Information Database (UNEP/GRID 1991).They are available on the WorldResources Institute website.

4 As the LDCs category includes both several landlocked and small island countries, the component 'risk of sea level rise' has the highest level of standard deviation.

5 Estimations are corrected for heteroskedasticity (White correction). We test robustness of the estimation by replacing data of gross national income by data of gross domestic product (in constant US dollars, 2000). We also controlled for EVI in 2012, calculated with the old previous formula, but the coefficient was not significant. We finally, and not surprisingly, found that the number of projects and the project preparation grants, when introduced in the regressions, are positively correlated with the amount of grants, without clearly modifying the result for the impact of PCCVI.

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Chapter 9

ODA to and External Debt in LDCs: Recent Trends

Fahmida Khatun and Mazbahul Ahamad

9.1 Introduction

Official development assistance (ODA) has been a major source of external finance since the 1970s in least developed countries (LDCs). Aid, as a share of their gross domestic product (GDP), has increased significantly since then. Developed countries and donors have made commitments to scale up their contribution of ODA further at various international platforms. The Millennium Development Summit in 2002 of the United Nations (UN), the UN Conference on Finance for Development in Monterrey in 2002 and in Rome in 2008, and the UN Conferences on LDCs are examples of initiatives which have emphasised the need for higher ODA flow to LDCs. Ironically, while the commitment is strong on paper, the implementation remains weak on the ground as most donor countries are yet to fulfil their commitments.

The challenge for LDCs is, however, not only to receive higher ODA, but also to ensure the effectiveness of aid in order to achieve higher economic growth. The issue is thus not only how much aid is given, but also how it is given and what it achieves. The number of donors has increased, and so has the number of recipients of ODA. However, the effectiveness of ODA remains a concern for the international community. In view of the realisation that aid could not deliver the expected results, the international commitments agreed to improve the effectiveness of aid through various funds. High level forums (HLFs) on aid effectiveness, such as the Paris Declaration on Aid Effectiveness in 2005, Accra Agenda for Action (AAA) in 2008 and Busan Aid Effectiveness Forum in 2011, have made recommendations towards improving the overall efficiency of official aid.

In this context, the Istanbul Programme of Action (IPoA) observes that, given the slow growth of ODA flow to LDCs, there is a clear need for much more determined efforts by developed countries to fulfil and enhance their ODA commitments to LDCs. Actions by LDCs and their development partners are of particular importance to achieve these goals. In this respect, the IPoA spelt out four specific actions to be undertaken by LDCs and 13 by development partners.

The other issue related to ODA is external debts of LDCs, given the fact that debt service takes up a large part of LDCs' scarce resources, representing an obstacle for economic growth, poverty eradication and the achievement of internationally agreed development goals including the Millennium Development Goals (MDGs). The IPoA observes that the Heavily Indebted Poor Countries (HIPC) Initiative, the Multilateral Debt Relief Initiative (MDRI) and debt relief from bilateral

donors have considerably reduced LDCs' debt vulnerability. In this regard, the IPoA suggests pursuing policies and measures to achieve sustainable debt levels in all LDCs and specific debt relief measures for LDCs that are not HIPC on a case-by-case basis.

The present chapter takes stock of the progress as regards the IPoA commitments on ODA and external debt in the context of LDCs, based on existing data from various sources including OECD Statistics.[1] This report uses constant prices for 2011. However, data in terms of current prices are also used here due to unavailability of data on constant prices. The chapter also builds on two expert group meetings in September 2012 and February 2013.

The chapter is organised as follows. Following the introductory section, a short discussion on the role of ODA in LDCs has been undertaken in Section 9.2, based on evidence in the literature. Section 9.3 provides an overview of LDCs' dependence on ODA and presents major trends of ODA to LDCs. IPoA targets and actions on ODA and external debt and progress made so far in these areas are discussed in Section 9.4. The focus of this section is on the status of fulfilment of ODA commitments to LDCs, the alignment of ODA with national priorities of LDCs, the progress on quality of ODA, the issue of new innovative mechanisms and the responsibility of LDCs to make aid more effective in their respective countries. The chapter concludes in Section 9.5 by making a few suggestions to improve the delivery of IPoA indicators on ODA and external debt.

9.2 Role of aid in LDCs: evidence in the literature

The influence of ODA on economic growth of LDCs through stimulating their investment is well recognised in the literature. The theoretical perspective shows the necessity of capital accumulation for economic growth of the country. The Keynesian growth theory suggests that productive activity of an economy is influenced by the aggregate demand or total spending of the economy (Keynes 1936). When a government receives development assistance, it can be used to invest in infrastructure and public sector development. If so, this increases the economy's income by creating new business opportunities and employment, and thus increases the total demand on the economy. ODA in one way boosts the overall economic activity and in an other way reduces the fiscal deficit (Galí 2012). The Harrod–Domar model (Harrod 1939; Domar 1946) states that economic growth is influenced by savings and productivity of the capital, and both these are the major development constraints in LDCs. Development assistance plays a major role in removing such constraints and increasing investment activity (Hagemann 2009). Solow (1956) further added that the economy converges to the steady-state output level when the economy accumulates further capital, and development assistance is needed for LDCs to accumulate such capital. It has been claimed that, in general, ODA has a three-dimensional macroeconomic impact: first, it influences core macroeconomic indicators such as GDP per capita, investment, income, savings and consumption; second, it reduces poverty by increasing the standard of living and life expectancy; third, it increases public expenditure that accelerates economic growth (Chirino

and Melián 2006). New development theories argue that LDCs always remain in low-level equilibrium and in a vicious circle of poverty. People living in poverty have low income, savings and investment. The investment financed from development assistance increases their per capita income and savings, and breaks the poverty trap by increasing productivity and growth of the economy (Mercieca 2010).

Several country case studies have found positive, stable and statistically significant effects of ODA on economic growth of countries (Rotarou and Ueta 2009; Feeny and McGillivray 2010; Mohey-ud-din 2005). Rotarou and Ueta (2009) analysed time series data of Tanzania from 1970 to 2007 to determine the impact of ODA on foreign direct investment (FDI) and trade balance on GDP growth. The finding shows that ODA has been the most influential factor for the country's economic growth in comparison to other factors. Moreira (2005) finds a positive impact of aid on growth for all countries in his sample, which included India, China, Brazil and Bangladesh. There are also multicountry panel data analyses that show the relationship between ODA and economic growth (Bjerg et al. 2011; Irandoust and Ericsson 2004; Guillaumont 2011). Bjerg et al. (2011) analysed the potential of foreign aid for elevating economic growth of 38 sampled LDCs. They show that LDCs can use foreign aid for finance debt reduction and productive investment and, when disbursed aid is used to repay the debts, it reduces their growth-depressing debt burden. Thus, the positive association between aid and economic growth is likely to exist in LDCs.

The theoretical underpinnings on the importance of ODA do not always hold ground as the impact of ODA in reality has been far from universal across countries. Duc (2006) finds that foreign aid has a negetive impact on growth for East Asia, Central Asia and all other regions in his sample for both sub-periods of 1975–91 and 1992–2000, except for South Asia where the effect was positive for the sub-period of 1992–2000. However, the overall effect was still negative. The impact of aid on economic growth of recipient countries is not unconditional and straightforward. Aid is found to have a positive impact on the economy if good fiscal, monetary and trade policies are in place in the recipient countries (Johansson 2010; Obstfeld 1999; Dalgaard 2007; Collier and Dollar 2001; Burnside and Dollar 2000; Moreira 2005; Bjerg et al. 2011; Durbarry et al. 1998; The World Bank 1998; Schwalbenberg 1998). It is often said that foreign aid is generally used as a financial resource to import improper technology that distorts domestic income distribution and encourages an inefficient and corrupt government structure in most of the developing countries (Griffin and Eno 1970; Weisskoff 1972; Boone 1994; Easterly 2006). Of course, domestic policies can also play a role in bringing technologies that are not suitable to importing countries.

A number of studies reveal that foreign aid has some controversial features which can be detrimental to the growth of LDCs. Donors are increasingly playing the role of policy advisors rather than resource providers (Sobhan 1996, 2002). In the same way, Rajan and Subramanian (2008) did not find any robust relationship between aid and economic growth, and better policy and geographical environment do not influence the effectiveness of aid. Moreover, the bureaucracy of foreign aid has become a major obstacle to serving the overall interests of LDCs, as the poor have

neither the financial capacity nor the political power to address their desperate needs and motivate donor countries to address their requirements (Easterly 2006). On the other hand, Lessmann and Markwardt (2012) find mixed effects of aid on growth for all regions in their sample including sub-Saharan Africa, Latin America and East Asia. Therefore, there is no broad consensus on the impact of aid on economic growth of recipient countries. The findings of various studies can be summarised in three broad categories: (i) aid has a positive impact on growth; (ii) aid has a positive impact on growth, but the effectiveness depends on appropriate policies; and (iii) aid has a negative effect on economic growth of recipient countries.

Despite mixed evidence, the positive role of aid in promoting growth is generally recognised by poor aid-recipient countries. However, this recognition is explained in a more nuanced manner which supports the idea that ODA can drive economic growth in the right circumstances, which include a number of pre-conditions, such as (i) the level of development, governance, policies and political situation of the recipient country; (ii) the commitment of donors, co-ordination between donors and recipients, and monitoring and evaluation of aid; (iii) the type of aid, that is whether aid is flowing to the productive sectors or to disaster management (OECD 2012a).

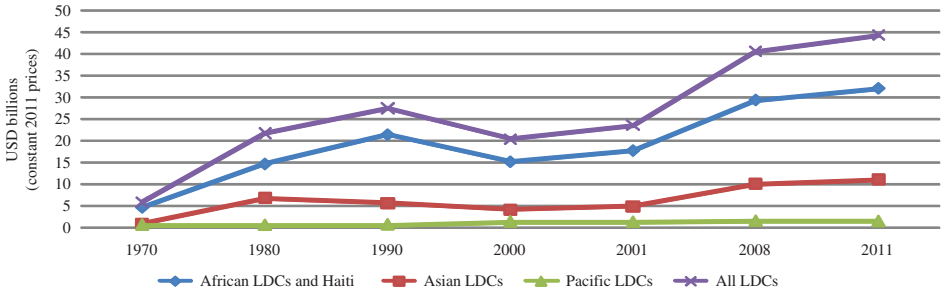
9.3 ODA flow to LDCs: some major features

Before going into the discussion on various aspects of ODA, we will find it useful to revisit its definition. According to the Organisation for Economic Co-operation and Development (OECD), ODA is defined as those flows to countries and territories on the Development Assistance Committee (DAC) list of ODA recipients and to multilateral development institutions which are provided by official agencies, including state and local governments, or by their executive agencies. Each transaction of these agencies (i) is administered with the promotion of the economic development and welfare of developing countries as its main objective; and (ii) is concessional in character and conveys a grant element of at least 25 per cent. In addition to financial flows, technical co-operation and debt forgiveness are also included in ODA. Moreover, ODA also includes other types of aid that do not necessarily involve a transfer of funds to developing countries, such as administrative costs and costs for refugees and students within the donor country. Grants, loans and credit for military purposes are excluded.

9.3.1 Net ODA to LDCs

ODA to LDCs has experienced fluctuations during the last decades. Performance of quantifiable ODA indicators such as net ODA received by LDCs, ODA as a percentage of gross national income (GNI) of respective LDCs and per capita ODA in LDCs reveals that during 1970–80 ODA flow was higher than in the following decades. During 1990–2000, ODA to LDCs declined significantly, but in the following decade (2001–11) it improved to a significant level (Figure 9.1). In this most recent decade, net ODA received by LDCs increased in 2011 compared with 2008 in most countries, except for 22 LDCs (Annex 9.1). The top ten LDCs received 62.6 per cent of total

Figure 9.1 Net ODA received by LDCs



Source: OECD (2012b)

ODA to LDCs while the bottom ten LDCs received only 1.9 per cent of total net ODA to LDCs in 2011.

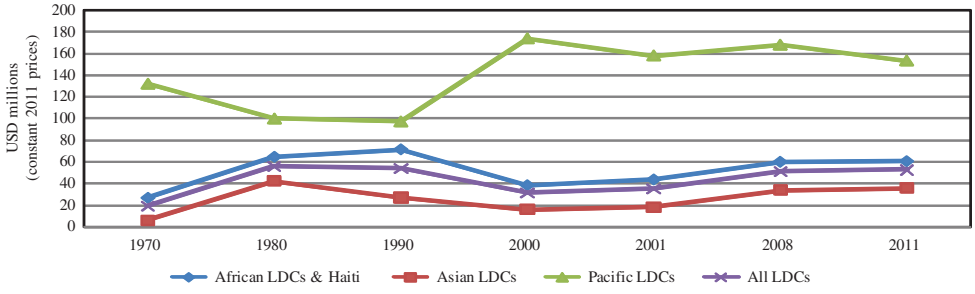
9.3.2 Per capita ODA

As opposed to net ODA flow, a smaller number of LDCs experienced an increase in per capita ODA during 2008–11. The African LDCs and Haiti have seen an increase in per capita ODA from USD 58.1 in 2008 to USD 60.5 in 2011. On the other hand, per capita ODA in the Asian LDCs increased from USD 33.4 in 2008 to USD 36.3 in 2011 (Figure 9.2). Angola, Bangladesh and Myanmar received less than USD 10 per capita as ODA in 2011, while Vanuatu received USD 3,972 as per capita ODA. The other highest recipient countries are Kiribati, Solomon Islands, Samoa, São Tomé and Príncipe, Timor-Leste, Tuvalu, Afghanistan, Bhutan and Liberia. Interestingly, five countries receive about half of the total aid while the remaining 43 LDCs receive the other half.

9.3.3 ODA as percentage of LDCs' GNI

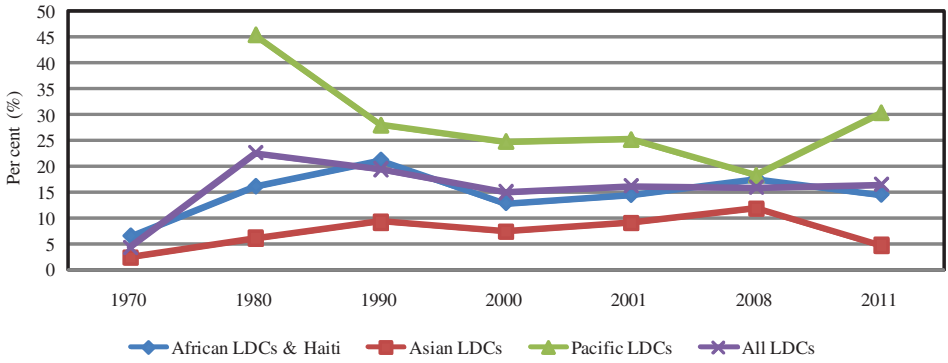
Most LDCs did not experience any change in ODA as a percentage of GNI over time. A comparison among LDC groups shows that the share of Asian LDCs' ODA as a percentage of their GNI was lowest (10.1 per cent) while that of Pacific LDCs was the highest in 2011 (Figure 9.3). A few countries, such as Afghanistan, Haiti, Liberia

Figure 9.2 Per capita ODA flow to LDCs



Source: OECD (2012b)

Figure 9.3 ODA as percentage of LDCs' GNI



Source: OECD (2012b)

and Solomon Islands, received ODA equivalent to more than 40 per cent of their respective GNI.

9.3.4 Regional distribution

The regional distribution of LDCs shows that the highest volume of ODA goes to Africa, where most of the LDCs and countries not on course to achieve the MDGs are located. The share of ODA to LDCs on average has increased during 2008–11 compared with the developing countries, even though LDCs received only 31.45 per cent of ODA in 2011 (Table 9.1). In terms of regional share of per capita ODA, Pacific LDCs receive

Table 9.1 Regional share (%) of net ODA received (USD million in constant 2011 prices)

Region	Percentage of total ODA	2001	2005	2008	2011
Asian LDCs	% of total ODA to LDCs	19.98	21.48	24.36	24.66
	% of total ODA (LDCs + DCs)	5.48	5.15	7.42	7.76
African LDCs and Haiti	% of total ODA to LDCs	75.21	74.98	72.27	72.38
	% of total ODA (LDCs + DCs)	20.62	17.97	22.02	22.77
Pacific LDCs	% of total ODA to LDCs	4.80	3.54	3.36	2.97
	% of total ODA (LDCs + DCs)	1.32	0.85	1.03	0.93
LDCs' share	% of total ODA (LDCs + DCs)	27.41	23.97	30.47	31.45

Note: 'DCs' stand for developing countries.
Source: OECD (2012b)

the highest (USD 403.1), followed by African LDCs and Haiti (USD 60.4). Asian LDCs receive the lowest per capita ODA (USD 36.3). A similar trend is observed in the previous years too.

9.4 IPoA targets on ODA and external debt: a review of progress

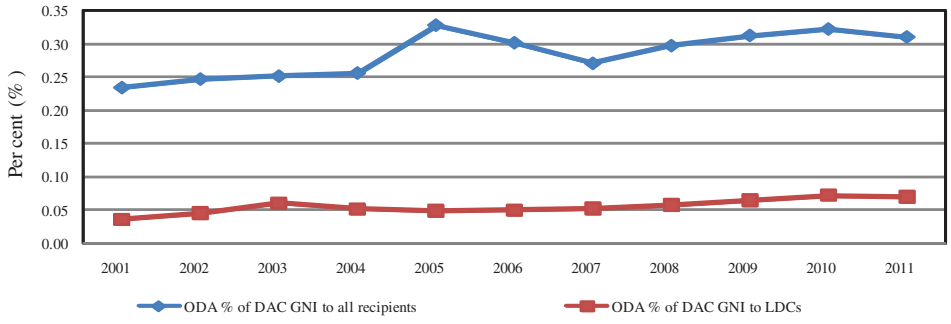
Recognising the importance of increased and effective ODA, the IPoA sets two goals, namely (i) to ensure the fulfilment of ODA commitments to LDCs and (ii) to ensure alignment of aid with LDCs' national priorities. The IPoA sets three targets on external debt: (i) to achieve sustainable debt levels in all LDCs; (ii) to monitor their debt situation; and (iii) to provide specific debt relief measures for LDCs that are HIPCs on a case-by-case basis. In order to achieve these goals, LDCs and development partners have to undertake a number of actions as mentioned in Annex 9.2.

9.4.1 Fulfilment of ODA commitments to LDCs

A major theme of international development co-operation agreements is the fulfilment of the commitments made by donors. Out of 13 actions to be undertaken by development partners, the first six talk about donor countries' efforts to fulfil their commitments to provide, ODA equivalent to 0.15–0.2 per cent to LDCs. However, the trend of ODA to LDCs tells a different story. Even though the volume of ODA as a percentage of GDP of developed countries has increased compared with the 1980s, the increase is nominal. Thus the internationally agreed upon goals are yet to be met. The net ODA-to-GNI ratio of many large donor countries remains below the IPoA target of 0.15–0.20 per cent (Figures 9.4 and 9.5). In 2011, only five countries (Denmark, Ireland, Luxembourg, Norway and Sweden) exceeded the UN target of providing 0.15 per cent of their GNI as ODA to LDCs, compared with seven countries in 2008. The USA continued to be the largest donor by volume with net ODA flows amounting to USD 9,315 million in 2011, even though this was 0.06 per cent of its GNI in 2011 (OECD 2012b).

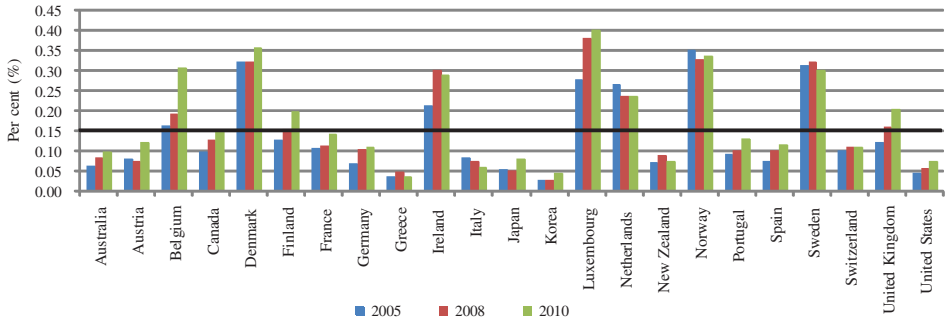
The general trend of commitments and disbursements is, on average, increasing, except for 2011 (Figure 9.6). Commitment by the DAC declined in 2007 and 2009 while

Figure 9.4 Trends in OECD DAC net ODA as percentage of GNI to LDCs



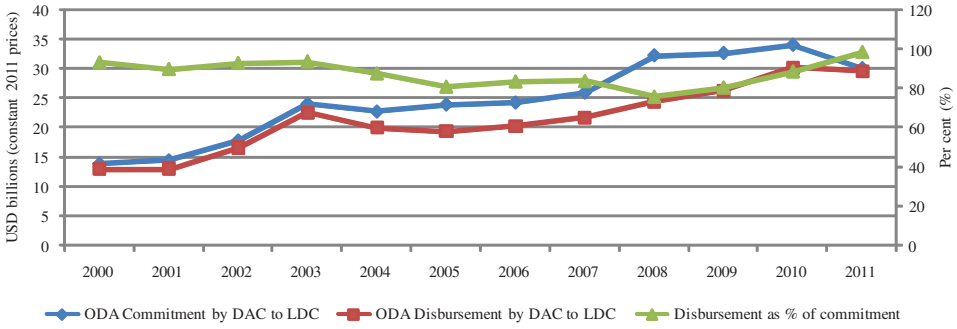
Source: OECD (2012b)

Figure 9.5 DAC disbursement of bilateral ODA to LDCs as percentage of their GNI



Source: OECD (2012b)

Figure 9.6 ODA commitment and disbursement by DAC



Source: OECD (2012b)

disbursement decreased in 2006, 2007, 2008 and 2009. Gross disbursement of DAC countries was a little over 92 per cent of their average commitment during 2001–11. The disbursement was highest in 2011 at 98.6 per cent of the commitment. ODA targets of DAC members were generally unmet. Moreover, aid for LDCs from nine donors declined in 2011 compared with 2008 (OECD 2012b). Among these are countries – Luxemburg, Ireland and Norway – which have met the criteria to provide 0.15 per cent of their GNI as ODA to LDCs. It was estimated earlier (2011) that, in order to achieve the minimum target of 0.15 per cent of their GNI as ODA to LDCs, donors would have to provide USD 58 billion as net ODA. Moreover, in order to provide 0.2 per cent of their GNI as ODA to LDCs, donors will need USD 77 billion (United Nations 2011b).

Alignment of aid with LDCs' national priorities

The quality of ODA is enhanced to a large extent if ODA is aligned with LDCs' national priorities. This plays a catalytic role in eradicating poverty and promoting economic growth in LDCs.[2] The national development documents such as the Poverty Reduction Strategy Paper (PRSP) and other medium-term plans of LDCs have identified priority areas for their development. In order to establish the ownership by taking control of their own development agenda and formulating their own plans,

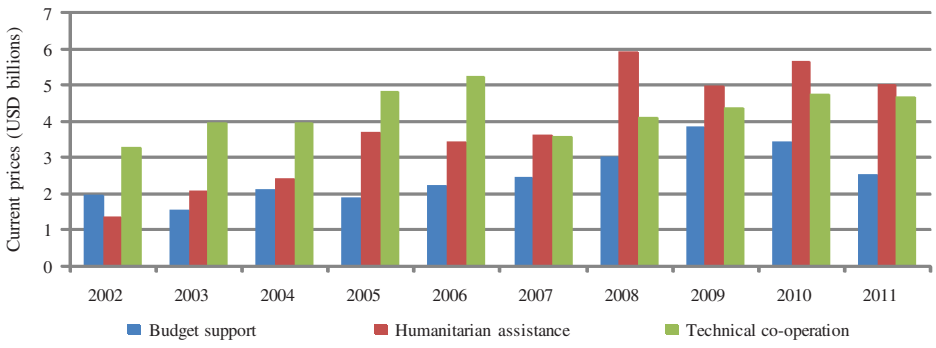
donors have to align their activities with these plans set by LDCs. Alignment of ODA also includes the use of LDCs' own financial and budgetary systems by donors so that there is transparency in the planning and utilisation of resources.

If one looks at the modality of ODA, it is seen that ODA in the form of budget support to LDCs has been declining since 2009 whereas humanitarian and technical co-operation are much higher than budget support. Budget support as a percentage of total aid to LDCs shows a declining trend (Figure 9.7).

Though LDCs' priority areas include the development of infrastructure and the productive sectors, DAC donors put higher focus on the social sectors such as health and education and also on governance throughout the 2000s in order to enable LDCs to achieve the MDGs. This, however, has changed since 2007 when DAC donors started to reposition their aid priorities to LDCs. They paid more attention to recipient countries' priorities for development of economic infrastructure to achieve growth. As a result, ODA flow to the economic infrastructure and the productive sectors has increased (Annex 9.3). Sector-wise disaggregation shows that allocation for the government and civil society, a traditionally higher recipient sector, observed a decline in 2011 compared with 2008, while ODA to economic infrastructure, health and water supply and sanitation experienced an increase in 2011 (OECD 2012b). A disaggregated analysis across various groups of LDCs indicates that the share of ODA to economic infrastructure and productive sectors is higher in Asian LDCs than in African and Pacific LDCs. The lower flow of ODA to these sectors in the African LDCs could be due to their higher share of humanitarian aid.

Country-wise sectoral allocation reveals that five countries (Afghanistan, Tanzania, Mozambique, Uganda and Mali) receive about 42 per cent of total ODA disbursed for agriculture, forestry and fisheries. Except for population and reproductive health and tourism, Afghanistan features as the top recipient of ODA in all other 13 sectors in 2011. Ethiopia and Tanzania are among the top five recipients of ODA in nine sectors, Bangladesh is among the top five ODA recipients in seven sectors and Uganda is among the top five ODA recipients in six sectors. Table 9.2 presents the percentage share of aid received by various sectors in LDCs.

Figure 9.7 ODA disbursement for budget support, humanitarian assistance and technical co-operation to LDCs



Source: OECD (2012b)

Table 9.2 Largest aid-recipient LDCs by sector

Sector	Largest aid-recipient LDCs in 2008	Largest aid-recipient LDCs in 2011	Top 5% share		Amount disbursed (USD million in 2011 constant prices)	
			2008	2011	2008	2011
Agriculture, forestry and fisheries	Afghanistan (12.66) Tanzania (9.01) Mozambique (7.48) Uganda (6.78) Mali (5.76)	Afghanistan (16.77) Mali (8.65) Sudan (5.89) Ethiopia (5.65) Burkina Faso (4.68)	41.7	41.6	1,904.1	2,727.9
Education	Afghanistan (8.46) Bangladesh (7.99) Mozambique (6.32) Mali (6.29) Senegal (5.61)	Afghanistan (11.20) Bangladesh (10.83) Ethiopia (8.68) Nepal (5.07) Mozambique (4.90)	34.7	40.7	2,905.5	3,369.6
Health	Democratic Republic of the Congo (9.35) Tanzania (8.94) Afghanistan (7.00) Bangladesh (6.14) Ethiopia (5.85)	Democratic Republic of the Congo (10.20) Ethiopia (9.72) Tanzania (7.78) Afghanistan (7.15) Bangladesh (5.54)	37.3	40.4	3,048.5	3,791.8
Population and reproductive health	Ethiopia (12.80) Tanzania (11.99) Zambia (10.23) Uganda (8.75) Mozambique (8.17)	Ethiopia (13.13) Tanzania (11.98) Uganda (9.58) Zambia (9.54) Mozambique (8.07)	51.9	52.3	2,783.6	3,425.5

(*continued*)

Table 9.2 Largest aid-recipient LDCs by sector (continued)

Sector	Largest aid-recipient LDCs in 2008	Largest aid-recipient LDCs in 2011	Top 5% share		Amount disbursed (USD million in 2011 constant prices)	
			2008	2011	2008	2011
Water supply and sanitation	Tanzania (11.13) Mauritania (9.58) Burkina Faso (6.18) Ethiopia (6.09) Mozambique (5.58)	Bangladesh (10.57) Tanzania (9.23) Ethiopia (8.25) Afghanistan (5.98) Burkina Faso (5.90)	38.6	39.9	1,469.3	1,811.7
Government and civil society	Afghanistan (24.40) Sudan (5.86) Bangladesh (5.79) Democratic Republic of the Congo (4.64) Tanzania (4.60)	Afghanistan (38.61) Democratic Republic of the Congo (6.77) Haiti (3.16) Solomon Islands (2.97) Tanzania (2.82)	45.3	54.3	5,769.8	6,466.2
Other social infrastructure and services	Afghanistan (18.04) Ethiopia (17.96) Tanzania (7.46) Bangladesh (6.64) Democratic Republic of the Congo (4.53)	Afghanistan (16.04) Ethiopia (12.63) Tanzania (7.99) Bangladesh (7.97) Uganda (7.87)	54.6	52.5	1,470.7	1,288.2
Communications	Uganda (11.91) Bangladesh (8.24) Mozambique (7.94) Ethiopia (7.16) Rwanda (6.30)	Sierra Leone (12.00) Liberia (9.98) São Tomé and Príncipe (9.92) Mali (8.74) Afghanistan (6.23)	41.5	46.9	108.3	140.3

(*continued*)

Table 9.2 Largest aid-recipient LDCs by sector (continued)

Sector	Largest aid-recipient LDCs in 2008	Largest aid-recipient LDCs in 2011	Top 5% share		Amount disbursed (USD million in 2011 constant prices)	
			2008	2011	2008	2011
Energy	Bangladesh (16.62) Afghanistan (13.51) Sudan (9.52) Ethiopia (7.87) Uganda (7.23)	Afghanistan (17.59) Bangladesh (11.49) Ethiopia (7.26) Rwanda (5.56) Tanzania (5.31)	54.8	47.2	1,384.5	1,513.8
Banking and financial services	Bangladesh (15.13) Tanzania (12.86) Togo (9.35) Afghanistan (8.74) Madagascar (5.92)	Afghanistan (10.47) Cambodia (8.91) Uganda (8.51) Tanzania (7.73) Haiti (7.40)	52.0	43.0	310.7	385.9
Business and other services	Afghanistan (39.94) Bangladesh (14.14) Tanzania (6.64) Ethiopia (5.39) Mali (2.83)	Afghanistan (41.91) Bangladesh (6.27) Tanzania (5.22) Democratic Republic of the Congo (4.74) Mali (4.31)	68.9	62.4	532.8	481.8
Industry, mining, construction	Madagascar (16.02) Togo (11.05) Senegal (10.02) Zambia (8.20) Bangladesh (5.54)	Haiti (12.29) Afghanistan (10.65) Burkina Faso (9.79) Uganda (7.35) Bangladesh (6.74)	50.8	46.8	392.4	515.7

(*continued*)

Table 9.2 Largest aid-recipient LDCs by sector (continued)

Sector	Largest aid-recipient LDCs in 2008	Largest aid-recipient LDCs in 2011	Top 5% share		Amount disbursed (USD million in 2011 constant prices)	
			2008	2011	2008	2011
Trade policies and regulations	Afghanistan (32.49) Bangladesh (88.77) Senegal (8.76) Cambodia (5.43) Tanzania (4.42)	Afghanistan (23.34) Rwanda (14.65) Democratic Republic of the Congo (13.03) Uganda (5.87) Burundi (5.23)	69.9	62.1	164.3	185.3
Tourism	Laos (21.20) Bhutan (11.93) Tanzania (11.87) Cambodia (7.52) Senegal (6.26)	Tanzania (26.63) Yemen (25.01) Laos (18.69) Nepal (6.31) Ethiopia (2.12)	58.8	78.8	10.4	37.9

Note: Figures in the parentheses present percentages of ODA received for the relevant sectors
Source: OECD (2012b)

Enhancing quality of ODA in line with the Paris Declaration and the AAA

Though the Paris Declaration on aid effectiveness has been criticised for being too technocratic, as it does not have any targets for development as MDGs, it provides a set of goals for making aid more effective through development co-operation. The principles of the Paris Declaration include ownership, alignment, harmonisation, managing for results and mutual accountability, under which there are 12 monitorable indicators of progress[3] (Table 9.3). AAA and the Busan Aid Effectiveness Forum reiterated the need for improving the quality of ODA through achievement of the indicators of the Paris Declaration.[4]

The OECD baseline surveys on the Paris indicators show that targets are yet to be met as the progress in some areas is slow in both donors and recipient countries. This emphasises the need for continuous work to be carried out towards achieving these goals. In the latest survey of OECD in 2010, 32 countries participated, of which 18 were LDCs. Some of the major findings of the survey are discussed below.

Ownership is the major prerequisite for aid to be effective, as the aim is to make governments in aid-receiving countries accountable to their own people and constituencies rather than to donors. This of course presupposes a democratically accountable government system in the recipient countries. Table 9.3 indicates that in the case of having operational development strategies in place, LDCs were only half way to meeting the target of 2010. Between 2005 and 2010 there was been some progress in terms of having stronger country ownership with better development and resource mobilisation strategies. Among LDCs, Tanzania, Rwanda and Zambia are found to have strengthened country ownership while Burundi, Congo and Afghanistan exhibited the least progress on country ownership, reflecting the fact that conflict countries and countries in special development situations have difficulties in making progress towards country ownership of ODA. These are the countries with poor development strategies.

Alignment is better reflected through the use of public financial management (PFM) and procurement systems. Donors traditionally try to rely on their own rules and procedures. Even though both reliability and use of country PFM systems have been increasing since 2005, as reported by an OECD survey on aid effectiveness, they were far from meeting the 2010 targets. High aid-receiving LDCs such as Burkina Faso, Mozambique and Rwanda have higher scores in terms of having a reliable PFM system in 2010. The use of parallel project implementation units (PIUs) is still double the number projected for 2010. The results of the OECD survey presented in Table 9.3 indicate that the percentage of countries moving up on the PFM systems since 2005 has increased in 2010, but is behind the target level of that year. Against a target of 85 per cent, only 46 per cent of aid for the government sector was reported on the government's budget, indicating low alignment of aid to national priorities. In the matter of fulfilling the target of technical co-operation implemented through co-ordinated programmes consistent with national development strategies, the achievement of the target is satisfactory. However, aid to LDCs' government sector is not using partner countries' PFM systems at the same pace as is targeted. The total

Table 9.3 Quality of ODA in LDCs

Indicators		2005	2007	2010	2010 target
Ownership	Operational development strategies (%)	19	–	37	75
Alignment	Reliable public financial management (PFM) systems (%)[a]	0	–	38	50
	Aid flows are aligned on national priorities (%)[b]	44	48	46	85
	Strengthen capacity by co-ordinated support (%)[13c]	49	61	50	51
	Use of country PFM systems (%)[d]	40	45	48	55
	Strengthen capacity by avoiding parallel project implementation units (PIUs) (number)[e]	1,696	1,525	1,158	565
	Aid is more predictable (%)[f]	42	47	43	71
	Aid is untied (%)[g]	87	84	>87	89
Harmonisation	Use of common arrangements or procedures (%)[h]	43	47	48	66
	Joint missions (%)[i]	20	24	22	40
	Joint country analytic work (%)[j]	41	44	44	66
Managing for results	Results-oriented frameworks (%)[k]	7	–	22	38
Mutual accountability	Mutual accountability (%)[l]	44	–	50	100

[a] Per cent of countries moving up at least one measure on the PFM/CPIA (Country Policy and Institutional Assessment) scale since 2005.
[b] Per cent of aid for the government sector reported on the government's budget.
[c] Per cent of technical co-operation implemented through co-ordinated programmes consistent with national development strategies.
[d] Per cent of aid for the government sector using partner countries' PFM systems.
[e] Total number of parallel PIUs.
[f] Per cent of aid for the government sector disbursed within the fiscal year for which it was scheduled and recorded in government accounting systems.
[g] Per cent of aid that is fully untied.
[h] Per cent of aid provided in the context of programme-based approaches.
[i] Per cent of donor missions to the field undertaken jointly.
[j] Per cent of country analytic work undertaken jointly.
[k] Per cent of countries with transparent and monitorable performance assessment frameworks.
[l] Per cent of countries with mutual assessment reviews in place.
Source: OECD (2011)

number of parallel PIUs has been far too high until now and could not meet the 2010 target.

Predictability of donor aid is one of the most discussed elements in alignment. Without predictable aid flow, implementation of national budget and spending commitments is hampered. Most of the project costs are recurring and need sustainable flow of

spending. Unpredictability of aid can lead to cancellation of ongoing projects and delay in implementation of programmes. Predictability of aid is higher in Malawi, Cambodia and Ethiopia, which have a significant amount of aid disbursed through a programme-based approach. Predictability of aid is not ensured, and only 43 per cent of aid for the government sector was disbursed within the fiscal year for which it was scheduled and recorded in government accounting systems, against the target of 71 per cent in 2010 (Table 9.3).

The other important aspect of alignment is the issue of untying aid. The cost of goods and services can go up with tied aid, because those might have to be brought from the donor countries at a higher price as part of the aid package. The argument for tied aid is that it is required to build support for aid programmes in donor countries. The proportion of untied aid has increased significantly in recent years compared with a decade ago. There are however, some gaps in statistics. Untied aid does not cover technical co-operation, food aid and donor administrative costs. Another concern is that despite reduction in tied aid there may be a situation when aid is tied informally. For example, local companies may be excluded from participation in open bidding due to lack of access to information. The OECD survey indicates that the percentage of untied aid has increased during the period 2007–10, and is close to the target of the Paris Declaration.

Harmonisation. Aid fragmentation has been a major obstacle towards aid harmonisation. It requires donors to work together among themselves and be transparent on their policies and monitoring systems to other donors. Harmonisation also requires recipient countries to be involved in the development of joint assistance strategies, implying a demand on recipient countries' time and effort. In 2011, LDCs received ODA from 23 OECD DAC donors. With bilateral aid providers of South–South co-operation the number of donors would increase. The large number of donors makes the situation complicated for achieving aid effectiveness as more time and resources have to be devoted for administrative activities. The OECD surveys on aid effectiveness indicate that harmonisation in terms of increase in programme-based aid and higher joint field missions and country analytic work is still quite low (Table 9.3).

Managing for results. In order to make aid more effective 'results-based management' of resources has become essential. A number of LDCs such as Mozambique, Tanzania and Uganda have stronger results-based monitoring management mechanisms, whereas the post-conflict and other countries in special development situations had the weakest management. The target of the Paris Declaration to reduce the proportion of countries without transparent and monitorable performance assessment frameworks by one-third by 2010 has not been fulfilled (Table 9.3). This reiterates that recipient countries have to develop cost-effective results-oriented reporting and performance assessment frameworks, and donors need to use such arrangements and should not require separate reporting.

Mutual accountability. Another important criterion for improving aid effectiveness is to make both donors and recipient countries accountable to each other instead of having a 'principal-agent' relationship where donors ask recipient countries to fulfil some conditions. The Paris Declaration suggests that all partner countries have mutual assessment reviews in place through country-level mechanisms of

mutual progress in implementing agreed commitments on aid effectiveness. The OECD survey shows that the progress on mutual accountability has reached only half the target set in the Paris Declaration (Table 9.3). Efforts are, however, ongoing to improve mutual accountability. For example, some LDCs such as Benin, Mali, Rwanda and Zambia have customised their review process for their aid programmes (ECOSOC 2010).

Exploring new innovative finance mechanisms

In view of the limited resources of donors to meet the increasing demand for international development, innovative finance mechanisms are called for. The number of actors in the global aid architecture has increased significantly over the last few years. For example, in addition to DAC donors, official non-DAC donors, private funds, foundations, charities, new global special funds and non-governmental organisations are the other players in the aid system. However, resources provided by these sources seem to fall short of the global demand. The OECD defines innovative financing mechanisms as those which have (i) new approaches for pooling private and public revenue streams; (ii) new revenue streams such as new tax, charge, fee, bond raising, sale proceed and voluntary contribution schemes; and (iii) new incentives such as financial guarantees, corporate social responsibility and reward or recognition.[5]

At present there are several mechanisms in place as sources of innovative finance. Solidarity levy on airlines ticket, the Global Fund to Fight AIDS, Tuberculosis and Malaria (GFATM), International Finance Facility for immunisation (IFFim) framework of the Global Alliance for Vaccine and Immunisation (GAVI), debt conversions (swaps), sustainable investible bonds, diaspora bonds, Advance Market Commitments (AMCs) for a pneumococcal vaccine, carbon emissions trading, and a 2 per cent share from the sale of certified emissions reductions (CER) are some of the examples of such new funds. A number of new funding mechanisms are also being discussed. Some of these include financial transaction tax (FTT), carbon tax, global solidarity tobacco levy and special drawing rights (SDRs).

Both the existing and proposed new funding mechanisms focus on areas in which LDCs have special interest. For example, innovative financing mechanisms such as IFFim and AMCs are dedicated to the health sector while other funds such as carbon emission trading, CER and carbon taxes are for climate adaptation and mitigation. As both health and climate change are issues of interest for LDCs, they could explore resources from these new sources. While LDCs can take advantage of these funds, they have to examine two critical issues related to various innovative financing mechanisms. These are (i) whether these will be additional funds; and (ii) whether they will enhance the efficiency of public and private financial flows. There is still a lack of awareness among LDCs as regards various new funding opportunities.

The need for innovative development finance (IDF) was felt strongly when the effort to meet the MDGs started. Raising funds for specific purposes (like ensuring environmental sustainability and combating HIV/AIDS, malaria and other

Table 9.4 Sources of IDF during 2006–10 in USD million

	GFATM	GAVI	GEF
African LDCs	4355.89	860.27	44.57
Asian LDCs	495.01	298.01	11.45
Pacific LDCs	1.51	1.01	0.00

Note: IDF is the sum of GEF, GAVI and GFATM disbursements from 2006 to –2010
Source: GEF disbursements, www.climatefundsupdate.org/listing/gef-trust fund
GAVI disbursements, www.gavialliance.org/results/disbursements/GFATM disbursements: http://portfolio.theglobalfund.org/en/Home/Index
Net ODA and GDP are taken from World Development Indicators

diseases) from 'innovative sources' has its appeal but even though the concept of innovative financing has been developing for almost a decade now, it is still hard to find information exclusive to this form of financing. Therefore, some of the widely recognised sources of IDF, namely the Global Fund to Fight AIDS, Tuberculosis and Malaria (GFATM), GAVI and the Global Environmental Facility (GEF) (even though major portions of funds from these sources are implemented through ODA) are looked into in this section. A number of key factors may be highlighted in this regard: (i) of the 49 LDCs, 35 are from Africa, so it is not surprising to see that nearly 87 per cent of IDF goes to this region; (ii) the share of IDF[6] in ODA is only 3 per cent; (iii) almost 80 per cent of the disbursed IDF comes from GFATM; (iv) GFATM-approved projects are worth nearly USD 27 billion to date, of which USD 21 billion has been disbursed; (v) LDCs account for 47 per cent of GFATM-approved project funds and 46 per cent of its disbursed funds; and (vi) no funds were disbursed from GFATM, GAVI or GEF to three Pacific LDCs, namely Kiribati, Samoa and Vanuato. Samoa does not receive any funds from these sources.[7] Table 9.4 presents sources of innovative funds flowing to various regions.

Funds to the health sector

In January 2000, with global immunisation rates stagnating, GAVI was launched to fund vaccines for children in the world's 70 poorest countries. GFATM was created in 2002 to dramatically increase resources for the fight against the three pandemics. The reason why funds from these sources are considered innovative is that rather than implementing projects themselves, both of these initiatives implement programmes by developing partnerships among government, civil society, the private sector and communities living with the diseases. This improves the chances of funds being implemented as committed, since a keen eye of the civil society is always on the government.

Since its inception, GAVI has committed itself to fund projects worth USD 8 billion, of which it approved USD 6 billion and disbursed USD 5 billion. Of the latter, around 56 per cent (USD 2.9 billion) was disbursed to LDCs. The largest LDC recipient of disbursed GAVI funds was Ethiopia (USD 468 million), followed by Bangladesh (USD 295 million). Other large recipients of this fund include Afghanistan, Togo, Sudan and Tanzania.[8] Annex 9.4 presents accumulated commitments and

disbursements of GAVI since its inception. To date, GFATM has approved funds of over USD 26 billion and disbursed nearly USD 21 billion all over the world, of which 46 per cent (USD 9.5 billion) has gone to LDCs. The largest recipient of this fund in the case of GAVI is Ethiopia (USD 1.3 billion). Other large recipients of GFATM funds are Tanzania, Zambia, Rwanda and Malawi.[9] Details of GFATM disbursements are shown in Annex 9.5.

Funds to climate change

The GEF was established in October 1991 as a USD 1 billion pilot programme of the World Bank to assist in the protection of the global environment and to promote environmental sustainable development. It uses the same principle as GAVI and GFATM while implementing its project, i.e. the partnership of international institutions, civil society organisations (CSOs) and the private sector to address global environmental issues while supporting national sustainable development initiatives. GEF accounts for only around 1 per cent of the total disbursed IDF funds, of which the largest amount (USD 9.9 million) goes to Tanzania.[10] Annex 9.6 gives an idea of the share of IDF in total ODA and GDP of African LDCs during 2006–10.

LDCs' responsibility in utilising aid effectively

One of the important actions to be performed by LDCs as suggested by the IPoA is to enhance aid transparency and combat corruption in the ODA process. As mentioned in Section 9.2, aid may sometimes lead to corruption in recipient countries, leading to the wiping out the positive impact of aid. However, corruption is prevalent also on the donors' side. For example, bribes in the contracting process of projects, cheating by supplying poor-quality products, gifts to government officials in the form of financing children's education, providing employment in international agencies or supporting foreign travel are common methods of fraudulence in the ODA mechanism (OECD 2012a). The counter argument on the linkage between aid and corruption suggests that aid is not the reason for corruption, rather the corrupt system in recipient countries cause corruption in the aid process. In this regard, it has been argued that foreign aid instead reduces corruption since recipient countries have to comply with stringent requirements of donors (Tavares 2003). The role of aid in promoting democracy has also been referred to by others (Knack 2000).

In reality, however, instances of corruption in foreign-funded projects are plentiful, and aid is blamed for opening up opportunities for corruption (Transparency International 2006). Such practices increase waste of resources and reduce the effectiveness of aid. In extreme cases, corruption in aid projects can lead to cancellation of the project itself. Corruption in aid-supported projects erodes the image of recipient countries, which could discourage other donors to refrain from supporting them. For example, in Cambodia, the World Bank has stopped all aid projects and pulled out its staff since 2010 on suspicion of corruption and the government's inability to reduce corruption.[11] Weak governance and spasmodic

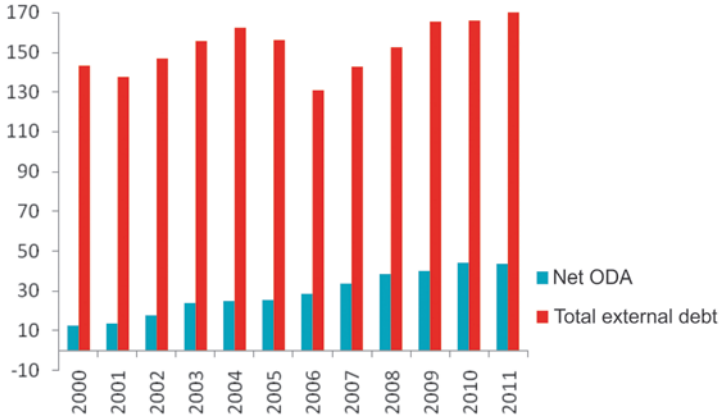
application of the rule of law in LDCs encourage corruption to persist. While stern measures by donors could alert LDC recipients to the consequences of corruption in aid, LDCs themselves will have to be motivated to fight against corruption and support long-term development. They have to work together with donors in this challenging mission.

9.4.2 External debt

A major constraint to reaching the expected economic growth by LDCs is heavy external debt and fiscal deficit of the government. This constrains LDC governments to meet their growth target and break the poverty circle. It has been observed that LDC governments use their ODA to meet interest payments or cover part of the principal of their external debt. This limits the ability of governments to invest in productive public capital such as infrastructure (Bjerg et al. 2011; Johansson 2010).

External debt is the portion of total country debt that is owed to creditors outside of the country. While creation of debt can be considered as a natural consequence of economic activity, more often than not countries face the question of debt sustainability, that is whether a country can service its debt on a continuous basis and not default. Figure 9.8 shows the total external debt and net ODA in LDCs. There are two very basic indicators of debt sustainability: stock-based and flow-based indicators. Stock-based indicators compare total external debt stock to other national aggregates such as GDP or government revenues to see how well a country can service its debt. The most commonly used stock-based indicators are debt-to-export ratio and debt-to-GDP ratio. An increasing debt-to-export ratio implies that total debt is growing faster than the economy's basic source of external income, indicating that the country may have problems meeting its debt obligations. Annexes 9.7 and 9.8 summarise debt-to-export ratios of Asia and African LDCs. In 2011, Gambia had the highest debt-to-export ratio among the LDCs, rounding up to a massive 997 per

Figure 9.8 Total external debt and net ODA in current USD (millions)



Source: World Development Indicators

cent, followed by Solomon Islands at 776 per cent. However, the debt-to-export ratio for LDCs has been generally decreasing since 2005 (World Development Indicators).

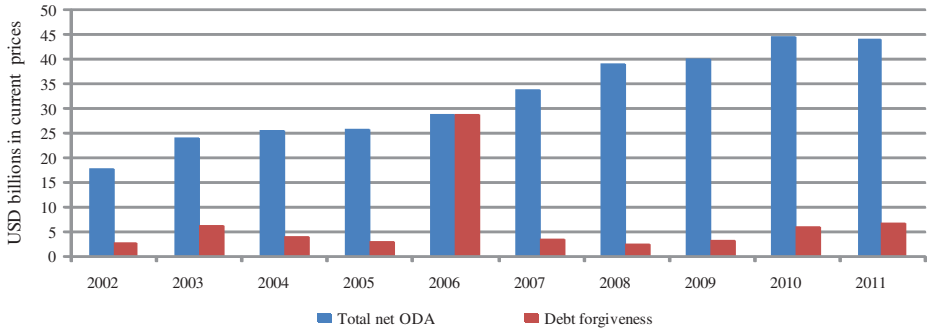
Flow-based indicators compare total debt service with other national aggregates. Debt service provides information on the resources that a country has to allocate to servicing its debts and the burden it may impose through crowding out other uses of financial resources. Comparing debt service with a country's repayment capacity indicator, such as export earnings, acts as a good indicator for analysing whether a country is likely to face debt-servicing difficulties. Debt servicing as a percentage of export earnings is declining in most LDCs. Annexes 9.9 and 9.10 depict debt servicing as a ratio of export earnings for LDCs in Asia and Africa.

For countries burdened with excessive debt servicing, debt has turned out to be one of the major obstacles to sustainable development. From what is observed from the external debt situation of LDCs it is clear that most LDCs are in serious need of debt relief. Only low-income debt-distress countries that borrow from the World Bank's International Development Association (IDA) qualify for HIPC relief. These countries must go through a two-stage process. One of the basic structural problems of HIPC is the fact that it takes nearly six years to even qualify for the full set of debt relief offered by the World Bank and the International Monetary Fund (IMF).[12] In the meantime their debts get accrued as usual and by the time they receive some sort of relief they are still paying high amounts on debt servicing, even after relief. Critics also point out that the HIPC framework is basically more concerned with extracting as much debt servicing as possible from the poor debtor countries without getting in the way of progress towards MDGs. In order to meet the MDGs by 2015 the G8[13] made a proposal that took the HIPC framework one step further. In July 2006, it proposed that three multilateral organisations (IDA, IMF and African Development Fund [ADF]) cancel 100 per cent of the debt they owe from those countries that have reached the completion point of the HIPC or are in the path towards it.

Foreign debt is normally denominated in USD, so whenever local currency depreciates against the dollar the debt burden goes up. Moreover, an increase in interest rates in the international market increases the total amount payable in terms of debt servicing. To make things worse, most of the African LDCs export mainly agricultural products which are subject to huge price fluctuations. Therefore, even though these countries may expect that their growth rate will be enough to service their debt sustainably, that may not happen. Even though the overall flow-based and debt-based indicators are improving, their ratios are so high that the amount of funds that is spent on debt servicing slows down the LDCs' economic development process. Moreover, many of the LDCs do not even qualify for the relief because they are considered as sustainable by donors even though their debt burden could be at an unprecedentedly high level. Imposing new and revised criteria makes the process of debt relief lengthier and clumsier, and the overall cancellation of debt can help boost economic growth of LDCs which in turn can spill over to other parts of the world.

The share of external debt in LDCs' GDP has been declining since 2001 (OECD 2012b). African LDCs have experienced the highest fall during 2001–11. This is

Figure 9.9 Flow of net ODA and debt forgiveness to LDCs



Source: OECD (2012b)

due to a large debt forgiveness to the Democratic Republic of the Congo in 2003. From an external debt of 52.1 per cent in their GDP in 2008, on average, the African LDCs and Haiti have managed to bring it down to 33.1 per cent in 2011, which is close to that of Asian LDCs (35.1 per cent). It is observed that in 2011 LDCs such as Bhutan, Lao People's Democratic Republic, Samoa, Gambia, Guinea, Mauritania, São Tomé and Principe had external debt more than 50 per cent of their GDP. On the other hand, Haiti is the only country whose share of external debt in GDP is around 10 per cent. In 2006, an unusually large amount of debt was forgiven for several countries such as Burkina Faso, Democratic Republic of the Congo, Ethiopia, Madagascar, Malawi, Mali, Mauritania, Mozambique, Niger, Rwanda, Senegal, Tanzania, Uganda and Zambia. The total amount of debt forgiveness in 2006 stood at USD 34,325 million in constant prices as opposed to a total ODA of USD 32,045 million (Figure 9.9).

9.5 Conclusions and recommendations

The analyses in this chapter reveal that the IPoA commitments on ODA and external debt are yet to be fulfilled. There exists a significant gap between commitment and disbursement of ODA by DAC donors and a discrepancy in aid distribution due to higher allocations for fragile and conflict countries. As a result, the need for other LDCs may be overlooked at times. To reduce this heterogeneity of aid across LDCs, donors need to rearrange the aid policy towards the under-aided countries. Hence, a demand-based aid allocation framework needs to be in operation to enhance the use of aid effectively. In this regard, monitoring and evaluation strategies also have to be efficient for better use of allocated aid. Based on the findings, this chapter makes a number of recommendations as follows.

1. **Increased allocation.** Given that most donors' aid allocation for LDCs is below the target level of 0.15–0.2 per cent of their GNI, they should take proactive measures to meet their targets. ODA should be provided on the basis of need and vulnerability of LDCs. The allocation pattern of aid should be changed to provide more support to the under-aided countries. Since economic infrastructure and productive sectors are the priorities for LDCs to achieve

economic growth, and many countries, particularly African LDCs, are lagging behind in investing adequate resources for these sectors, special attention should be given in this case.

2. **Need-based assessment.** Aid should be allocated on the basis of institutional performance of receiving countries, and on their poverty and income levels. Therefore, the need assessment and distribution criteria should be developed for aid allocations. There has been discussion on preparing an 'Aid Orphan List' to address the issue of under-aided countries. Such initiatives are essential for regularly monitoring the aid distribution mechanism. All LDCs should be supported evenly for implementing their national development strategies.

3. **Selection of priority sectors.** More aid should be targeted to sectors such as infrastructure, agriculture and productive capacity in order for LDCs to achieve high growth. Aid allocation to LDCs should be monitored in order to ensure equitable and even distribution of funds within each sector.

4. **Enhanced quality of ODA.** Both donors and recipient countries have to continue to work together towards improving the quality of aid through fulfilling the principles of the Paris Declaration and AAA. In particular, country-level ownership has to be improved to ensure long-term development results. LDCs should ensure that aid projects are aligned with nationally devised development strategies. Donors should provide predictable finance to increase aid effectiveness. Besides, in order to avoid multiple requests for information and save time and capacity, there is a need for co-ordination among different donors so that activities of different aid agencies can be streamlined.

5. **Innovative financing.** Although the role of innovative finance has been increasing in view of limited global resources, its flow to LDCs is still insignificant. More efforts are needed from the global community to increase resources from non-traditional donors. However, such resources should not be a substitute for but additional and complementary to ODA. With the growing role of such funds there is a need for co-ordination with the DAC aid process and to follow DAC goals on aid effectiveness and transparency.

6. **Capacity building.** In order to have a sustainable result of development, capacities of LDCs should be improved. These should range from human to institutional capacity building for meaningful participation in joint activities with donors. Such capacity is essential not only for dealing with several donors at a time, but also to maintain information on aid. Monitoring the aid process becomes difficult without real-time disaggregated data. There should be a data bank on ODA at the country level on the basis of which concerned departments and agencies can analyse the trend and other aspects of aid.

Annex 9.1 LDCs that experienced decline in ODA

Net ODA received (USD million, 2011 constant)			Per capita ODA (USD, 2011 constant)			ODA as percentage of LDCs' GNI		
LDC	**2008**	**2011**	**LDC**	**2008**	**2011**	**LDC**	**2008**	**2011**
Angola	381.6	199.6	Angola	21.16	10.17	Angola	0.52	0.22
Bangladesh	2,153.74	1,497.75	Bangladesh	14.80	9.95	Bangladesh	2.39	1.25
Burkina Faso	1,033.39	990.03	Benin	79.17	74.42	Benin	9.62	9.26
Cambodia	805.17	792.25	Burkina Faso	66.60	58.35	Burkina Faso	11.99	9.72
Djibouti	144.78	141.62	Burundi	68.06	67.52	Burundi	32.14	24.82
Equatorial Guinea	32.1	24.19	Cambodia	58.25	55.38	Cambodia	7.55	6.44
Eritrea	144.56	135.88	Central African Republic	63.31	60.61	Central African Republic	13.12	12.57
Guinea	338.31	207.9	Djibouti	169.21	156.39	Chad	6.31	5.54
Guinea-Bissau	135.95	118.78	Equatorial Guinea	48.47	33.59	Equatorial Guinea	0.28	0.19
Laos	539.6	396.67	Eritrea	29.22	25.09	Eritrea	10.48	5.26
Liberia	1,283.71	765.49	Ethiopia	42.87	41.77	Ethiopia	12.48	11.2
Madagascar	872.38	408.85	Guinea	35.39	20.34	Guinea	9.83	4.35
Malawi	947.94	798.33	Guinea-Bissau	93.52	76.78	Guinea-Bissau	16.04	12.21
Mauritania	467.51	370.23	Laos	89.60	63.08	Laos	9.55	5.17
Mozambique	2,046.72	2,046.5	Liberia	350.89	185.41	Liberia	180.78	73.32
Myanmar	571.35	376.11	Madagascar	44.63	19.18	Madagascar	9.02	4.19
Senegal	1,103.7	1,051.97	Malawi	67.69	51.90	Malawi	22.8	14.8
Sudan	2,657.74	1,122.81	Mauritania	141.87	104.54	Mauritania	12.5	9.67
Timor-Leste	314.91	283.76	Mozambique	91.65	85.52	Mozambique	21.55	16.03
Uganda	1,688.65	1,580.29	Myanmar	12.09	7.78	Nepal	5.49	4.7
Vanuatu	109.18	92.06	Niger	43.64	40.38	Niger	11.44	10.9
Zambia	1,150.38	1,072.89	Senegal	93.64	82.39	Senegal	8.01	7.45
			Sudan	81.93	32.72	Sierra Leone	19.74	19.5
			Tanzania	56.94	52.90	Tanzania	11.38	10.38
			Timor-Leste	292.15	241.32	Uganda	11.59	9.62
			Uganda	53.88	45.79	Vanuatu	15.69	11.56
			Vanuatu	478.77	374.81	Yemen	1.72	1.6
			Zambia	92.93	79.62	Zambia	8.43	6.08
Total no. of LDCs = 22			Total no. of LDCs = 28			Total no. of LDCs = 28		

Source: OECD (2012b)

Annex 9.2 Actions by LDCs and development partners on ODA and external debt

Actions on ODA

Actions by LDCs

1. Integrate and align ODA within their national plans and priorities
2. Use aid to achieve the overall development goals contained in the Programme of Action
3. Build synergies among all forms of financing for development to enhance quantity and quality of support for development effectiveness
4. Enhance aid transparency and combat corruption by making information on aid quantities, sources and uses publicly available

Actions by development partners

1. Donor countries providing more than 0.20 per cent of their GNP as ODA to LDCs: continue to do so and maximise their efforts to further increase ODA to LDCs
2. Other donor countries which have met the 0.15 per cent target: undertake to reach 0.20 per cent expeditiously
3. All other donor countries which have committed themselves to the 0.15 per cent target: reaffirm their commitment
4. Other donor countries: exercise individual best efforts to increase ODA to LDCs
5. Donor countries should review their ODA commitments in 2015 and consider further enhancing resources for LDCs
6. Provide LDC governments with timely information in a transparent manner on annual commitments and disbursements
7. Use country systems as the first option for aid programmes in support of activities managed by the public sector
8. Align aid with national priorities and strengthen capacity development in accordance with national ownership and leadership
9. Enhance the quality of aid in line with the 2005 Paris Declaration on aid effectiveness and the 2008 AAA
10. Improve donor co-ordination and harmonisation
11. Continue to make progress on untying aid
12. Align the allocation of ODA to LDCs' priorities, with particular focus on productive capacities
13. Explore new innovative finance mechanisms and strengthen and scale up existing ones

Actions on external debt

Joint actions

1. Further ensure the provision of debt relief by all countries taking part in the HIPC Initiative, including non-Paris Club creditors, especially in countries where a large proportion of debt is not owed to Paris Club creditors

(*continued*)

Annex 9.2 Actions by LDCs and development partners on ODA and external debt (continued)

Actions on external debt
Actions by LDCs
1. Promote and pursue responsible borrowing and public debt management policies in order to avoid an unsustainable debt burden
Actions by development partners
1. Provide full and timely financing for the implementation of the HIPC Initiative and Multilateral Debt Relief Initiative (MDRI), including for the remaining eligible LDCs in completing the HIPC Initiative process
2. Strive to ensure that resources provided for debt relief under the HIPC Initiative and MDRI do not detract from ODA resources intended to be available for LDCs
3. Further explore, where appropriate and on a mutually agreed, transparent and case-by-case basis, the use of new and improved debt instruments and innovative mechanisms such as debt swaps
4. Consider taking additional measures and initiatives aimed at ensuring long-term debt sustainability through increased grant-based and other forms of concessional financing, including through multilateral institutions
5. Emphasise the need for co-ordinated policies aimed at fostering debt financing, debt relief and debt restructuring, as appropriate (while noting also that LDCs can seek to negotiate, as a last resort, on a case-by-case basis, and through existing frameworks, agreements on temporary debt standstills between debtors and all creditors in order to help mitigate the adverse impacts of the crisis and stabilise negative macroeconomic development)

Source: United Nations (2011a)

Annex 9.3 Sectoral share in total ODA of respective LDC groups (%)

LDC	Economic infrastructure		Productive sectors	
	2008	2011	2008	2011
African LDCs & Haiti	9.3	9.5	5.8	6.8
Asian LDCs	12.4	13.3	6.0	7.9
Pacific LDCs	11.5	13.6	8.4	8.5
All LDCs	10.1	10.5	5.9	7.1

Source: OECD (2012b)

Annex 9.4 GAVI commitments and disbursements to date

Country	Disbursement in USD million	Commitments in USD million
Afghanistan	122	213
Angola	75	107
Bangladesh	295	575
Benin	62	72
Bhutan	1	1
Burkina Faso	67	133
Burundi	71	92
Cambodia	37	48
Chad	34	45
Comoros	2	3
Congo, Democratic Republic of the	15	22
Djibouti	3	4
Eritrea	11	15
Ethiopia	468	740
Gambia	15	23
Guinea	23	30
Guinea-Bissau	4	7
Haiti	6	31
Kiribati	0	0
Lao People's Democratic Republic	13	23
Lesotho	3	6
Liberia	16	31
Madagascar	82	123
Malawi	136	177
Mali	90	146
Mauritania	8	16
Mozambique	71	121
Myanmar	53	109
Nepal	59	110
Niger	58	117
Rwanda	85	136
São Tomé and Príncipe	1	1
Senegal	55	91
Sierra Leone	33	50
Solomon Islands	1	3
Somalia	10	21
South Sudan	10	21
Sudan	168	221
Tanzania	157	281
Timor-Leste	1	5
Togo	20	39
Uganda	176	253
Yemen	131	175
Zambia	82	121
LDCs	2,361	4,559
Grand total	5,016	8,404

Source: GAVI Alliance, www.gavialliance.org/results/disbursements/

Annex 9.5 GFATM approvals and disbursements

Country	Disbursement in USD million	Approval in USD million
Afghanistan		142
Angola	182	214
Bangladesh	247	363
Benin	139	247
Bhutan	10	11
Burkina Faso	254	302
Burundi	178	261
Cambodia	320	398
Central African Republic	76	98
Chad	85	161
Comoros	14	18
Congo, Democratic Republic of the	51	87
Djibouti		29
Equatorial Guinea		31
Eritrea	158	187
Ethiopia	1,331	1,690
Gambia	108	137
Guinea	71	116
Guinea-Bissau	49	80
Haiti	253	289
Kiribati		
Lao People's Democratic Republic	108	122
Lesotho	133	193
Liberia	128	196
Madagascar	246	295
Malawi	609	813
Mali	117	259
Mauritania	15	21
Mozambique	325	378
Myanmar	126	432
Nepal	107	154
Niger	105	136
Rwanda	759	905
Samoa		
São Tomé and Príncipe	13	16
Senegal	163	225
Sierra Leone	108	180
Solomon Islands	4	7
Somalia	161	337
South Sudan	219	
Sudan	293	337
Tanzania	930	1,227
Timor-Leste	34	42
Togo	146	209
Tuvalu		
Uganda	441	580
Vanuatu		
Yemen	57	69
Zambia	629	667
LDCs	9,504	12,659
Grand total	20,834	26,700

Source: Grant Portfolio of GFATM, http://portfolio.theglobalfund.org/en/Home/Index

Annex 9.6 IDF in African LDCs (2006–10)

Country	GFATM	GAVI	GEF	IDF[a]	ODA	GDP	Share in ODA	Share in GDP
Angola	100.0	35.7		135.8	1,257.0	344,379.8	10.8	0.0
Benin	71.8	24.0	1.8	97.6	2,886.3	29,988.5	3.4	0.3
Burkina Faso	125.2	42.0	1.3	168.5	4,998.2	38,508.6	3.4	0.4
Burundi	81.1	25.1	1.8	108.0	2,623.4	8,007.5	4.1	1.3
Central African Republic	40.0	0.0		40.0	1,070.9	9,120.2	3.7	0.4
Chad	45.5	15.2	1.8	62.4	2,116.8	37,088.9	2.9	0.2
Comoros	5.7	0.6		6.2	236.2	2,476.8	2.6	0.3
Congo, Democratic Republic of the	34.5	6.6		41.1	11,219.8	54,825.0	0.4	0.1
Djibouti	16.8	1.0		17.8	667.6	4,777.0	2.7	0.4
Equatorial Guinea	25.5	0.0		25.5	205.9	56,158.3	12.4	0.0
Eritrea	81.4	5.1		86.5	731.9	7,883.1	11.8	1.1
Ethiopia	823.8	220.2		1044.0	15,264.7	123,476.8	6.8	0.8
Gambia	54.4	4.7	1.8	60.9	513.8	4,272.1	11.9	1.4
Guinea	22.1	3.0	5.4	30.4	1,157.9	19,709.5	2.6	0.2
Guinea-Bissau	27.8	13.1		40.9	629.0	3,780.1	6.5	1.1
Haiti	85.7	0.1	2.0	87.7	6,379.8	30,363.6	1.4	0.3
Lao People's Democratic Republic	49.0	5.2	1.8	56.1	2,088.2	26,134.1	2.7	0.2
Lesotho	64.6	1.7		66.3	721.8	8,577.7	9.2	0.8
Liberia	56.5	10.5	1.8	68.8	4,144.7	4,640.9	1.7	1.5
Madagascar	118.0	30.3		148.3	3,432.2	39,679.1	4.3	0.4
Malawi	291.1	40.5		331.6	4,184.6	21,470.6	7.9	1.5
Mali	71.2	47.3	1.0	119.4	4,921.6	40,392.5	2.4	0.3

(*continued*)

Annex 9.6 IDF in African LDCs (2006–10) (continued)

Country	GFATM	GAVI	GEF	IDF[a]	ODA	GDP	Share in ODA	Share in GDP
Mauritania	13.7	4.6		18.3	1,772.9	16,886.1	1.0	0.1
Mozambique	207.1	24.3		231.4	9,376.2	43,971.0	2.5	0.5
Niger	63.6	28.9	1.8	94.3	2,914.8	23,973.3	3.2	0.4
Sâo Tomé	6.1	0.3		6.4	201.2	849.4	3.2	0.8
Senegal	71.3	25.6	0.0	96.9	4,747.2	59,700.0	2.0	0.2
Sierra Leone	53.0	18.5	1.8	73.3	2,223.6	11,579.8	3.3	0.6
Somalia	70.3	0.6		70.9	2,714.9	0.0	2.6	
South Sudan	108.9	0.0		108.9	0.0	42,089.4		0.3
Sudan	142.0	59.2	0.0	201.3	11,161.8	251,674.1	1.8	0.1
Tanzania	534.8	48.7	9.9	593.3	12,927.7	96,155.0	4.6	0.6
Togo	63.7	10.4	1.8	75.8	1,449.8	14,221.8	5.2	0.5
Uganda	145.2	57.8		203.0	8,473.4	69,334.3	2.4	0.3
Zambia	210.9	29.7	4.5	245.1	5,773.1	65,879.6	4.2	0.4
African LDCs	4,355.9	860.3	44.6	5,260.7				
LDCs	4,852.4	1,159.3	56.0	6,067.7				

[a] IDF is the sum of GEF4, GAVI and GFATM disbursements from 2006 to 2010

Source: GEF disbursements, www.climatefundsupdate.org/listing/gef-trust-fund
GAVI disbursements, www.gavialliance.org/results/disbursements/ GFATM disbursements: http://portfolio.theglobalfund.org/en/Home/Index
NET ODA and GDP are taken from World Development Indicators

Annex 9.7 Debt as percentage of exports of Asian LDCs

Country	2005	2006	2007	2008	2009	2010	2011
Afghanistan				115.04	106.91	66.99	
Bangladesh	177.05	157.76	153.69	131.89	144.41	118.92	100.20
Bhutan		198.79	127.13	106.62	133.52	149.06	139.17
Cambodia	87.86	70.76	60.10	65.07	77.94	69.03	58.34
Lao People's Democratic Republic	384.55	316.08	383.57	347.41	395.64	250.50	256.21
Myanmar	167.52	142.88	126.36	113.95	123.18	101.10	92.77
Nepal	248.68	275.78	251.70	216.21	244.92	241.28	212.42
Timor-Leste		0.00	0.00	0.00	0.00	0.00	0.00
Yemen	81.07	72.54	79.15	62.06	94.95	72.15	64.76

Source: World Development Indicators

Annex 9.8 Debt as percentage of exports of selected LDCs

Country	2005	2006	2007	2008	2009	2010	2011
Angola	50.3	29.7	26.7	24.1	41.0	36.9	31.0
Benin	201.0	67.9	57.2	56.7	79.4	77.7	
Burkina Faso	366.9	169.5	197.8	171.7	182.4	115.4	
Burundi	1,347.4	1,473.5	1,573.9	912.8	523.9	355.7	266.4
Cambodia	26.3	20.9	22.2	20.5	12.5	10.4	7.7
Djibouti	168.5	184.6	279.2	239.1	231.8	187.3	190.0
Ethiopia	34.6	32.6	26.4	10.7	14.8	11.0	8.0
Gambia, The	1,591.0	1,556.3	1,232.9	982.6	1,123.7	1,158.5	997.1
Guinea-Bissau	1,078.9	1,350.3	777.8	639.4	743.1	662.1	
Haiti	222.6	221.3	205.5	236.8	155.8	122.8	77.0
Lesotho	99.9	86.3	78.4	74.9	97.2	84.6	64.9
Liberia	1,143.4	853.5	696.6	416.7	407.5	104.9	35.8
Madagascar	378.6						
Malawi	525.0	110.7	99.0	97.2	84.9	85.1	74.5
Mali	234.4	86.7	95.8	80.6	103.9	101.1	
Myanmar	167.5	142.9	126.4	114.0	123.2	101.1	92.8
Niger	355.1	136.3	151.9	94.7	106.9	99.9	
Rwanda	594.3	157.2	178.1	129.8	168.9	150.2	123.3
Sierra Leone	128.2	116.2	50.3	39.9	43.4	43.4	42.9
Solomon Islands	2,644.3	1,162.4	1,159.6	1,060.2	1,593.3	1,184.4	776.1
Somalia							
South Sudan							
Sudan	351.7	310.0	212.0	166.7	244.3	190.7	202.8
Tanzania	282.7	118.9	123.3	107.8	148.0	141.1	134.6
Togo	207.7	215.9	215.4	144.3	145.2	95.8	
Uganda	287.9	74.5	68.7	75.4	82.5	95.7	91.0
Zambia	216.7	56.9	59.7	58.5	82.8	57.1	48.2

Source: World Development Indicators

Annex 9.9 Debt servicing as percentage of export earnings of Asian LDCs

Country	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Afghanistan												
Bangladesh	10.55	9.61	10.24	8.17	7.00	7.61	5.52	7.02	5.05	5.59	4.72	5.46
Bhutan							2.79	4.90	11.89	12.77	13.47	11.13
Cambodia	1.71	1.04	0.90	0.96	0.82	0.77	0.62	0.54	0.65	0.85	0.90	1.03
Lao People's Democratic Republic	7.96	8.91	19.57	21.88	22.69	17.41	16.24	15.28	13.60	14.75	13.24	
Nepal	7.54	7.85	10.44	10.16	9.05	8.27	9.98	8.90	8.33	10.09	10.50	9.45
Yemen	5.89	7.00	4.41	4.08	4.38	3.06	2.89	3.35	2.71	3.66	2.80	2.75

Source: World Bank Data, http://data.worldbank.org/indicator/DT.DOD.DECT.CD

Annex 9.10 Debt servicing as percentage of export earnings of African LDCs

Country	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Angola	20.9	33.1	17.0	15.3	13.6	10.8	13.2	9.9	2.5	8.5	4.5	4.2
Benin	13.6	8.7	9.0	5.2	5.0	6.0	4.2	2.2	3.5	2.5	2.5	
Burkina Faso	18.8	13.8	14.2	12.0	8.9	7.8	6.1	5.2	4.2	3.8	2.5	
Burundi	40.9	50.5	60.1	64.2	134.8	40.4	19.6	18.4	12.0	16.5	2.1	3.4
Central African Republic												
Chad												
Comoros						6.8	5.9	37.6	15.2	14.9		
Congo, Democratic Republic of the						7.9	9.2	7.6	7.7	12.4	3.1	2.4
Djibouti	6.9	5.2	5.3	5.7	6.9	5.6	7.7	8.4	8.4	8.5	8.1	
Equatorial Guinea												
Eritrea	4.3											
Ethiopia	13.7	18.4	7.9	7.3	5.9	4.8	6.2	4.9	3.1	3.0	3.9	6.1
Gambia, The				14.8	21.0	15.1	14.8	12.5	5.1	6.5	8.1	7.5
Guinea	20.7	12.6	12.6	14.2	20.8	16.8	13.6	11.2	8.8	10.1	4.8	11.2
Guinea-Bissau		7.1	6.0	10.8	11.7	6.7	12.6	7.5	5.7	6.4		
Haiti	9.2	6.3	7.0	11.5	19.5	9.6	8.6	10.4	6.8	4.7	15.8	0.5
Lesotho	7.5	8.2	7.7	5.5	3.7	5.7	3.1	6.0	2.2	2.5	1.9	
Liberia					0.4	0.5	0.4	114.4	119.7	13.6	1.4	
Madagascar	9.7	5.0	4.9	5.8	5.8	8.3	3.6	1.5	1.7	2.8	3.7	2.1
Malawi	13.5	9.5	7.7	6.7	10.5	12.5	8.9	3.8	3.1	2.9	1.7	1.3

(*continued*)

Annex 9.10 Debt servicing as percentage of export earnings of African LDCs (continued)

Country	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Mali	14.1	8.9	7.6	6.6	8.0	6.9	4.4	3.2	2.6	3.1	2.5	
Mauritania							5.8	7.5	3.1	4.7	4.7	3.6
Mozambique	13.4	8.7	6.2	6.0	4.6	4.2	1.6	1.2	1.1	1.4	2.8	1.6
Niger	8.0	8.3	7.6	8.7	7.7	6.8	26.7	4.0	2.6	3.8		
Rwanda	25.7	11.8	14.5	15.3	13.0	9.9	8.8	6.1	2.2	2.2	2.4	
São Tomé and Príncipe	25.4	27.8	24.3	26.9	39.7	36.8	31.5	31.7	11.9	9.8	6.4	5.4
Senegal	16.3	14.6	14.0	12.8	15.0	8.3	7.4	6.3	4.8	6.1		
Sierra Leone	76.4	112.8	13.5	10.6	10.1	6.9	7.8	2.9	1.7	2.1	2.7	3.8
Somalia												
South Sudan												
Sudan	13.5	13.7	6.9	10.7	8.5	8.0	5.1	4.0	3.0	5.6	4.2	
Tanzania	11.9	7.8	5.3	3.9	4.5	4.4	2.5	1.6	1.1	3.1	3.0	2.0
Timor-Leste												
Togo	6.6	7.5	2.7	2.7	2.8	2.5	3.1	1.7	16.0	4.4		
Uganda	10.6	7.1	9.8	9.8	8.9	10.8	5.6	2.7	2.4	2.1	1.8	1.7
Zambia	21.2	17.4	19.8	43.5	22.2	11.2	3.5	2.6	3.2	3.7	1.9	2.1

Source: World Bank Data

Notes

1 See: http://stats.oecd.org
2 PRSP was initiated in 1999 under the aegis of the International Monetary Fund (IMF) and World Bank by low-income aid recipient countries including Bangladesh. As of the end-January 2014, 126 full PRSPs have been circulated to the IMF's Executive Board (IMF 2014).
3 See: www.oecd.org/dataoecd/11/41/34428351.pdf
4 See: http://siteresources.worldbank.org/ACCRAEXT/Resources/4700790-1217425866038/AAA-4-SEPTEMBER-FINAL-16h00.pdf
5 See: www.oecd.org/dac/effectiveness/44087344.pdf
6 See: Assuming IDF=GFATM+GAVI+GEF.
7 See: www.gavialliance.org/results/disbursements/
8 See: www.gavialliance.org/results/disbursements/
9 See: http://portfolio.theglobalfund.org/en/Home/Index
10 See: www.climatefundsupdate.org/listing/gef-trust-fund; www.gavialliance.org/results/disbursements/; http://portfolio.theglobalfund.org/en/Home/Index
11 See: www.reuters.com/article/2011/08/09/cambodia-worldbank-idUSL3E7J920D20110809;http://web.worldbank.org/WBSITE/EXTERNAL/COUNTRIES/EASTASIAPACIFICEXT/CAMBODIAEXTN/0,,contentMDK:21510697~pagePK:1497618~piPK:217854~theSitePK:293856,00.html
12 During the first three years, a country has to carry out economic reforms such as deregulation and privatisation of state enterprise according to the World Bank's and IMF's suggestion. Countries must provide evidence of carrying out poverty reduction programmes through preparing PRSPs with support from IMF and the World Bank. The end of this period marks the decision point, at which the World Bank and IMF decide whether, even after all the policy reforms, the country's debt is still unsustainable. If it does, the country receives a partial debt relief, i.e. a small part of its debt is cancelled. During the second three years, the country has to undergo another set of reforms suggested by the World Bank and IMF, following which a country reaches the completion point when it is considered fit to receive the full package of debt relief.
13 G8 countries include Canada, France, Germany, Italy, Japan, Russia, the United Kingdom and the United States.
14 Per cent of technical co-operation implemented through co-ordinated programmes consistent with national development strategies.

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Chapter 10

Foreign Direct Investment for Development and Productive Capacity Building in LDCs

KG Moazzem and Saifa Raz[1]

10.1 Introduction: objective, scope and structure

This chapter discusses Istanbul Programme of Action (IPoA)-related issues with regard to foreign direct investment (FDI) in two aspects. First, it highlights issues related to enhancing FDI flow in least developed economies (LDCs). Second, it discusses FDI in the context of enhancing productive capacity in LDCs. Thus, the purpose of this chapter is to address issues related not only to challenges for attracting FDI in LDCs, but also to challenges for channelling it into productive capacity building.

The actions set out in the IPoA with regard to FDI as a source of financial resources are based on two specific objectives: (a) to retain the existing flow of FDI and to increase it further, which will strengthen the production base, enhance diversification of production and improve productive capacity in the LDCs; and (b) to enhance initiatives to support investment in these countries. On the other hand, the actions related to enhancing productive capacity are highlighted as improving productivity and efficiency in the production system and contributing to improvement in diversity in economic activities. The seven-point goals and targets related to productive capacity building are aimed at increasing the value addition in natural resource-based industries, diversifying local productive and export capability, increasing access to telecommunication services, increasing the supply of energy, enhancing energy production capacity, developing the transport network and so on. Attaining these goals requires a huge amount of financial resources in which FDI could play a major role. However, given the limited role currently played by FDI in the LDCs, meeting those goals would not be easy.

The commitments of the IPoA have taken into account the progress made in the last decade (2001–10) when the Brussels Programme of Action (BPoA) was implemented. However, the achievement in implementing the BPoA was not very significant. Despite the limited success, a number of changes have taken place which include FDI-related governance structure, inward FDI flow and contribution of FDI to capital formation in host countries. More specifically, changes include a few large institutional reforms but, without having adequate resources, very few changes regarding policies to reduce risks and unpredictability; additionally, efforts have been made towards building supply capacity and enhancing domestic economy.[2] Such changes in the 2000s were the result of initiatives undertaken by LDCs and development partners to pursue the commitments of the BPoA.

Nevertheless, a number of new challenges have emerged at the end of the 2000s, particularly due to the global financial crisis, which has increased risks in non-equity investment. Consequently, there is an increasing tendency among the investors in shifting towards equity-based investment. Furthermore, the crisis has reinforced the need for improvement in the risk-based financial system through further strengthening the conditionalities of BASEL II and BASEL III. Such changes in the financial system are likely to have an impact on global FDI flow in general and FDI flow in LDCs in particular. The implementation of FDI-related actions as articulated in the IPoA needs to be strategised by taking into account the ongoing changes in the global financial system. Both LDCs and development partners should look into those changes and should try to adjust their activities on related issues to achieve IPoA targets.

The study comprises six sections. Section 10.2 reviews the literature on three questions: (a) how critical a role does FDI play in economic growth, structural changes and productive capacity building? (b) is the domestic environment of LDCs ready to attract more FDI? and (c) are various incentives, particularly tax incentives, effective in attracting FDI in developing countries and LDCs? Section 10.3 presents a critical overview on FDI-related actions mentioned in the IPoA and identifies major differences in the actions between BPoA and IPoA. Section 10.4 discusses dynamics and changes in the structure of domestic investment in LDCs during 2001–10, particularly the inward flow of FDI and its contribution to capital formation. Changes in the structure of FDI during the 2000s are reviewed from the perspective of implementing the BPoA. This section also highlights the current state of progress in various aspects of productive capacity including infrastructure, energy and information and communication technology (ICT). An econometric exercise has been carried out in Section 10.5 in order to examine which factors are responsible for FDI inflow to LDCs, which helps us to understand the strategising of various actions articulated in the IPoA. Section 10.6 discusses possible measurable indicators for enhancing FDI and its contribution to productive capacity building and other matters. Section 10.7 briefly discusses challenges for implementing IPoA in terms of both generation of resources and productive capacity building. Finally, a set of suggestions is put forward in Section 10.8 for LDCs and development partners in order to ensure effective implementation of the FDI-related actions mentioned in the IPoA, which would enhance the flow of FDI during the 2010s.

10.2 Literature review

10.2.1 How critical a role does FDI play in economic growth, structural changes and productive capacity building?

The literature shows that FDI could be an important source for financial resources, new technologies and know-how, research and development for the host country. It contributes accumulation of capital in developing countries and it plays a vital role in enhancing investment, tax revenue and reserve of foreign exchange in the developing countries (Smith 1997; Quazi 2007). FDI has a significant effect on host country exports and employment because it establishes foreign affiliations which

increase the foreign market share and exports of intermediate products to affiliates (Stobaugh 1972; Vahlne 1981). However, there are debates over the net contribution of FDI in the host countries when repatriation of profit, dividend and other incomes from foreign-owned firms are found to be significantly high (Bhattacharya 2004).

The impact of FDI could be more visible in the medium to long term if it ensured 'spillover' effects through transfer of technology, introduction of new processes, productivity gains and opening of new market opportunities (Alfaro et al. 2004; Egwaikhide et al. 2005; Dupasquier and Osakwe 2006; Grossman and Helpman 1995; Barro and Sala-Martin 1997). Findlay (1978) and Wang and Blomstrom (1992) found that FDI, through 'contagion' and 'knowledge diffusion' from the advanced technologies in parent countries, could contribute technological progress in the host countries.

Impact at the sectoral level through FDI has been observed in a number of studies. Sen (2009) found that FDI in India has major positive effects on the capital-intensive manufacturing sector but less so in the case of the labour-intensive manufacturing sector. Pradhan (2006) explained the transformation of the service sector by FDI over time in India – from hotels and restaurants, finance and marketing segments in the 1970s to software services in the 1990s. Liu and Daly (2011) found that over the period 1997–2008 China experienced a transition in FDI-related activities by moving from a traditional low-technology to a high-technology manufacturing environment.

A number of authors, however, found a limited role of FDI in host countries' economic growth and productive capacity building. Aitken and Harrison (1999) found an insignificant effect of FDI on firm-level productivity. Green and Cunnigham (1975), Schneider and Frey (1985) and Nigh (1985) showed a negligible effect of FDI on economic growth. A number of studies on host countries found similar results (Balasubramanyam et al. 1996; Borensztein et al. 1998; Carkovic and Levine 2002). There is even evidence of negative correlation between FDI and economic growth (Blomstrom et al. 1992). UNCTAD (2001) argues that the extent of linkages between foreign affiliates and local suppliers determines the level of impact in different sectors – in the primary sector such linkages are rather limited, whereas linkages are high in the manufacturing sector. Kokko (1994) explained that spillovers may not take place in industries that are 'enclave' in nature. Hirschman (1958) and Alfaro et al. (2004) argued that not all sectors may have a similar level of absorption potential for foreign technology. Owing to limited absorption capacity in the primary sector, the spillover effect of FDI is rather less than in the manufacturing sector, which has a high absorption capacity. Similar findings came out from the studies by Borensztein et al. (1998) and Carkovic and Levine (2002). Poor absorption capacity of LDCs indicates limited capacity to accumulate new and modern state-of-the-art technologies, which become weaknesses and have to be upgraded to and caught up with. Improving the absorptive capacity requires a strong facilitating role of intermediate organisations to ensure technological knowledge transfer to potential institutions of public and private sectors. Rodríguez-Clare (1996) showed that the efficiency of production develops in host countries for intensive use of intermediate goods by multinationals.

Several studies have pointed out some prerequisites for a positive effect of FDI on economic growth and productive capacity building. Durham (2004), Blomstrom

et al. (1992), Borensztein et al. (1998) and Balasubramanyam et al. (1996) demonstrated that at the initial level of development the host country's human power and trade policy are the main factors for appreciating the positive impact of FDI. Borensztein et al. (1998) indicate that a trained and educated labour force is the key element for a positive effect of FDI in the host country (Adeniyi et al. 2012). Well-developed physical infrastructure of the host country also has a positive effect on FDI inflow (Cheng and Kwan 2000), which is observed in the case of FDI inflow in China and in developing countries (Mengistu and Adams 2007; Cotton and Ramachandran 2001), emerging economies (Zhang 2001), western Balkan countries (Kersan-Skabic and Orlic 2007) and southeast European countries (Botrić and Škuflić 2006). Maskus (2000) emphasises that the impact of FDI will be negligible for the host country without the protection of intellectual property rights of foreign companies. A number of non-conventional factors are found to be responsible for the low level of FDI in LDCs; these include remoteness, indebtedness and export of minerals, etc., as discussed above.

The literature has found different kinds of impact of FDI on the host country – from both positive and significant to even a negative impact. In this context, examining and understanding the nature of contribution of FDI for the development of LDCs is important.

10.2.2 Is the domestic business environment of LDCs ready to attract more FDI?

Locational choice in FDI is influenced by different kinds of factors. Strong positive correlation is usually evident in a number of variables related to the economic condition of the host country such as size of the economy, economic growth, macroeconomic stability, trade openness, less indebtedness and low cost of capital (Addison and Heshmati 2003). Factors related to the overall economic condition of the host country such as population, remoteness, war and degree of democracy have influenced the FDI flow in many countries (Feng 2001; Brunetti et al. 1997). A number of other factors are considered to be important for attracting FDI; these are usually called 'country assets', which include the educational standard, exports of fuel, ores and metals, infrastructure and technological readiness (Cheng and Kwan 2000). Studies on developing countries (Mengistu and Adams 2007; Cotton and Ramachandran 2001), emerging economies (Zhang 2001), western Balkan countries (Kersan-Skabic and Orlic 2007) and southeast European countries (Botrić and Škuflić 2006) reveal a significant positive role of well-developed infrastructure in attracting FDI. The gap in technological abilities between multinational enterprises (MNEs) and local firms is also considered a major factor in the investment decision of MNEs (Dunning and Zhang 2008).

Many studies have pointed out the negative impact of a high level of corruption and a low level of transparency as constraining factors for a higher level of FDI inflow (Voyer and Beamish 2004; Zhao and Du 2003; Habib and Zurawicki 2002; Kersan-Skabic and Orlic 2007). In addition, ensuring property rights was found to be a determining factor in a few cases (Fedderke and Romm 2006; Kapuria-Foreman 2007). An underdeveloped justice system is also said to be one of the critical factors

in influencing capital inflows in developing countries (Wheeler and Mody 1992; Dumludag 2009). An underdeveloped legal system fails to deliver adequate support to private foreign investors (Li and Filer 2007).[3] The inability to enforce contracts and collect debt has a profound effect on private sector development as well as on FDIs, as it erodes investors' confidence and threatens the security of their assets and/or investments (Dumludag 2009). The above discussion shows that the impact of various factors is not the same for all LDCs, particularly because of their heterogeneity in terms of their state of development on different economic issues.

10.2.3 How effective are tax provisions and regulatory issues in attracting FDI?

Different studies have found a mixed impact of tax incentives on FDI; more specifically, tax incentives are not the most influential factor for selecting investment locations by foreign companies. Tax incentives are weak instruments for compensating negative factors in a country's investment climate (World Bank 2004). In contrast, FDI financed by retained earnings and external funds is more strongly influenced by the host country's tax rates (Hartman 1984; Boskin and Gale 1987).

Tax incentives and exemptions sometimes create additional costs as tax authorities find it difficult to sort out the 'positive externalities' of investments and thereby fail to determine the exact level of tax incentives required to attract the investors (Morisset and Pirnia n.d.). An important tax incentive is investment tax allowances, which have limitations and drawbacks for projects with long gestation periods and unsound macroeconomic frameworks. Furthermore, these tax incentives impose management difficulties for tax administration and they also require well-developed accounting systems (World Bank 2004). Sometimes these excessive processes have had adverse effects, particularly when the purpose is to attain sustainable, high value added investment projects.

The majority of countries make agreements on preferential tax treatment for encouraging the value of capital held by enterprises, provided the capital is held over a fixed period of time. Preferential tax treatment of long-term capital gains is intended to encourage investors to retain funds for a longer period. Most of the tax incentives for FDI granted by developing countries go to manufacturing, exploration and extraction of mineral reserves, promotion of export and, increasingly, the tourism and leisure sectors (UNCTAD 2000). According to OECD (2002), the legal framework for investment is insufficient unless implemented and backed up by effective institutions and regulatory bodies independent of political pressure and protected from arbitrariness.

10.3 Istanbul Programme of Action (IPoA): a critical overview on FDI-related issues

This section discusses FDI-related actions of IPoA on two accounts: first, actions related to attracting more FDI to LDCs and, second, actions targeted at economic activities for productive capacity building.

10.3.1 Attracting more FDI in LDCs

The IPoA Declaration has highlighted the rise in FDI flow in LDCs during the 2000s but at the same time it is critical about FDI's limited contribution in capital formation and economic growth in these countries. More importantly, FDI inflow has remained concentrated in a few sectors (resource extracting sectors) and a limited number of locations (a few African countries), which limits the role of FDI in economic growth in the LDCs. Despite the target to raise the investment/ gross domestic product (GDP) ratio in LDCs to above 25 per cent by 2010, only 11 LDCs – Equatorial Guinea, Bhutan, Nepal, Chad, Senegal, Mauritania, Afghanistan, Liberia, Malawi, Burkina Faso and Haiti – have reached that level during that time.

FDI is considered as one of the major instruments for mobilising financial resources for LDCs, along with a number of other means such as domestic resource mobilisation, official development assistance (ODA), external debt relief and remittances. As analysed earlier, the broader role of FDI in the process of economic growth has been realised very insignificantly during the last two decades. Hence, actions are required to attract FDI in such a manner that it necessarily makes a visible contribution to economic growth in LDCs. Against this backdrop, IPoA set a two-pronged approach for enhanced flow of FDI into LDCs: (a) attracting new investment and retaining the existing FDI with the aim of diversifying the production base and enhancing productive capacity in LDCs; and (b) enhancing initiatives from development partners to support investment in LDCs (Table 10.1). Additionally, there is a wide gap in the objectives and targets of LDCs and development partners in terms of FDI flow; often outward flow of FDI from developed and developing countries targets those locations which could maximise returns on their investments, have strategic importance and have locational advantages, and most of those targets have little link with the objectives of the LDCs. Thus, bridging the two entities (i.e. sources and destinations) by matching their objectives require initiatives from both ends.

Major attributes of FDI-related issues in the IPoA: A total of eight actions are suggested in the IPoA to enhance FDI flow to LDCs. Of these eight actions, one should be implemented jointly, three actions are to be implemented by LDCs and four actions by development partners. Taking into cognizance the lack of implementation of various commitments made in the BPoA, particularly those related to development of a legal and institutional framework, IPoA continues to put emphasis on these issues. A joint action will be pursued for promoting a strategic and regulatory framework for FDI in the case of agriculture and rural development, particularly in policy areas such as infrastructure development, trade and trade facilitation, research and development of transfer technology.

Actions to be pursued by LDCs are of two kinds. One kind of action is to continue earlier initiatives, particularly strengthening the national policy and regulatory framework, and the second one is to identify priority areas, assessing the investment needs and improving the role of investment promotion agencies in providing better support to existing FDIs and promoting new ones. In the case of development partners, there are again two kinds of actions. The first of these is to undertake home country measures in terms of creating special funds which will contribute

Table 10.1 Major actions on FDI in the IPoA

	Actions
Joint actions	a. Promote strategic and regulatory frameworks for foreign direct investment and other resource flows in this sector that include vital policy areas such as infrastructure development, trade and trade facilitation, research and development and transfer of technology
Action by least developed countries	b. Continue strengthening the national policy and regulatory framework for stimulating foreign investment in productive sectors, by, inter alia, removing barriers to investment, securing contract enforcement and promoting respect for property rights, strengthening equitable and efficient taxation systems and providing accurate information about investment conditions and opportunities in least developed countries, and promote public–private partnership in this respect; c. Identify priority areas for investment and assess domestic capacity, resources and the extent of international investment and support needed; d. Establish a one-window facility for registration and oversight of new and existing foreign direct investment and other external financial flows, along with necessary institutional infrastructure
Action by development partners	a. Set up and strengthen, as appropriate, initiatives to support investment in least developed countries such as insurance, guarantees and preferential financing programmes and private enterprise funds for investment in least developed countries, focusing in particular on sectors that are needed to build up a diversified production base and encourage linkages with domestic production activities as well as employment creation; b. Support capacity-building in least developed countries, and at the regional level, as appropriate, aimed at improving their abilities to attract foreign direct investment, including the ability to negotiate mutually beneficial investment agreements and disseminate information about investment opportunities in least developed countries; c. Support and implement initiatives aimed at encouraging investment in least developed countries, such as export credits, risk management tools, co-financing, venture capital and other lending instruments, business development services and feasibility studies; d. Strengthen partnership programmes for technology transfer under mutually agreed terms by fostering linkages between foreign and domestic firms

Source: Based on IPoA

to diversification of the economy, and to offer other support measures to mitigate risks and provide preferential credit and non-financial business support; this support would facilitate foreign investors at both pre-establishment and post-establishment phases of investment. Second, given the limited contribution of FDI in technology transfer, actions have been set to strengthen partnership programmes for technology transfer under mutually agreed terms and conditions.

10.3.2 FDI in productive capacity building

IPoA has put the highest emphasis on enhancing productive capacity of LDCs as it identifies 'limited productive capacities as the major constraints in LDCs' ability to produce efficiently and effectively and to diversify their economies'. The IPoA has set specific strategies to address the broader goals, which include a significant rise of value addition in natural resource-based industries, diversifying local productive and export capability, a significant increase in access to telecommunication services, striving to increase primary energy, a significant increase in the share of electricity generation through renewable energy, enhancing capacity in energy production, trade and distribution, and a significant increase in physical connectivity. Various aspects of productive capacity are covered under variables comprising infrastructure, energy, science, technology and innovation, and private sector development. Annex 10.1 presents various actions related to productive capacity building.

Major attributes of IPoA

Given the limited flow of FDI in LDCs, various actions related to FDI for enhancing productive capacity as articulated in the IPoA would be considered to be relevant only when the expected level of FDI flow to LDCs could be ensured.

In the case of infrastructure building, LDCs and development partners have committed to pursue ten actions (five actions by LDCs, four by development partners and one by joint action), of which eight seem to be relevant for FDI. LDCs have committed to take action to build their ICT infrastructure, expand broadband connectivity and improve bilateral, regional and sub-regional connectivity. On the other hand, development partners have committed to take action on technical and financial support for infrastructure development, support for technology transfer and higher flow of FDI, including investment under public–private partnership in infrastructure building projects. Implementation of a number of these actions may need financial support from development partners in addition to a rise in FDI.

In the case of energy sector development, a total of four actions committed by two sides (one action by LDCs and three by development partners) seem to be relevant with regard to FDI. Actions by LDCs include expansion of energy generation capacity by putting emphasis on renewable energy, while actions by development partners include technical and financial support for building power and energy infrastructure, support for appropriate and affordable technology transfer, and so on.

In the case of science, technology and innovation, a total of four actions is committed by LDCs and development partners – one joint action and three actions by LDCs. The joint action is to establish a technology bank and an information-supporting mechanism. On the other hand, actions committed by LDCs include investment to promote innovation and facilitate innovative activities in co-operation with private sector research organisations and other bodies.

In the case of private sector development, major actions are related to ensuring an enabling environment for investment in LDCs and ensuring availability of financial resources to invest across the sectors. In this context, development partners are

expected to take action through providing financial resources and transferring modern technologies to LDCs.

10.3.3 Differences between BPoA and IPoA on FDI-related actions

The programme of action related to FDI as stipulated in the IPoA has a number of distinctive features. First, the actions committed to in the IPoA would be regarded as the 'next' step of the BPoA. If BPoA is regarded as the baseline for strengthening actions on regulatory, infrastructure, human resource and capacity-building issues, IPoA would be considered as the 'next' step of those actions. In this regard, IPoA is a step forward from the BPoA. But the role of FDI as articulated in the IPoA indicates a somewhat narrower scope than what was mentioned for FDI in the BPoA. Unlike the limited set of actions mentioned in the IPoA, the actions in the BPoA were widened both within the area of resource mobilisation and in other areas such as physical infrastructure development, trade and trade facilitation and enterprise development. This is also reflected in the differences in the number of actions between BPoA and IPoA. In BPoA the total number of actions related to FDI was 16, of which 6 were to be implemented by LDCs and the other 10 by developing countries. In contrast, IPoA included eight actions only; of which one will be implemented jointly, three by LDCs and the other four by development partners.

However, the actions to be implemented under the IPoA are more specific. A major criticism of the actions suggested in BPoA was their lack of clarity and specificity of actions to be undertaken by LDCs and development partners. In that respect, actions in IPoA are more specific and clear, both for the LDCs and for the development partners. Most of the actions in the IPoA to be taken by LDCs put emphasis on strengthening national rules and regulations regarding contract enforcement, property rights and the taxation system. Other major actions include establishment of one window facility, identification of suitable investment opportunities including public–private partnership (PPP) projects, and assessment of domestic capacity, resources and the extent of international investment and support needed. In the case of development partners, FDIs have been encouraged through specific support facilities such as insurance, guarantees and preferential financing programmes and private enterprise funding. A number of other measures are also suggested, including export credits, risk management tools, co-financing, venture capital, other lending instruments, business development services and feasibility studies.

The approach to facilitating FDI through supplementary actions has changed in the IPoA. In BPoA, supplementary actions were related to non-market initiatives such as strategising aid-supported programmes to enhance FDI. In contrast, supplementary actions in IPoA are focused more on market-based approaches such as providing financial and non-financial benefits at pre- and post-establishment phases. Still, a number of actions mentioned in the IPoA seem to be non-measurable.

Regarding productive capacity building in LDCs, little difference is observed between the commitments made in the BPoA and the IPoA. However, targets, strategies and actions have been more specific in the IPoA. The scope of productive capacity building has been widened in the IpoA, covering issues related to ICT on a broader

Table 10.2 Structure of the economy of LDCs during the 2000s

	2000	2005	2009	2010	2011
GDP (current billion USD)	181	317	552	616	680
GDP growth (annual %)	4.5	7.2	5.0	6.0	4.0
Gross national income per capita, PPP (USD)	774	1,052	1,158	1,231	1,318
GDP share (%)					
Agriculture	33	28	25	23	
Industry	24	27	27	28	
Services	44	45	48	49	
Gross capital formation (% of GDP)	20	23	24	23	25

Source: WDI database 2012, (available at: http://data.worldbank.org/data-catalog/world-development-indicators

scale, inclusion of activities targeted at promoting agro-based industries and the tourism sector, etc. The actions related to the development partners have advanced further from a dialogue-based approach towards one based on physical and financial support. Technology transfer to the LDCs has been re-emphasised, with more specific actions to be taken by the development partners.

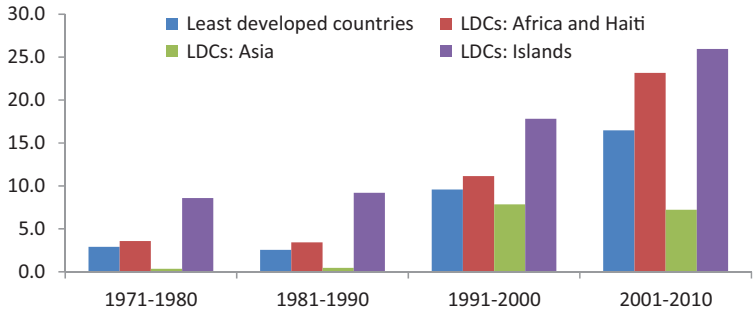
10.4 Domestic investment and FDI flow in LDCs during the 2000s

10.4.1 Economic growth and domestic private investment in LDCs during the 2000s

Most LDCs have experienced a moderate level of economic growth during the 2000s, although that growth was not consistent, particularly in the second half, mainly because of the global financial crisis in 2008 and the consequent economic slowdown in the developed countries (Table 10.2). Average GDP growth in LDCs was at its peak in 2005 (7.2 per cent), decelerating in 2010 (6 per cent) and continuing to decelerate afterwards. Asian LDCs were affected more than African LDCs by the crisis (0.66 per cent of GDP in Asian LDCs v.0.13 per cent in African LDCs), mainly because of strong linkages of Asian LDCs with the global economies (Bhattacharya and Dasgupta 2013). Most of the LDCs have experienced structural transformation, with a rising share of industries and services included in the GDP.

The rise in LDCs' GDP during the 2000s was contributed to by a gradual rise in domestic investment. The investment/GDP ratio has accelerated to 19.9 per cent of GDP in the 2000s against 17.1 per cent in the 1990s and 16.1 per cent in the 1980s. This rise in investment is, however, far below the required level of investment for attaining targeted GDP growth. African LDCs made limited progress in capital formation during the 2000s – gross fixed capital formation (GFCF) was 18.7 per cent in the 2000s versus 15 per cent in the 1980s. It still lagged behind that of Asian LDCs (21.6 per cent of GDP). Island LDCs have maintained a high rate of GFCF (27.5 per cent of GDP). Most of the formation of capital has been caused by the rise in domestic savings, particularly in African LDCs. Domestic savings as a share in GDP

Figure 10.1 FDI in GFCF in LDCs: 1970–2010



Source: WDI database 2012, available at: http://data.worldbank.org/data-catalog/world-development-indicators

have doubled in the 2000s – from less than 8 per cent of GDP in the 1990s to over 16 per cent. A rise in external resources, including FDI, has partly contributed to this rise in investment. Figure 10.1 shows FDI's share in GFCF since the 1970s. FDI's contribution to the formation of capital in LDCs has increased during this period, mainly due to a large volume of FDI flow to African LDCs (20.5 per cent of GFCF in Africa and Haiti v. 16.9 per cent in Asia during 2001–07).

10.4.2 Structure and trends of FDI inflow in the 2000s

Global FDI flow and share of LDCs

The global FDI flow has registered a considerable rise during the 2000s, although it was adversely affected by the global financial crisis and subsequent economic slowdown. Inward FDI flow has reached USD 1.5 trillion in 2011, up from USD 817.8 billion in 2001. Between 2007 and 2008, FDI flow to LDCs has experienced different kinds of changes: about half of the LDCs experienced positive growth in 2006, with 23 LDCs experiencing growth over 5 per cent and the other two less than 5 per cent; while the other half of LDCs have experienced negative growth, with 17 experiencing a negative growth above 5 per cent and the remaining six LDCs less than 5 per cent. The share of FDI flow to developing countries has significantly increased, which changed the ratio between developing countries and LDCs from 73:27 in 2001 to 49:44 in 2011. The rising share of LDCs in the overall FDI inflow during this period has not been sustained since the crisis, although FDI flow to LDCs has significantly increased – from USD 7.2 billion in 2001 to USD 15.0 billion in 2011 at a yearly growth rate of 7 per cent (Table 10.3).

Because of the global financial crisis, growth of FDI flow to LDCs has declined by 15.6 per cent in 2008, and this trend continued afterwards (39.0 per cent). According to UNCTAD (2009), FDI flow to LDCs is likely to decline over the next few years because of continued adverse pressure on host and home economies. This has a direct impact on the businesses of MNEs in the form of (a) lower expectation of profitability; (b) reduced access to credit for financing new investments; and (c) balance sheet consolidation by MNEs in the face of financial pressure (Waeyenberge and Powell

Table 10.3 Inward flow of FDI to major regions, 2001–08

Region	2001	2005	2007	2008	2010	2011	Average yearly growth (2001–11)
Global FDI flow (million USD)	817,833.8	958,232.8	1,913,709.2	1,616,090.5	1,309,001.3	1,524,422.2	6.0
Developed countries	595,266.0	613,053.1	1,358,627.7	962,259.2	618,586.1	747,860.0	2.0
Developing countries	215,439.0	329,327.8	529,344.2	620,733.3	616,660.7	684,399.3	12.3
LDCs	7,128.8	15,851.9	25,737.3	33,098.5	16,899.2	15,010.9	7.2
% of global FDI inflow							
Developed countries	72.8	63.9	70.9	59.5	47.3	49.1	
Developing countries	26.3	34.4	27.7	38.4	47.1	44.9	
LDCs	0.87	1.7	1.3	2.1	1.3	0.9	

Source: Based on UNCTAD database

2010). In view of continued volatility in the prices of oil and minerals, investment in natural resource extraction is expected to slow down in the coming years. This may reduce the prospect of a large volume of FDI being targeted to LDCs engaged in oil exporting and mineral resource extraction (UNCTAD, 2009).Distribution of FDI flow to LDCs

Despite the rise in FDI flow to LDCs in the 2000s, its distribution is still narrow and undiversified both at intra- and inter-regional levels (African LDCs v. Asian LDCs) (Table 10.4). Compared with the 1990s, FDI inflow has further concentrated to African LDCs in the 2000s. The distribution of FDI flow between African and Asian LDCs in 2000–11 was 80:18, against that of 67:33 in the 1990s. Reduction of the share of FDI to Asian LDCs is mainly because of reduction of the comparative advantage of Asian LDCs, particularly in the manufacturing sector, in terms of preferential market access to the developed countries in the 2000s (Rahman and Moazzem 2010). The benefit of preferential market access enjoyed by manufacturing products of LDCs in the 1990s has gradually eroded in the 2000s due to liberalisation of the trade regime. FDI inflow within Africa has further concentrated to a limited number of countries, including Angola, Equatorial Guinea, Sudan and Zambia, mostly oil-exporting countries, received about 63.3 per cent of total FDI flow to LDCs in 2011 (against their comparable share of 57.6 per cent in 2000) (Figure 10.2). Low investment in the manufacturing sector in Africa is mainly because of lack of a political stability, lack of availability of skilled workers, and the subsequent low return from investment. Although FDI inflow to Asia doubled between 2000 and 2008, its share in total FDI flow to LDCs has substantially declined compared with the 1990s (11.3 per cent in 2001–08 against 33.3 per cent in the 1990s).

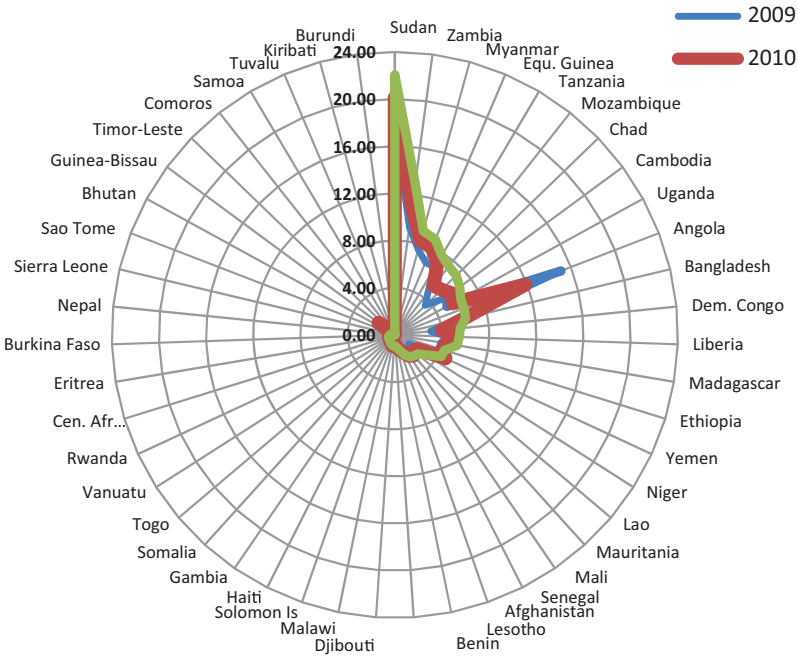
FDI stock has, like FDI flow, remained highly undiversified at the end of the 2000s. Resource-seeking FDI has accounted for the majority of FDI's share of total FDI stock to LDCs and has been mainly located in Africa (Figures 10.3 and 10.4). Unlike in other regions, African LDCs have poor resource governance, which might make the investment cheaper because conditions become loose (UN-OHRLLS 2010). Within resource-seeking FDI, the major share has shifted from mineral-exporting to oil-exporting countries (Figure 10.3). MNEs have tended to favour oil and mineral resource industries in their FDI decisions because of their high profitability and

Table 10.4 Inward FDI flows, by host region and economy, 1981–2011

	Average annual inflow (million USD)			Share of LDC inflow (%)			Share of global inflow (%)		
	1981–90	1991–2000	2001–11	1981–90	1991–2000	2001–10	1981–90	1991–2000	2001–11
LDCs	510	2,878	12,337	100.0	100.0	100.0	0.47	0.56	1.04
Africa and Haiti	465	1,920	9,885.1	91.2	66.7	80.2	0.44	0.37	0.84
Asia	45	958	2295.0	8.9	33.3	18.6	0.04	0.18	0.19

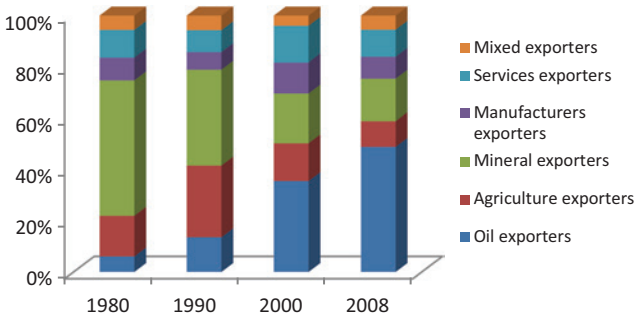
Source: Based on UNCTAD database

Figure 10.2 Concentration of FDI in LDCs



Source: Based on UNCTAD database

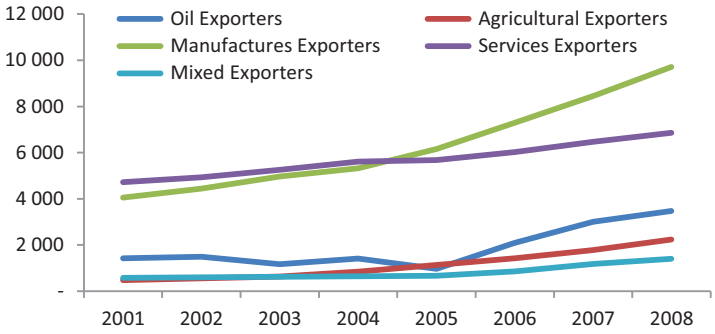
Figure 10.3 Distribution of FDI stock



Source: Based on UNCTAD database

strategic importance, and they have not expanded their industries beyond these sectors (UNCTAD 2007). Efficiency-seeking FDIs, on the other hand, received a low share in total FDI flow in 2010 compared with that in the 1990s and 1980s. The share of FDI inflow going to the LDCs with the smallest economies declined between 2000 and 2010 – from 1.92 per cent of total LDCs' share in 2000 to 1.04 per cent in 2011 (Table 10.5). The locational disadvantages of these economies have remained and are regarded as 'natural constraints' for landlocked countries (such as Nepal, Bhutan and Central African Republic), island states (such as Vanuatu, Tuvalu, Kiribati, Samoa and Comoros), and small-size economies (such as Vanuatu, Kiribati, Guinea-Bissau,

Figure 10.4 FDI stock in Asia



Source: Based on UNCTAD database

Comoros, Samoa and Timor-Leste). LDCs without a large domestic market and with poor endowments of natural resources are also less likely to attract more FDI (Cleeve 2008; Nunnenkamp 2004; Musila and Sigue 2006).

According to UNIDO (2007), most of the investment outside oil and mineral resources is largely targeted at domestic markets, whereas regional markets have got little attention in terms of the sales strategies of investors. The nature of involvement in the domestic market-oriented tertiary sectors is largely attributed to marketing and sales and financial intermediation, where the scope of employment is relatively high for skilled workers and professionals and relatively low for unskilled workers. Among the modes of investment, reinvested earnings comprise a major share of FDI in the case of oil-exporting countries, because of the requirement for long-term investment in mining and extraction. Within the backdrop of global trade liberalisation, the high level of trade integration of Asian LDCs has not been of much benefit to them. Overall investment in the manufacturing sector of Asian LDCs did not gain momentum in the 2000s because of a number of factors such as the deceleration of the margin of preferences owing to gradual trade liberalisation in the markets of developed countries, the end of the quota facility in 2005 for the export of

Table 10.5 Inward FDI flow in LDCs

Measures	Economy/year	2001	2008	2009	2010	2011
FDI inflow (million USD)	Africa and Haiti	6,216.9	13,418.6	15,313.8	13,858.8	11,935.7
	Asia	876.8	4,762.0	2,783.0	2,699.6	2,808.1
	Islands	13.8	316.2	245.7	340.8	267.1
	Total	7,107.5	18,496.8	18,342.5	16,899.2	15,010.9
Share of LDCs	Africa and Haiti	87.5	72.5	83.5	82.0	79.5
	Asia	12.3	25.7	15.2	16.0	18.7
	Islands	0.2	1.7	1.3	2.0	1.8
Percentage of GDP	Africa and Haiti	5.8	3.7	4.4	3.6	2.8
	Asia	1.1	2.7	1.4	1.2	1.1
	Islands	1.2	9.9	7.4	9.2	6.1

Source: UNCTAD database, different years

apparel, uncertainty over new initiatives for preferential market access for LDCs in the USA and the revision of the US–GSP scheme. However, since Asian countries are largely exporters of manufactures and services, a rise in investment in these sectors is likely to have a better developmental impact because of relatively better linkage and employment effects.

Overall, FDI-led industries in LDCs are often found to be 'enclave' in nature. This means they have limited backward and forward linkages, are largely capital intensive, are based on imported materials, have a limited scope for employment generation, and largely export unprocessed materials. Additionally, these ventures are usually wholly owned by foreign investors and a large share of their foreign exchange earnings is held abroad, and channels for knowledge circulation between foreign and local companies are highly limited (UNCTAD 2007). Additionally, opportunities for strengthening linkages are limited because of low resource commitment of FDI, lack of long-term investments, and production and export of a narrow range of highly specified low-value-added products (Yamin and Sinkovics 2009).

Sources of FDI

Although developed countries were the major sources of FDI in African LDCs during the 2000s, developing countries, including India, Malaysia, China and Pakistan, have become increasingly visible as sources of FDI to many African LDCs. The outward flow of FDI from developing countries has significantly increased in the 2000s (from USD 36.5 billion in 2001 to USD 383.8 billion in 2011), part of which is targeted at strategic sectors of many African LDCs. Intra-regional investment in Africa is not so high, despite a number of regional trade and investment agreements currently in operation. Regional investors have limited interest in utilising preferential market access for export which is provided under different regional trade agreements (RTAs).

Although developed countries are the major sources of FDI for most of the Asian LDCs, developing countries are increasingly becoming important there. Considering the kinds of developmental needs of the LDCs, the growing investment from the South in low-technology and labour-intensive industries in Asia is likely to make significant contribution.

10.4.3 State of productive capacity in LDCs during the 2000s

Infrastructure development in LDCs has been emphasised through both traditional and non-traditional modes of infrastructure (e.g. ICT-related infrastructures). Although infrastructures in LDCs as a group, as well as in individual countries, are far behind those of developing and developed countries, there are signs of improvement in ICT infrastructure in LDCs during 2001–11 (Table 10.6). This is reflected in terms of rise in fixed broadband internet subscribers, import of ICT goods, availability of secure internet servers and number of telephone lines and other means of communication. In general, more FDI is needed to develop the infrastructure of LDCs.

Table 10.6 State of ICT and telecommunication sector in LDCs

Indicator name	2001	2005	2008	2009	2010	2011
Fixed broadband internet subscribers	36	30,678	293,469	356,445	553,890	739,054
Fixed broadband internet subscribers (per 100 people)	0.0000	0.0041	0.0371	0.0478	0.0679	0.0936
Secure internet servers		94	244	336	480	668
Secure internet servers (per 1 million people)		0.18	0.34	0.43	0.60	0.81
Telephone lines	3,940,416	6,340,812	7,555,750	8,329,052	8,314,931	
Telephone lines (per 100 people)	0.58	0.85	0.95	0.99	1.07	1.10

Source: WDI database 2012, available at: http://data.worldbank.org/data-catalog/world-development-indicators

With the rise in demand for energy, LDCs have put emphasis on both generation and import of energy during the 2000s. While energy production has almost doubled during the last decade, import of energy has simultaneously increased (Table 10.7). Energy production is overwhelmingly dependent upon non-renewable sources such as oil, gas and coal, and their share in total electricity production, instead of reducing, has further increased. Despite various efforts undertaken to reduce losses in electricity transmission and distribution, the proportion of losses is still very high (15.4 per cent in 2001, reducing to 12.0 per cent in 2011). Efforts have been made to increase electricity production by using renewable sources; however, the share of renewables is still at a very low level and has not changed much during the last decade. Overall, LDCs should continue to look for more investment, particularly FDI, for the development of their energy sector.

LDCs are far behind in technological development due to lack of investment in generation of scientific knowledge and promotion of research. Little information is available on technological development in LDCs. During the 2000s, little improvement was discerned with regard to development of science and technology in LDCs, which is reflected in a number of indicators such as the number of scientific and technical journal articles (Table 10.8).

A weak business-enabling environment is a major challenge for enhancing investment in LDCs (Table 10.9). Most LDCs are burdened with various challenges related to the business environment, which include the long time required to start a business and get an electricity connection, the long lead time for international trade, the delay in paying taxes, enforcing contracts, building warehouses and so on. During 2005–11, considerable improvement was discerned in respect of time to start a business and

Table 10.7 State of energy sector in LDCs

Indicator name	2001	2005	2008	2009	2010
Energy imports, net (% of energy use)	−36.70	−49.99	−60.68	−55.54	−54.26
Energy production (kt of oil equivalent)	259,791.3	326,754.8	401,467.3	403,269.1	412,118.0
Electricity production (million kWh)	85,923.1	113,369.7	138,062.6	150,113.8	161,781.3
Electric power transmission and distribution losses (% of output)	15.4	14.9	13.5	12.3	12.0
Electric power transmission and distribution losses (million kWh)	10,191.0	12,983.0	14,385.0	14,171.0	14,932.0
Electricity production from oil, gas and coal sources (% of total)	32.9	36.9	39.4	38.1	39.0
Electricity production from renewable sources (million kWh)	37,651.0	45,159.0	51,770.0	58,194.0	61,272.0
Electricity production from renewable sources, excluding hydroelectric (% of total)	0.1	0.1	0.1	0.1	0.1
Electricity production from renewable sources, excluding hydroelectric (million kWh)	66.0	73.0	72.0	103.0	101.0

Source: WDI database 2012, available at: http://data.worldbank.org/data-catalog/world-development-indicators

Table 10.8 State of science and technology in LDCs

Indicator name	2001	2005	2008	2009
Scientific and technical journal articles	874.0	1,076.6	1,265.1	1,398.9
Tertiary education, teachers (% female)	20.5	19.9	20.7	20.4
High-technology exports (% of manufactured exports)	1.4			

Source: WDI database 2012, available at: http://data.worldbank.org/data-catalog/world-development-indicators

Table 10.9 State of business enabling environment

Time required	2005	2008	2009	2010	2011	2012
Start a business (days)	67.6	53.3	50.2	45.4	35.7	33.8
Get electricity (days)			167.2	140.4	138.6	135.9
Export (days)	40.4	36.4	35.0	33.8	32.9	32.5
Import (days)	48.2	40.8	39.2	38.2	37.2	36.8
Prepare and pay taxes (hours)	314.6	294.3	274.9	277.2	279.7	282.2
Enforce a contract (days)	721.1	719.3	703.7	699.1	695.9	690.6
Register property (days)	142.6	118.6	111.0	98.1	94.9	93.8
Build a warehouse (days)	252.1	246.8	228.5	222.2	216.4	216.2

Source: WDI database 2012, available at: http://data.worldbank.org/data-catalog/world-development-indicators

time to register property, while marginal improvement has taken place in getting an electricity connection, improving time to export and import and enforcing a contract.

IPoA has put emphasis on development of the sustainable tourism sector with the support of development partners in building infrastructure and human capital. A number of indicators show improvement in the tourism sector in LDCs; these include travel services as a share of commercial export, number of arrivals of international tourists and related matters (Table 10.10). In contrast, export receipts from the tourism sector as a percentage of total exports declined during 2001–10.

10.5 Factors responsible for FDI in LDCs during 1990–2010 and their implications with regard to IPoA: an econometric exercise

An analysis has been carried out to identify factors responsible for inward flow of FDI in LDCs. Such an analysis will help us to take appropriate and effective measures based on the guiding actions of the IPoA.

10.5.1 Model specification

A panel data regression analysis based on random effects estimation is carried out in order to identify factors responsible for FDI inflow to LDCs. A generalised least-square (GLS) estimation procedure has been applied for this analysis. The 'Inward FDI Performance Index' is considered as a dependent variable while a total of 13 variables have been used as independent variables. These variables can be categorised into four categories. The first category of variable is related to the economic condition of the country, which includes lagged FDI (i.e. F-1), indebtedness (D), share of

Table 10.10 State of tourism sector in LDCs

Indicator name	2001	2005	2008	2009	2010
Travel services (% of commercial service exports)		47.2	56.9	56.5	51.8
Travel services (% of service exports, BoP)		42.5	46.9	47.8	45.8
International tourism, number of arrivals (million)	4.9	8.3	12.8	12.9	14.8
International tourism, receipts (% of total exports)	7.8	6.8	5.7	7.2	5.8
International tourism, receipts (current million USD)	3,371.2	5,727.7	10,388.3	10,163.0	10,979.2
International tourism, expenditures (current million USD)	2,853.5	4,591.2	8,001.0	7,366.9	8,409.8
International tourism, expenditures for passenger transport items (current million USD)	1,018.9	1,211.5	2,464.2	2,256.3	2,510.6
International tourism, expenditures for travel items (current million USD)	1,780.2	3,318.2	5,435.6	5,015.6	5,786.4

Source: WDI database 2012, available at: http://data.worldbank.org/data-catalog/world-development-indicators

the industries and services sector in the GDP (I), real interest rate (Ir) and official development assistance (ODA) (A) (Addison and Heshmati 2003). The second category of variables represents overall conditions of the host country, including population (Po), remoteness (R), war (W) and degree of democracy (De) (Feng 2001; Brunetti et al. 1997). The third category consists of 'country assets', which include the educational standard (E), exports of fuel (F) and communication infrastructure in the form of telephone lines per 100 people (Ci) (Cheng and Kwan 2000). The last category interprets the macroeconomic stability of the host country, which includes the current value of inflation (p).

The estimated equation is as follows:

$$F(FDI) = \beta_0 + \beta_1(F\text{-}1) + \beta_2(D) + \beta_3(I) + \beta_4(F) + \beta_5(Ci) + \beta_6(Ir) + \beta_7(P) + \beta_8(De) + \beta_9(W) + \beta_{10}(A) + \beta_{11}(E) + \beta_{12}(p) + \beta_{13}(R) + u$$

10.5.2 Results for Africa

Table 10.11 presents the GLS estimation results for African LDCs. Most of the conventional factors are found to be less significant in the context of these countries. For example, share of industries and service sector in GDP and share of fuel export in GDP and indebtedness are not significant determinants for FDI inflow to African LDCs. The lagged value of FDI and developed infrastructure in terms of access to a telephone are found to be significant at the 1 per cent level of significance. Other factors found important at 10 per cent and 5 cent levels of significance respectively

Table 10.11 Regression result for the GLS on random effect estimation for African LDCs

Dependent variable: inward FDI performance index (FDI)			
Variables	**Coefficient**	**Standard error**	**Probability**
Lagged FDI (F-1)	0.478	0.0988	0.000***
Indebtedness (D)	0.002	0.0067	0.706
Share of industries and services sector in GDP (I)	–0.0132	0.0234	0.512
Share of export fuel in GDP (F)	0.0254	0.06899	0.712
Telephone lines per 100 people (Ci)	2.47	0.641	0.000***
Real interest rate (Ir)	0.055	0.031	0.079
Population (P)	0.00023	0.00043	0.592
School enrolment (E)	0.0248	0.0132	0.067*
Degree of democracy (De)	–0.577	0.7438	0.438
War (W)	–0.282	0.5921	0.633
ODA (A)	–2.37	3.4038	0.048**
Current value of inflation (p)	0.00158	0.02856	0.956
Remoteness (R)	–0.329	1.8123	0.856
_cons	–1.703	2.4522	0.487

Note: *at 10 per cent significance level; **at 5 per cent significance level; *** at 1 per cent significance level.
Source: Authors' estimate

are school enrolment and inflow of ODA. By and large, conventional factors could not attract FDI in African LDCs.

10.5.3 Results for Asia

The regression result for GLS estimation for Asian LDCs is shown on Table 10.12. Among 13 conventional factors, only a few have significant effects in the context of FDI flow in Asian LDCs. As in Africa, the lagged value of FDI and school enrolment are considered to be important for inflow of FDI in Asia but they are less significant. Infrastructure-related factors such as telephone lines and remoteness are not influential factors for FDI inflow in Asian LDCs; similarly, indebtedness, share of industry and service sector and export of fuel have no noteworthy effect on FDI inflow. Unlike in Africa, ODA is important for Asia but with a positive effect, perhaps due to the larger flow of ODA which directly contributes to economic activities in Asia.

Taking the analysis into account, it appears that implementation of IPoA would be challenging for most of the LDCs, on two accounts. First, a large number of LDCs in Africa, island LDCs and Asian LDCs are not in a position to attract FDI because of their various weaknesses as reflected in the regression analysis. It appears that four kinds of variables considered for the analysis – economic condition, overall conditions of the host country, country assets and macroeconomic stability – are in most instances improved enough to become a determining factor for enhancing FDI in LDCs. Thus, LDCs should primarily work on improving the benchmark situation of their economies to build confidence among the investors abroad. Various suggestions

Table 10.12 Regression result for the GLS on random effect estimation for Asian LDCs

Dependent variable: inward FDI performance index (FDI)			
Variables	**Coefficient**	**Standard error**	**Probability**
Lagged FDI (F-1)	0.56	0.22	0.012**
Indebtedness (D)	–0.08	0.06	0.21
Share of industries and services sector in GDP (I)	0.02	0.039	0.52
Share of export fuel in GDP (F)	–0.19	0.04	0.61
Telephone lines per 100 people (Ci)	–0.26	0.19	0.17
Real interest rate (Ir)	–0.01	0.161	0.94
Population (P)	0.024	0.06	0.71
School enrolment (E)	0.23	0.07	0.001**
Degree of democracy (De)	–5.30	2.79	0.06*
War (W)	–3.46	4.75	0.47
ODA (A)	19.97	11.16	0.07*
Current value of inflation (p)	–0.01	0.19	0.94
Remoteness (R)	–3.33	2.53	0.19
_cons	–12.52	9.11	0.17

Note: *at 10 per cent significance level; **at 5 per cent significance level; *** at 1 per cent significance level.
Source: Authors' estimate

put forward in the IPoA as regards attracting more FDI could smooth the process to improve the confidence for doing business in LDCs; however, the confidence building would be stronger if basic benchmark conditions were to be improved.

10.6 Possible monitoring indicators for FDI-related actions

According to the actions set out in the IPoA, it is important to identify appropriate indicators for properly monitoring and measuring the committed actions. There are a number of global databases which provide information on various indicators that are suitable for monitoring the progress of IPoA on a time-bound basis.

10.6.1 Monitoring indicators related to FDI for resource generation

Along with basic indicators such as FDI inflow and stock in LDCs and their different forms, which are publicly available, a number of other measurable indicators can be identified. A list of possible other indicators relevant to LDCs have been suggested in Table 10.13. These additional indicators are the signing of bilateral investment treaties (BITs) with developed, developing and LDCs; level of liberalisation of a country's FDI regime; number of barriers to doing business; laws related to enforcement of contract and property rights; tax regime for FDI coupled with signing of a treaty on avoidance of double taxation; an information facility for foreign investors at IPAs; new foreign investment under PPP; assessment of the resource gap; and outward transfer of income by FDI firms.

Table 10.13 Indicators for monitoring actions related to FDI

Groups	Monitoring indicators
LDCs	• National policies on FDI, trade and investment • Bilateral investment treaties and avoidance of double taxation treaties • Doing business index, global competitiveness index and its sub-indices, FDI performance index • Number of investment projects under PPP • Total value of projects • Activities carried out by investment promotion agencies • Composition of FDI (equity capital, reinvested earnings, intra-company loans) • Sectoral distribution of FDI • Assessment of resource requirement for investment • Technology uptake • Tax structure (tax/GDP ratio, direct and indirect tax, tax structure) • Employment generation
Action by development partners	• Home country measures • Private equity fund insurance • Investment guarantees under MIGA • Investment promotion agencies • International investment agreements (IIAs) • Supporting measures at pre-establishment phase • Modification of the definition and scope of development issues as mentioned in the IIAs

Source: Prepared by the authors

In the case of actions related to development partners, possible measurable indicators are the different kinds of insurance; guarantees and preferential financing programmes and private enterprise fund to be used for investment in LDCs; various kinds of financial support to FDI firms for investment in LDCs, such as export credits, risk management tools, co-financing, venture capital and other lending instruments.

All the above-mentioned indicators would largely monitor the extent of actions to be taken by LDCs and development partners in accordance with the IPoA targets, but they would not monitor how those initiatives, as well as the changing flow of FDI, contribute to economic growth in LDCs. In this regard, it is important to measure the impact of FDI on LDCs by a number of measurable indicators such as FDI as a percentage of GFCF, distribution of FDI in different sectors, net inflow of foreign exchange through FDI-related activities (particularly repatriation of profit, dividend by foreign firms, etc.) and contribution of FDI toward employment generation and poverty reduction.

For example, investment promotion to LDCs could be monitored if LDCs gain registration with the World Association of Investment Promotion Agencies (WAIPA) (Table 10.14). This organisation provides support for strengthening information-gathering systems and promoting efficient use of information. The organisation also shares country and regional experiences for attracting FDI and enhancing outward

Table 10.14 LDCs that are members of WAIPA

African LDCs			Asian LDCs	Island LDCs
Angola	Kiribati	Senegal	Afghanistan	Samoa
Benin	Lesotho	Sierra Leone	Bangladesh	
Congo	Madagascar	Solomon Islands	Nepal	
Djibouti	Malawi	Sudan	Yemen	
Ethiopia	Mali	Tanzania		
Guinea	Mauritania	Uganda		
Gambia	Niger	Vanuatu		
Haiti	Rwanda			

Source: WAIPA website

FDI. In addition, advisory support is provided to better formulate investment-related policies. A total of 28 LDCs are members of WAIPA so far, of which 23 countries are from Africa and 5 are from Asia.

Monitoring of actions could also be done in the case of support provided for business development services and feasibility studies. A number of global organisations the Multilateral Investment Guarantee Agency [MIGA], the Overseas Private Investment Corporation [OPIC] and the International Centre for Settlement of Investment Disputes [ICSID]) are involved in providing different services including insurance, risks, private fund support and support in settling disputes. The United Nations Conference on Trade and Development (UNCTAD) DAE could be another important source of information, particularly in relation to FDI and BITs. Investment promotion agencies in different LDCs could provide information on various support measures offered to FDI at both pre- and post-establishment phases.

10.6.2 Monitoring indicators for productive capacity

There is information available at the global database level with regard to monitoring productive capacity building for a number of actions to be commenced by LDCs and development partners (Table 10.15). While monitoring of some of the actions requires micro-level data, monitoring of other actions may need to be done through macro-level data. It is difficult to get micro-level information on all those indicators for all LDCs; in that case, macro-level data should be used. The indicators largely help to understand the broader aspects related to development of productive capacity in LDCs. Table 10.15 provides a detailed list of possible indicators for monitoring productive capacity building in LDCs.

10.6.3 Strengthening the regulatory regime of FDI in LDCs: signing of international investment agreements with developed and developing countries

One of the major issues that is still in a weak state in LDCs and that has been addressed in the consecutive programme of actions is to strengthen the regulations related to facilitating FDI inflow. A number of LDCs have signed BITs and avoidance of double taxation treaties (DTTs) with a number of developed and developing countries.

Table 10.15 Monitoring indicators for productive capacity

	Actions to be taken by	Monitoring indicators
Overall	LDCs	• Institutions for product standardisation • Number of clusters allowing FDI • Business-enabling environment index (WB) • Share of agro-processing industry in GDP
	Development partners	• ODA for productive capacity building • FDI in productive capacity-related sectors • ODA for promoting diversification • International investment agreements • Private equity fund insurance • Investment guarantees under MIGA • Investment promotion agencies
Infrastructure	Joint actions LDCs	• National infrastructure policies • Internet access, mobile broadband • Broadband connectivity • Public–private partnership for transport and ICT sector • RTAs and bilateral FTAs
	Development partners	• Concessional fund for infrastructure development • Cases of technology transfer to LDCs • FDI in LDCs' infrastructure sector which have condition of technology transfer
Energy	LDCs	• FDI in energy sector, particularly for projects related to transmission and distribution • Investment in renewable energy sector
	Development partners	• ODA for improving efficiency in generation, transmission and distribution and sustainable use of energy resources • Cases of transfer of appropriate and affordable technology on mutually agreed terms and conditions
Science, technology and innovation	Joint actions LDCs	• Joint gap analysis • Cases of collaboration between private sector and university/research organisations • Cases of promotion of investment for modern and cost-effective technologies
	Development partners	• ODA for research, science and technology
Private sector development	LDCs	• Business enabling environment index (WB) • Share of investment in diversified economic activities
	Development partners	• ODA for technology transfer • ODA for improvement of competitiveness of small and medium enterprises

Source: Prepared by authors

The number of BITs signed by LDCs has increased from 224 in 2000 to 455 in 2010. The rate of enforcement of these agreements was rather low, being about half of the total of signed agreements (Table 10.16). Most of these BITs were enforced by African and Asian LDCs. Island LDCs have enforced few BITs with other countries, which reflects institutional weakness to facilitate investment. Most of the LDCs have signed a limited number of BITs have signed BITs (i.e. with less than five countries) although some have signed BITs with more than 20 countries. In this context there is scope for signing new BITs with other countries. During the 2000s, the majority of BITs were signed with developed countries, although a number of countries signed BITs with developing countries, particularly African countries. In general, the proportionate distribution of BITs enforced with different categories of countries remains unchanged.

Distribution of BITs, either signed or enforced, shows little relationship between the number of agreements and the flow of FDI in LDCs. Both the number of agreements on avoidance of DTT and their share for developing countries has improved between 2001 and 2011. Island LDCs have signed and enforced a number of DTTs (Annex 10.2). There is a momentum to sign agreements on BITs and DTTs with developed and developing countries with a view to attracting FDI from those destinations. A large number of countries, however, have still not signed an adequate number of treaties with developed and developing countries.

The impact of signing international investment agreements (IIAs) with developed and developing countries is not conclusive. In most cases, FDI originates from a limited number of sources targeting few sectors which are mostly of an enclave nature. It is usually argued that the first generation of IIAs signed by LDCs with developed and developing countries addressed little on development issues such as admission and establishment, employment, the environment, fair and equitable treatment, home country measures, host country operational measures, incentives, social responsibility, transfer of technology and transparency. LDCs, unlike developing countries, are largely recipients of FDI and the development policies of LDCs put the highest emphasis on the eradication of poverty in major economic activities. Such development objectives of LDCs are largely absent in the IIAs signed by LDCs with other countries.

Table 10.16 BITs signed by LDCs

	Until the year	Developed countries	Developing countries	LDCs	Total
Africa	2001	60 (74)	18 (22)	3 (4)	81 (100)
	2011	108 (71)	40 (26)	5 (3)	153 (100)
Asia	2001	28 (53)	24 (45)	1 (2)	53 (100)
	2011	50 (57)	36 (41)	1 (2)	87 (100)
Island LDCs	2001	0 (0)	1 (100)	0 (0)	1 (100)
	2011	1 (50)	1 (50)	0 (0)	2 (100)
LDCs	2001	88 (65)	43 (32)	4 (3)	135 (100)
	2011	159 (66)	77 (32)	6 (2)	242 (100)

Note: Figures in the parenthesis indicate share of respective country groups in total number of BITs signed by in a year.
Source: UNCTAD (2014)

Although services and intellectual property rights are often found in the definitions of investment of IIAs signed by developed and developing countries, there is little reflection of these items in the definitions signed by LDCs. This has happened primarily because of lack of adequate policies, regulations and enforcement of rules in LDCs; there is often flexibility in the case of enforcement of various regulations pertaining to intellectual property rights, and the same is true for liberalisation of services (which is still confined to a limited level of commitment for opening services sectors). Any initiative to include services and Intellectual Property Rights (IPRs) should not go beyond World Trade Organization (WTO) requirements. More importantly, this should happen in tandem with an individual LDC's commitment to the WTO.

The promotion of investment by the home country is considered to be a major instrument for enhancing investment in the host country, especially in the LDCs. BITs signed by LDCs with developed and developing countries do not always have a specific clause on the promotion of investment in the recipient country. Most IIAs signed by LDCs specifically allow full repatriation of profit, dividends and other income. There are situations when LDCs get marginal net FDI flow because of the substantial outward transfer of profit, dividends and other income. An economy with poor capital reserve could face difficulties in view of outward transfers originating from FDI. In the new generation of BITs these issues should be addressed properly in the scope and definition of FDI in LDCs.

According to UNCTAD (2011), home-country measures could facilitate FDI inflow in LDCs. These measures would include provision of 100 per cent or a large percentage (50–80 per cent) of tax credits, rebates or deductions on equity invested by the home-country companies in LDCs against their tax liabilities in their own countries and establishing a special-purpose LDC infrastructure investment fund that would provide equity and debt financing to infrastructure projects in LDCs.

Regarding governance, the track record is positive for the second half of the decade. Various independent anticorruption commissions had been or are being set up. It should be noted, however, that this process is far from complete, the end of serious corruption is far from assured and the whole process continues to be slow and halting (ECOSOC 2009). There are problems as regards implementing institutional reform issues. However, improvement in institutional and regulatory issues has contributed to build better co-operation and responsiveness between public and private sectors.

10.7 Challenges for implementation of FDI-related actions of the IPoA

There are a number of challenges for implementation of IPoA over the next decade. One of the major constraints is lack of binding commitments, both for LDCs and for development partners, to undertake the necessary actions in a time-bound manner. Hence, the actions to be undertaken by LDCs and development partners will be on a voluntary basis. There is no formal institutional arrangement to oversee

the progress of actions to be taken either at home or in host countries. In order to monitor progress, a comprehensive database would have to be maintained and made accessible to all concerned parties to appreciate the progress that has so far been made. A comprehensive database could only be prepared if the relevant data are made accessible for the purpose of monitoring. Without an institutional set-up, such activities could not be done properly.

One of the major challenges with regard to implementation of IPoA will be the extent of IPoA's alignment with the targets to be set in the post-2015 Millenium Development Goal (MDG) agenda. It is thus important to have a proper framework in place for the MDG agenda which will sufficiently reflect the IPoA agenda. While a number of unfinished items on the MDG agenda will be taken into consideration in the new framework, a number of new issues will also be added. FDI-related issues should be addressed properly in the post-2015 MDG framework, particularly its role in helping LDCs to meet their capital constraints and contribute to building up their productive capacity.

It is important to note that all efforts and actions, either to be taken under IPoA or other initiatives, should be pursued in support of graduation of LDCs. Both LDCs and development partners should make an effort with regard to FDI which ensures the ultimate objective of reducing the number of poor countries within the next decade. Financial support from development partners as committed in the IPoA should be provided, ensuring macroeconomic stability in the LDCs.

A major challenge for LDCs will be to attract FDI in productive capacity building. At present a major share of FDI is targeted at resource-extracting industries, and diverting resources from those industries to productive and manufacturing industries will require incentives and support from both LDCs and development partners.

Finally, a post-crisis phase has emerged with a business environment where investment has to bear more risks. Under such circumstances, attracting investment in LDCs on a large scale would not be very easy unless favourable financial instruments for FDI inflow in LDCs are offered to mitigate those risks.

10.8 Conclusion

The commitments made by LDCs and development partners have focused on the strong role of FDI in promoting economic growth and productive capacity building in LDCs, taking into cognizance the limited success achieved under the BPoA. The actions set out in the IPoA would be considered as the 'next set of actions' after the end of BPoA. Although the scope for FDI has narrowed in the IPoA, the agenda for action is more specific and clear than that of BPoA. Within this backdrop, this chapter has suggested that LDCs and development partners play a proactive role in order to attain the targeted actions set out in the IPoA during 2011–20.

Successful implementation of IPoA. There should be a proper institutional arrangement to monitor progress as well as to inform the respective stakeholders in this regard from time to time. In 2011, UNCTAD published a report entitled 'Foreign

Direct Investment in LDCs: Lessons Learned from the Decade 2001–2010 and the Way Forward', which put forward a set of actionable agenda to be implemented in the next decade. Most of these suggestions are entwined with the actions suggested in the IPoA. The latter actions need to be 'demystified' in the form of a specific agenda for both host and home countries.

Innovative incentive measures need to be offered by both LDCs and development partners in order to attract more FDI into LDCs. The possible measures that can be offered to foreign investors are fiscal incentives in the form of reduced corporate taxes, financial support in the form of equity and loans, financial incentives and insurance for the mitigation of risks of investment in LDCs, dissemination of information on potential investors and provision of support in matchmaking.

Set up a 'Global FDI Fund' from the contribution of developed countries to support foreign companies interested in investing in LDCs. This fund could be a good source for foreign investors to raise capital on favourable terms and conditions to invest in LDCs. Foreign investors who are interested in investing in LDCs, particularly in productive capacity building sectors, should get financial support. According to the World Investment Report (2012), sovereign wealth funds (SWFs) bear a significant potential for investment in development, although FDI by SWFs is still relatively small. SWFs can be used for investment in LDCs for projects such as infrastructure, agriculture and industrial development.

Preferential market access in developed and advanced developing countries is essential to attract FDIs in the manufacturing sector of LDCs. A significant improvement of competitiveness is required for LDCs in order to attract large-scale FDI in their manufacturing sector. This will require duty-free market access in developed and advanced countries for all products originating from LDCs, preferential market access under RTAs for major exportable products of LDCs, availability of skilled and unskilled workforces and development of physical infrastructure. Developed and developing countries should encourage their investors to invest in projects related to regional connectivity in Asia and Africa.

Regional investors or investors from the 'South' should have special preferences and incentives. Taking into account the increasing interest of the 'South' as investors, LDCs should go for partnership with the South for easy access to markets, resources and technologies that are available in the developing countries.

IIAs with LDCs should include development issues and concerns of LDCs. Various development issues such as technology transfer, performance requirement, employment generation, home-country measures such as information provision and technical assistance, financial and fiscal incentives, investment insurance and market access regulations need to be included in the IIAs in order to ensure broader gains from the FDI in LDCs. On the other hand, issues such as competition and labour standards need to be less emphasised in the IIAs, as most of the LDCs are not ready for that level.

Development partners and LDCs should negotiate with MNEs for acceleration of investment in LDCs and meeting domestic requirements of LDCs. Development partners should consider cost-sharing partnerships with MNEs investing in LDCs

in order to forge links with domestic firms and increase their willingness to invest in LDCs. LDCs, on the other hand, should negotiate with MNEs for commitments on minimum levels of local sourcing and further processing of primary products, favouring the establishment of joint ventures with local firms, negotiating on minimum levels of employment for nationals, establishing training centres and supporting the development of infrastructure.

FDI should be encouraged in various projects to be carried out under public–private partnership (PPP) in LDCs. Since PPP is being considered a major investment arrangement in many LDCs in order to implement large-scale projects, mainly infrastructure development projects (road, power and energy, port, etc.), developed countries should encourage their private sector to be the 'private' partner in these PPP projects.

Specialised investment and trade mechanisms should be explored for countries facing 'natural constraints' such as landlockedness, small island status and small size of population. Opening and smoothing transit facilities for landlocked countries must be seen as a positive move to overcome such impediments. Small-island states may focus on sectors where large-scale physical infrastructural facilities are not critically important. IT-related investment could be an option for small-island states; allowing free movement of capital (tax haven) may attract FDI. Regional trade agreements that include services, especially movement of natural persons, may create employment scope in different sectors of the region.

A permanent quantitative and qualitative monitoring framework should be set up in all LDCs. This monitoring framework will help to examine the structure and composition of FDI flow to LDCs and to determine country-specific causality and impact between the commitment made and achievements. A binding commitment from development partners as regards FDI flow to LDCs in their preferred sectors may help to predict the possible contribution of FDI in economic and social development of LDCs.

Notes

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2 A number of larger investment projects have been initiated in LDCs, including green field projects, and a number of contracts have been renegotiated such as with mining companies in Zambia.

3 This is a critical problem for many investors in many LDCs. In Tanzania, for example, debts cannot in practice be enforced through the courts because of backlogs, inefficiencies, corruption, and the absence of knowledge and awareness of commercial law in the court system.

4 LDCs were even marginalised in terms of the flow of FDI to the developing countries (it had only a 2.2 per cent share of total FDI flow to developing countries in 2011).

Annex 10.1 IPoA on building productive capacity in LDCs: issues related to FDI

	Joint actions	Action by least developed countries (LDCs)	Action by development partners
Overall	Establish or upgrade quality assurance and standards of products and services to meet international standards	(a) Foster economic activity by promoting, inter alia, economic clusters, removing obstacles to business and prioritising domestic and foreign investments, which increases connectedness; (b) Support the LDCs' efforts to develop a sustainable tourism sector, in particular through infrastructure and human capital development, increased access to finance and enhanced access to global tourism networks and distribution channels; (c) Strengthen programmes for promoting agro-processing industries with value addition as a means to increase agricultural productivity, raise rural incomes and foster stronger linkages between agriculture and industries	(a) Provide enhanced financial and technical support to LDCs to develop productive capacities in line with LDCs' priorities; (b) Support LDCs in diversification and value addition by their firms to effectively participate in the global value chains; (c) Adopt, expand and implement investment promotion regimes, as appropriate, in the form of risk and guarantee schemes and other incentives in favour of their firms seeking to invest in productive capacity development in LDCs.
Infrastructure	Develop and implement comprehensive national infrastructure development and maintenance policies and plans encompassing all modes of transport, communications, energy and ports	(a) Develop modern ICT infrastructure and internet access, including expansion into rural and remote areas, including through mobile broadband and satellite connections;	(a) Provide enhanced financial and technical support for infrastructure development in line with LDCs' sectoral and development needs and priorities and use concessional funds, where appropriate, to catalyse and leverage other sources of funding for infrastructure development and management;

(continued)

Annex 10.1 IPoA on building productive capacity in LDCs: issues related to FDI (continued)

Joint actions	Action by least developed countries (LDCs)	Action by development partners
	(b) Build and expand broadband connectivity, e-networking and e-connectivity in relevant areas, including education, banking, health and governance; (c) Promote public–private partnerships for the development and maintenance of transport and ICT infrastructure and their sustainability; (d) Promote bilateral, sub-regional and regional approaches to improve connectivity by removing infrastructure bottlenecks	(b) Support LDCs' efforts to facilitate the transfer of relevant skills, knowledge and technology for the development of infrastructure on mutually agreed terms; (c) Actively support private sector investment, including through public–private partnerships and grant/loans blending, for infrastructure development and maintenance in communication and multimodal transport such as railways, roads, waterways, warehouses and port facilities;
Energy	(a) Expand power infrastructure and increase capacity for energy generation, especially renewable energy which includes, inter alia, hydro power, geothermal, tidal, solar, wind and biomass energy	(a) Provide enhanced financial and technical support to the LDCs to improve efficiency in the generation, transmission and distribution and the sustainable use of energy resources with the aim of ensuring access to energy for all; (b) Support LDCs' efforts to develop the energy sector in generation, distribution and energy efficiency, including in renewable energy, other clean energy sources and natural gas, inter alia, through financial and technical assistance and by facilitating private sector investment, in accordance with national priorities and needs;

(continued)

Annex 10.1 IPoA on building productive capacity in LDCs: issues related to FDI (continued)

	Joint actions	Action by least developed countries (LDCs)	Action by development partners
			(c) Facilitate the transfer of appropriate and affordable technology on mutually agreed terms and conditions for the development of clean and renewable energy technologies in accordance with relevant international agreements
Science, technology and innovation	Undertake on a priority basis by 2013 a joint gap and capacity analysis with the aim of establishing a technology bank and a science, technology and information supporting mechanism, dedicated to LDCs, which would help improve LDCs' scientific research and innovation base, promote networking among researchers and research institutions, help LDCs to access and utilise critical technologies, and draw together bilateral initiatives, support by multilateral institutions and the private sector, building on the existing international initiatives	(a) Build or expand strategic partnerships with a broad range of actors, including the private sector, universities and other research institutions and foundations, in order to support innovation; (b) Promote investments and engagement in innovative solutions for the development of modern and cost-effective technologies that could be locally adapted, particularly in the fields of agriculture, information and communication, finance, energy, health, water and sanitation and education; (c) Facilitate co-operation and collaboration between research institutions and the private sector, with a view to promoting research and development and innovation in the field of science and technology	

(continued)

Annex 10.1 IPoA on building productive capacity in LDCs: issues related to FDI (continued)

Joint actions	Action by least developed countries (LDCs)	Action by development partners
Private sector development	(a) Continue promoting an enabling environment for private sector development including for small and medium-sized enterprises through a transparent and rule-based regulatory framework (b) Make efforts to promote the availability of financial services, including banking and insurance, to enhance private sector development and investments across sectors	(a) Provide enhanced financial and technical support, and facilitate transfer of technology, on mutually agreed terms to LDCs to remove structural and institutional constraints on the private sector; (b) Support initiatives to strengthen the institutional and managerial capacities and the productivity of small and medium-sized enterprises in LDCs to improve their competitiveness

Annex 10.2 DTTs signed by LDCs

LDCs	DTTs by LDCs			LDCs	Total
	As of the year	Developed countries	Developing countries		
Africa	2001	38 (65.5%)	17 (29.3%)	3 (5.2%)	58
	2011	45 (56.3%)	31 (38.8%)	4 (5%)	80
Asia	2001	20 (46.5%)	23 (53.5%)	0 (0%)	43
	2011	22 (38.5%)	35 (61.4%)	0 (0%)	57
Island	2001	16 (100%)	0 (0%)	0 (0%)	16
	2011	17 (100%)	0 (0%)	0 (0%)	17
Total	2001	74 (63%)	40 (34%)	3 (2.6%)	117
	2011	84 (54%)	66 (42%)	4 (2.5%)	154

Source: Calculation based on international investment agreements, UNCTAD

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Chapter 11

Leveraging Migration and Remittances towards Graduation of the LDCs

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11.1 Introduction

In view of rising migration from the least developed countries (LDCs) in recent years (UNDESA 2012), remittance flows have emerged as a major source of foreign exchange earnings for a number of the LDCs. In appreciation of this, many LDCs have started to reorientate their development strategies by taking into cognisance the potential benefits of both outmigration and the resultant inward remittance flows. This growing role in the economies of the LDCs and the underlying development potentials of migration and remittances were recognised in the Istanbul Programme of Action (IPoA) for the LDCs (UN 2011) and were also reflected in the United Nations Conference on Trade and Development (UNCTAD)'s LDC Report 2012, which stressed the need to harness remittances and diaspora knowledge to build productive capacities in the LDCs (UNCTAD 2012).

This emphasis is a significant departure from the 1990s. Not surprisingly, migration, the role of diaspora or potential benefits of remittance flows to the LDCs did not figure prominently in the Brussels Programme of Action (BPoA) for 2001–10. Remittances were mentioned merely as a source of private external flow directed to households in countries of origin of migrants. In contrast, whilst formulating the IPoA, it was felt that from the perspective of both labour market dynamics and access to financial resources, migration and remittances ought to be given due recognition because of the positive role they could potentially play in the economies of the LDCs. However, IPoA clearly states that remittance flows should not be seen as a substitute for foreign direct investment (FDI), official development assistance (ODA) or other public sources of finance for development. This is important to keep in mind, also because those living in poverty hardly have an opportunity to migrate.

The resilient nature of remittance flows relative to other resource flows (World Bank 2012a), within the backdrop of successive global economic and financial crises of recent times, has further strengthened the case of outmigration and remittances as important variables in the developmental equation. Indeed, inflow of remittances to LDCs had exceeded net FDI flow for the larger part of the last decade to emerge as the second largest source of resources flow after ODA. The LDC Report 2012 mentions that, during 2008–10, remittance flows to 9 of the 37 LDCs for which remittance data are available[2] exceeded both ODA and the FDI inflow (UNCTAD 2012).

Recognising the growing impact of migration and remittances, at both the micro (household) level and the macro (national) level, the IPoA document, under the

section on 'Mobilisation of Financial Resources for Development and Capacity Building', has set out broad targets of lowering the transaction costs of remittances sent by migrant workers to countries of origin (through both banking and non-banking channels) and creating opportunities for the remittances sent by migrants to be deployed in investment-related activities in the countries of origin. In addition, the IPoA has identified two distinct sets of actions, each to be carried out by the LDCs and the development partners respectively. These actions and deliverables include a number of important areas: reduction of sending costs of remittances from host countries to countries of origin; better access to information by migrant workers; reduction of costs of migration; more effective use of skills and knowledge of returnee migrants; safeguarding of migrants' interests in host countries; initiatives towards the introduction of a system of temporary migration from the LDCs; and support to global initiatives in support of migration and remittances concerning the LDCs.

This chapter is divided into six sections. Following the introduction, Section 11.2 provides information relating to developments regarding migration from, and remittance inflows to, the LDCs over recent years. In Section 11.3, based on a review of relevant literature in the context of LDCs, cross-country evidence on the role of outmigration and remittances is presented with some critical comments as regards IPoA targets. Section 11.4 reviews the targets and deliverables of the IPoA and examines why actions by the LDCs and the development partners in this context are of interest and importance to the LDCs. Section 11.5 deals with the issue of monitoring the IPoA deliverables and makes an attempt to identify indicators for each of the deliverables, and the tools that could be deployed for the purposes of monitoring. Section 11.6 presents some concluding remarks.

11.2 Distinctive features of migration from, and remittance flows to, the LDCs

According to World Bank 2012 data, remittance flows to the LDCs rose about four-fold between 2000 and 2010, from USD 6.2 billion to USD 24.5 billion. Following the benchmark year of 2008 (for the purposes of the IPoA), remittances have increased by about USD 7 billion in four years to reach an estimated USD 30.2 billion in 2012. In contrast, remittances rose less than two-fold between 1990 and 2000, increasing from USD 3.4 billion to USD 6.2 billion. Indeed, Melde and Ionesco (2011) point out that the volume of remittance would be actually higher than the data often cited because 11 out of 49 LDCs did not have data on transfers and 13 had incomplete data. Only half of the LDCs had complete data sets on remittance flows. Indeed, the actual remittance flow would be significantly higher since a large part of remittances to LDCs is sent through informal channels (see Section 11.4.2 for more on this).

Whilst rise in remittances was true for all three sub-regions, remittance flow was relatively more important for the Asian LDCs. As Table 11.1 shows, Asian LDCs in particular have seen their share in total remittance inflow rise from 57.8 per cent to 70.5 per cent between 2000 and 2012. Bangladesh was by far the most important player with her share of 45.5 per cent of the total remittance flows to LDCs in 2012, increasing

Table 11.1 Share of groups of LDCs in total remittance flow

Migrant remittance inflows (%)	1990	2000	2006–08 average	2009	2010	2011	2012
Asian LDCs	65.9	57.8	58.5	64.4	66.6	66.7	70.5
of which Bangladesh	*22.4*	*31.7*	*38.1*	*44.8*	*44.3*	*44.3*	*45.5*
Pacific LDCs	1.6	0.6	0.4	0.6	0.6	0.6	0.5
African LDCs and Haiti	32.5	41.6	41.0	35.1	32.8	32.7	29.0
of which Sudan	*1.8*	*10.3*	*11.0*	*9.1*	*5.8*	*5.2*	*4.8*
Senegal	*4.1*	*3.8*	*6.5*	*5.8*	*6.0*	*5.4*	*4.6*
Haiti	*NA*	*9.3*	*6.7*	*5.9*	*6.0*	*5.7*	*5.4*
LDC total	100.0	100.0	100.0	100.0	100.0	100.0	100.0
LDCs as % of world	5.4	4.7	4.6	5.4	5.3	5.3	5.7
(World, USD billion)	(64.2)	(131.4)	(399.6)	(435.1)	(462.3)	(513.3)	(533.5)

Notes: Top 10 remittance recipient LDCs in 2012 (ranging from USD 535 million [Ethiopia] to USD 13.7 billion [Bangladesh]): Bangladesh, Nepal, Haiti, Yemen, Sudan, Senegal, Uganda, Lesotho, Myanmar, Ethiopia.

Data for 2012 are provisional estimates. Latest data (2012) for 13 LDCs are not available. The other nine LDCs have partial data.

Source: Computed from World Bank data, available at:
http://siteresources.worldbank.org/INTPROSPECTS/Resources/334934-1110315015165/RemittancesData_Inflows_Nov12(Public.xlsx)

from 31.7 per cent in 2000.[3] As Table 11.1 shows, following the decline in the LDC share in global remittance flows between 1990 and 2000 (from 5.4 per cent to 4.7 per cent), it started to rise in the next decade, reaching 5.7 per cent in 2012. It is interesting to note here that South–South remittance flows have contributed a sizeable share of the remittance flows to relatively larger LDC recipients such as Bangladesh. Seven of the top ten remittance corridors applicable to the LDCs relate to South–South corridors (UNCTAD 2012). However, what is also important to note is that remittance flows to the LDCs were only USD 30.2 billion in 2012 compared with the global remittance flows of USD 533.5 billion for the same year (representing about 5.7 per cent).[4]

Higher flows of remittance over the past decade were generated within the backdrop of an increasing flow of migrant workers from the LDCs, thanks to a high proportion of young people in many LDCs. About 60 per cent of population in the LDCs are under 25 years of age (UNDESA 2011). Consequently, the propensity for mobility tended to be high in these countries. As a World Bank (2008) study pointed out, in 2005 almost 22 million or 2.9 per cent of the population left an LDC for overseas. However, during and after the global economic and financial crises period, the flow of migrants to the USA, a major traditional destination, as well as to other developed countries, slowed down.[5] Whilst the destination of the overwhelming majority of emigrants from the Asian LDCs was found to be the developing countries, for small Pacific island LDCs the common feature was intra-regional migration. This was also true for African LDCs, where a significant number of migrant workers were destined for countries within the continent. In terms of quality, workers with higher education and professional skills tended to go more to the Organisation for Economic Co-operation and Development (OECD) countries (Docquier and Marfouk 2006; Docquier et al. 2009).

The movement of the female workforce has also gained some momentum in recent times (Table 11.2). This is perhaps due to the emerging demand for domestic and healthcare-related services in many of the developed countries. However, many LDCs have not pursued this opportunity more actively because of various reasons including lack of safety and security (SAMP 2008). Another reason is that, in many low-income countries, women are often less educated and less skilled than their male

Table 11.2 Stock of migrant workers from the LDCs

Regions	Stock of total emigrants ('000)			Female ('000)		
	1990	2000	2010	1990	2000	2010
Asian LDCs	15,743	13,585	15,184	6,825	5,792	6,039
Bangladesh	*5,699*	*5,618*	*6,477*	*2,397*	*2,342*	*2,297*
Pacific LDCs	101	282	205	51	137	100
African LDCs and Haiti	14,009	15,185	16,965	6,395	7,047	7,840
LDC total	29,852	29,052	32,354	13,271	12,976	13,979
World	155,204	178,291	214,199	76,210	88,129	104,850

Note: Top 10 migrant stock LDCs in 2010: Bangladesh, Afghanistan, Burkina Faso, Sudan, Somalia, Myanmar, Haiti, Mozambique, Mali, Democratic Republic of the Congo.
Source: UNDESA (2012)

cohorts. Dedicated programmes need to be undertaken to address the attendant concerns, both at home and in host countries.

The majority of workers from LDCs are unskilled or have low levels of skills and hence their income is also relatively low. This is corroborated by the fact that LDCs account for 15 per cent of global migrant stock but their share in global remittances was only 5.7 per cent. An International Organization for Migration (IOM) survey (IOM 2010) found that annual remittance per migrant worker was only USD 1,672 for Bangladesh whilst the figures for India, China and Philippines were USD 4,843, USD 6,112 and USD 4,982 respectively. The 2010 IOM survey found high correlation between education level and remittances sent by Bangladeshi migrant workers.

Overall, for many LDCs, South–South migration is significantly more important than South–North migration. One in five migrants originating in LDCs went to another LDC, whilst almost half of all emigrants went to another developing country besides the LDC group. Only about one-quarter of LDC migrants went to OECD countries. However, it needs to be pointed out that a large part of South–South migration from LDCs continues to remain undocumented. As information in Table 11.2 shows, in 2010, out of the global stock of 214.2 million migrant workers, 32.4 million (15.1 per cent) were from the LDCs. The structure of the stock shows that about 52.4 per cent of total LDC stock was accounted for by the African LDCs (plus Haiti), whilst the share of Asian LDCs was 46.9 per cent. Reliable estimates of the number of workers who leave LDCs each year for temporary jobs, however, is hard to get and the data in Table 11.2 perhaps do not capture the whole picture.[6]

The importance of remittance for the economies of the LDCs may be appropriately appreciated when this is compared with estimates of gross domestic product (GDP). As Table 11.3 shows, in 2011 remittance flows to the LDCs were equivalent to 4.05 per cent of the GDP for all LDCs; indeed, this was almost double for the Asian LDCs (7.04 per cent; in the case of Bangladesh, this figure was 11.23 per cent).

Table 11.3 Remittance/GDP ratio for various groups of LDCs

LDC groups	Remittances as % equivalent of GDP				
	2000	2006–08 average	2009	2010	2011
Asian LDCs	4.62	7.25	7.86	7.19	7.04
of which Bangladesh	*4.33*	*10.04*	*11.81*	*10.88*	*11.23*
Island LDCs	4.24	3.51	5.20	4.62	4.64
African LDCs and Haiti	2.52	2.51	2.34	2.10	2.17
of which Sudan	*4.89*	*3.62*	*3.24*	*1.79*	*2.58*
Senegal	*4.99*	*10.59*	*10.59*	*11.51*	*10.24*
Haiti	*17.21*	*23.11*	*23.17*	*24.07*	*22.88*
LDC total	3.43	4.08	4.29	4.00	4.05
World	0.41	0.65	0.75	0.73	0.73

Note: GDP figures are taken from UNCTAD database. Data for Myanmar, Djibouti and Somalia (subject to all or different years) are not reported in World Bank database. Most of the 2011 GDP data are provisional estimates.

Source: Calculated from World Bank data

11.3 Remittances and the issue of resource mobilisation in the LDCs

11.3.1 Cross-country evidence

Available evidence indicates that migration and remittances play a crucially important role in the economies of the LDCs – at the macro (national) level and the micro (household) level. It was found that remittance-financed community projects contribute to development of infrastructure in a number of LDCs (Bakewell 2009). In addition, remittances were also found to promote development of the financial sector, one of the key drivers of economic growth (UN-OHRLLS 2010). At the national level, remittance flow replenishes foreign reserves, helps maintain stability of the foreign exchange value of domestic currencies and provides the purchasing power needed to import goods, services, capital machineries and other imports of developmental importance. On the other side, the local currency released against the remittance flows that accrue to the households of migrant workers helps meet their consumption and investment demands. Thus, remittances help stimulate domestic demand. Migration of workers enables LDCs to address the challenge of making available employment opportunities for the millions of young people who join the labour market each year. This is particularly important because domestic labour markets in most of the LDCs tend to be rather tight. In the absence of remittances, many LDCs would have been significantly more dependent on ODA, although, as the IPoA has rightly pointed out, remittance cannot be a substitute for FDI, ODA, debt relief or other public sources of finance for development. The General Assembly of the Economic and Social Council of the United Nations, at its IPoA progress review meeting held in July 2012, acknowledged that the size of remittances is of particular benefit to Asian LDCs, where it outpaced other sources of financing such as ODA and FDI (UN 2012).

A literature survey indicates that migration, as a source of human resource mobilisation, could be important from four perspectives: as a source of financial resource mobilisation; as a source of knowledge and financial capital when migrant workers return to their home country; skilled diaspora as a source of learning and transfer of knowledge through the diaspora knowledge networks (DKNs); and as a source of investible resources, by making use of instruments such as diaspora bonds. However, to realise the full potential of remittance flow, other supportive back-up measures including basic infrastructure are needed. In the absence of these, migrant workers are not able to contribute adequately to the economy of their countries of origin.

The size of emigrant stocks is arguably the most important determinant of remittances (Ratha and Shaw 2007; Freund and Spatafora 2008; Lueth and Ruiz-Arranz 2008; Singh et al. 2011). Freund and Spatafora (2008) reported that recorded remittances depend negatively on transfer costs and the parallel market premium. On the other hand, it is also interesting to note that highly skilled migrants tend to remit a relatively lower share of their income to their countries of origin (Niimi and Ozden 2006; Faini 2007; Adams 2009), although the amount itself was found to be higher. This was the case for countries such as Ghana which had sent relatively more high-skilled workers abroad (Gibson and McKenzie 2010).

The positive multiplier impacts of overseas employment opportunities and remittances sent to the home country have been well documented in the relevant literature. Studies show that migration and remittances have significant positive impacts on economic and social well-being, poverty reduction, nutritional intake, education and health outcomes in the recipient low-income countries (Hildebrandt and McKenzie 2005; World Bank 2006; Melde and Ionesco 2011). Evidence from Latin America, Africa, South Asia and other regions suggests remittances have an impact on reducing poverty and also stimulate economic activity. These gains are achieved through higher consumption, asset acquisition, better schooling of children, investment in productive areas, access to better technology and heightened ability to mitigate temporary shock (Adams 1991; Lachaud 1999; Adams 2006; Fajnzylber and López 2007; Gupta et al. 2007; Ajayi et al. 2009; Anyanwu and Erhijakpor 2010).

A number of studies (Ghosh 2006; Bakewell 2009; Luthria 2009) found that remittances contributed to poverty alleviation by supporting family welfare. Adams and Page (2005), in a study covering developing countries, found that a 10 per cent increase in per capita official international remittances leads to a 3.5 per cent decline in the share of people living in poverty. Ratha and Mohapatra (2007) found that the share of people living in poverty dropped by 11 per cent in Uganda and by 6 per cent in Bangladesh thanks to income complement through remittances.[7] ILO (2004) reported that, in the case of Bangladesh, remittances had a multiplier impact of 3.3 on gross national product (GNP), 2.8 on consumption and 0.4 on investment. A number of studies found a direct positive relationship between remittance flow and human capital formation. Remittances also contributed to achieving fundamental human rights and Millennium Development Goals (MDGs) by improving access to healthcare services and education. Factoring remittance inflows into a workable macroeconomic framework is also likely to improve the credit rating and external debt sustainability of the remittance-receiving country (Abdih et al. 2009; Avendano et al. 2009; IMF 2010; Ratha et al. 2010).

Some authors, on the other hand, have sounded a cautionary note. There are a number of studies which indicate that remittances could have adverse and undesirable impacts: remittance flows to low-income countries could lead to income inequality among people living in poverty (Chami et al. 2005; Capistrano and Sta-Maria 2007);[8] remittance income could have negative impacts on growth and productivity (Ahortor and Adenutsi 2009); and remittances could lead to aggregate economic slowdown because receiving households tend to reduce their labour supply and working hours (OECD 2007). Cross-country analyses in Africa (Anyanwu and Erhijakpor 2010) and in Latin America (Barham and Boucher 1998) indicate that remittance is related to greater income inequality.[9] It has been argued that when professionals and skilled workers migrate it creates important gaps in their country of origin, undermining the cause of structural change that the higher flow of remittances was expected to contribute to in the first place. This 'brain drain' argument is a powerful one, particularly for countries with an acute shortage of skilled and professional workers. The 'Dutch disease' effect originating from high remittance flows has also been noted as a concern (Fajnzylber and López 2007). A consequence of this effect is that it induces a real exchange rate appreciation in the country of origin, which undermines the interests of the exporting

sectors in the economy (Acosta et al. 2009). As Rodrick (2008) argued for developing countries, episodes of undervaluation of local currency are strongly associated with higher economic growth of the country, and vice versa. Thus, enhanced remittance flows, whilst stimulating growth and domestic demand, could also contribute to reduced external competitiveness through appreciation of the local currency.

In spite of the above, the positive developmental impacts of remittances emerge quite unequivocally from the literature. Whilst brain drain remains a concern, particularly for African LDCs, because of underlying economic causes, migration from the LDCs is likely to be difficult to stop. There is a growing recognition that, because of the structural weaknesses and absence of gainful employment, temporary low-skilled migration schemes could present an opportunity for a 'triple-win' situation for migrants, origin countries and destination countries (Melde and Ionesco 2011). There is a general consensus that, overall, the positive contribution of migration and remittances far outweighs the negative effects and that the overall developmental and welfare impacts are positive for the low-income countries.

An important question in the context of the above discourse is whether LDCs should ask that market access be promoted for only selected types of migrant workers. This question arises particularly in view of the argument of 'brain drain', and that migration of skilled workers would work against the cause of structural changes in the LDCs. One could argue, as was mentioned earlier, that high-skilled workers would tend to migrate anyway, on their own, and also because developed countries were keen to attract them. What LDCs should perhaps demand is greater market access for low- and semi-skilled workers, for whom the markets of developed countries have tended to remain highly restrictive until now (more on this in Section 11.4.6).

There is also a need to bring into the discourse the issue of streamlining South–South migration. As a recent study (IOM and ACP Observatory on Migration 2012) points out, because of climate change the propensity for South–South migration could rise in the future. The study notes that the majority of people moving out because of environmental reasons stay within their own country or within the same region. Thus, climate change impacts could add new dimensions to the migration discourse.

However, migration opportunities ought not to be seen as an alternative to pursuing the needed labour market reforms or addressing the labour market failures in the domestic economy.

11.3.2 IPoA, remittances and the gaps

Production of 'reliable' and 'sufficient' data remains problematic, particularly for the majority of the developing and low-income countries. It is only the developed 'high-income' countries that keep records on migration and remittance flows on a regular basis. Thanks to some of the relevant UN agencies, and also under the ambit of some global and regional initiatives, efforts are currently under way to produce at least a set of basic data and information. A common methodology for harmonising a global dataset, on different indicators, is yet to be designed. This is necessary for comparability and analysis. Knowledge sharing and enhanced capacity building for the LDCs in

producing, maintaining and regularly generating relevant data should be given high priority in this regard. IPoA, however, has somewhat overlooked this issue. It is also widely thought that the IPoA targets related to migration and remittances have not put enough emphasis on gender perspectives. Without a good database, to be updated on a regular basis, it will be difficult to monitor any progress as regards IPoA indicators.

International migration should not be seen only as an opportunity to accumulate financial capital; rather, it opens up a space to make it work as a 'development agent'. However, many low-income countries have not been able to integrate migration and remittances into mainstream development policies.[10] As Kelegama (2011) points out, national development and poverty reduction strategies in developing countries have not been able to fully appreciate the potential of migration, and remittances have not been integrated into the mainstream development and planning process. Migration and remittances ought to be considered more than merely as a 'source of mobilisation of finance' but as an instrument of development. These are also avenues for knowledge transfer and generation of new and innovative ideas. Sobhan (2010), for example, has argued for 'collective action' to empower communities of migrants so that these are transformed from vulnerable individuals to a more empowered corporate entity. In a welcome note, the LDC Report 2012 proposed a knowledge-transfer scheme (DKN) with an aim to harness benefits from members of the diaspora for the home country.[11] IPoA provides a useful opportunity to make migration and remittances work for economic development of the LDCs.

11.4 IPoA targets: a critical review of the current situation

11.4.1 Issues related to IPoA targets

The issues of migration and remittances have been put in the IPoA under the section on 'Mobilisation of Financial Resources for Development and Capacity-building'. IPoA mentions two broad goals along with four deliverables by the LDCs and four others by the development partners. Indeed, the IPoA deliverables go beyond the limits of mobilisation of financial resources and involve a number of dimensions concerning regulatory regimes governing migration, rights of migrants in host countries and the responsibilities of both sending and host countries in safeguarding the interests of migrant workers.

The IPoA has set the following broad targets with regard to remittances and the deliverables expected from LDCs and development partners:

Broad targets

- Lower the transaction costs of remittances;
- Create opportunities for development-oriented investment.

Action by least developed countries

- Make efforts to improve access to financial and banking services for easy transaction of remittances;
- Simplify migration procedures to reduce the cost of outward migration;

- Take appropriate measures to better utilise knowledge, skills and earnings of the returning migrants;
- Provide necessary information, as available, to workers seeking foreign employment.

Action by development partners

- Resist unfair and discriminatory treatment of migrant workers and the imposition of unreasonable restrictions on labour migration in order to maximise the benefits of international migration, while complying with the relevant national legislation and applicable international instruments;
- Consider developing, where appropriate and in accordance with domestic laws, a system of short-term migration, including workers from LDCs;
- Remove unnecessary restrictions on outward remittances and support the lowering of transaction costs;
- Consider supporting the LDCs in establishing the International Migrants Remittance Observatory, on a voluntary basis.

11.4.2 Improved financial access and cost of sending remittances

As evidence suggests, the rate charged for sending remittances is almost 30 per cent higher for LDC corridors than remitting to other international corridors. Fees required for remitting money to the LDCs are as high as 12 per cent of the remitted sum, whereas the world average is less than 9 per cent (UNCTAD 2012). However, the amount charged for remitting money generally depends on the amount transferred, traffic density of the corridor, mode of the carrier, accessibility and technological know-how. It should be noted that Asian LDCs tend to enjoy relatively lower remitting costs than African or Pacific LDCs. Sending remittances within Africa costs almost double the amount required to send the same amount between Singapore and Bangladesh (UNCTAD 2012). However, even in Africa, new internet-based initiatives such as International Financial System (IFS), implemented by the Universal Postal Union (UPU), have been able to bring down the cost of remitting money through postal co-operation. Uganda, Tanzania and Kenya have benefited from such an initiative, which started in 2002 but was further strengthened in 2009. Nevertheless, to a large extent, post office staff still continue to serve as agents of the privately owned money transfer operators (MTOs), for which charges are much higher than for Postal Unions under IFS (Lunogelo 2009).

As is well known, official estimates of remittances do not capture payments made through informal or unrecorded channels. There are significant differences across countries as far as transfer channels are concerned. In Mali, Senegal and Uganda, countries that face extremely high transfer costs, the bulk of remittances enter through informal channels. In contrast, Latin America has a relatively small informal sector because the transfer costs are relatively low. One explanation is that MTO-related transaction costs of sending remittances to Latin America have come down sharply since 1995 (Orozco 2003).

It is most likely that the available figures on remittances are significantly underestimated due to unrecorded money sent through informal channels. For some LDCs it is estimated that as much as half of all remittances were sent outside the official banking channels owing to burdensome procedures that involved accessing formal financial instruments, high transfer costs and unfavourable exchange rates (Table 11.4). Gibson et al. (2007) found that remittances sent would rise by 0.22 per cent if costs fell by 1 per cent. Khatri (2008) estimates that South Asian economies could have tapped remittances in the range of USD 100 billion if the major share of incoming remittances could be channelled through a formal mechanism.

In a welcome move, the World Bank, from 2008, started to collect data on the cost of sending remittances. The data are collected for every other quarter (Q1 and Q3) by major host and destination countries, and from major intermediaries providing the services. As the data show, the cost of sending remittances still remains high for migrant workers coming from the LDCs (such as Bangladesh, Senegal and Haiti). There is also considerable volatility from one quarter to the next.

As Figure 11.1 shows, the cost of sending remittances to Bangladesh from some of the key host countries tends to vary significantly across countries. The cost is highest for Malaysia and lowest for Singapore. There are also significant variations across time. For example, the cost of sending remittances from France to Senegal has gone up from 9.3 per cent to 12.3 per cent between 2008 and 2012 (Figure 11.2). As Figure 11.3 indicates, there are also significant variations across time and across host countries when the cost of sending remittances to Haiti is considered.

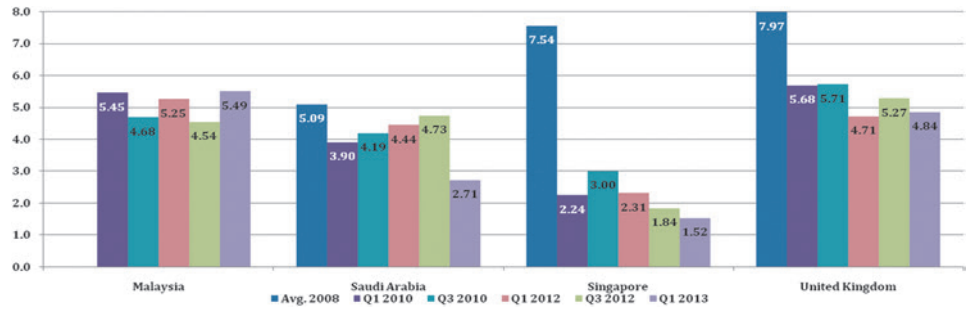
When the cost of sending remittances is analysed in more detail, it is found that variations in transfer charges are also true across the various agencies that are involved in providing the related services, although for the same agency the dispersion across quarterly charges tends not to be very significant. The cost of sending remittances includes two elements: the fees charged by the agents for sending the money and the

Table 11.4 Informal remittance inflows, selected countries

Country	Reporting year	Informal inflow (% of total)
LDCs		
Bangladesh	2003	54
Mali	2004	70
Senegal	2004	70
Uganda	–	80
Lesotho	2005–06	87
Other developing countries		
Armenia	2004	38
Dominican Republic	2000–02	15
El Salvador	1997	20
Guatemala	2004	5
Moldova	2004	47
Philippines	2000	41

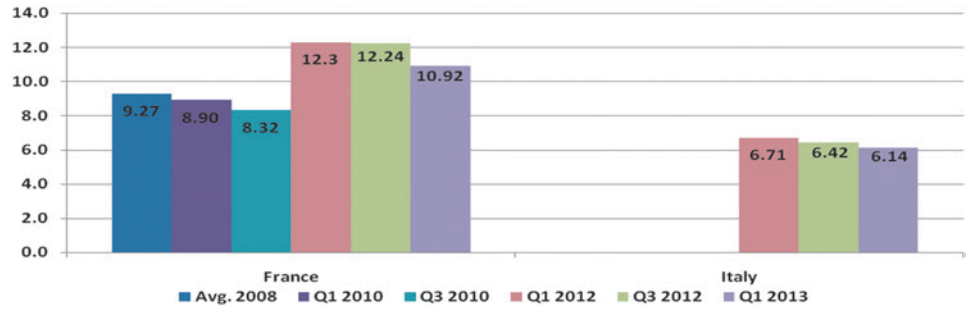
Sources: Freund and Spatafora (2008) and Nalane et al. (2012)

Figure 11.1 Cost of sending remittances to Bangladesh (in % of amount sent)



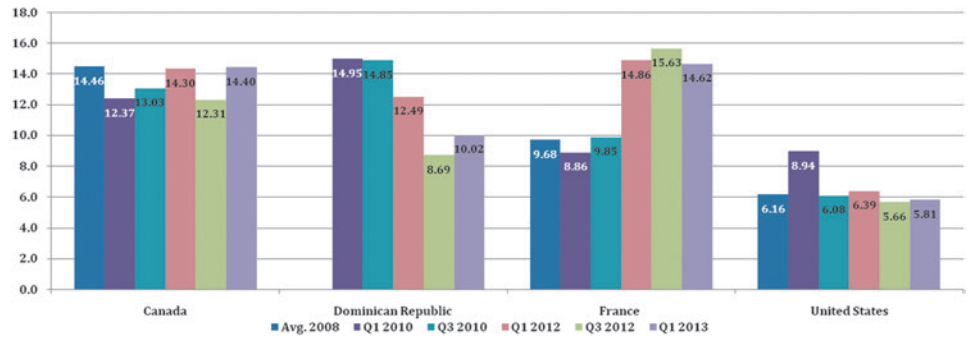
Source: Remittance price data, World Bank, available at: http://remittanceprices.worldbank.org/

Figure 11.2 Cost of sending remittances to Senegal (in % of amount sent)



Source: Remittance price data, World Bank, available at: http://remittanceprices.worldbank.org/

Figure 11.3 Cost of sending remittances to Haiti (in % of amount sent)



Source: Remittance price data, World Bank, available at: http://remittanceprices.worldbank.org/

exchange rate margin (per cent). The first element, i.e. the fee, appears to be relatively stable although, over the past few years since the data started to be generated, the fee charged has seen some increase for certain agents whilst it has come down for others. However, the exchange rate margins charged by the financial institutions tend to be rather high and also show significant fluctuation.[12] In the case of some LDCs, the remitters also face charges in their home countries when sending remittances.

Owing to the lack of a competitive environment, some LDCs are incurring a higher cost of sending remittances, while others suffer from remoteness and inaccessibility. Burdensome compliance and regulatory requirements impede access to financial services to remit money. Lack of technology-based support and remoteness raise the cost of sending remittances significantly for many LDCs. To facilitate migration, Kelegama (2011) particularly emphasises the need for reducing paperwork and argues for use of rapidly spreading mobile phone technology. For example, Kenya launched the innovative idea of M-PESA (meaning mobile cash) in 2007 with a view to remitting cash money using the mobile network. This has been found to be very effective.

11.4.3 Cost of outward migration

Simplification of migration procedures could significantly reduce the cost of outward migration from the LDCs. The 'Colombo process initiative', in its latest publication (as reported in IOM 2011b), found that the cost of outward migration remains significantly high in almost all sending countries despite efforts by some governments to regulate the operations of private recruiters. The report gave this as a 'key challenge'. Some of the authorised recruiters charged fees which went beyond the ceilings set by respective regulatory authorities (when they did so), while fraud and deceit were also common. Most of the LDC migrants are low- or semi-skilled workers coming from rural areas. These migrant workers often have to pay exorbitantly high charges to unscrupulous middlemen. Additionally, because of the cumbersome migration process, some aspiring migrants tend to take recourse to illegal means to travel to host countries in search of jobs. Middlemen take advantage of this and charge higher fees from the migrant workers. This also often raises the cost of migration.

Several studies have drawn attention to the high upfront costs borne by migrants and the significant share of informal sources of finance in this context. A survey (IOM 2010) found that the average upfront cost in the case of Bangladesh, at USD 3,171, was nearly three times higher than the official maximum charge, and that various intermediaries (and other helpers) accounted for about 76 per cent of the total costs incurred by the migrant workers (Table 11.5). Other studies on LDCs indicate a similar picture. For example, Vasuprasat (2008) shows that service charges paid to agencies and other related expenses (documentation, local broker fees, etc.)

Table 11.5 Breakdown of the costs of migration in Bangladesh

Items of costs	Mean expenses (USD)	Percentage
Government fee	25	0.8
Agency	326	10.3
Visa	296	9.3
Ticket fare	78	2.5
Intermediary	1,887	59.5
Other helpers	559	17.6
Mean expenses	3,171	100.0

Source: IOM 2010

accounted for 54.4 per cent of the total cost in Cambodia and 66.9 per cent in Lao People's Democratic Republic.

It is found that charges by private recruitment agents account for a significant part of the cost of migration, especially when low-skilled migrants are concerned (Lucas 2005). Low-skilled migrants, in general, pay more in terms of placement fees relative to their prospective income (IOM 2011c). In India, a joint study by the Public Accounts Foundation and Goa Migration found that low-skilled migrants pay an average of between INR 55,000 (USD 1,200) and INR 64,000 (USD 1,500). Female domestic workers, who typically earn between SGD 200 (USD 134) and SGD 250 (USD 167) a month, pay about SGD 600 (USD 403), or the equivalent of three months' salary, to the recruitment agents to get contracts in Singapore (Kaur 2009). Fees charged, however, also vary depending on the destination country and the recruiting agency. Table 11.6 lists different types of expenditure involved in the process of international labour migration.

In most LDCs, financial intermediation to provide loans to aspiring migrants to cover their pre-departure costs is absent. As a result, it is the informal sources with exorbitantly high interest rates that the workers have to resort to. This has often resulted in very poor households not being able to participate in the migration market. Consequently, in rural areas, as has been the case in Bangladesh, this has resulted in rising income inequality among households.

Institutionalisation of the migration process is a key first step to bring discipline. Regrettably, concerned institutions tend to be weak in LDCs; as a consequence, workers suffer. To tackle the overhead cost burden from the migrants, many countries are now taking various initiatives. Labour-sending and labour-receiving countries re

Table 11.6 Costs associated with outward migration at different stages

Pre-departure	At destination	Upon return
Documentation costs (passports, medical clearance, birth certificates, technical certifications, pre-departure training certificates, etc.) **Recruitment costs** (placement fees paid to recruiters and informal brokers, housing, transportation costs, high-interest loans, air fare, etc.)	**Wage-related costs** (salary deductions, contract substitution) **Cost of living** (accommodation, transportation, food, medical care, etc.) **Cost of keeping in contact with families left behind** (remittance fees, phone bills, etc.)	**Deployment cost** (money migrants pay back to recruiters/ employers should they renege on their contracts, which often includes air fare, unpaid visa fees, etc.) **Forgone benefits** (social security payments, medical benefits, including disability, etc.)

Source: IOM (2011c)

signing Memoranda of Understanding (MoUs), and these are serving as a basis for government to government (G2G) partnership. In a recent move, Bangladesh has signed an MoU with the government of Malaysia to send 35,000 workers in 2013 to that country under G2G arrangements. The Bangladesh government expects to send workers at the low per capita cost of BDT 40,000 only, which is several times lower than those of the informal channels.[13] If countries can negotiate, the travel costs of workers can be shifted to the employer concerned.[14]

11.4.4 Reintegration of returnee migrants

Although the Arab Spring in Middle East and North African countries brought to the fore front the issue of how to deal with returnee migrants and their integration in the domestic economy, this issue is one of a much broader range of developmental significance for LDCs. Migrant workers could return to their home countries in two ways: following a sudden crisis in the host country or as part of the normal process of return after following the expiry of the job contract.

The first relates to crisis management. Examples of forced repatriation are not uncommon, both in the North and in the South. In 2008 alone, the United States deported more than 350,000 immigrants, while the figure for South Africa was 300,000 (UNDP 2009). In 2011, IOM took charge and helped repatriate about 37,000 Bangladeshi nationals from Libya when the civil war broke out in early 2011. There should be institutional mechanisms to cater for any urgent situation, both in host countries and in countries of origin which have large migrant populations abroad. However, the issue of reintegration is much wider and ought to be addressed from a strategic developmental perspective.

For poor households, remittances have a significant impact on income, consumption and savings, which consequently have important implications for poverty alleviation. Migrants tend to save a significant part of their earnings – a World Bank Study (World Bank 2012b) indicates that on average migrants save about 62 per cent of their average income, which is three times the average saving rate in developing countries. This saving is a potential investible resource which could be tapped for various development-oriented activities in LDCs.

Since returnee migrants tend to come to the country of origin with certain acquired skills and also bring their accumulated savings, creating a conducive environment for their reintegration could bring a significant rich dividend to the economies of the LDCs. There is thus a need to take steps to support the returnee migrants through incentives, credit support and institutional and business advisory support. One example that could be cited here is the Probashi Kallyan Bank (PKB), which was set up by the Bangladesh government to facilitate migration, sending of remittances and reintegration of returnee migrants (Box 11.1). Returnee migrants could be an important conduit for technology transfer, transfer of technical know-how and good business practices. Whilst the IPoA doesn't have a quantitative target in this context, successful reintegration of migrant workers should be seen as an important area of policy support by the LDCs.

Box 11.1 Probashi Kallyan Bank: a specialised expatriates' welfare bank in Bangladesh

The Probashi Kallyan Bank (PKB), a specialised bank dedicated to migration affairs, was established in Bangladesh in April 2011 with the aim of facilitating remittance transfer, providing migration loans and expanding opportunities for the returnee workers. It started its journey with paid-up capital amounting to USD 12.5 million, taken from the Wage Earners' Welfare Fund of Bureau of Manpower Employment and Training (BMET). There is a provision to raise the amount to USD 50 million through offering stock shares among expatriate Bangladeshi citizens. The PKB has opened its branches in all divisional headquarters in Bangladesh and also a number of other important cities in the country. PKB provides collateral-free soft loans at 9 per cent interest rate to aspiring migrants; recovery rate until now has been more than 95 per cent. PKB also provides agriculture loans such as poultry loans to returnee migrants. It also helps to channel the remitted amount in a cost-effective manner.

Source: PKB website and interview with bank officials

11.4.5 Providing information help to the outgoing migrants

As the 'Colombo process', a regional consultative process (RCP), has rightly recognised, dissemination of appropriate knowledge and helping the aspirant migrant workers to undertake adequate preparation are crucial to safeguarding the interests of the job seekers in LDCs (read more about the Colombo process in Box 11.2). Because the large majority of the emigrants from LDCs are low- and semi-skilled workers going abroad for mostly lower-end jobs, it is important to address their evident knowledge gap. Since accurate and up-to-date information about the jobs offered in the destination countries is often lacking, conducting pre-departure orientation courses for migrant workers becomes highly important. Providing the aspirant migrant workers with the necessary information about the nature of the job (job matching), the conditionalities involved, the skills required (including linguistic skill), expected wages and salaries is thus crucially important.

Box 11.2 Colombo Process: a promising regional consultative process

Regional consultative processes (RCPs) seek to promote dialogues with multi-level stakeholders, governments, international agencies and non-state actors to achieve the common goals on managing migration-related issues. RCPs tend to be non-binding informal processes. Some of these RCPs are Migration Dialogue for Southern Africa (MIDSA), Inter-governmental Authority on Development – Regional Consultative Process on Migration (IGAD-RCP), Colombo Process

(*continued*)

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(CP), Inter-governmental Asia–Pacific Consultations on Refugees, Displaced Persons and Migrants (APC), Bali Process, Puebla Process, etc. A number of LDCs are involved with these RCPs. The CP, for example, was initiated in 2003 and involves 11 labour-sending countries from Asia. IOM has been providing technical support to the process since its inception.

The CP has come up with a number of recommendations: make agencies jointly liable with employers; develop a code of conduct among agencies; validate contracts at diplomatic posts and provincial and state offices; set up an integrated 'one-stop' services facility; register and accredit employers; use a standard labour contract; ensure skills accreditation or standardisation; create market research units (MRUs) in countries of origin; set up a vigilance task force; and introduce SMART cards for departing migrant workers. For returnee migrants, the CP recommended the provision of preferential access to start-up investments upon return; offering loans for new businesses; support private-sector efforts to provide job-matching services to returnees; and supporting reintegration supporting services that civil society actors could provide. In order to provide information help, the CP argued for the creation of migration information or resource centres; providing information in local languages; providing pre-departure orientation well before migrants make the decision to migrate; including family members in pre-departure orientations; providing financial literacy training; maintaining welfare desks at the departure and arrival lounges of international airports in the home country; monitoring the migrants' workplace; and training labour attachés in migration issues.

Source: IOM (2011b)

Although IPoA does not mention this specifically, it is also important that LDCs provide legal recourse, counselling and grievance redressal and other related services to migrant workers in distress in host countries. The labour wing of LDC diplomatic missions in host countries should also be adequately equipped to provide the necessary services to migrant workers from their respective countries.

11.4.6 Role of development partners

Although migrant workers make a significant contribution to the economies of their respective host countries, they often face harassment and discrimination in work places; often their rights are not safeguarded and sometimes their job contracts are not honoured. Lax regulations and their inadequate enforcement in host countries, and lack of appreciation of the problems faced by the migrant communities, are some of the reasons for this. The supply-side competitive environment also creates opportunities for discrimination.

The IPoA calls upon development partners to resist unfair discriminatory treatment of migrant workers. Through International Labour Organization (ILO) Convention

No. 181/ RecomNo.188, ILO has taken an initiative to regulate private employment agencies internationally, although many countries are yet to ratify it. Some of the other ILO conventions are mandated to provide protection to international workers' rights at work including freedom of association, right to collective bargaining, minimum wages and other means. Signing and ratification of these conventions by host countries will help safeguard the interests of migrant workers. A UN initiative, the 1990 UN International Convention on the Protection of the Rights of All Migrant Workers and Members of their Families (ICMW), is the most comprehensive instrument relating to migrant workers. It came into force in July 2003. Similar to the ILO instruments, it covers the entire migration process. However, only 46 states have ratified the convention until now; interestingly, none of these are major receiving countries (Table 11.7).

Host countries, particularly developing country partners hosting migrant workers, need to be persuaded to sign up to this convention and need to be encouraged to enforce the regulations stipulated under it. These developing-country partners are not directly addressed as 'development partners' in the IPoA. Being labour-scarce countries, they also have mutual interests and share benefits of the supply of labour from the LDCs. Accordingly, the responsibilities of destination countries in the South should be brought under the ambit of relevant migration-related policies. International agencies, civil society groups, online communities and other forums which are closely linked to agendas for migration and remittances, such as Global Commission on International Migration (GCIM), Global Forum of Migration and Development (GFMD) and Global Migration Group (GMG), could play a positive role in this context.

The IPoA calls upon development partners not to impose unreasonable restrictions on labour migration. The action plan urges development partners to consider developing a system of short-term migration, including for workers from the LDCs. Although the addition of the words 'where appropriate and in accordance with domestic laws' somewhat dilutes this call for action, this deliverable at least opens a window for adoption of regulations towards a more structured system of short-term migration. Many of the LDCs are interested in creating a global accord that would allow temporary migration from LDCs to developed countries on the basis of job contracts. Circular migration that allows immigrants to come, go and come back again, with reasonable flexibility, is something that many proponents of easier migration are proposing. Some are arguing in favour of the triple-win argument that promises gains for host countries, home countries and migrants themselves, by means of full circles of migration (Bieckmann and Muskens 2007). However, as it stands at present, the possibility of an accord in this direction is rather remote. Developed countries are likely to, at least for the time being, put emphasis on respective bilateral initiatives. LDCs should pursue active diplomacy to ensure their interests in this context. Aid for Trade (AfT) support, envisaged under the ambit of the World Trade Organization (WTO), needs to be geared towards supporting the IPoA targets in the coming years.

As is known, Mode-4 (movement of natural persons) in the General Agreement in Trade and Services (GATS) of the WTO concerns temporary movement of natural

Table 11.7 International initiatives for protection of workers

International instruments	Date of entry into force	No. of countries ratified
Fundamental labour conventions		
Freedom of Association and Protection of the Right to Organise Convention, 1948 (No. 87)	4 July 1950	152 ratifications
Right to Organise and Collective Bargaining Convention, 1949 (No. 98)	18 July 1951	163 ratifications
Discrimination (Employment and Occupation) Convention, 1958 (No. 111)	15 June 1960	172 ratifications
Related to migrant workers		
Migration for Employment Convention, 1939 (No. 66)	–	0 ratification
Migration for Employment Convention (Revised), 1949 (No. 97)	22 January 1952	49 ratifications
Collective Bargaining Convention, 1981 (No. 154)	11 August 1983	43 ratifications
Migrant Workers (Supplementary Provisions) Convention, 1975 (No. 143)	9 December 1978	23 ratifications
Private Employment Agencies Convention, 1997 (No. 181)	10 May 2000	25 ratifications
UN International Convention on the Protection of the Rights of All Migrant Workers and Members of Their Families (ICMW), 1990	1 July 2003	46 ratifications

Source: ILO website and UN treaties website, accessed 22 January 2013

persons. However, progress in the GATS negotiations has been rather slow. IPoA, however, does not make direct reference to the ongoing services negotiations under GATS Mode-4. This is a major weakness. As is known, at the eighth Ministerial Conference of the WTO in Geneva, it was agreed that a waiver would be given to the LDCs under which services and service providers from LDCs will be accorded preferential treatment by developed and developing country members of the WTO. In order to operationalise this, LDCs will need to identify sectors and modes of their interest. Obviously, Mode-4 is an area of great interest to the LDCs in this context, with key interest being taken in the migration of semi- and low-skilled labour.

Although, as was noted, IPoA does not mention this particular issue, it should be seen as an important area of concern and interest in the context of implementation of the IPoA over the coming years. LDCs will be required to do the needed homework to identify their sectors of interest, take an active part in the negotiations and pursue appropriate follow-up actions to take advantage of the potential benefits.

In view of the high cost of sending remittances to countries of origin, IPoA urges the development partners to undertake steps to lower transaction costs, and also calls upon them to remove restrictions on outward remittances. It will be the responsibility of host countries to initiate the concrete steps needed in this regard. The IPoA calls upon the development partners to consider supporting the LDCs

in establishing the International Migrants Remittances Observatory (IMRO). The IMRO was set up in 2006 in Benin as an outcome of the Ministerial Conference of the LDCs on 'Strengthening the Impact of Remittances on Development'. In 2010, USD 1.3 million was donated by Turkey, Benin and other LDCs in support of the IMRO. The mandate of IMRO is to contribute to dissemination of information on remittances of migrant workers from the LDCs and to reinforce their impact on development.

In 2010, the World Diaspora Fund (WDF) was established by the IMRO in Geneva to secure migrants' remittances for investment in countries of origin and to use these resources for investment in development-oriented activities. There are also examples of issuing diaspora bonds and using these as sources of finance for development. LDCs could design similar initiatives. The IMRO is expected to provide capacity-building support to the LDCs, including in such areas as improving collection of data related to migration and remittances, providing information help to migrants at home and in host countries and helping to build up migrants' awareness. Activities undertaken as part of these initiatives will need to be closely monitored in the context of IPoA deliverables.

11.5 Monitoring the IPoA goals and targets: tools and policies

As was noted earlier, the IPoA mentions one overarching goal and two sets of actions, each of which is to be delivered by the LDCs and the development partners. Only one goal or target of the IPoA has a quantifiable indicator: cost of sending remittance. Fortunately, this can now be monitored with the help of the World Bank database relating to the cost of sending remittances. To monitor the other deliverables by LDCs and development partners, a number of proxy, qualitative indicators will need to be deployed, which will have to be monitored on the basis of outputs of research, country-level studies, case studies, best practices and analysis of the relevant data and information. It is envisaged that the World Bank database on the cost of sending remittances, together with studies carried out by the IOM, ILO and the World Bank (particularly the wing which deals with the website and database on migration and remittance, along with relevant studies), and including the work of the IMRO and RCPs such as the 'Colombo process', will be major avenues for monitoring the IPoA deliverables.

Based on study of the relevant literature, and the outcome documents of various related initiatives, Table 11.8 comes up with a set of monitorable indicators and monitoring tools to assess progress in terms of achieving the IPoA targets. In the coming years, these tools could help assess, in both quantitative and qualitative terms, whether LDCs as well as development partners have been able to undertake the identified actions as envisaged in the IPoA.

Table 11.8 Monitorable indicators and monitoring tools for the IPoA targets

IPoA goals and targets	Monitorable indicators	Monitoring tools
Remittance and development-oriented investment	For remittance: cost of sending remittances	World Bank Data on remittance flow and cost of sending remittance: trend analysis; analysis of sending cost by host and receiving countries and by agencies, both for fees charged and exchange rate charges
	Investment of remitted funds in development-oriented activities	Global studies; country case studies to examine the pattern of investment of remitted funds; dedicated funds, bonds, etc., raised from the diaspora; analysis of impact of remittances on consumption, investment and development; regression exercise
Actions by LDCs		
Improve access to financial and banking services	Cost of migration; access to credit facilities and banking services by aspiring migration workers	Study of relevant country-level data and information relating to LDCs; case studies; country level studies
Simplify outward migration procedures	Indicators articulated in the Colombo Process, including the following: setting up of destination-wise ceiling on fees charged by recruiting agencies; use of standard employment contracts; development of code of conduct among agencies; setting up of integrated one-stop service for migrants to facilitate processing of required paperwork and documents; registration of employers	Analysis of country-level data and information on changes in rules, regulations, procedures relating to outmigration; information emanating from Colombo Process; country studies; case studies

(*continued*)

Table 11.8 Monitorable indicators and monitoring tools for the IPoA targets (continued)

IPoA goals and targets	Monitorable indicators	Monitoring tools
Utilise returning migrants' knowledge, skills and earnings	Registration of returnee migrants; access to credit for setting up business enterprises; matching funds support for returnee migrants	Analysis of relevant country-level data and information on integration of returnee migrants and support accorded to them; country-level studies; research outputs; case studies; GFMD, GCIM and IOM reports
Provide information available for foreign employment seekers	Monitor the indicators for this set out by the Colombo Process, including the following: creation of migration information or resource centres; establishment of 24/7 hotline; decentralisation of migration-related services; opportunities for availing pre-departure orientation and training; use of interest and text messaging system; maintaining departure desk at exit points	Analysis of relevant country-level data and information which is made available to migrant workers; Colombo process documentation; GCIM, ILO and IOM reports; country-level studies; case studies
Actions by development partners		
Resist unfair and discriminatory treatment and imposition of unreasonable restrictions on migrant workers	Ratification of ILO Convention No. 181/ Recom. No.188 with regard to protection of international workers' rights; imposition of new restrictions on migrant workers (if any); phasing out of old restrictions; discriminatory steps against migrant workers	Number of host countries ratifying ILO convention; country-level studies; ILO, IOM and Colombo process outputs
Introduce a system of temporary migration for LDCs	Introduction of rules/ regulations/policies in host countries in support of temporary migration from LDCs; bilateral, regional and global initiatives in support of temporary migration from LDCs	Study of developments in GATS negotiations relating to GATS Mode-4 (movement of natural persons); ILO, IOM and Colombo Process outputs; country-level studies

(*continued*)

Table 11.8 Monitorable indicators and monitoring tools for the IPoA targets (continued)

IPoA goals and targets	Monitorable indicators	Monitoring tools
Support lowering of the remittance transaction cost	Fees and exchange-margin charged by banks and MTOs	Analysis of trends in fees and exchange rate margin (to be carried out on the basis of World Bank database and other appropriate sources)
Consider supporting LDCs in establishing IMRO	Initiatives on the part of development partners in support of the IMRO in the form of technical support and financial assistance	Study of IMRO-related data and information

11.6 Concluding remarks

Mainstreaming migration in national development calls for a comprehensive medium- to long-run strategy that views migration as an important 'labour market' factor and remittances as an important 'domestic resource mobilisation' factor. Addressing these twin tasks requires a workable partnership between the home countries and the host countries. The IPoA has incorporated some of the needed actions in this context; however, other measures are also required that remain outside the ambit of the IPoA. A concerted effort will need to be put in place if migration and remittances are to play the desired role in helping the graduation process of the LDCs. The partnership of LDCs will need to go beyond developed countries, to embrace the developing countries; diaspora from LDCs will need to be more actively involved in the development of LDCs; returnee migrants will need to be effectively integrated in the domestic labour market and entrepreneurial activities in more meaningful ways; remittances will need to be deployed in a more productive manner; and international initiatives in support of migration and remittances will need to be strengthened further. Generation of reliable data will remain important; collating relevant information from diverse sources, and initiatives ought to be given due importance. For example, in some countries, the central bank does not demand disaggregated remittance data from the banks or bureaux de change, though this could be useful for identifying funds remitted by migrant workers overseas (as opposed to consultancy income, tourism income, fees, etc.). The analyses in this chapter have identified absence of quantifiable and time-bound indicators as major weaknesses in the action plan envisaged in the IPoA.

The analyses presented in this chapter indicate that there are significant opportunities to reap rich dividends through targeted interventions in home countries, host countries and the interfaces that involve co-operation at both ends. Imparting the needed skills, keeping in view the emerging demands, reducing pre-departure costs, having better access to knowledge about the migrant market, ensuring security

and rights of migrants in host countries, liberalisation of the global labour market, greater participation of women in the migrant labour market, reduction of costs of remitting money and targeting savings instruments for migrant workers all lead to welfare gains for the migrant workers and will induce development in the LDCs. The analyses have shown that knowledge and skills of returnee migrants and the savings generated from remittances could be important sources for capital accumulation in LDCs – both human and financial. These resources could play an important role in the developmental evolution of the LDCs. The IPoA, by identifying concrete doables on the part of both the LDCs and development partners, has redirected the attention of the global community to a much-neglected area which, however, has high potential in terms of facilitating many of the LDCs in undertaking their journey towards graduation.

Notes

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2 These nine countries are Bangladesh, Haiti, Lesotho, Nepal, Samoa, Senegal, Sudan, Togo and Yemen.

3 Amongst the Asian LDCs, Bangladesh's share was 64.5 per cent and 54.8 per cent respectively for the two points in time.

4 Evidence suggests that a sizeable proportion of remittances sent to developing countries and LDCs are transferred through informal channels. Accordingly, the actual share accrued to LDCs was perhaps higher.

5 Immigration of foreign citizens decreased in the USA by 88,193 persons; in Sweden, by 4,727 persons in 2010; in the UK, by 35,000 persons; and, in Spain, by 222,886 persons in 2009 (IOM 2011a).

6 Indeed, the UNCTAD data show an even lower number. The UNCTAD secretariat has updated the Ratha and Shaw (2007) data for emigrants to provide an estimate of LDC migrants. These data were used for 'The LDC Report 2012'. The number of emigrants from LDCs was reported to be 27.5 million in 2010. That is about 5 million less than (or an 18 per cent deviation from) the estimate of the UNDESA reported in Table 11.2.

7 However, the estimate for Uganda appears to be on the high side. Whilst remittance flow is equivalent to about 11 per cent of GDP for Bangladesh it is about 5.6 per cent for Uganda. The estimate for impact on poverty alleviation thus needs to be further analysed to explore the underlying factors.

8 This happens because the poor households who cannot send workers abroad have relatively less opportunity to augment their income at home.

9 Household income and expenditure surveys conducted in Bangladesh in 2005 and 2010 found that households sending workers abroad and receiving remittances back home were relatively better off than other low-income households that did not or could not send family members to work abroad.

10 It should be noted that the OECD Development Centre is currently working on a project entitled 'Interrelations between public policies, migration and development of partner countries'. The project aims to help developing countries (including LDCs) incorporate the migration dimension into the design and implementation of their development strategies.

11 The pivotal role played by the diaspora following the 2010 earthquake in Haiti highlighted the positive contribution that diaspora could make towards the good of their country of origin.
12 The exchange rate margin is defined by the cost resulting from the percentage difference between the current interbank exchange rate and the actual exchange rate applied to the remittance transfer.
13 The average sum involved in informal channels is BDT 150,000–200,000.
14 As was negotiated by the Bangladesh government with Bahrain.

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Chapter 12

Domestic Resource Mobilisation in the LDCs: Trends, Determinants and Challenges

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12.1 Introduction

Domestic resource mobilisation, broadly, refers to creation of savings from domestic sources and dynamically channelling these resources towards productive investments. It is maintained that the level of domestic resource mobilisation parallels the process of structural transformation of the economies of the least developed countries (LDCs).[2] It is the case that LDCs' domestic resources are inadequate not only for investment, but also for national governance (UNCTAD 2010). The Istanbul Programme of Action (IPoA) lays stress on structural transformation with an aim to reduce acute poverty in the LDCs. Notwithstanding the commendable growth of gross domestic product (GDP) until the advent of the global economic and financial crisis in 2008, LDCs have continued to remain abjectly dependent on foreign savings coupled with limited capacity to mobilise domestic resources for productive investments (UNCTAD 2011). High reliance on external financial resources has limited the policy options for LDCs. The current state of domestic resource mobilisation in the LDCs is yet to shift accountability back to their citizens from their external benefactors, impeding creation of a more stable and legitimate state in the process (UN-OHRLLS 2010). Recent experience of the global economic crisis has revealed that steady domestic resource mobilisation can facilitate a reduction of vulnerability arising from volatile external income (UNCTAD 2007). Issues related to domestic resource mobilisation are also currently being revisited as a number of LDCs with a low tax/GDP ratio are recommended for graduation from the group.[3]

Domestic resource mobilisation has been historically a daunting task for the LDC economies, which are characterised by a low level of per capita GDP and a modest savings rate as well as a narrow tax base along with weak institutions. The average tax/GDP ratio for the LDCs as a group (average for 16 countries)[4] during the period 2000–10 was approximately 10 per cent, which compares unfavourably with the world average for the analogous period (14.69 per cent). The tax/GDP ratio in the LDCs was also lower than that of the lower middle-income countries (12.90 per cent), while being marginally less than that of the low-income countries group (10.79 per cent) during the same period. Thus, it may be safely assumed that for the LDCs to move to a higher income group they would need to raise their domestic savings ratio.

The Brussels Programme of Action (BPoA) and later the IPoA stressed the need to address the factors affecting domestic resource mobilisation in the LDCs

(UN-OHRLLS 2006; United Nations 2011). The IPoA emphasises that 'there is a need for the LDCs to make substantial effort to effectively mobilize domestic resources, build up financial infrastructure and capacities and put in place regulatory measures and institutions' (United Nations 2011: 36). What remains to be observed is how efficiently the LDCs can meet their multiple development finance requirements, particularly through generation of domestic savings and tax revenue in line with the guidance provided in the IPoA.

12.1.1 The Istanbul Programme of Action

Goals and targets in the area of domestic resource mobilisation occupy a place of special significance in the IPoA. The following two specific goals were set out in the IPoA with regard to domestic resource mobilisation:[5]

(i) Enhance the mobilisation of domestic resources, including by raising domestic savings, increasing tax revenue and strengthening institutional capacity, and

(ii) Reduce corruption and increase transparency in all areas (of the bureaucratic system).

As IPoA did not provide any empirical targets in the area of domestic resource mobilisation, the present chapter suggests a number of possible indicators to capture the two specific goals mentioned above. Indicators related to concrete actions envisaged by IPoA regarding the LDC governments have been developed and presented in Annex 12.1, and those for the development partners in Annex 12.2.

12.1.2 Design of the chapter

The major objective of the chapter is to assess the trends in savings and domestic resource mobilisation in the LDCs in the light of the IPoA goals and targets. The focus of the analysis (data permitting) is on the recent past, and particularly since the adoption of the IPoA. In this respect, the chapter seeks to analyse indicators mentioned in Annexes 12.1 and 12.2, so as to trace the progress on implementation of IPoA. Note that this chapter is about domestic resource generation and not utilisation, apart from the issues of public expenditure that affect the mobilisation process (e.g. the issues of tax morale and fiscal legitimacy). It also draws on an econometric analysis to generate policy perspectives on the factors facilitating and/or impeding revenue collection in LDCs. The chapter also explores a pertinent issue affecting tax collection in the LDCs, namely illegal outflow of financial resources.

To serve as a purpose of the chapter, a database was created drawing on the World Development Indicator (WDI) series of the World Bank (2013). While availability of data on LDCs in general is always a challenge, it is more so for tax-related information.[6] The state of data availability also varies across regions, namely Asia and Africa. Moreover, unavailability of up-to-date data has often constrained the present study. In this context, the analysis has addressed the period 2000–2010; information on 2011 has been included wherever data were available. Taking note of the trends in LDC economies, the study uses the global financial crisis period as the benchmark and thus compares the figures for 2006–08 with those of 2009–10. The chosen

benchmark is all the more convenient in that most of the pre-IPoA documents have used 2008 as the terminal year of their analysis. In any case, the present exercise also attempts to generate a regional perspective in terms of the Asian and African LDCs.

The rest of the chapter is organised as follows. To consolidate our understanding of domestic resource mobilisation in the LDCs in the concerned area, Section 12.2 reviews the literature and highlights certain characteristics of LDCs. Section 12.3 presents an analysis of the trends in the savings rate, while the following section (12.4) reviews the trends in LDCs in terms of revenue collection, compositional changes of the revenue intake and related aspects. Section 12.5 concludes by deriving policy perspectives based on the findings of the present study as well as in light of the guidance provided in the IPoA.

12.2 The dynamics of domestic resource mobilisation

Culpeper (2008) defines domestic resource mobilisation as 'the generation of savings from domestic resources and their allocation to socially productive investments'. This objective of domestic resource mobilisation remains unfulfilled in the LDCs due to a host of structural reasons as well as policy and institutional shortcomings. LDCs' domestic resource mobilisation issue is more than that of their unified low-income setback. Many LDCs subsist at the same level of income with varying levels of tax/GDP ratio due to other factors such as difference in institutional capacity to collect taxes. Researchers and analysts have often disagreed on the relative importance of specific factors impeding or promoting domestic resource mobilisation in developing countries in general, and in LDCs in particular. While there is a large body of literature on domestic resource mobilisation in developing countries, there are very few studies specifically addressing this set of issues in the context of LDCs. Arguably, irrespective of the level of development of an economy, domestic resource mobilisation is recognised as one of the founding pillars of self-sustaining development. Hence, mobilisation of domestic resources is essential for the eradication of poverty and economic growth (Wangwe and Charle 2004). In the following paragraphs, an attempt has been made to structure a set of issues concerning tax efforts in LDCs in order to provide context to our empirical analysis.

Savings in LDCs are generally low due to the heightened level of poverty. However, there is hardly any study to empirically establish the link of domestic savings rate to that of revenue collection in the LDCs. The Commission on Growth and Development (2008) stated that 'there is no case of a high investment path not backed up by high domestic savings', in an analysis of 13 high-income countries. Furthermore, savings in the LDCs, which in themselves are meagre in magnitude, cannot be often channelled into productive investment because of severe administrative constraints (Culpeper and Bhushan 2008). However, our analysis suggests, without implying any causality, that shares of domestic savings and revenue collection in the GDP of the LDC economies usually move in the same direction.[7]

Low revenue generation in the LDCs has often been explained by their low level of per capita income and prevalence of widespread poverty. Less than 5 per cent of

citizens pay income tax in low-income countries, compared with 50 per cent in the developed countries (IMF 2011: 31). The prospect for collection of direct taxes in the LDCs is circumscribed by the modest level of wages and profits. But, as others have pointed out, this reflects both the administrative and political weaknesses inclusive of a narrow taxpayer base, poor administrative capacity, exemptions and exclusions (Fjeldstad 2013). Mobilisation of indirect taxes is constrained by the low amount of disposable income and savings. Income tax, on average, accounts for less than 10 per cent of overall tax revenue in the low-income countries, while the figure stands at more than 25 per cent in the Organisation for Economic Co-operation and Development (OECD) countries (Keen 2012). In the LDCs, scope for imposing taxes on government-held assets and facilities is quite limited, and taxes on transactions of assets and services are quite low.[8] Furthermore, raising non-tax revenue in the LDCs has been equally challenging.

Corruption has been affirmed as an impending factor for domestic resource mobilisation by many analysts, including Ghura (1998) and Gupta (2007). In the same vein, Bird et al. (2011) identify a reduction of corruption and improvement of the societal institutions with a 'more legitimate and responsive government' as one of the main responsible factors for promoting domestic resource mobilisation. Conversely, Pessino and Fenochietto (2010) conclude that corruption is a non-significant indicator of tax revenue generation in an analysis of 96 countries. On the other hand, illicit financial flows as a proxy for corruption pose a full-size setback for the LDCs in the form of lost investment opportunities, and consequently loss of potential revenue.

One of the major determinants of low tax revenue generation is the low tax morale in the LDCs. Corruption, poor governance and low tax morale are highly correlated in the developing countries. According to the joint report by the IMF et al. (2011), corruption is associated with lower revenue generation in comparison with other governance indicators such as the rule of law and political instability. The report states that 'causation can run both ways, but the centrality of tax collection as an exercise of state power gives addressing governance issues in tax collection wider importance' (IMF et al. 2011: 11). One could ponder at this point whether a citizen should pay for services that are not provided by the government in reality. Daude and Melguizo (2010) find that citizens in Latin America are three times as likely to justify tax evasion than citizens of the OECD countries. This is because the relationship of citizens with the government is not only a matter of coercion, but also a matter of trust. Torgler (2005) identifies tax burden, lack of honesty and corruption as the reasons for low tax morale in the Latin American region.

A related issue in this connection is that low fiscal legitimacy affects domestic resource mobilisation in the LDCs. Often inefficient utilisation of official development assistance (ODA), high levels of budget deficit and unplanned public expenditure erode fiscal legitimacy in these countries. As the taxpayers are not convinced that money from the taxes would be well spent to their own benefit, fiscal legitimacy will continue to remain low. Santiso and Zoido (2010) studied Latin American countries to find that low fiscal performance and weak democratic governance hinder taxpayers'

trust and confidence greatly. It was further stated that the fiscal system, with non-performing public expenditures and poor democratic legitimacy in these countries, suffers heavily when taxation fails to bridge the gap between the rich and the poor.

It is regularly argued that the developing countries require structural change for achieving inclusive and sustainable development. Ghura (1998) concluded that economic policies play a significant role in sub-Saharan African countries, while, on the other hand, Lin (2012) observed that countries that have been historically poor failed to achieve structural transformation as they were unsuccessful in diversifying away from primary goods, mainly agriculture, into contemporary manufacturing and tertiary activities. Accordingly, opportunity for tax collection is closely linked to an economy's transition from predominantly (subsistence) agricultural to market-oriented non-agricultural activities. In other words, the potential for tax collection increases significantly with the expansion of a formal manufacturing sector and a high-value services sector in the LDC economies. What follows from our discussion is that agriculture is extremely difficult to tax, for a host of reasons.

LDCs face a huge financing gap in their public expenditures due to a lack of satisfactory tax revenue generation. Domestic resource mobilisation has often been considered a 'hard option' for the African nations (Aryeetey 2004). Shortfall in revenue in the face of expanding public expenditures has made the LDCs resort to ODA and other external sources of finance. Thus, it is also contended that easy availability of foreign aid has often diluted the incentives of the LDCs to make stronger efforts to mobilise domestic revenue resources. Thus ODA has been often considered a substitute for domestic taxes in the LDCs (Ghura 1998; Remmer 2004; Gupta et al. 2004), i.e. the 'easier option'.

In this context, slowdown in aid inflow coupled with low utilisation of disbursed aid has left the LDCs with the worst of both worlds – low aid flows and low domestic resource mobilisation. However, one observes in this regard that recently there have been efforts, albeit marginal, to use overseas technical assistance to strengthen national institutional capacity to generate domestic resource.[9]

Financial intermediaries have a major role to play in assembling domestic resources and putting them to productive uses. Weak financial intermediation in the LDCs constrains a firm's productive investment and may manifest in a large amount of excess liquidity in the banking sector, a high lending rate and preference for short-term, risk-free government securities. This is because the channelling mechanisms in LDCs are usually underdeveloped, together with the financial institutions having very high fixed costs and concentrating in the urban areas only. Wangwe and Charle (2004) pointed out that effective financial intermediation would be able to channel the financial resources to productive investment, mobilising domestic resources to pass from economic agents with 'surplus' resources to agents with 'deficit'. It may be recalled that a number of micro-finance institutions in the LDCs, in recent decades, have been allowed to accept savings along with disbursement of loans to small entrepreneurs and household-based activities. Arguably, such institutions do create employment opportunities, but proper regulation of such institutions is important, in order to keep the costs of intermediation at a minimum so as to facilitate mobilisation

of domestic resources. Moreover, domestic savings in low-income countries often take the form of non-financial assets such as livestock, grains and similar goods in the rural areas (Culpeper and Bhushan 2008). Hence, it becomes even more difficult to collect taxes on these assets and their income flow.

A stable financial structure is critical for sustainable growth, without which enhanced savings channelled into productive investment would be ineffective (Sheng and Cho 2002). Interventions by the government in the financial markets of the LDCs, especially in the African LDCs, have exacerbated distortions. However, it is also not quite evident that higher interest can induce greater savings in the LDCs. Thus, efficient financial systems coupled with stronger governance to reduce capital flight would act as the most promising avenue for the availability of domestic resources in the local economy and their effective utilisation towards sustainable growth (Kapoor n.d.).

Macro-prudential and systemic risks play a major role in maintaining financial stability. Although there exists other risks pertaining to specific economies, systemic and prudential risks can be related to almost all the economies as regards stability of the financial sector. Arnold et al. (2012) stated that the identification of systemic risk together with the factors driving the risk is mandatory for achieving macroeconomic stability. An efficient supervisory and regulatory framework would be effective in detecting and managing the risk.

In the search for factors affecting domestic resource mobilisation in the LDCs, Piancastelli (2001) found trade openness to be one of the most pertinent variables underpinning the process of tax collection. Ghura (1998), Begum (2007) and Pessino and Fenochietto (2010) found reduction of import duties to be a significant contributing factor to loss of revenue by the LDCs. However, it is often argued that the total intake from external trade did not fall in real and relative terms as the countries made it up on an enhanced volume of imports, which swelled following trade liberalisation.

With liberalisation of the trade regime and the consequent shortfall in trade taxes, a number of LDCs have either established or enhanced value-added tax (VAT) to compensate for the underperformance of trade taxes. However, questions have been raised about the distributional impact of VAT. Attempts to improve the share of direct taxes (including income taxes) in total revenue often get thwarted, as the LDCs are usually plagued with a poor system of personal tax collection (Gupta 2007). Thus Gemmell (1988) found tax systems in LDCs to exert a greater emphasis on indirect taxes rather than focusing on direct income taxes. It will be a matter of interest to explore the recent trends in the changing composition of the revenue intake in LDCs in our present exercise.

Most low-income countries, especially LDCs, are handicapped with regard to supply capacity because of the lack of skilled human resources together with weak physical infrastructure. The presence of a large informal economy (not necessarily illegal), operating outside the reach of law and other public administration, is considered to be a major obstacle to broadening the tax base and raising taxes in the LDCs

(UN-OHRLLS 2010; Kayaga 2007; ODI and ITAD n.d.). Indeed, rigidity of tax collection from low-income agrarian households is most prominent in the less developed countries (OECD 2010). The informal sector in the LDCs is characterised by absence of sound book-keeping practices, which creates a serious problem for tax assessment. Integration of the informal sector into the mainstream economy of the LDCs would bring a large number of small and medium enterprises under the tax net, and as such may create an opportunity to deliver public policy supports towards them. As a potential solution, in many LDCs, 'turn over tax' or 'capacity tax' is imposed on small and micro enterprises at a flat rate, taking note of their capitalised value or volume of sales. These approaches would also fit in with the efforts to reduce exemptions and to bring more economic activities under tax coverage, and consequently will help to keep the tax rate lower.

Given the below-commitment inflow of ODA to LDCs, questions are being raised about the adequacy of finance for achieving the Millennium Development Goals (MDGs) in this group of countries. Thus, it is contended whether domestic resource mobilisation, achieved through enhanced tax revenue collection, would be the most sustainable and dependable source of funding towards the attainment of the targeted goals (Stijns et al. 2012). The Monterrey Consensus (United Nations 2003) on domestic tax revenue has to emerge as an important component for finance for development, beyond ODA. Indeed, issues related to domestic resource mobilisation are increasingly gaining prominence in the ongoing debates on the post-2015 international development goals.

A greater emphasis on domestic resource mobilisation is also linked to addressing the challenge of debt sustainability, which is a roadblock on the way to economic development in the LDCs (Gupta 2007). The experience of the global financial crisis has made domestic resource mobilisation even more imperative for LDCs. Keeping in view the challenges which are inherent in the LDCs, domestic resource mobilisation appears to be a singularly important strategy under which the LDCs can prosper in the long run.

Finally, the taxation measures and procedures should not be employed and/or amended too frequently and fervently to the extent that they become an ineffective and blunt policy instrument. However, predictability of tax measures is an issue in the LDCs. Ideally, there should be 'simple, predictable, neutral tax systems that will not discourage private enterprise and minimize interference with market signals' (Fjeldstad and Moore 2007: 1). Additionally, improvement of the investment climate and good governance promotion would facilitate domestic resource mobilisation to a great extent (Pfister 2009). It goes without saying that taxation and savings are not only the administrative assignment of respective governments, but also an exercise in power, politics and authority – especially in the LDCs.

12.3 Recent trends in savings rate in the LDCs

As mentioned earlier, the level of savings in a country largely signals its potential for domestic resource mobilisation. Table 12.1 presents the share of gross domestic

savings[10] and gross national savings[11] (as percentages of GDP) of the LDCs for different periods of the last decade, that is 2000–11.[12]

Table 12.1 shows that the gross domestic savings rate (as a percentage of GDP) of the LDCs as a group for the period 2001–10 were 12.73 per cent of GDP. A closer look at the indicator suggests that, during the global economic crisis period (2006–08), it was marginally higher (13.27 per cent) and remained relatively stagnant at 12.36 per cent of GDP in 2009–10. Data for 2011 show that the ratio increased handsomely to 13.13 per cent, largely driven by African LDCs. Indeed, African LDCs[13] had a higher average gross domestic savings rate (17.6 per cent) in the 2000–10 timeframe (which is clearly influenced by the presence of natural resource rent in several countries) than overall LDCs. However, the even healthier domestic savings rate of 24.3 per cent in the 2006–08 period was not resistant to the global shock and decreased to 18.54 per cent in 2009–10. Following the overall LDC trend, the African LDCs also experienced a significant increase in domestic savings in 2011, recording an average of 22 per cent of GDP.

Regarding Asian LDCs, it can be observed that the average domestic savings rate of these LDCs was 14.11 per cent of GDP in 2000–10, lower than the African LDCs but higher than LDCs as a whole. In the face of global financial crisis, the Asian LDCs also experienced a declining savings rate – from 12.63 per cent in 2006–08 to 11.06 per cent in 2009–10 – but this was lesser in magnitude than their African counterparts. However, the Asian LDCs attained an improved domestic savings rate of 11.39 per cent in 2011, which is still lower than the pre-crisis benchmark. What is noteworthy is that gross domestic savings in the Asian LDCs were much healthier in the 2000–05 timeframe in comparison with 2006–10.

Table 12.1 Domestic savings trends in the LDCs

	Gross domestic savings (% of GDP)			
Year	**LDCs[a]**	**LDCs: Africa[b] (*n* = 28)**	**LDCs: Asia[c] (*n* = 7)**	**LDCs: islands[d] (*n* = 3)**
Average 2000–10	12.73	17.60	14.11	N/A
Average 2006–08	13.27	24.30	12.63	–6.15
Average 2009–10	12.36	18.54	11.06	N/A
2011	13.13	22.00	11.39	N/A

Note: *Gross savings are calculated as gross national income less total consumption plus net transfers.

[a] LDCs include 33 African LDCs (including Haiti), 8 Asian LDCs and 8 island LDCs.

[b] African LDCs include Angola, Benin, Burundi, Central African Republic, Chad, Democratic Republic of the Congo, Djibouti, Equatorial Guinea, Eritrea, Ethiopia, Gambia, Guinea, Lesotho, Liberia, Madagascar, Malawi, Mali, Mauritania, Mozambique, Rwanda, Senegal, Sierra Leone, Sudan, Togo, Uganda, United Republic of Tanzania and Zambia. For the analysis in this paper Haiti is included in the African LDCs group (*n* = 28).

[c] Asian LDCs include Afghanistan, Bangladesh, Bhutan, Cambodia, Lao People's Democratic Republic, Nepal and Yemen (*n* = 7).

[d] Island LDCs include Comoros, Solomon Islands, Vanuatu (*n* = 3).

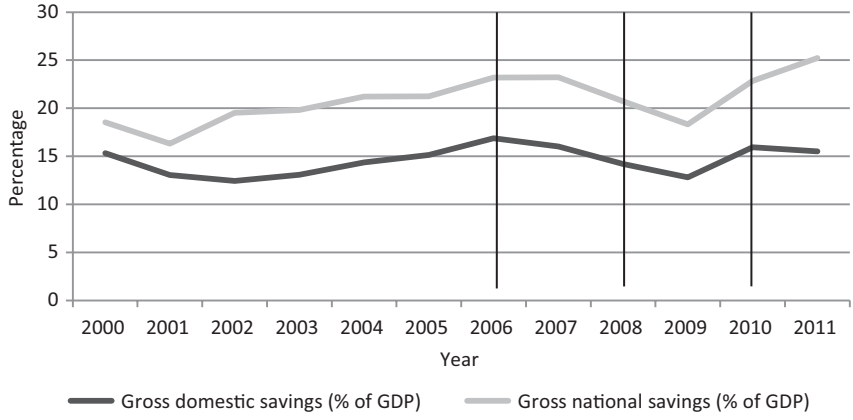
Source: World Development Indicators, World Bank (2013)

The trends described above prompt us to draw the following inferences. First, LDCs as a group, as well as their regional components, experienced a fall in the domestic savings rate following the global financial and economic crisis. Second, this fall has been more pronounced in the African LDCs, largely because of their greater fall in growth and exports in comparison with the Asian LDCs.[14] Third, the LDCs, as well as their regional components, began showing signs of recovery in 2011 in terms of savings rate. However, this recovery is yet to recapture the pre-crisis mark. Figure 12.1 captures the trends of gross domestic savings and national savings (as percentages of GDP) in the LDCs during 2000–11 as a graphical representation, which ascertains the observations made beforehand (the following section discusses national savings).

Table 12.2 also reports trends in gross national savings of the LDCs as a percentage of GDP. LDCs as a group had an average national savings rate of 22.14 per cent during 2000–10. This indicator experienced an increase to 24.19 per cent of GDP in the 2006–08 period, increasing further to 24.46 per cent of GDP in 2009–10. The reason behind the upward movement of the national savings rate in the LDCs in the post-crisis period relates to a robust flow of remittances during the economic global crisis period and thereafter. Remittance flow to the LDCs only experienced a modest dip in 2009, recovering to more than the pre-crisis levels afterwards. It was estimated that remittances would grow by 6.5 per cent in 2012 and by 8 per cent in 2013 (World Bank 2012). Hence, the upward trend of the national savings rate can be expected to grow in the LDCs in the near future notwithstanding the relatively depressed state of the domestic savings rate (UNCTAD 2012).

Incidentally, during 2000–10 the African LDCs' national savings had been an average of 16.91 per cent of their GDP, decreasing to 16.5 per cent of GDP during 2009–10. Given their lower access to global remittance earnings, the national savings rate of the African LDCs had been more in line with the movement of domestic savings rate of these countries, and increased to 20.42 in 2011.

Figure 12.1 Savings trend in the LDCs (2000–11)



Source: Authors' calculation, based on World Development Indicators, World Bank (2013)

Table 12.2 Gross national savings trend in the LDCs

Gross national savings* (% of GDP)				
Year	**LDCs[a]**	**LDCs: Africa[b] (*n* = 23)**	**LDCs: Asia[c] (*n* = 5)**	**LDCs: islands[d] (*n* = 2)**
Average 2000–10	22.14	16.91	27.71	N/A
Average 2006–08	24.19	20.89	28.89	N/A
Average 2009–10	24.46	16.50	29.61	N/A
2011	25.22	20.42	32.96	N/A

Note: *Gross savings are calculated as gross national income less total consumption plus net transfers.

[a] LDCs include 33 African LDCs (including Haiti), 8 Asian LDCs and 8 island LDCs.

[b] African LDCs include Angola, Benin, Burkina Faso, Burundi, Djibouti, Ethiopia, Gambia, Guinea, Lesotho, Liberia, Madagascar, Malawi, Mali, Mozambique, Rwanda, Senegal, Sierra Leone, Sudan, Togo, Uganda, United Republic of Tanzania and Zambia. For the analysis in this paper Haiti is included in the African LDCs group (*n* = 23).

[c] Asian LDCs include Bangladesh, Cambodia, Lao People's Democratic Republic, Nepal and Yemen (*n* = 5).

[d] Island LDCs include Solomon Islands, Vanuatu (*n* = 2).

Source: World Development Indicators, World Bank (2013)

On the other hand, the Asian LDCs showed a persistent increase of their national savings rate throughout the whole of the last decade due to an impressive inflow of remittance earning.[15] While Asian LDCs lagged behind the African LDCs in the case of the gross domestic rate of savings, they surpassed their regional counterpart in the case of national savings rate due to their better access to the global services market. However, both sub-groups of LDCs have recaptured their pre-crisis benchmark in the case of national savings rate, though this is not true for their domestic savings rate.

Illegal capital outflow constitutes a major constraint in the arena of mobilising domestic savings and taxes in the LDCs. The issue of illicit financial flows has been discussed in Box 12.1. Transfer pricing poses a similar vexing problem for the LDC governments. Transfer pricing usually refers to value addition to the transfer of goods and services between parent and subsidy entities (Irish 1986); the LDCs face the difficulty to a greater degree than the developed countries. LDCs are not equipped to deal with the issue of transfer pricing because of their inadequate laws and regulations. Even if an LDC was to develop a framework for monitoring transfer pricing, lack of administrative capacity would hinder the ability of the economy to refrain from illegal transfer pricing activities (McLure 2006).

12.4 Trends in revenue generation[16]

Tax revenue as a share of GDP of LDCs as a group during 2000–10 was 10.18 per cent (Table 12.3). The indicator marginally improved to 10.75 per cent in

Box 12.1 Illicit financial flows from the LDCs

The second goal relating to domestic revenue mobilisation mentioned under Priority Area G in the IPoA calls for reduction of corruption and increase of transparency in order to reduce the illicit capital flows from LDCs. This may be considered as a case in point in this regard.

It is traditionally assumed that capital would flow from a region which has abundant capital to a region which is capital poor. This would generally mean that capital would be flowing from the financially stable developed countries to the less-developed poorer nations. However, historically, there have been a significant number of reverse cases, when one considers natural wealth as a key component of the national capital of a country. In some LDCs, illegal financial outflows arising from transfer pricing are estimated to outpace ODA inflow (Kar 2011; Rahman et al. 2011).

Kar (2011) classified illicit financial flows into three broad categories: macroeconomic, structural and governance related. The macroeconomic issues arise as a result of unmanageable fiscal deficits, inflationary phenomena and overvaluation of the exchange rate. Structural issues contributing to the financial capital outflow include worsening of income inequality, rapid but non-inclusive economic growth, and emergent trade (Rahman et al. 2011). Lastly, the weak state of governance offers the people the opportunity and impetus to evade taxes on their income and/or profits.

Capital flight, in any case, deprives the local economy of a considerable portion of the resources that would otherwise have been employed for development financing. Thus, capital flight undermines domestic investment, ultimately hindering long-term growth. Some of the LDCs, especially those in Africa with very low savings rates, continue to experience massive capital flight. Empirical evidence indicating that sub-Saharan Africa is a 'net creditor' to the rest of the world is quite compelling; the assets held by Africans abroad exceed the liabilities of the Africans to the rest of the world (Boyce and Ndikumana 2001).

UNDP (2011) estimated that illicit financial flows from the LDCs increased from USD 9.7 billion to USD 26.3 billion between 1990 and 2008, recording an inflation-adjusted annual increase of 6.3 per cent. The top ten countries (Bangladesh, Angola, Lesotho, Chad, Yemen, Nepal, Uganda, Myanmar, Ethiopia and Zambia) with respect to capital outflow accounted for 63 per cent of capital outflow from the LDCs, while the top 20 accounted for nearly 83 per cent.

Table 12.B1 gives an indication of the intensity of illicit financial flows from LDCs as a percentage of GDP, exports and taxes in the LDCs. Calculations done for the present chapter are based on numbers reported in Kar and Freitas (2012). Results indicate that illicit financial flows from the LDCs increased from 4.02 per cent of GDP in 2001 to 5.66 per cent of GDP in

(*continued*)

(*continued*)

2010. The overall upward trend is visible, although with some exceptions in 2003, 2004 and 2009. On the other hand, illicit financial flows as a percentage of exports have oscillated from year to year, not giving a clear insight (it may be possible that illicit flows are correlated with commodity prices, and therefore with primary exports). However, it is the case that the ratio has fluctuated between 12 per cent and 18 per cent of exports, which is itself an alarming figure. Considering about one-third of LDCs for the tax percentage calculation, data unavailability becomes prominent when bringing tax into consideration. It can be observed that illicit financial flows as percentage of taxes maintained a steady pattern from 2001 to 2004, increasing in 2005 and 2006, returning to the former pattern in 2007–09, before reaching a staggering 83 per cent in 2010.

Table 12.B1 Illicit financial flows from LDCs in 2001–10

Indicator	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Illicit financial flows as a percentage of GDP[a]	4.02	4.76	4.00	3.61	4.18	4.24	4.54	5.60	4.96	5.66
Illicit financial flows as a percentage of exports[b]	18.30	20.67	16.04	13.01	12.96	12.47	12.77	15.71	18.23	18.30
Illicit financial flows as a percentage of tax[c]	48.07	46.69	42.62	44.65	52.00	57.19	47.71	36.06	44.42	83.02[d]

[a] 40 LDCs have been considered.
[b] 38 LDCs have been considered.
[c] 15 LDCs have been considered.
[d] Outliers are Ethiopia, Cambodia and Nepal.
Source: Calculated from Kar and Freitas (2012)

2006–08, but stagnated at 10.66 per cent in 2009–10. The inability of LDCs to enhance their revenue/GDP ratio may be attributed to the global financial and economic crisis.

Looking at the regional level data, it may be observed that the African LDCs are better performers than their Asian counterparts in terms of tax collection. Average revenue intake of the African LDCs had been 12.1 per cent of GDP during 2000–10, while that of the Asian LDCs stood at 8.57 per cent over the same time period (note that none of the oil-exporting LDCs has been considered in the sample).[17]

Table 12.3 Trends in tax revenue generation in the LDCs[a]

	Tax revenue[b] (% of GDP)		
Year	**LDCs[c] ($n = 16$)**	**LDCs: Africa[d] ($n = 11$)**	**LDCs: Asia[e] ($n = 5$)**
Average 2000–10	10.18	12.10	8.57
Average 2006–08	10.75	12.93	8.74
Average 2009–10	10.66	12.08	9.54

Note: Island LDC data are not available.

[a] Limited information was available on tax revenue for 2011 at the time of the preparation of this report. Nevertheless, the tax revenue percentage for the available countries indicates mixed responses regarding achieving the IPoA goals. Enhancement of the tax ratio was experienced by Burkina Faso, Ethiopia, Sierra Leone, Togo, Uganda, Bangladesh and Lao People's Democratic Republic (representing approximately 50 per cent of the current sample and 28 per cent of overall LDCs' GDP). Hence, a concrete conclusion regarding progression of the tax indicators for LDCs in the years following the IPoA has remained beyond the scope of the current study.

[b] Tax revenue as a percentage of GDP refers to compulsory transfers to the central government for public purposes. Certain compulsory transfers such as fines, penalties and most social security contributions are excluded.

[c] LDCs include the African (11 countries mentioned below) and the Asian LDCs (5 countries).

[d] African LDCs include Benin Burkina Faso, Democratic Republic of the Congo, Ethiopia, Lesotho, Madagascar, Mali, Sierra Leone, Togo, Uganda and Zambia ($n = 11$).

[e] Asian LDCs include Bangladesh, Bhutan, Cambodia, Lao People's Democratic Republic and Nepal ($n = 5$).

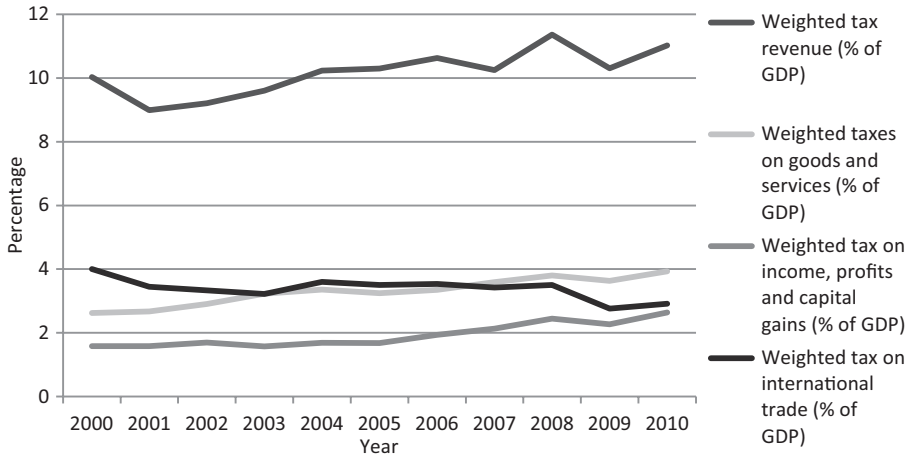
Source: World Development Indicators, World Bank (2013)

The revenue/GDP ratio of the African LDCs increased to 12.93 per cent in 2006–08; the corresponding figure for the Asian LDCs was 8.74 per cent, which was close to the decade average. Nevertheless, the African LDCs[18] were affected to a greater extent by the impact of the financial crisis (and the slump in oil prices that took place in the summer of 2008) as the extent of decrease of the ratio was more, notwithstanding its higher level. Curiously, the tax/GDP ratio of the Asian LDCs was not so much affected by the financial crisis (supporting the hypothesis of fewer oil-exporting countries) as the indicator depicted a gradual increase from 8.74 per cent in 2006–08 to 9.54 per cent in 2009–10, with Lao People's Democratic Republic and Nepal being the more robust performers. One of the reasons for the outsized decline in tax revenue generation in the African LDCs can be explained by the fact that a number of the African LDCs are oil exporters, and the price of oil declined significantly during the financial crisis. Thus, in contrast to the African oil-exporting LDCs (e.g. Angola, Chad, Equatorial Guinea and Sudan), Lesotho, Benin and Zambia were the top tax-revenue grossing countries in the region (although Zambia is a mineral-exporting country).[19] It needs also to be pointed out that both groups of LDCs have been very slowly recovering their lost benchmark of 2006–08 (Figure 12.2 further supports this finding).

12.4.1 Revenue structure

To assess the achievements of the LDCs in terms of their revenue collection, it is important to analyse not only the aggregate level data but also the composition of the

Figure 12.2 Tax revenue trend of the LDCs



Note: Tax revenue is inclusive of other tax categories that are not mentioned in the figure.
Source: Authors' calculation, based on World Development Indicators, World Bank (2013)

revenue intake. Table 12.4 presents the changing structure of the collected taxes in the LDCs in three broad categories: (i) tax on goods and services; (ii) tax on income, profit and gains; and (iii) tax on international trade. Table 12.3 broadly depicts that, while tax on goods and services as a percentage of GDP by and large is holding steady across the LDCs, tax on international trade is decreasing and tax on income, profit and capital gains is increasing. The increasing trend of taxes on income, profits and capital gains reflects a positive indication of the LDCs being able to capture some of the increased resource rents. These trends may be essentially considered as positive changes in revenue composition of the LDCs.

Tax on goods and services (as a percentage of GDP) improved steadily in the LDCs during the period 2000–10, with an average of 3.31 per cent. Table 12.4 shows that there is not much to differentiate between the periods 2006–08 (3.58 per cent) and 2009–10 (3.78 per cent). However, the LDCs experienced a decline in 2009, which can be mainly attributed to the performance of the African LDCs (see Annex 12.6). Indeed, decline in international prices of commodities and the resultant overall performance of the African LDCs contributed towards such a tax performance. Despite the African LDCs' contribution in lowering the overall ratio, both regional components recorded similar movement in terms of their respective share of tax on goods and services in GDP across the three periods identified in Table 12.4. Nevertheless, while the African LDCs kept at a stable level, that is 3.87 per cent of GDP (2006–08) and 3.89 per cent (2009–10), the Asian LDCs marginally improved the relevant indicator from 3.32 per cent of GDP (2006–08) to 3.70 per cent of GDP (2009–10).

A low level of revenue mobilisation from income, profit and capital gains is a common weakness of the tax structure of the LDCs. Table 12.3 lists LDCs' tax on income, profits and capital gains (as a percentage of GDP). Overall direct tax collection from different sources in the LDCs improved by one percentage point during the last

Table 12.4 Changing composition of taxes in the LDCs

Tax on goods and services[a] (% of GDP)			
Year	**LDCs[d] (*n* = 16)**	**LDCs:[d] Africa (*n* = 11)**	**LDCs:[d] Asia (*n* = 5)**
Average 2000–10	3.31	3.55	3.14
Average 2006–08	3.58	3.87	3.32
Average 2009–10	3.78	3.89	3.70
Tax on income, profits and capital gains[b] (% of GDP)			
Year	**LDCs (*n* = 15)**	**LDCs: Africa (*n* = 11)**	**LDCs: Asia (*n* = 4)**
Average 2000–10	1.93	2.45	1.53
Average 2006–08	2.17	2.69	1.68
Average 2009–10	2.45	2.88	2.10
Tax on international trade[c] (% of GDP)			
Year	**LDCs (*n* = 15)**	**LDCs: Africa (*n* = 11)**	**LDCs: Asia (*n* = 4)**
Average 2000–10	3.39	3.82	2.93
Average 2006–08	3.49	4.11	2.89
Average 2009–10	2.84	2.95	2.75

Note: Island LDC data are not available.

[a] Taxes on goods and services include general sales and turnover or VAT, selective excises on goods, selective taxes on services, taxes on the use of goods or property, taxes on extraction and production of minerals, and profits of fiscal monopolies.

[b] Taxes on income, profits and capital gains are levied on the actual or presumptive net income of individuals, on the profits of corporations and enterprises, and on capital gains, whether realised or not, on land, securities and other assets.

[c] Taxes on international trade include import duties, export duties, profits of export or import monopolies, exchange profits and exchange taxes.

[d] Sample countries are similar to those reported in Table 12.3.

Source: World Development Indicators, World Bank (2013)

decade, from 1.58 per cent in 2001 to 2.64 per cent in 2010, recording a decadal average of 1.93 per cent (2000–10). While the aforementioned improvement has been steady for the Asian LDCs, it had been rather volatile for the African LDCs (see Annex 12.7). However, the concerned share can be seen to have improved between 2006–08 and 2009–10 for the LDC group as a whole (2.17 per cent to 2.45 per cent), African LDCs (2.69 per cent to 2.88 per cent) and Asian LDCs (1.68 per cent to 2.10 per cent). Similar to the trend in collection of tax on goods and services, the African LDCs experienced a sharp decline in 2009. Nevertheless, income tax collection as a percentage of GDP for the African LDCs remained higher than that of their Asian counterparts. The LDCs as a group may not have experienced discernible progress in the recent past regarding tax collection, but the ratio remained stable and showed strong resilience in each successive year.

Table 12.4 also reports on tax on international trade (as a percentage of GDP). In contrast to the previously discussed two components displaying resilience and/or

recovery, taxes on international trade declined as a share of GDP for the LDCs as a group. With an average of 3.39 per cent for the period 2000–10, one may notice marginal improvements during 2006–08 (3.49 per cent of GDP), but the indicator of concern decreased during 2009–10 (2.84 per cent of GDP). This trend holds true for both regional components of the LDC group. However, given their dependence on primary commodity trade, the drop for African LDCs had been sharper between 2006–08 (4.11 per cent of GDP) and 2009–10 (2.95 per cent of GDP). Decline in relative dependence on international trade taxes may be considered as a welcome trend in the LDCs, but lower incremental growth in trade taxes also dampens the overall tax/GDP ratio.

In terms of data availability, 2010 was the most up-to-date year. Table 12.5 displays the 'good' and 'below average' performers of the LDCs in terms of tax revenue generation in 2010.

Impetus for tax reforms in the LDCs occurred in the recent past for a host of reasons. One of the primary motives had been to shift from dependence on external assistance to greater financing of development projects by domestically

Table 12.5 Performance of LDCs[a] in the respective tax ratios in 2010

Indicator	Good performers[b]		Below average performers	
	Africa	Asia	Africa	Asia
Tax revenue (% of GDP)	Benin, Democratic Republic of the Congo, Togo and Zambia	Lao PDR and Nepal	Ethiopia and Sierra Leone	Bangladesh
Tax on goods and services (% of revenue)	Benin, Burkina Faso, Mali, Togo and Uganda	Cambodia, Lao PDR and Nepal	Democratic Republic of the Congo and Ethiopia	
Tax on international trade (% of revenue)	Benin, Ethiopia and Togo	Bangladesh and Nepal	Burkina Faso, Mali, Uganda and Zambia	Lao PDR
Tax on income, profits and capital gains (% of revenue)	Sierra Leone, Uganda and Zambia	Bangladesh and Nepal	Democratic Republic of the Congo, Ethiopia and Togo	Cambodia

[a] The countries with available data are Benin, Burkina Faso, Democratic Republic of the Congo, Ethiopia, Sierra Leone, Togo, Uganda, Zambia, Bangladesh, Cambodia, Lao People's Democratic Republic (PDR) and Nepal (out of the 18 countries which have been considered for analysis in Section 12.4 beforehand).

[b] Admittedly, for some countries, a high tax ratio may not necessarily denote 'good' performance as it may have little to do with domestic fiscal capacity. This is particularly true for African countries benefiting from regional revenue-sharing agreements.

Source: Based on data from World Development Indicators, World Bank (2013)

mobilised resources. Addressing a narrow tax base along with high incentive for tax evasion had been one of the main reasons for initiating tax reforms in the LDCs. Fear of high corruption in the government agencies and existence of widespread tax exemptions also led the LDCs into thinking of tax reforms for enhancing tax revenues. The recent global financial and economic crisis (affecting export industries, import duties, global commodity prices and the like) also created a new compulsion to collect taxes (Bhattacharya and Rahman 2009). It has been, for example, mentioned that domestic resource mobilisation in Tanzania was motivated by 'widespread abuse of discretionary exemptions, a large informal sector and non-enforcement of property taxes' (The North–South Institute 2010a: 1). Tax reforms in Uganda were 'directed at rationalizing the tax structure and tax rates, widening the tax base, reducing exemptions and simplifying procedures' (Matovu 2010).

LDCs have continued to undertake assorted reform measures in the recent past. Bangladesh, for example, adopted measures such as introduction of the 'self-assessment system' of personal income tax, use of electronic cash registers and broadening the ambit of the VAT. Other notable measures by the government include streamlining of the customs duty regime, widening the tax base through setting up National Board of Revenue (NBR) offices at the local level, increasing the exemption threshold limit for small and medium enterprises and lowering corporate tax for the financial institutions (Bhattacharya and Rahman 2009). In Tanzania major tax reforms included simplification of the customs tax structure, introduction of VAT and the promulgation of a new Income Tax Act (AfDB 2010). On the other hand, reforms of the tax administration, together with the introduction of VAT and income tax legislation, contributed to the increase in domestic revenue collections in Uganda. Ethiopia, in an effort to restrict capital flight, overhauled the tax system by creating a new agency and paying better remuneration to tax officials, introducing new taxes and tax identification numbers and making efficient use of technology (The North–South Institute 2010b).

AfDB (2011), pointing out the unfinished tax reform agenda in Ethiopia, suggested that the country would need to mobilise its domestic resources through the widening of the tax base, strengthening of the tax administration and financial sector reforms, together with initiation of other non-traditional sources of financing such as public–private partnership (PPP) and diaspora bonds.

12.5 Major messages and policy outlook

The low level of domestic resource mobilisation in LDCs is underpinned by a host of factors including low levels of income, poor financial intermediation, poor 'tax morale' and weak tax collection capacity. Most of these factors are difficult to influence in the medium term. Moreover, domestic savings, national (gross) savings and revenue collections all get affected by the prevailing global economic environment.

LDCs as a group have been brought together because of common structural disadvantages including low income, weak human assets and various economic

vulnerabilities, but they are also quite diverse in terms of their endowments. These diversities have important implications in terms of revenue collection. For example, mineral-exporting LDCs face different dynamics to LDCs that rely heavily on the agricultural sector. In any case, the fact remains that mobilisation of domestic resources is a universal objective that has to be energetically pursued by every LDC without exception. Mobilisation of domestic resources emerges as a common characteristic of the transition towards structural transformation of the LDC economies.

It goes without saying that a number of related issues have to be addressed in the LDCs, which would include strengthened property rights, removal of barriers to investment and creating an enabling regulatory framework. In this context, the IPoA rightly envisioned that the LDCs would need to improve their tax administration capacity and the social rate of return to their investments in order to improve the state of domestic resource mobilisation. Domestic savings have been identified in the IPoA as a prime requisite for investment, both public and private. The target of 7 per cent annual growth of GDP as stipulated in the IPoA critically depends on sustained increase in investment, which in turn depends on a higher rate of domestic savings.

In view of the above discussion, one may summarise the major findings:

(i) Considering the period of the global financial and economic crisis as the benchmark, it may be observed that gross domestic savings (as a percentage of GDP) experienced a decline in 2008 and 2009 across the LDCs. The recovery of the domestic savings rate in 2011 was more significant in the case of Africa than of Asia. However, both regions are yet to recapture their respective pre-crisis benchmark. The overall trend in domestic savings indicates that its ratio has remained at the same level in the last decade (2000–10), although the indicator experienced a lot of volatility in the African LDCs.

(ii) The national savings rate, in comparison with the domestic savings rate, demonstrated healthier trends in the LDCs in the decade starting 2000. However, this trend is more characteristic of the Asian LDCs that have benefited from continually robust inflows of remittances. By 2011, Asian and African LDCs had discernibly surpassed the decade's average national savings rate – this observation is again more true for the Asian LDCs than for the African LDCs. The conduct of the national (gross) savings rate in the LDCs in the recent past highlights the importance of income of the migrant workers of the LDCs in boosting savings rate, and consequently the share of investment in GDP and, therefore, GDP growth. IPoA has also identified the importance of remittances as a major source of finance for development. Issues related to remittance flow in LDCs have been discussed in Chapter 11 of this volume (Rahman and Sadique 2014).

(iii) Revenue generation (as a percentage of GDP) in LDCs has stagnated throughout the last decade (2000–10). Relative volatility of tax collections in African LDCs has possibly been caused by the performance of the oil-exporting economies of

the group. In contrast, the efforts in tax collection in the Asian LDCs have been low (in comparison with their African counterparts) but steady – possibly due to the more pronounced existence of the manufacturing sector in their economies. This implies that the structural transformation of the LDC economies, guided by growth of the non-agricultural production capacity, would lead to a more predictable and resilient tax base. Success of this approach in the LDCs would also depend on whether their higher economic growth leads to creation of new productive capacity, employment and income. There would also be a need to revisit the tax policy, not only to create incentives and provide support to private investments, but also to ensure distributional justice.

(iv) The findings regarding the changing, albeit slowly, composition of the revenue intake in the LDCs may be considered as partly encouraging. The data discussed earlier indicate that the share of international trade is declining in the LDCs over time, while the tax on goods and services has remained steady. What needs to be noted is that taxes on income, profit and capital gains are increasing slowly. This prospect of such gradual changes in the composition of taxes collected in the LDCs may be related to incipient structural changes of the LDC economies which would generate more income-wages and profits, as well as capital transactions (also the commodity price super-cycle in some countries). The commodity price super-cycle experienced by the LDCs in recent years may have also contributed to these emerging changes in composition of collected taxes.

(v) Governments of the LDCs faced with challenges of generating more taxes in view of the fallouts of the global financial and economic crisis and incremental development needs of their countries are undertaking tax-related regulatory and institutional reforms. The results of such reforms remain mixed. However, one has to be mindful of the fact that tax mobilisation in open economies in the LDCs cannot be adequately carried out by the national governments. In other words, international co-operation, beyond capacity building in LDCs, is necessary for the domestic reforms to be a success. For example, promulgation of anti-money-laundering acts in the LDCs is not enough to prevent illegal outflow of financial resources. Collection of lost tax revenues for the LDC government is not possible if the overseas counterparts do not co-operate in bringing back those stolen moneys. Our study has reported secondary evidence regarding the high magnitude of financial haemorrhage systematically experienced by the LDCs. However, we could not locate ready reference to report what amount of stolen money has been returned by the banks in developed countries to the LDCs. Similarly, any relevant changes concerning disclosure practices and transparency by the relevant institutions in the developed countries are yet to be reported (particularly concerning the Financial Secrecy Act).

(vi) The econometric exercise undertaken for the study has indicated that collection of taxes is positively associated with the growth of the non-agricultural sector, and has pointed to the need for structural transformation of the economy. The fact that per capita GDP turns out to be insignificant in both sets of regression

may be explained by the existent low-income levels in the LDCs. The degree of openness shows mixed results, pointing to the need for a balanced integration of the LDCs in the global economy. The fact that corruption does not show up as a significant factor raises the question of whether the constituents of this indicator are fully relevant for LDCs. In any case, the legal index variable has been found to be positive. This tentatively suggests that improved legal and regulatory frameworks and transparent and accountable institutions in the LDCs may help with tax collection. Such conclusions would match with IPoA's guidance regarding the need for improved governance in the LDCs.

(vii) The commitments from the development partners to support LDCs in their efforts to improve tax collection remain inadequate. Their high emphasis on the need for the LDCs to collect more taxes is not often backed up with their support in this area. A somewhat dated figure for technical assistance provided by the development partners in the sector capacity building for revenue mobilisation amounted in 2009 to less than 0.1 per cent of their development assistance (OECD-DAC 2012).

In conclusion, it may be emphasised that mobilisation of domestic resources ultimately depends on the level of political commitment of the respective LDC. Notwithstanding the glimmer of progress, LDCs still have significant progress to make in the domestic revenue mobilisation front. The LDC leaders have to come to terms with the fact that the implementation of IPoA will remain illusive if significant progress is not achieved with respect to domestic resource mobilisation in their countries. What is at stake here is not only savings, investment and growth, but also, and more importantly, public welfare, poverty alleviation and distributive justice.

Annex 12.1 Actions by LDCs with indicators under Priority Area G on domestic resource mobilisation

Actions by LDCs	Proposed indicators
Continue taking measures to create conditions for attracting and sustaining investments and mobilising domestic savings, both public and private	Gross savings rate (as % of GDP), World Development Indicator, World Bank Gross domestic savings (% of GDP), World Development Indicator, World Bank Global Findex, The Global Financial Inclusion Database, World Bank Financial Access Survey, International Monetary Fund
Promote a dynamic, inclusive, well-functioning and socially responsible private sector to contribute towards generating economic activities	Domestic credit to the private sector (as % of GDP), World Development Indicator, World Bank Time required to start a business (days), World Development Indicator, World Bank

(*continued*)

Annex 12.1 Actions by LDCs with indicators under Priority Area G on domestic resource mobilisation (continued)

Actions by LDCs	Proposed indicators
Develop or strengthen, as appropriate, an inclusive, sound and well-regulated financial system to encourage domestic savings and investment, and to improve access of small businesses and the poor and disadvantaged, particularly women and young people, to financial services such as, but not limited to, micro-finance, including micro-credit and micro-insurance	Gross domestic savings rate (% of GDP), World Development Indicator, World Bank Global Findex, The Global Financial Inclusion Database, World Bank Financial Access Survey, International Monetary Fund World Bank Group Enterprise Surveys, World Bank and International Finance Corporation
Continue undertaking necessary fiscal reforms, as appropriate, to build effective, transparent, fair and accountable national tax and financial management systems in LDCs and identify and increase access to new revenue streams and, where appropriate, expand the tax bases	Tax/GDP ratio, taxes on exports (% of tax revenue), World Development Indicator, World Bank Taxes on goods and services rate (% of revenue), World Development Indicator, World Bank Taxes on international trade (% of revenue), World Development Indicator, World Bank
Implement measures to curtail illicit financial flows at all levels, enhance disclosure practices and promote transparency in financial information. In this regard, strengthening national and multinational efforts to address this issue is crucial, including support to LDCs and technical assistance to enhance their capacities. Additional measures should be implemented to prevent the transfer abroad of stolen assets and to assist in the recovery and return of such assets, in particular to their countries of origin, consistent with the United Nations Convention against Corruption	Corruption Perception Index, Transparency International Global Corruption Barometer, Transparency International Amount of illicit financial outflow from LDCs, Financial Integrity Report Amount of illicit transfer from LDCs recovered
Enhance disclosure practices and transparency in both source and destination countries and co-operate in efforts to reduce illicit financial flows, tax evasion and corruption	Corruption Perception Index, Transparency International Global Corruption Barometer, Transparency International

Source: Authors' estimation, based on United Nations (2011)

Annex 12.2 Action by development partners with indicators under Priority Area G on domestic resource mobilisation

Actions by development partners	Proposed indicators
Support LDCs to build capacity in their efforts to raise domestic resources through revenue generation and financial sector reforms, in particular through the building of transparent, accountable and fair national tax and financial management systems	Aid flows to strengthen capacity of tax administrations in LDCs, OECD database
Support LDCs in the development of an efficient, effective, well-functioning and socially responsible private sector and productive capacity, and support LDCs to develop their capacity to benefit from private sector investments, including public–private partnership and venture capital operations, to reduce the resource gap, through the provision of financial, technical and institutional assistance	World Investment Report, UNCTAD Aid for Trade, OECD–DAC database
Eliminate safe havens that create incentives for transfer abroad of stolen assets and illicit financial flows	Various estimates, Global Financial Integrity Report; UNDP Report on Illicit Financial Flows
Assist in the recovery and return of stolen assets to the countries of origin, consistent with the United Nations Convention against Corruption	Implementation of money laundering acts Amount of illicit financial transfer from LDCs recovered
Enhance disclosure practices and transparency in both source and destination countries and co-operate in efforts to reduce illicit financial flows	Financial Secrecy Index, Tax Justice Network

Source: Authors' estimation, based on United Nations (2011)

Annex 12.3 Gross domestic savings (% of GDP)

Year	LDCs	LDCs: Africa ($n = 28$)	LDCs: Asia ($n = 7$)	LDCs: islands ($n = 3$)
2000	13.31	12.06	17.70	–1.73
2001	12.07	11.32	16.47	–5.16
2002	11.90	11.08	16.08	–1.75
2003	12.09	13.60	14.39	4.33
2004	13.12	16.19	15.43	1.88
2005	12.97	19.38	15.08	–2.03
2006	13.76	24.70	14.19	–1.48
2007	13.40	24.36	12.31	3.13
2008	12.65	23.85	11.40	–20.09
2009	11.11	14.87	10.13	–21.10
2010	13.61	22.21	11.99	N/A
2011	13.13	22.00	11.39	N/A

Source: World Development Indicators, World Bank (2013)

Annex 12.4 Gross national savings (% of GDP)

Year	LDCs	LDCs: Africa ($n = 23$)	LDCs: Asia ($n = 5$)
2000	18.32	12.78	25.78
2001	17.42	12.15	24.20
2002	20.35	14.29	26.96
2003	21.02	15.17	26.87
2004	22.52	17.54	27.38
2005	22.36	18.42	27.73
2006	23.70	21.78	29.09
2007	24.42	21.68	28.28
2008	24.45	19.20	29.30
2009	23.22	13.03	29.10
2010	25.70	19.98	30.12
2011		20.42	32.96

Note: Island LDC data are not available.
Source: World Development Indicators, World Bank (2013)

Annex 12.5 Tax revenue (% of GDP)

Year	LDCs ($n = 16$)	LDCs: Africa ($n = 11$)	LDCs: Asia ($n = 5$)
2000	10.03	10.42	8.83
2001	8.99	10.97	7.74
2002	9.21	11.27	7.84
2003	9.61	11.74	8.10
2004	10.23	12.94	8.20
2005	10.30	12.77	8.30
2006	10.63	13.24	8.35
2007	10.25	12.09	8.55
2008	11.36	13.44	9.33
2009	10.30	11.59	9.25
2010	11.02	12.57	9.82

Note: Island LDC data are not available.
Source: World Development Indicators, World Bank (2013)

Annex 12.6 Tax on goods and services (% of GDP)

Year	LDCs ($n = 16$)	LDCs: Africa ($n = 11$)	LDCs: Asia ($n = 5$)
2000	2.63	2.51	3.05
2001	2.68	3.04	2.45
2002	2.90	3.30	2.64
2003	3.23	3.23	3.23
2004	3.36	3.90	2.95
2005	3.25	3.70	2.88
2006	3.35	3.60	3.13
2007	3.60	3.88	3.35
2008	3.80	4.13	3.48
2009	3.64	3.71	3.57
2010	3.93	4.06	3.84

Note: Island LDC data are not available.
Source: World Development Indicators, World Bank (2013)

Annex 12.7 Tax on income, profits and capital gains (% of GDP)

Year	LDCs ($n = 15$)	LDCs: Africa ($n = 11$)	LDCs: Asia ($n = 4$)
2000	1.58	1.55	1.68
2001	1.58	2.24	1.17
2002	1.70	2.45	1.20
2003	1.58	2.22	1.12
2004	1.69	2.35	1.19
2005	1.68	2.28	1.19
2006	1.94	2.55	1.38
2007	2.13	2.59	1.72
2008	2.45	2.94	1.94
2009	2.27	2.53	2.05
2010	2.64	3.23	2.16

Note: Island LDC data are not available.
Source: World Development Indicators, World Bank (2013)

Annex 12.8 Tax on international trade (% of GDP)

Years	LDCs ($n = 15$)	LDCs: Africa ($n = 11$)	LDCs: Asia ($n = 4$)
2000	4.00	4.46	2.59
2001	3.45	3.98	3.11
2002	3.33	3.59	3.16
2003	3.22	3.81	2.80
2004	3.60	4.06	3.25
2005	3.50	3.91	3.18
2006	3.53	4.14	2.98
2007	3.43	4.12	2.80
2008	3.50	4.08	2.90
2009	2.76	2.84	2.69
2010	2.92	3.05	2.81

Note: Island LDC data are not available.
Source: World Development Indicators, World Bank (2013)

Annex 12.9 An investigation into the determinants of tax revenue generation in LDCs

Taxes are levied on earnings and consumption expenditures within various sectors of the economy. Looking at the scenario from a macro perspective, it becomes necessary to understand the relationship between tax revenue generation and other macroeconomic factors within the economy. Structural and economic variables are very common in the tax literature, while political stability and other law and order variables are less common. Thus, the current econometric examination considers economic variables together with the political counterparts influencing the determination of tax revenue. The variables considered are per capita GDP, share of agriculture in GDP, the openness of the economy, external debt/gross national income (GNI) ratio, corruption and legal rights index.

The World Development Indicators (2012) data have been deployed for the present exercise. The period considered for the study is 2000 to 2010. Owing to paucity of data, the panel data has to be limited to 12 LDCs[20] (out of 49). The countries included are Democratic Republic of the Congo, Ethiopia, Lesotho, Madagascar, Mali, Sierra Leone, Uganda, Zambia, Bangladesh, Bhutan, Cambodia and Nepal.[21]

The following regression model is estimated to capture the determinants of tax revenue generation (summarising more detailed analysis in Bhattacharya and Akbar (forthcoming)):

$$TXGDP_{it} = \alpha_0 + \alpha_1 PCGDP_{it} + \alpha_2 AGSGDP_{it} + \alpha_3 OPEN_{it} + \alpha_4 DEBTGNI_{it} + \alpha_5 CORR_{it} + \alpha_6 LEGAL_{it} + \mu_{it} + \varepsilon_{it}$$

where

TXGDP = tax revenue (as a percentage of GDP), excluding grants

PCGDP = per capita GDP (current USD)

AGSGDP = share of agriculture in GDP

OPEN = ratio of sum of exports and imports to that of GDP/openness

DEBTGNI = external debt to GNI ratio

CORR = index of corruption, which ranges from 0 (high) to 10 (low)

LEGAL = strength of the legal rights index, ranging from 0 (low) to 10 (high)

and the μ_{it} captures the between-entity component and the ε_{it} capturing the within-entity component.

With an aim to distinguish between the fixed effect (FE) and the random effect (RE) models, the Hausman test has been carried out. The Hausman test, with the null hypothesis that the unique errors (μ_i) are uncorrelated to the regressors (FE model) against the alternative hypothesis that the μ_i are correlated (RE model), rejects the

Table 12.B2 Regression results for the random effects estimation using generalised least square estimation (132 observations)

Variable	Random effects estimation using GLS		
	Coefficient	*z* value	Significance
Per capita GDP	–0.0040149	–1.35	0.178
Agricultural share in GDP	–0.2940115	–1.63	0.103*
Openness	0.0930.27	1.39	0.165
External debt/GNI ratio	–0.0156104	–1.75	0.079*
Corruption	–0.6949943	–1.12	0.265
Legal rights index	0.6680196	2.47	0.013**
Constant	18.16008	2.17	0.030**

* Represents significance at 10 per cent level; ** represents significance at 5 per cent level; *** represents significance at 1 per cent level

null hypothesis of FE estimation and concludes that the RE model would be more appropriate for the present dataset (probability > $chi^2 = 0.0048$).

On a separate note, the Breusch–Pagan Lagrange multiplier (LM) test has also been carried out to choose between an RE model and an ordinary least squares (OLS) regression. Pooled OLS can be discarded, in general, as individual-specific or time-specific effects prevailing across the countries that might not be captured in the model specification. The LM rejects at the 1 per cent level the null hypothesis that the co-variance across the entities is zero (that is no significance across units) (with a *p*-value lower than 0.0001). The results indicate that the pooled OLS is not a good model for the data series and that the RE model is a better fit for the panel dataset under consideration.

Tables 12.B2 and 12.B3 present the regression results for the generalised least square (GLS) RE and maximum likelihood (ML) RE models. Brumm (2000, 2006, 2011) noted, regarding the implementation of ML when the proxies employed for different macroeconomic indicators are not perfectly accurate measures, that measurement errors arising as a result of this can be addressed with the aid of ML estimation. In addition, Olsson et al. (2000) generated results showing that ML, 'compared to GLS under conditions of misspecification provides more realistic indexes of overall fit and less biased parameter values for paths that overlap with the true model.'

Results from the GLS estimation show that agricultural share in GDP (with an intuitively correct negative coefficient), external debt/GNI ratio (negative coefficient) and the legal rights index (positive coefficient) are significant determinants of tax revenue generation in the LDCs. The findings relating to agricultural share of GDP being negatively related to tax collection are similar to those of Piancastelli (2001) and Pessino and Fenochietto (2010). The external debt/GNI ratio is significant, with a negative sign. What is noteworthy is that the constant term is significant with a positive sign, implying that there exists the problem of omitted variable bias, that is certain other variables have not been included in the model, which affects tax revenue

Table 12.B3 Regression results for the random effects estimation using maximum likelihood estimation

Variable	Random effects estimation using ML		
	Coefficient	*z* value	Significance
Per capita GDP	–0.0069268	–1.48	0.139
Agricultural share in GDP	–0.3224347	–1.87	0.061*
Openness	0.1557941	2.71	0.007***
External debt/GNI ratio	–0.0239195	–1.06	0.290
Corruption	–0.59782	–0.39	0.696
Legal rights index	0.9097489	2.05	0.040**
Constant	14.65599	1.44	0.151

* Represents significance at 10 per cent level; ** represents significance at 5 per cent level; *** represents significance at 1 per cent level

generation. Per capita GDP, openness and corruption are estimated as insignificant[22] in the GLS regression.

On the other hand, results of the ML regression demonstrate agricultural share in GDP (with the correct negative sign), openness (with a positive sign) and legal rights index (positive sign) to be significant. Openness has been found to be significant by other studies including Ghura (1998) and Pessino and Fenocheitto (2010). Variables which have been found to be insignificant in the ML estimation include per capita GDP,[23] external debt/GNI ratio and corruption. Unlike the GLS estimation, the constant is insignificant in the ML estimation. However, it should be noted that the variable per capita GDP enters both regressions with a negative sign. Corruption, found to be insignificant in the study, has been found to be an influential determinant of tax revenue by other authors such as Pessino and Fenochietto (2010) and Ghura (1998). One of the reasons for corruption to be insignificant in the present study could be the source of data; it appears that the level of corruption is not captured completely and carefully in the dataset.

Nevertheless, each of the variables which have been found to be significant in the analysis has essential implications for the economy. Since the agricultural share of GDP is negatively associated with tax revenue generation, it would not be incorrect to state that there is need for structural transformation in the LDCs towards a non-agricultural economy where the ability of the tax authorities to generate a higher sum of tax would be optimised.

The degree of openness, indicating the level of integration of LDC economies in the global economy, also impacts on tax revenue generation. The low-income nations need to opt for higher levels of exports as well as greater access to imported capital machinery and intermediate inputs, as such interactions with the global markets evidently bring in more taxes for the nations. Additionally, the external debt/GNI ratio has been found to impact tax revenue. This would imply that a lower level of external debt would generate higher tax revenue. Although this finding is not intuitive, it cannot be dismissed altogether.

With regard to the legal rights index, it would be safe to state that the laws and regulations that exist with an institutional system help ensure property rights and an enabling environment for investment, leading to enhanced collection of tax revenue generation in the LDCs. The need to strengthen the legal procedures in the LDCs is well recognised; and an advanced and effective legal system not only help the tax authorities to raise more tax revenues, but also assist the taxpayers in addressing their tax-related complaints. Hence, institutional reforms are a necessary pre-requisite to pump up the figures of taxation in the LDCs.

Notes

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2 Domestic savings and per capita income in the LDCs tend to move in the same direction when the data are juxtaposed on one another (more later).
3 The LDC group is classified according to criteria based on income, human assets and economic vulnerability, which can be accessed at: www.un.org/en/development/desa/policy/cdp/ldc/ldc_list.pdf
The LDC group currently includes 33 African LDCs (including Haiti), eight Asian LDCs and eight island LDCs.
4 Data unavailability has constrained inclusion of a larger number of LDCs in the analysis presented.
5 Under Priority Area G, that is mobilising financial resources for development and capacity building (United Nations 2011).
6 WDI is the only data source that has been used for the analysis presented in the current study. This is because there are large variances between data sources. Moreover, definitions also seem to vary from one data source to another.
7 Correlation between gross domestic savings and GDP per capita has been found to be 0.96.
8 The government is expected to collect value-added tax (VAT) as custom duties on its own transactions in order to have a level playing field vis-à-vis the private sector. The government also pays income tax on its earnings from state-owned enterprises.
9 Regarding the impact of ODA on the growth of an economy, Burnside and Dollar (2000) argue that the recipients of ODA are benefited only with the pursuance of excellent policies and that aid as such has no impact on growth. Others (Hansen and Tarp 2000; Easterly et al. 2004) have negated that proposition, and a more recent studies by Rajan and Subramanian (2008) concludes that it is very difficult to discern a systematic effect of aid on growth. Replicating the results of the previous study, Arndt et al. (2009) state that aid has a statistically significant positive relationship with growth in the long run and stimulates investment despite part of the ODA often being dedicated to consumption. Moreover, Bhushan and Samy (2012) focused on the extent to which taxation is affected by aid in the sub-Saharan countries over the time period 1972–2008. Using up-to-date data and controlling for different determinants of taxation, the authors conclude that 'aid has had no significant impact on taxation generally or in sub-Saharan Africa particularly'. The authors go one step further in recommending that foreign aid or external grants could be better targeted in order to increase domestic resource potential in the region.
10 Gross domestic savings are calculated as GDP less final consumption expenditure (total consumption).
11 Gross savings are calculated as gross national income less total consumption, plus net transfers.
12 Year-wise disaggregated data on domestic and national savings rates are presented in Annexes 12.3 and 12.4.
13 The gross domestic savings rate of the oil-exporting African LDCs (Angola, Chad, Equatorial Guinea and Sudan) amounts to a staggering 32.8 per cent, while that of the non-oil-exporting African LDCs stands at 7.9 per cent.
14 For the set of countries considered in the analysis, the average rate of economic growth of the Asian LDCs displays more resilience than that of their African counterparts (in line with the observation of the domestic savings rates).
15 Chapter 11 of this book, by Rahman and Sadique (2014), discusses remittance of the LDCs.
16 The tax ratios – that is overall tax revenue, tax on goods and services, tax on income, profits and capital gains and tax on international trade as percentages of GDP – represent realised tax percentages (and corresponding figures), but not 'tax efforts'. Tax effort is an entirely different measure that tries to incorporate the ability to collect taxes, given the level of economic performance of that country.
17 Data unavailability did not allow a more robust regional level disaggregated analysis.
18 None of the oil-exporting African LDCs is included in the sample (the same goes for the Asian LDCs).
19 Mineral-exporting African LDCs include Burundi, Central African Republic, Democratic Republic of the Congo, Guinea, Mali, Mauritania, Mozambique, Niger, Sierra Leone and Zambia.
20 As mentioned earlier, data unavailability precluded having a large sample.
21 The sample represents approximately 40 per cent of the LDCs (considering GDP as the criteria).
22 It is to be noted that lack of data or multicollinearity could be one of the causes for the insignificance of the assumed determinants.

23 Lack of significance of per capita GDP may be contradictory to other studies suggesting significance for the variable. It should again be clarified that this might be because of the sample itself, which has been constrained due to data unavailability.

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