

Shaping Mauritius' future: Education, Services, and Environmental Protection*

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Despite Mauritius' history of resilience, Jaime de Melo highlights some of the country's fragilities in terms of governance, environmental protection and human capital. In the short-run, he calls on the country to improve its governance by committing to external scrutiny and to resist protectionist winds. In the longer-run, the article highlights three imperatives: 1) a substantial boost in education to enable the country to grab opportunities brought about by the 4th industrial revolution, 2) the development of a services hub for Africa and 3) greater preservation of the environment to reverse the current rapid environmental degradation on the island.

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ELLE COORDONNE LE LABEX IDGM+ QUI L'ASSOCIE AU CERDI ET À L'IDDRI. CETTE PUBLICATION A BÉNÉFICIÉ D'UNE AIDE DE L'ÉTAT FRANÇAIS
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Effective policies, resilience to shocks (cyclones), adaptation to a changing environment (end of rents associated with the Sugar and Multi-fiber agreements) were key to the success of Mauritius' 50-year development path. The outcome was five pillars: sugar, textiles, export-processing zone, tourism and outsourcing. Of these, sugar and textiles have faded away. The other three can be preserved. This note argues that three new pillars, each requiring strong government commitment will be needed:

- Education to preserve the three pillars and to face the 4th. industrial revolution;
- Protecting the environment (land and marine environments);
- Developing a service centre for Africa along the lines of Dubai in the Middle East, Hong Kong in China and Singapore in South East Asia.

► Early resilience to confront the Covid shock

When the Covid pandemic arrived, Mauritius was cruising on a new model of "one tourist visit per Mauritian" every year. An early hard lockdown was thus crucial to stop Covid from spreading. Health-protecting measures were accompanied by substantial fiscal and macro-financial measures to protect wealth¹. Even though the case fatality ratio of 3% did not place Mauritius among the top performers according to this indicator, Mauritius was among a handful of countries that arrested the spread of the pandemic closing the cases in [40 days](#).

The economic situation remains uncertain. For tourist-dependent economies, especially those with a weak health sector like Mauritius (Mauri-

tius has a relatively low score on the [Global Health Security Index](#) even among African countries), it is appropriate to apply the precautionary principle "better safe than sorry". However, since it is highly unlikely that the virus will be "under control" in the next 6-12 months globally, the government cannot expect to have a successful partial re-opening for tourism and business travel under the current strict [14-day confinement in a hotel room](#). With the tourism industry having missed the end-of-year holidays, probabilistic calculations (like those illustrated by [Thomas Pueyo, 2020](#)), that evaluate, along a range of indicators, the travellers' spreading risks need to be carried out now. This would allow the adoption of tailored travel policy for each country.

Relatedly, the Wakashio shipwreck in late July and its aftermath have shown strong collective action support by Mauritians in the clean-up effort, a clear example of resilience. But the event has also exposed the lack of preparedness and competence in protecting the maritime environment. The so-far peaceful, but widespread, [mass protests](#) indicate forcefully that Mauritians are losing confidence in their government. Yet trust is essential for effective crisis management. Once lost, trust is hard to restore as shown by the recent [example of Chile](#).

This commentary focuses on economic measures. In the short-run, committing to external scrutiny would help discipline the government and restore confidence. Resisting covid-related protectionist pressures, evidenced in other countries, would also be crucial. In the longer-run, all countries are facing a paper clip shock ([temporary shock with permanent effects](#)) that is accelerating the pressure to adapt to the twin challenges of the 4th industrial revolution and the degradation of the environment.

1. The Central Bank of Mauritius issued 10% of GDP and earmarked another 13% of GDP in foreign exchange to the government, placing Mauritius at par in June with the [11 per cent average for the G20](#). [Bonardi et al. \(2020\)](#) suggest that governments should provide full support for labour costs but only partial support capital costs through corona loans.

▶ Short-run: restore confidence and resist protectionist pressures

Restore confidence

Health, education, basic research, hard infrastructure are [public goods](#), all with indivisibilities and positive externalities calling for government action. Government financing is, therefore, necessary to ensure adequate supply of these public goods. At the same time, management of government expenditures always requires scrutiny, especially so in this pandemic period of large government support measures. Submitting to external scrutiny should help transparency and build trust. The transparency indicators collected in the [Open Budget Survey](#) every two years for a large number of participating countries help benchmarking the level of a country's transparency in the budget process. Another is the IMF Public Investment Management Assessment ([PIMA](#)) framework. This is a tool for evaluating the results of government investments through peer comparisons. Mauritius could also join the WTO plurilateral [Government Procurement Agreement \(GPA\)](#). Signatories take steps to ensure open, fair and transparent conditions of competition in government procurement.

The Independent Commission Against Corruption (ICAC) should be reformed to make it truly independent. One suggestion is for the Parliamentary Committee that oversees ICAC to be chaired by the Opposition and have a majority of opposition members. ICAC reform jointly with the submission of government expenditures to external scrutiny should help restore trust and transparency.

Resist protectionist pressures

Mauritius is in the club of countries most open to the world for trade in goods and trade in services². Resisting protectionist pressures in times of distress is especially difficult, even in an open

economy, because of the pressure to provide for jobs. However, once in place, protectionist measures are difficult to remove because of pressures by lobbies to maintain them. Since the start of the pandemic, the rupee has depreciated approximately 20%. This is a boost for Mauritian exports, but it is also a boost for import-competing activities equivalent to a 20% tariff. For a small economy like Mauritius where dominant positions can develop easily, an economy open to foreign competition by low tariffs is the most effective anti-trust policy (or [competition policy](#)) to protect the interests of the consumers. In the current tariff-free economy, the threat of competition from imports (known as the 'import-discipline' hypothesis in the economics literature) is the best anti-trust policy.

▶ Long-run: Three new pillars, education, a service centre and the environment

Education

Twenty years ago, human capital was already signalled as 'the marginal' contributor to the Mauritian miracle³. More recent comparisons confirm this diagnostic⁴. Subsequent structural change over the period 2001-2015 exacerbated this diagnostic through an expansion in the relative demand for highly educated labour outpacing the expansion in relative supply. The outcome was an increase in household income inequality over 2001-2015, notwithstanding large increases in public transfers to the bottom quintile of households⁵.

3. Bunwaree, S (2001) "The Marginal in the Miracle: Human Capital in Mauritius", *International Journal of Educational Development*, 21(3), 257-71.

4. Grigoli (2014) finds that Mauritius lags behind many peers in efficiency of education expenditure, ranked 48th out of 89 developing countries behind, inter alia Barbados, Botswana, Cabo Verde, Fiji, Jamaica, Samoa, Seychelles, Saint Lucia and Tonga. Grigoli, Francesco (2014) "A Hybrid Approach to Estimating the Efficiency of Public Spending on Education in Emerging and Developing Economies", IMF Working Paper WP/14/19, 2014.

5. Public transfers have risen steadily over the last 20 years to counteract the increasing wage inequality ([World Bank, 2017, figure 1.7](#)).

2. Mauritius is among the top five countries with the lowest average applied tariff ([here](#)).

This growing shortage of high-skill labour was exacerbated by the advent of the Information and Communication Technologies (ICT). Progressively ‘telemigration’ took hold, with workers in one country working for offices in another country, like the call centres in Mauritius. Emerging technologies (advanced robotics, artificial intelligence, internet of things) were already on their way when the Covid pandemic accelerated this transition⁶. Now, white-collar robots-software perform functions, like those in call centres, traditionally accomplished by humans. This is a sudden new challenge for many jobs in the services industries. With fewer activities relying on face-to-face contacts, offices will become redundant, hence we can expect a slowdown in construction activity⁷.

This accelerating change in demand for skill presents both a hardware and a software challenge for Mauritius. On the hardware side, access to performing ICT technologies will be necessary. Here Mauritius, as the sixth country in the world with 100% Fiber To The Home is well prepared. Education is the software side of this challenge. Here Mauritius needs a big push. Currently, the share of education expenditures in GDP is around 5% (about the average for the OECD), but there are no indicators of ICT skills. Neither are indicators of preparedness available on a comparative basis. Education outcomes need to be monitored and improved.

Notwithstanding the announcement of further fiscal incentives in the 2020 budget speech to attract foreign institutions to establish campuses

in the country, Mauritius will have to improve its higher-education outcomes if it is to be ready to face and take advantage of emerging technologies. The top University in Mauritius ranks 77 out of the top 200 universities in Africa. The first step, however, is improving education outcomes at the high-school level⁸. Here too, submitting to external scrutiny by participating with 77 other countries in the regularly administered OECD PISA tests would be a good yardstick to monitor progress.

Service Centre for Africa

Drawing on its geographic location, solid infrastructure and ethnic diversity, improved educational outcomes would lay the ground for Mauritius to become the prime service centre for Africa. It could contribute to the development of the continent by offering a range of business services and logistics. In addition to the type of services offered by Dubai, Hong Kong and Singapore, Mauritius can export its social model as an alternative to the investment by China and by multinationals. The Mauritius social model includes making workers and farmers into shareholders as well as the provision of free primary healthcare and education, and a rudimentary social safety net.

The Environment

According to UN Environmental Programme (UNEP) data, Mauritius has failed to protect both its land and its marine environment⁹. Millennium Development Goals (MDG) targets for water usage and per capita CO₂ emissions have been off-target ([see Government of Mauritius, 2011](#),

6. Many observers describe ICT as the third industrial revolution. Baldwin (2018) calls this new industrialization phase combining telemigration with robotics, ‘globotics’. Baldwin, R. (2019) *The Globotics Upheaval: Globalization, Robotics and the Future of Work*.

7. Dingel and Neiman (2020) estimate that 35% of US jobs can be performed at home. For a sample of developing countries, Saltiel (2020) estimates it in the range 5.5% (Ghana) to 23% (Yunnan, China) so 20%, would be a ballpark estimate for Mauritius. Dingel, J. and B. Neiman (2020) “Who Can Work at Home”, Covid Economics, vol. 1. Saltiel, f. (2020) « Who can Work from Home in Developing Countries”, Covid-Economics issue 6.

8. Based on UNESCO data, Bunwaree (2001, table 1) documents that Mauritius was lagging Bangladesh, Indonesia and other Asian countries in the enrollment rates in technical fields.

9. Target 11 of the convention on biological diversity calls for at least 17% of land and 10% of coastal and marine areas to be conserved by 2020. On protecting Land areas, [Mauritius ranks 158 out of 192](#). On marine areas, the table suggests that Mauritius has no legislation to protect its Exclusive Economic Zone (EEZ). And in a composite Environmental Protection Index that includes ecosystem preservation, [Mauritius ranks 82](#) out of 180 countries. As an example of challenges ahead on biodiversity, the GOM recognises the lack of progress towards the Aichi (2011) biodiversity targets (see GOM, 2017).

[table 1.2](#)). Mainstreaming biodiversity in the public and private sectors is yet to take place. Finally, scores on progress towards meeting the [Aichi 2011](#) biodiversity targets for 2020 are low¹⁰. This balance sheet on environmental preservation is particularly disappointing for the country that was the source of inspiration for Pierre Poivre, the first environmentalist. He wrote the *Règlement Economique* (1769) for Mauritius making the first set of measures ever proposed that included provisions for forest conservation¹¹.

A [plea](#) shortly before the COP26 meeting in December 2019 urged Mauritius to join the Agreement on [Climate Change, Trade and Sustainability \(ACCTS\)](#). Among the benefits, participation would:

- Signal that the country is taking the environment seriously;
- Provide support at home for taking environmental measures when facing politically difficult decisions;
- Help meet the Sustainable Development Goals

10. The scores for the 20 targets shows little progress (an average score of 22 out of a maximum score of 100 if all 2020 targets were met at the time of the report in 2017, [see GOM \(2017, tables 1.10-1.14\)](#)).

11. Techera, E. (2019) "Deforestation, climate change and the emergence of legal responses: the international influence of Pierre Poivre's environmental leadership".

([SDGs](#)) (e.g. by eliminating fuel subsidies moving towards a green development path, etc.);

- Show credibly that the country is serious about being "environmentally friendly", a boost for the tourism pillar.

Unfortunately, Mauritius did not join the group of five countries (Costa Rica, Fiji, Iceland, New Zealand, Norway) that launched the ACCTS.

The early days of Covid showed, once more, that Mauritius has resilience in times of crisis. At the same time, post-crisis developments brought out cracks in the government's preparedness and overall transparency in governance, as reflected in the nation-wide manifestations. In the short-run, restoring independence to the Independent Commission Against Corruption and committing to external scrutiny should contribute to restore confidence. Resisting to protectionist winds in the name of job creation would avoid facing the resistance to removing protection later on. In the longer-run, emerging technologies (AI, IOT), an 'Apollo' type challenge, calls for a huge boost in education and the development of a service centre for Africa. Greater preservation of the environment is the other long-run challenge. Taking the SDGs more seriously is the way forward. These long-run challenges would also benefit from external benchmarking and scrutiny.



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