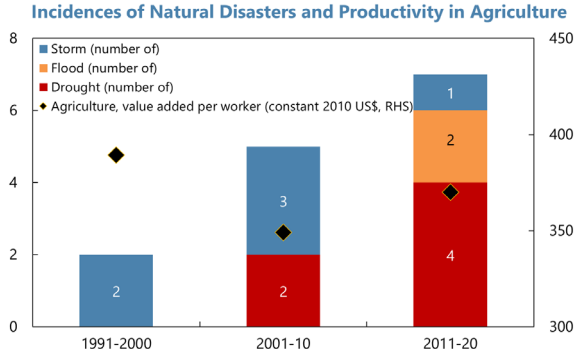
ADDRESSING LESOTHO'S CLIMATE AND ENVIRONMENTAL CHALLENGES[1]

A. Introduction

1. Lesotho is highly exposed to recurrent natural disasters, particularly droughts, floods, and storms. The frequency and severity of these disasters have increased significantly in the past decade. With over two-thirds of the population dependent on rain-fed subsistence agriculture, the share of the population directly exposed to natural disasters ranks fourth among sub-Saharan Africa (SSA) countries, well above the SSA and world average. And in the absence of augmentation measures such as increased bulk water supply, these frequent changes in precipitation exacerbate unmet demand for industrial and household uses.

Figure 1. Frequency and Impact of Natural Disasters

The frequency of natural disasters has increased over time, while agricultural development remains broadly unchanged.



Sources: IMF Climate Change Indicators, ILOSTAT, and IMF staff calculations.
Note: 2011-20 average employment is estimated using data from 2011-19.

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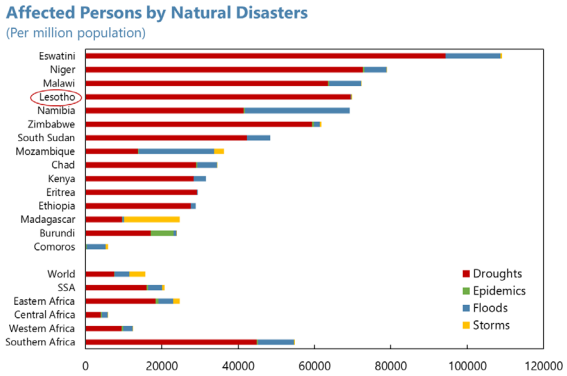

Sources: Center for Research on the Epidemiology of Disasters Emergency Events Database, and IMF staff calculations.
Note: Actual damages are likely higher because some disasters are missing data on damage. SSA = sub-Saharan Africa.

2. Repeated exposure to natural disasters affects fiscal and macro-financial stability, with severe consequences for food security of low-income households. Natural disasters severely disrupt agriculture and livelihoods, increase net food imports, and ultimately worsen the fiscal stance. Based on data available for the two extreme disasters, the cost of disaster relief for the El Niño–induced drought in FY15/16 and the floods in FY10/11 was estimated at US$38 million (LSL584 million, 1.7 percent of GDP) and US$67 million (LSL462.7 million, 3.2 percent of GDP), respectively. The average annual cost of disaster relief is about US$19.3 million (1 percent of GDP in FY19/20), most of which is borne by the government with limited donor support that was provided only for extreme disasters.[2]

[1] Prepared by Haiyan Shi.

[2] This is based on estimates from the World Bank report "*Lesotho: Disaster Risk Financing Diagnostic*" (December 2019). Data on the cost of disaster relief is not systematically recorded in Lesotho and was available only for two extreme disasters discussed above.

3. In addition to climate challenges, progressive soil degradation is another serious structural consequence of climate variability. Cycles of drought and intense rainfall contribute to massive soil erosion and loss of scarce agricultural land. While only 12 percent of the country's land is arable, it is estimated that 40 million tons of soil (about 2 percent of its topsoil) are lost annually due to erosion and about 66 percent of households live on degraded land. Increasing environmental degradation has also led to loss of critical habitats such as wetlands, forests, and vegetation cover, and has significantly reduced the capacity of catchments to capture and store water. The value of annual depletion of natural resources (soil and related habitats) is estimated at around 4.6 percent of gross national income.

4. Land access and use laws and practices deter long-term investment in irrigation, conservation, and soil improvements. The formal property market in Lesotho is largely undeveloped. This leads to sub-optimal farming practices relating to the selection of crops and seeds. Government interference in commercialization of farm output also locks the rural sector into poverty.

5. The authorities have developed policies and institutions to address climate change and environmental degradation but more is needed. The Disaster Management Authority (DMA) was established under the Disaster Management Act of 1997. In 2007, Lesotho prepared a National Adaptation Programme of Action in compliance with the United Nations Framework Convention on Climate Change guidelines to identify priority activities that respond to their urgent and immediate needs to adapt to climate change. The National Resilience Strategic Framework (NRSF) was approved by the Cabinet in 2019. Interventions include tree planting, land reclamation, protection of wetlands and other biodiversity and conservation programs. Some improvements in the introduction of new technologies and building links from farm to market can be seen in horticulture. However, evidence suggests that considerably greater effort is needed to mitigate the physical and transition risks related to climate and soil degradation challenges.

6. Policy responses should focus on adaptation while transitioning to less carbon-intensive economies. Like other African countries, Lesotho is not a significant source of greenhouse gas emissions but is particularly vulnerable to the expected impact of global warming. At the UN Climate Change Conference in Glasgow (COP26), it was framed as compulsory for developing countries to transition away from fossil fuels and promote the development of less carbon-intensive economies. Therefore, Lesotho could still pursue win-win policies that minimize emissions while tackling urban pollution (with its high health costs) and introducing solar energy and other innovative and cost effective technologies amid the rising price of fuel and gas.

7. Experience from other SSA countries confirms that up-front investment in climate-resilient infrastructure results in long-term savings as measured by reduced spending on disaster relief. Several countries have already developed successful adaptation strategies that could serve as models for Lesotho (Box 2.2, IMF 2020). Investing in resilient infrastructure, though costly, benefits green and inclusive long-term growth by creating jobs and reducing inequality, and reduces the impact of climate shocks on public debt. Successful examples include Mozambique's infrastructure upgrade in the port of Beira and Kenya's investment in renewable solar energy.

8. Non-infrastructure climate adaptation measures are more affordable and could be implemented more quickly. For example, programs supporting farmers in purchasing improved seeds and other crop-protection measures (Ethiopia, Ghana, and Mozambique), improving irrigation and water retention (Chad and Ghana), and those that provide early warning on weather events show relatively high benefit-to-cost ratios. The same applies for swift and targeted social assistance (Ethiopia). Because water resources and subsistence agriculture are key elements of Lesotho's economy, systematic policies and early actions are needed to adequately prepare and manage projected impacts. Any measures require frontloaded investment and financing, which, in turn, entails creating additional fiscal space through revenue mobilization and expenditure restraint.

B. Policies to Address Climate Challenges

9. The government could play a greater role in mitigating the consequences of disasters, most of which are borne by the poorest. The combination of erratic rainfall, fragile soils, and worsening land degradation—exacerbated by poor land-management practices—trigger poor harvests and large livestock losses. While, in the short term, it is important to ensure the availability of funds for disaster relief, it is even more important and less costly over the long term to invest in adaptation techniques. It is essential for the authorities to:

- *Maintain fiscal buffers to provide disaster relief.* The Disaster Management Fund's resources should be prioritized, and its disbursement mechanism strengthened to ensure timely distribution of funds. Participation in regional macroeconomic insurance schemes such as the African Risk Capacity could also help in this regard.

- *Ensure better allocation of social programs.* Better targeting of social assistance could ensure resources are spent most effectively.

- *Implement a climate-smart agriculture policy and improve access to finance.* Investments in adaptation strategies such as drought-tolerant crops, irrigation infrastructure, and sustainable land management strategies would reduce productivity losses from the agricultural sector and help fight poverty. Policies to support penetration of agricultural and disaster insurance in the country could help with the de-risking of the vulnerable communities, as well as helping with their access to finance.

10. International funds should be mobilized for both disaster relief and building climate resilience. The international community can assist the authorities' efforts by expanding financial support and technical assistance beyond disaster relief to target climate resilience and bolster coping mechanisms. Currently, there are several donor-funded climate projects being implemented in Lesotho, for example, some donor-funded projects on adaptation and renewable energy (EU, GEF, MCC, UNDP, and World Bank). Coordination of efforts and the government's cooperation are critical for their effectiveness.

References

International Monetary Fund. 2020. "COVID-19: An Unprecedented Threat to Development." April 2020 *Sub-Saharan Africa Regional Economic Outlook*.