



# OP-ED

## IMPACT OF CLIMATE CHANGE ON INFRASTRUCTURE IN ZAMBIA: POSSIBLE POLICY OPTIONS FOR MITIGATION AND ADAPTATION

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### Introduction

Sustainable Development Goal (SDG) 12 on climate action encourages the implementation of urgent strategies to combat climate change and its impacts. **The sub-target of the SDG goal emphasises the need to strengthen resilience and adaptive capacity to climate change related hazards and natural disasters. Zambia is among countries where climate change has continued to pose critical threats to its development**, particularly in rural areas where poverty is widespread and key assets such as infrastructure are underdeveloped and sparse due to wide geographical location.

Infrastructure, particularly roads are a lifeline for economic and agricultural livelihoods in rural areas and as a **key for access to health, education, credit finance, political participation and many other human needs**. However, extreme weather variability has over the years posed a costly hazard to roads, bridges, schools and health facilities in terms of degradation and collapse resulting in decreased lifespan of the

critical infrastructure in the country. In view of these challenges, **Zambia needs a robust strategy to finance and invest in climate resilient and sustainable infrastructure.**

As stated, climate change impacts have continued to pose a huge cost to the treasury with regards to maintenance and rebuilding of infrastructure as a result of damages from heavy rainfall and rise in temperatures leading to loss in connectivity thus compromising access to essential services. However, these impacts can be mitigated and avoided by implementing pro-active adaptation measures with a well spelt out plan. **It is important to note that for the period 1996-2017, the total cost of direct rainfall related damage to road infrastructure alone was estimated at K2,205 million and annual estimates of indirect costs of climate change (temperature and rainfall) related damages to the road infrastructure network amounted to K295 million of which, K210 million was attributed to rainfall events while K85million was due to the rise in temperature.** This cost is projected to increase to K303 million by the year 2030.

In view of these projections, it is imperative that **Government considers implementing measures key to the protection and building of resilience to current and future infrastructure investments as well as the socio-economic functions they serve as acquisition of road infrastructure requires huge capital investments.**

In order to respond to the impacts of climate change on infrastructure especially roads, **Government with support from various cooperating partners have been implementing several initiatives to combat climate-related hazards as well as ensuring that vulnerable sensitive industries, such as agriculture, may continue to flourish amid climate change.** A crucial step towards realizing this is to ensure that the existing and future infrastructure is climate-proofed. While progress is being made in this regard, a number of bottlenecks continue to exist that need to be addressed in order to reduce the vulnerability of infrastructure countrywide. **Some of these bottlenecks include: low funding towards infrastructure maintenance and the lack of a harmonized maintenance framework to support the preservation of existing and new infrastructure countrywide.**

In order to attain climate change resilience and adaptive capacities on the various infrastructure in the country, the Policy Monitoring and Research Centre (PMRC) proposes the following policy options for consideration by Government and other key stakeholders:

- 1) **Harmonization of policy framework for infrastructure maintenance:** as the country develops an infrastructure policy through the Ministry of Infrastructure, Housing and Urban Development, there is need for harmonization of the of the policy framework guiding infrastructure maintenance **of various sectors in the wake of climate change. In March 2021 Government through the Ministry of Finance and Ministry of Works and Supply developed and launched a Public Asset Maintenance Policy to provide a framework for maintaining public assets both movable and non-movable.**

It is important to note that while the policy is in place, evidence shows that maintenance of infrastructure especially non-movable assets is project and sector based which has proved to be unsustainable in the long term as most sectors have other competing needs such as expansion of infrastructure thus not prioritizing maintenance needs. Within these sectors most of the infrastructure built is project based implying that the contractor supports the maintenance of

a particular project within the first year. Thereafter, the maintenance is left to the beneficiaries with no proper long-term sustainability and maintenance plan.

For example road maintenance is done by the Road Development Agency (RDA) through the Road Maintenance Strategy 2015-2024, which was developed to create a clear pathway for the provision of maintenance activities on the core road network in the country. However, most of health infrastructure is maintained under the Ministry of Health that has other competing needs leading to the dilapidation status of most health facilities countrywide and this is similar for other sectors such as agriculture, education and livestock and fisheries.

It is therefore important that harmonization of the policy framework for maintenance of infrastructure is done to facilitate for timely execution of maintenance activities. **Zambia is one of the fastest growing economies in Africa and its sustained development is dependent on a well-functioning infrastructure sector.**

- 2) **Increased funding towards infrastructure maintenance:** although the need for infrastructure maintenance is widely recognised, it has not been prioritised by most developing countries, Zambia inclusive. **This is evidenced by the worn-out state of most old infrastructure in Zambia and the current low budgetary allocation towards infrastructure maintenance. For example the 2012 Maintenance Needs Report by the Road Development Agency indicated that a minimum of US\$721 million on an annual basis was needed for maintenance activities in order to bring the road network into a sustainable condition between 2012 and 2016.** However, in 2014, only 21.5 per cent of the required yearly maintenance funding was allocated. This status of low funding has subsequently led to the deterioration of existing infrastructure, especially roads and bridges, leading to their vulnerability to the impacts of climate change.

Further another limitation towards funding for maintenance of infrastructure is that the funding is activity based and in an event funding for maintenance has not been released, the department cannot move funding from rehabilitation or construction to carry out maintenance and this has left infrastructure maintenance deprived over the years as the country has been concentrating on construction and rehabilitation.

Lastly, the Policy Monitoring and Research Centre is of the view that with the creation of the infrastructure maintenance fund, enough resources will be realised to fund the various maintenance needs to reduce the vulnerability of the sector to the impacts of climate change.



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