

CLIMATE CHANGE MITIGATION AND ADAPTATION

MAINSTREAMING OF CLIMATE CHANGE ADAPTATION IN ROAD TRANSPORT INFRASTRUCTURE IN RWANDA

BACKGROUND

Climate change impacts are increasing in Rwanda and road infrastructure is one of the sectors affected by heavy rainfall (erosion, landslides and floods). However, there is a lack of studies and guidelines on climate change adaptation while designing roads and bridges.

DESCRIPTION

In a first step a literature review and expert consultation revealed that:

- There are only limited details in existing guidelines for climate change adaptation measures related to road transport infrastructure
- There are gaps in project specificity in some environmental impact assessment studies of road infrastructure, and therefore only generic climate adaptation & mitigation measures are stated

After identifying the limitations in road transport infrastructure adaptation to climate change, the following key recommendations for climate change mainstreaming in this sector are made:

- Use of climate projections using appropriate models (endorsed by Meteo-Rwanda) & consideration of site conditions (geology, land use, topography)
- Consideration of integrated catchment management during road and bridge design (existing land use, master plans and future development)
- Nature-based solutions for slope stabilization, embankment protection and roadside protection shall be planned in consultation with stakeholders
- Runoff shall be well collected and where possible harvested for use or groundwater recharge
- Drainages infrastructures shall be regularly cleaned and repaired as needed, particularly before rainy season
- Proper costing of adaptation and mitigation measures to be included in the contract cost
- Proper rehabilitation of sites used during road construction (quarries, borrow pits, dumping sites, crusher and asphalt plants, campsites, etc.) according to their subsequent use

IMPACT

Most of the recommendations from the ITP change projects are being integrated in the ongoing study project “Developing Capacity for Climate Resilient Road transport infrastructure” funded by the Nordic Development Fund (NDF) and implemented by Rwanda Transport Development Agency. These recommendations will be part of the guidelines under development including those related to erosion control, environmental performance indicators, build back better guidelines, among many others (environmental and engineering guidelines and manuals).



Example of good practice in climate change adaptation of road infrastructure. Photo by Cyprien Ndayisaba

LESSONS LEARNED

To be resilient, the transport sector like others, needs to ensure an integrative approach, particularly the catchment management with all involved stakeholders (community, land users for different purposes, as well as information providers like Meteo Rwanda). In addition, nature-based solutions are key towards resilient infrastructure as it may provide multiple benefits to infrastructure, to the community, and to the environment.

Country: Rwanda

Sector: Other (transport)

Key words: Resilient road infrastructure, Climate change adaptation guidelines

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