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Multi-hazard risk assessment of the Republic of Mauritius

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The Republic of Mauritius (ROM) is a small island developing state (SIDS), part of the Mascarene Islands in West Indian Ocean, comprised by Mauritius, Rodrigues, Agalega and St. Brandon islands and several islets. ROM is exposed to many natural hazards notably cyclones, tsunamis, torrential precipitation, landslides, and droughts; and highly vulnerable sea level rise (SLR) driven by human induced climate change. The multihazard risk assessment presented in this paper is aimed at identifying the areas prone to flood, inundation and landslide hazard, and inform the development of strategy for disaster risk reduction (DRR) and climate change adaptation (CCA). Climate risk analysis – a central component of the analysis – is one of the first comprehensive climate modelling studies conducted for the country. Climate change may lift the temperature by 1-2 degree Celsius by 2060-2070, and increase sizably the intensity and frequency of extreme precipitation events. According to the IPCC Forth Assessment Report (AR4), the expected Sea Level Rise (SLR) ranges between 16 and 49 cm.
Individually or in combination, the inland flood, coastal inundation and landslide hazards affect large proportion of the country. Sea level rise and the changes in precipitation regimes will amplified existing vulnerabilities and create new ones. The paper outlines an Action plan for Disaster Risk Reduction that takes into account the likely effects of climate change. The Action Plan calls on the government to establish a National Platform for Disaster Risk Reduction as recommended by the Hyogo Framework for Action (HFA) 2005-2015. It consists of nine recommendations which, if put in practice, will significantly reduce the annual damage to natural hazard and produce additional (ancillary) benefits in economic, social and environmental terms.