

Climate Change Vulnerability and Adaptation: The Case of Western Province, Sri Lanka

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Abstract

Sri Lanka, as an island and developing nation, is highly vulnerable to the adverse effects of climate change. Occurrences of natural disasters due to extreme weather conditions such as prolonged droughts, flash floods and landslides deprive lives and livelihoods of people. Building resilience of vulnerable communities and ecosystems over climate change effects within a broader framework of sustainable development remains the country's priority. The Western Province is one of the nine provinces of Sri Lanka. It is the most densely populated Province in the country and is home to the legislative capital Sri Jayewardenepura Kotte as well as to Colombo, the nation's administrative and business center. The Province is located in the southwest of the country and has an area of 3,684 square kilometres and 5,821,710 people. It comprises of three administrative districts; Colombo, Gampaha and Kalutara. The Western Province provides the highest contribution to the Gross Domestic Product contributing 41.2% of the Provincial Gross Domestic Product (PGDP), the highest being the service sector (56.5%) followed by Industrial sector (34.6%) and then agriculture (1.7%). With regards to the climate change impacts, the most significant ones for the Province are recurrent flooding as a result of an increase in average rainfall coupled with heavier rainfall events, increase of the minimum temperature and thus the decrease in the difference between maximum and minimum temperatures and also sea level rise as certain parts of the Province borders the coast. The key vulnerable sectors of the Province are food security which comprise of agriculture (including both crops and livestock) and inland fisheries; water resources which includes both drinking water and irrigation, coastal and marine, ecosystem and biodiversity, human settlement and infrastructure, tourism and health. In addition to these sectors there are cross cutting sectors which includes policy, legal, economic and governance, Institutional development and coordination, International cooperation and partnerships and research and development which have a significant stake to the magnitude of impact. Among the adaptation interventions the following are being implemented/proposed for implementation; Climate Smart agriculture/practice and other alternative agricultural systems, increase storage capacity of water, rational management of water distribution and use, collection of data on the endangered/to be extinct/vulnerable fauna and flora due to climate change and protect them, conduct research including citizen research to identify the changes in biodiversity due to climate change, integration of climate change impacts into new and already prepared development plans and construction of salinity barriers. Most of these interventions had been included in the implementation plans of the Nationally Determined Contributions (NDC) by relevant agencies which is in accordance with the Paris Agreement (2015) and submitted to the and the submission of the revised NDC to the UNFCCC with the approval of the Cabinet of Ministers in the country. However, the full implementation of same_requires to improve the capacity in institutions including human resources, finances and technological interventions which needs urgent attention.

Keywords: Climate change, Adaptation, Western Province, Impact, Vulnerability