

# Eritrea- Climate Change Impacts, Vulnerabilities and Adaptations

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# Background:

Eritrea is located in the arid and semi-arid region of sub-saharan Horn of Africa. It lies between  $12^{\circ}$  and  $22''$ , and  $18^{\circ}$  and  $02''$  north and between  $36^{\circ} 26''$  and  $43^{\circ}$  and  $13''$  east. The country covers 124,320 km square and has a coastline of more than 1,200 km and more than 350 islands.

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- Eritrea has a mostly arid climate with about 70% of its land area classified as a hot and arid and receiving average annual rainfall of less than 350mm.
- Ambient average temperatures vary considerably, with the eastern lowlands having an annual mean of 31°C with maximum of 48°C., in the highlands annual mean is 21°C with a maximum of 25°C, in the western lowlands it is 29°C with 36°C maximum.

# Vulnerabilities to Climate Change Impacts

- Eritrea is a developing country with more than 70% of its population depending on subsistence agriculture and livestock.
- Natural resources degradation is massive due to the destruction visited during the long drawn war of independence, recurrent drought and unsustainable use.

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- The harsh climatic conditions, human induced and natural calamities, the geographical location in the arid and semi arid region and low adaptive capacity renders Eritrea vulnerable to the adverse effects of climate change.
- The vulnerability to climate change is manifested on desertification/land degradation; diminishing biological diversity; emergence of new pests; incidence diseases like malaria in new areas due to atmospheric temperature rise; exacerbation of infectious / parasitic diseases and nutrition related health problems due to floods and recurrent drought. Coastal areas and islands, because of sea level rise are exposed to shortage of fresh water due to salt water intrusion.

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- Assessments on climate change impacts and vulnerabilities revealed the most affected sectors namely- agriculture, forestry, water resources, coastal and marine environment, and public health.
- Consequently the Government of Eritrea developed a National Adaption Programme of Action to reduce vulnerability and increase resilience of these sectors to the impacts of climate change.

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- Climate change, biodiversity loss and desertification are interlinked and a holistic integrated approach needed to be followed to deal with their negative effects on human wellbeing and the environment.

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- The three phenomena form a vicious cycle. The adverse effects of climate change destroy biodiversity and ecosystem goods and services. The loss of biodiversity in its turn eliminates the function of forests and vegetation cover as a sink to carbon dioxide and thus enhance climate change and global warming. Similarly biodiversity loss is a driver to desertification.

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- Vulnerability to climate change impacts varies within a given society and the following groups are identified as possessing the least adaptive capacity: subsistence farmers, pastoralists, urban poor, fishermen, the disabled island residents. The Government has initiated a number of microcredit and self help schemes to build and reinforce their adaptive capacity.

# Adaptation Programmes, Policies and Practices

- In order to mitigate the adverse effects of climate change, Eritrea has adapted various strategies including, policy intervention, introduction of improved agricultural production systems, better levels of preparedness ( early warning systems) and human resources development. The endeavour is to implement these strategies within the framework of the sustainable development path.

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- **Agriculture** – ultimate aim, achieve food **security** : focus on
  - improved crop management practices,
  - sustainable land and water management
  - land race resistant to drought, pest, disease and early maturing.
  - livestock breed selection, construction of water points and pasture improvements.
  - forestry, community based approach

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- **Marine and coastal resources** include fisheries, coral reefs, mangroves, sea grass beds, beaches. Intertidal and nearshore zones support diverse range of marine and terrestrial species and are key areas of recreation and economic activities. These resources are vulnerable to climate change impacts and introducing adaptation measures are required to protect them.

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- The relevant intervention strategies are Integrated Coastal Zone Management, Marine Protected Areas and mangrove afforestation programmes.
- **Public health-** in Eritrea there are several climate change impact related diseases, such as malaria and dengue fever transmitted by mosquito as a vector. The rise in atmospheric temperature enabled mosquito to thrive in higher altitude.

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- Drought and floods lead to nutrition related and infectious/parasitic diseases become widespread. The Government is implementing extensive primary health care programmes to achieve health security of its people. Moreover, Eritrea is party to the Libreville Declaration on health and environment and is working to take into account the adverse effects of environmental changes such as climate change in human health.

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- National policies and action plans related to climate change:
  - Macro Economic Policy-
  - Environmental Management Plan for Eritrea
  - National Plan of Action to combat Desertification and mitigate effects of drought.
  - National Biodiversity Strategy and Action Plan –
  - Initial communication on climate change
  - National Environmental Assessment Procedures and Guidelines.

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- To counter the impacts of climate change and reduce vulnerability Eritrea has to pursue adaptation as a necessary strategy complemented with mitigation in the energy sector to decrease greenhouse gases emission by shifting to clean development mechanisms such as solar , wind, geothermal, rural electrification and the use of LPG.

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- Similarly in the transport sector public transport is encouraged.
- The importation of second hand vehicles is also regulated to allow commercial trucks in good condition of 5 years and small cars 8 years service respectively.

# Knowledge, Awareness & Research

- Knowledge about climate change impacts, vulnerabilities and adaptation strategies is limited and modest efforts are undertaken in the priority sectors to enhance:
  - Understanding , scientific knowledge and policy linkages, economic and environmental consequences of adaptation options and practices, integrate climate change into existing risk management frame-works and strategic planning.

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- Develop, early maturing, drought, pest and disease resistant cultivars, water and land management practices;
- Identify improved livestock breeds

End of Presentation

**Thank You!**