MAURITIUS

CLIMATE ADAPTATION PROGRAMME TO IMPROVE AGROECOLOGICAL FARMING PRACTICES

Presenter

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Description

EFFECTS:

1. Rise in atmospheric temperatures by 0.74 – 1.2 °C.
2. Higher frequency and intensity of cyclones, torrential rains, and flash floods.
3. A mean rise of 2.1 mm/yr in sea levels & coral reefs bleaching.
4. Prolonged periods of the intermediate dry season, the transition period between winter and summer.

IMPACTS:

1. Irregularities in rainfall patterns have led to higher competition for water directed to agricultural, tourism, domestic and industrial use.
2. Frequent flash floods have led to major consequential farm produce and economic damage for farmers.
3. Disruptions in the dry and wet seasons have led to significant interference in the crop growing cycles, thus slowing the access of fresh produce to consumers and also causing major economic losses for planters.
4. Higher stress levels and death rates of livestock have been noticed by high ambient temperatures and humidity.
5. Increased usage of fertilisers and pesticides to restore a reasonable harvest against the harsh weather patterns and poor biodiversity, thus leading to major farm cash outflows and increased health hasards to consumers.
6. Importation of food to meet the local demand for fresh produce that have been damaged by poor weather, thus leading to high import Bill; 7. Bleaching of Coral reefs have led to increased risks of beach erosion, floods in coastal households, affect tourism activity and destruction of marine biodiverisity thus affecting livelihoods of fishermen.

Furthermore, following the COVID-19 pandemic, the higher atmospheric temperature and tiredness together with breathing difficulty associated with vaccines & masks render it difficult for farmers and agricultural stakeholders to engage in activities like tree planting and sensitisation campaigns.

In response to the above-mentioned climate change impacts, Climate Adaptation Programmes in Mauritius as a Small Island Developing State include:

1. Encouraging planting of coastal mangroves to fight against cyclonic conditions, to boost fisheries, to encourage water conservation against decreasing precipitation and intensified droughts; and to minimise water pollution in lagoons to enhance reef resilience to rising temperatures.

2. Transitioning towards agroecological farming practises to promote biodiversity and to minimise use of pesticides.
3. Existing Government policies include the smart cities project that champions the use of sustainable infrastructure and green energy; introduction of a ban on plastic bags; and the launch of the Mega National Cleaning and Embellishment Campaign ''Moris Nou Zoli Pei''.
4. EU is currently financing more than 20 projects related to the environment in Mauritius. Financial aids have been directed to academia such as University of Mauritius and agricultural institutions to improve local food research, with a budget of 3 million euros and Rs 4 million euros for a reforestation programme in a natural reserve in Black River.
5. Crop Insurance Scheme to planters and livestock breeders affected by natural calamities.
6. On-going coral reproduction trials in the coastal regions of the island.
7. Encouraging food processing to minimise post-harvest loss as a result of climate change & COVID-19 and to increase shelf life of farm produce.
8. Digitilisation of order-taking for farm produce and delivering the orders at specific delivery points to minimise contacts with consumers in times of COVID-19.
9. Providing free sanitary tool kits (Medical masks, hand sanitiser) to farmers for undisrupted agricultural activities.
10. Agricultural meetings are done via zoom platforms for farmers versed with technology while those who do not have access to media & internet, meetings are arranged in well ventilated spaces while respecting social distancing.

Results

Some results of the best practise include:

1. Better thriving environment for fish and other marine organisms, thus contributing to better income for fishermen.
2. Agroecological farming have increased biodiversity that led to minimal use of synthetic fertilisers and pesticides, thus allowing farmers to enjoy better profit margins and also made it possible for consumers to have access to organic produce.
3. Special agricultural schemes have motivated planters and breeders to continue their production patterns despite harsh climatic conditions.

Climate smartness

Restoration of coastal mangroves and transition to agroecological production are essential actions to progress in the protection of degraded coastal ecosystems, understood as the basis for securing sustainable livelihoods, food and nutritional security and local and healthy food to Mauritius habitants. Use of organic fertilizers and pesticides contributes to biodiversity conservation at different levels, while minimizes carbon footprint and represent greater profitability margins (it is ideal to integrated water efficient irrigation systems for water shortages). Actions towards biodiversity lead to ecosystem services enhancement. In the case, mangroves increase ecosystem services related to moderation of extreme climatic events, while regulate local water cycles and water purification, hence improving resilience capacity of the agroecosystem. Mangroves have the potential to sequester and store carbon in biomass and sediments, opening collaboration opportunities with The International Blue Carbon Initiative, a global program focused on mitigating climate change through the conservation and restoration of coastal and marine ecosystems, which provide scientific, technical, financial incentives, and policy mechanisms to for conservation and sustainable management. Complementary practices with mitigation cobenefits are biogas production, to convert the methane from livestock into an alternative household energy source, increased awareness campaigns to sensitize locals on food waste as a major contributor of greenhouse gas emissions an learn on composting technics, either at the household or community levels, with potential to produce solid and liquid compost.