CLIMATE VULNERABILITY AND CAPACITY ASSESSMENT OF COASTAL COMMUNITIES IN SINDH AND FORMULATION OF COMMUNITY ADAPTATION PLAN

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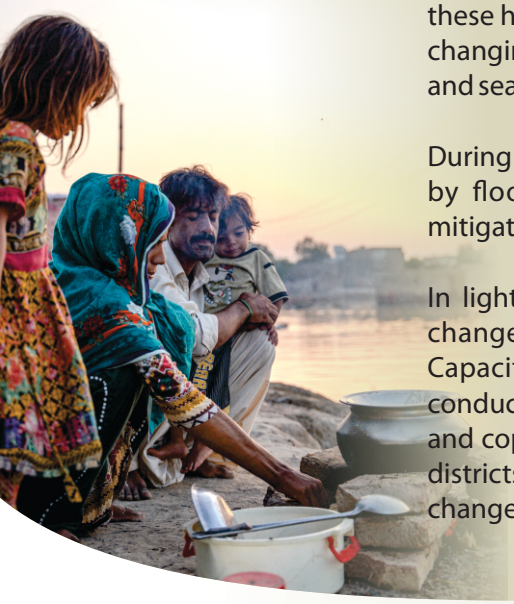
INTRODUCTION



Pakistan is one of the top ten countries that have been negatively affected by climate change. Among the provinces, Sindh remains the most affected province prone to various types of hydro-meteorological hazards including torrential rainfall, flooding, cyclones, droughts, and heat waves. The frequency and magnitude of these hazards have been on the rise as a result of changing trends in temperature, precipitation and sea disturbances.

During 2022, the unprecedented rainfall followed by flooding has resulted in climate change mitigation and adaptation.

In light of the importance of studying climate change issues, the Climate Vulnerability and Capacity Assessment (CVCA) study has been conducted to assess the existing vulnerabilities and coping capacities of coastal communities in districts Malir and Thatta in relation to climate change.

OBJECTIVES

The primary objectives of the CVCA are to:

- Evaluate vulnerabilities and community-based coping and adaptation mechanisms to climate change.
- Develop understanding on how climatic changes have affected the livelihoods, water resources, food security, and social services of coastal communities.
- Develop a community adaptation plan to improve the adaptive capacity and resilience of vulnerable coastal communities.

METHODOLOGY FOLLOWED

In order to achieve the desired objectives, detailed field surveys were conducted during August to October 2022 in nine selected villages of districts Malir and Thatta. Interviews with key informants and focus groups were conducted at the local level to examine vulnerabilities and adaptive capacities.

In addition to the focus group discussions, detailed discussions were conducted with key informants involved directly or indirectly in issues related to climate change, disaster management, and authorities responsible for coastal development.

A detailed analysis followed the field surveys in order to determine the existing coping capacities of vulnerable groups and the impact of climate change on livelihoods, food security, and water resources.

KEY FINDINGS

- The survey reveals that around 99% of community respondents agree that the weather has changed over the last 20-25 years in the study areas of both districts. In particular, agriculture and livestock sectors are being severely damaged by heavy rains and floodings. They stated that "compared to the past, rainfall is now more unpredictable and can occur in months when it is not supposed to rain".
- Around 70% of elderly people were affected by the recent floods mainly due to their exposure and sensitivity to extreme weather conditions. In addition, they were attacked by annual diseases mainly resulting from harsh weather.
- As a result of recent heavy rains and flooding, pregnant women faced severe problems since they require special care and attention, which were severely limited in such circumstances. Besides, persons with disabilities and children were also identified as the most vulnerable groups exposed to punitive weather and hydrometeorological hazards.
- Housing conditions in coastal communities are very poor, as the majority of residents (36%) live in straw and trash-made houses. Besides 21% of Kacha, 29% of semi-pacca, and 14% in pacca houses are at risk of sea storms, cyclones, heatwaves, and flooding.
- As a result of recent development, the majority of agricultural land, particularly in district Malir, has been converted into built-up areas, increasing the vulnerability of those who depend on agriculture as their main source of livelihood.
- Earlier, jelly fish, laser fish, crabs, and shrimps were abundant, but have been depleted because of sea lord's export to Europe and South East Asia.
- Overall, 70% of community respondents stated that they were forced to use brackish water for drinking purposes. Around 90% of respondents noted that sweet water was available in abundance earlier, but that is no longer the case.
- Majority of the population of Keti Bander has migrated to Ibrahim Hyderi taluka in Malir. As a result of their migration, they have no choice but to change their sources of livelihoods. Previously, they were largely engaged in agricultural practices, but now many are working as daily wage laborers in urban areas or fishing. The common causes of climate migration include lack of basic services, losing agricultural lands, crop failure, less opportunities of catching fishes, drought, flooding and more importantly poverty. These are the main sources of forcing migration.

KEY RECOMMENDATIONS

- Conduct a detailed CVCA at the local level with an inclusion approach. In light of the CVCA results, develop community adaptation plans both at the village and UC levels. The community adaptation plan will highlight the strategies/interventions, suggested timeframe and resource mobilization for the implementation of the plan.
- Promote urban forestry, especially in Malir district, and encourage vertical kitchen gardening at the household level.
- Promotion of saline and drought-resistant crop varieties and provision of seeds to encourage their growth.
- A further aspect of improving the health and hygiene of urban communities is the rehabilitation of water supply and sewerage schemes.
- Need to adopt the latest technologies and techniques to improve the FSL and WASH related services for the communities. This will improve the WASH, food and nutritional conditions of the communities.
- Initiate strategies for women to launch green small-scale businesses and establish market links to market their products.
- Introduce interventions suitable for aquaculture. Developing crab/shrimp farms must be encouraged, and communities should receive proper training to ensure their growth and production is sustainable.
- Organize trainings for men and women on livestock management and backyard poultry farming.
- Planting climate-smart trees along agricultural fields and growing more mangrove trees along coastlines to protect them from natural hazards.
- Repairing and construction of water tanks and channeling them to individual homes through pipelines.
- Installation of hand pumps, filtration plants for desalination of water and water tanks with the support of government and non-government organizations at village levels.
- Apply new irrigation techniques, such as furrow, drip and sprinkle irrigation etc., to improve water use efficiency.
- Introduce hurry plantations which can grow in slightly saline water and soil.