

Socio-Economic Adaptation Study for Peri-Urban Communities in Arnala Village, Maharashtra (May 2015 – November 2015)

MASHAL conducted a comprehensive socio-economic and climate adaptation study in **Arnala Village, Maharashtra**, between May 2015 and November 2015. The study was commissioned by the **World Resources Institute (WRI)** and aimed to examine the impacts of urbanization, climate change, and coastal risks on the lives, livelihoods, and resilience of peri-urban communities residing in the region.

The project was undertaken to generate evidence-based insights into the socio-economic transformations occurring in Arnala Village and to identify strategies that could help local communities adapt to changing environmental and climatic conditions. Given Arnala's dependence on natural resources and its proximity to the coast, the study focused on understanding the vulnerabilities and adaptive capacities of communities whose livelihoods were closely linked to fishing and agriculture.

Objectives of the Study

The study was designed with the following objectives:

- To assess the socio-economic conditions of peri-urban communities in Arnala Village.
- To understand the impacts of rapid urbanization on traditional livelihoods, social structures, and local economies.
- To evaluate the effects of climate change and coastal risks on fishing and agricultural communities.
- To identify existing vulnerabilities and emerging threats associated with environmental and climatic changes.
- To document community perceptions regarding climate variability, environmental degradation, and livelihood challenges.
- To develop recommendations and adaptation strategies that could enhance the resilience of local communities to future climatic and socio-economic changes.
- To support evidence-based planning for sustainable development and climate adaptation in peri-urban coastal regions.

Study Coverage

The study covered a total of **350 households** from two major livelihood-based communities in Arnala Village:

- **150 households from the fishing community**
- **150 households from the agricultural community**
- Additional households representing other socio-economic groups within the village

The survey provided a comprehensive understanding of the socio-economic profile, livelihood systems, and environmental challenges faced by different sections of the community.

Methodology

MASHAL adopted a mixed-method research approach that combined quantitative household surveys with qualitative community consultations.

Household Survey

A detailed household-level survey was conducted to collect information on various dimensions, including:

- Demographic and socio-economic characteristics of households
- Livelihood patterns and income sources
- Dependency on fishing and agriculture-based occupations
- Access to public infrastructure and basic services
- Availability of social infrastructure and community facilities
- Perceptions of climate change and environmental risks
- Impacts of coastal hazards and changing weather patterns
- Adaptation measures adopted by households and communities
- Future concerns regarding livelihoods and settlement sustainability

Focus Group Discussions (FGDs)

In addition to the household survey, MASHAL conducted **five Focus Group Discussions (FGDs)** to gain deeper insights into community experiences, perceptions, and adaptation strategies.

The FGDs were conducted with:

- Fishermen from the fishing community
- Women from the fishing community
- Farmers from the agricultural community
- Women from the agricultural community
- Youth representatives from the agricultural community

These discussions helped capture community-specific perspectives on livelihood changes, environmental challenges, social dynamics, and opportunities for adaptation.

Data Analysis and GIS Mapping

The information collected through surveys and focus group discussions was systematically analyzed and interpreted using **Geographic Information System (GIS) tools**. GIS-based mapping was employed to spatially represent socio-economic conditions, infrastructure availability, environmental vulnerabilities, and climate-related risks across the study area.

The integration of socio-economic data with spatial analysis enabled MASHAL to identify patterns of vulnerability, assess the distribution of risks, and understand the relationship between urbanization, environmental change, and community resilience.

Key Contributions and Outcomes

The study provided valuable insights into the challenges faced by peri-urban coastal communities as they navigated the combined pressures of urban expansion and climate change. It highlighted the impacts of changing environmental conditions on traditional livelihoods, particularly fishing and agriculture, and documented community-level adaptation practices and coping mechanisms.

The findings contributed to a better understanding of how climate risks and urbanization influence socio-economic development in coastal regions and offered recommendations for strengthening resilience through improved planning, infrastructure development, livelihood diversification, and community-based adaptation measures.

Through this research initiative, MASHAL demonstrated its commitment to evidence-based planning, climate resilience, and sustainable development by generating critical knowledge to support informed decision-making for vulnerable peri-urban communities in Maharashtra.