

A 2-DAY RESIDENTIAL TRAINING PROGRAM



DRR IN ICZM: ENHANCING RESILIENCE AND SUSTAINABILITY IN COASTAL GUJARAT







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1. Introduction

Integrated Coastal Zone Management (ICZM) is a comprehensive approach aimed at ensuring the safety and livelihood security of coastal communities, protecting coastal ecosystems, and promoting sustainable development. Coastal areas are particularly vulnerable due to the impacts of climate change, sea level rise, competition for space and resources, and development pressures on sensitive ecosystems.

ICZM recognizes the interconnected nature of coastal and ocean uses and the environments they affect. It addresses the limitations of fragmented, single-sector management approaches and resolves jurisdictional divides at the land-water interface. By operating within the constraints of limited space and competing demands, ICZM provides a framework and tools to guide development activities in alignment with the precautionary principle. This ensures rational resource allocation, ecosystem conservation, and the integration of environmental and social considerations into development planning.

1.1 Importance of Integrating DRR into ICZM

Integrating Disaster Risk Reduction (DRR) into Integrated Coastal Zone Management (ICZM) is essential for reducing the risks posed by climate change and other environmental hazards. This integration strengthens the resilience of both ecosystems and communities, enabling a more adaptive and sustainable approach to managing coastal zones.

Complementary Approaches for Holistic Risk Management

DRR emphasizes the prevention, mitigation, and recovery from hazards, while Climate Change Adaptation (CCA) focuses on reducing vulnerabilities to long-term climate impacts. Combining these approaches under ICZM ensures a comprehensive strategy that addresses immediate hazards as well as future risks, creating a more robust framework for managing vulnerabilities.

Enhancing Public Awareness and Participation

ICZM provides a platform for fostering public engagement in coastal management. By incorporating DRR strategies, these initiatives can raise awareness about climate-related hazards and promote community involvement in preparedness and resilience-building efforts. Active public participation ensures more inclusive and effective decision-making processes.

Promoting Gender Equality in Coastal Resilience

The impacts of climate change and disasters are often experienced differently across genders due to social and economic inequalities. Integrating gender perspectives into ICZM and DRR policies helps address these disparities, ensuring that strategies are equitable and inclusive.





Gender-sensitive approaches contribute to reducing inequalities and enhancing the resilience of all community members.

By integrating DRR into ICZM, coastal areas can be managed more effectively, balancing development with the need for environmental conservation and social equity. This integration not only safeguards ecosystems but also builds resilient and sustainable coastal communities.

1.2 Relevance of the Topic to Gujarat's Coastal Context

Gujarat's extensive 1,600-kilometer coastline is vital to its economic and ecological framework but faces significant challenges from climate-induced hazards like cyclones, sea level rise, and coastal erosion. The region's socio-economic dependence on fisheries, agriculture, and critical infrastructure, combined with rapid industrialization and urbanization, increases vulnerability and creates competing demands on limited coastal resources. Additionally, Gujarat's ecologically sensitive zones, such as mangroves and marine sanctuaries, are under threat, reducing their natural protective functions. Integrating Disaster Risk Reduction (DRR) into Integrated Coastal Zone Management (ICZM) is essential to mitigate these risks, conserve ecosystems, and promote sustainable development.

2. Objectives

The program on **Integrated Coastal Zone Management (ICZM) and Disaster Risk Reduction (DRR)** aims to address the challenges of climate-induced hazards and coastal vulnerabilities through a comprehensive, inclusive, and sustainable approach. The key objectives are:

- Enhance Coastal Resilience: To strengthen the resilience of coastal communities and ecosystems by integrating Disaster Risk Reduction (DRR) into Integrated Coastal Zone Management (ICZM) frameworks.
- **Promote Sustainable Development:** To ensure sustainable development of coastal areas by balancing economic growth with environmental conservation and social equity.
- Address & Understand Climate-Induced Hazards: To develop strategies for mitigating the impacts of climate-induced hazards, such as cyclones, sea level rise, and coastal erosion, through risk assessment and management.
- **Foster Inter-Departmental Collaboration:** To promote coordinated efforts among various government departments in Gujarat for effective coastal governance and disaster preparedness.
- Integrate Gender and Social Equity: To incorporate gender-sensitive and socially inclusive approaches in ICZM and DRR policies to address vulnerabilities and reduce inequalities.
- Build Capacity for Effective Implementation: To enhance the knowledge and skills
 of participants, enabling them to actively contribute to coastal management and disaster
 risk reduction initiatives within their respective departments.

3. Rationale

Gujarat's coastal zones face significant environmental challenges that threaten both ecosystems and human livelihoods. Coastal erosion, frequent cyclones, flooding, sea level rise,





and habitat degradation are intensifying due to climate change and anthropogenic pressures. These hazards not only endanger coastal communities but also impact critical infrastructure, fisheries, agriculture, and industries that are vital to the state's economy. The degradation of protective ecosystems like mangroves and coral reefs further exacerbates vulnerabilities, making it imperative to adopt integrated and proactive management strategies.

At the policy level, there is a strong emphasis on the importance of Integrated Coastal Zone Management (ICZM) and Disaster Risk Reduction (DRR) to address coastal challenges. However, existing efforts often function in isolation, reducing their overall effectiveness. Bridging the gap between ICZM and DRR is essential to ensure holistic and coordinated actions that comprehensively address coastal risks and vulnerabilities.

Aligning ICZM practices with DRR is essential for sustainable and resilient coastal development. This integration not only minimizes the impact of natural hazards but also promotes sustainable resource management and environmental conservation. By embedding DRR principles into ICZM, Gujarat can enhance the adaptive capacity of its coastal systems, protect vulnerable communities, and ensure that developmental activities are resilient and environmentally sound. Such an approach is vital for securing the long-term socio-economic and ecological well-being of Gujarat's coastal regions.

4. Key Focus Areas

The program on ICZM and DRR will focus on several critical areas to address coastal vulnerabilities and enhance resilience.

- A primary focus will be on risk assessment and hazard mapping, which involves understanding and analyzing areas most susceptible to threats such as cyclones, flooding, erosion, and sea level rise.
- Additionally, the program will emphasize on ecosystem-based approaches for disaster risk reduction (Eco-DRR), leveraging the natural protective functions of ecosystems like mangroves, coral reefs, and wetlands. These ecosystems serve as vital buffers against coastal hazards while contributing to biodiversity conservation and sustainable livelihoods.
- Another key area is the integration of DRR into coastal infrastructure planning and development, ensuring that infrastructure projects are designed to withstand the impacts of climate-induced hazards. This includes incorporating resilient designs and sustainable practices into the construction of ports, seawalls, roads, and other critical facilities.
- The program will also prioritize community-based DRR practices, recognizing the
 vital role of local communities in disaster preparedness and response. Empowering
 communities through training, awareness, and participatory approaches will strengthen
 their capacity to adapt to and recover from coastal hazards.
- Finally, the program will focus on policy frameworks and recommendations to bridge the gap between ICZM and DRR frameworks, ensuring a cohesive and integrated approach. These recommendations will aim to align environmental conservation, sustainable





development, and disaster risk reduction objectives, creating a synergy that benefits both ecosystems and coastal populations.

By addressing these key focus areas, the program seeks to provide comprehensive strategies for sustainable and resilient coastal management.

Sr. No.	Departments/Organizations	Level of Participants
1.	Port & Transport Department • GMB	L-1, L-2
2.	Revenue Department • GSDMA	L-1, L-2
3.	Road & Building Department	L-1, L-2
4.	Forest and Environment Department	L-1, L-2
5.	Narmada, Water Resources, Water Supply & Kalpsar Department • Water Resources Department	L-1, L-2
6.	Agriculture & Co-operation Department Commissioner of Fisheries	L-1, L-2
7.	Urban Development & Urban Housing Department Town Planning & Valuation Department	L-1, L-2