

Fisheries and Aquaculture



Climate Change: Vulnerability and Adaptation

Rudolf Hermes, David Brown

Coordination and Technical Support Unit (CTSU) to Tsunami Rehabilitation and Reconstruction in Fisheries and Aquaculture, FI

Florence Poulain

Fishery Liaison Officer, FI

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Climate Change: Vulnerability and Adaptation

Presentation Overview

- Fisheries, Food Security and Poverty Reduction
- Impact of Climate Change
- DRM (“managing risks”)
- General information needs
- FAO relevant experience in CC/DRM/adaptation



Source: Dept. Fisheries Gambia



A few Facts

- Approximately 70 percent of the Earth's surface is covered by Oceans
- The coastal zone is inhabited by around 60 percent of the world's population
- Coastal, lake and river fisheries are all important resources for poor communities but are likely to be highly sensitive to climate change
- Small Islands Developing States, many of which depend on fisheries, are particularly vulnerable to climate change
- Human-induced climate change is already happening



Fisheries, Food Security, Poverty Reduction

- food security (major source of animal protein for >1 billion people worldwide and among the poor)
- poverty reduction (source of income and employment in many developing countries)
- many pre-existing vulnerabilities; anthropogenic and non-climate related (e.g. overexploitation; social and political marginalisation)
- climate change is likely to cause increased vulnerability



Impact of Climate Change

- increased frequency / intensity of extreme events: cyclones and their associated storm surges and inland flooding
- changes in currents, water mass distribution; acidification of oceans; rise in sea level
- effects on people (wellbeing / health), infrastructure and other assets
- effects on ecological structure and productivity of the resource (e.g. wind-driven or upwelling ecosystems)



Impact of Climate Change

- degradation and disruption of marine and coastal ecosystems; loss of coastal habitats (mangroves, coral reefs, pelagic food webs, shifts in distribution, species displacement)
- added to: overfishing, pollution, conflicts over resource use, poverty and other existing vulnerabilities
- CC will add to vulnerabilities and hamper the sector's ability to cope and contribute to social and economic development



DRM ('managing risks')

- reduce vulnerabilities and reduce harm / damage created by impact
- increase resilience of fishers and fishing communities to Climate Change
- mainstream climate change adaptation into broader fisheries management, policy and laws
- improve governance and institutions
- integrate people into ecosystems



General information needs (better understanding of):

- analysis of vulnerabilities, prediction of impacts, including from other sectors adaptation strategies (decision support systems)
- people, institutions and policies

and

- marine biogeochemistry and water mass properties
- changes in atmospheric forcing (wind, heat, freshwater)
- alternative and/or integrated farming systems



FAO relevant experience in CC/DRM/adaptation

- promotion of knowledge on potential and actual adaptation and mitigation measures
- improved analysis and predictive capacity on impact on resources
- filling existing gaps in information (lack of recognition of fisheries in national CC plans of action, or lack of consideration of CC in fisheries governance and management)
- human resources and capacity building to deal with CC and DRM (including disaster response and recovery programmes)



FAO relevant experience in CC/DRM/adaptation

- empowering people to take action, with due consideration to gender and minorities
- diversification of livelihood and coping strategies
- co-management and integrated coastal area management
- integration of agriculture and aquaculture (inland and coastal flooded zones)



FAO relevant experience in CC/DRM/adaptation

- promotion of safety at sea (physical: boats and equipment; mental: education and training)
- early warning systems, weather forecast, improved communication tools
- design and construction of coastal infrastructure, flood and erosion control
- access to financial services (microfinance, insurance)



FAO relevant experience in CC/DRM/adaptation

- protection and conservation of mangroves and coral reefs (absorption of CO₂)
- monitor ecosystem changes (e.g. coral bleaching, red tides) and shifts in species composition
- ecosystem approach to fisheries, CCRF



Conclusion

- FAO has important DRM/Adaptation experience relevant to Climate Change
- Linkage from DRM to rehabilitation and development remains important
- Partnerships are essential to get good experience into practice

Thank You



Source: Dept. Fisheries Gambia