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WESTERN CENTRAL ATLANTIC FISHERY COMMISSION (WECAFC)

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Disaster Risk Management in Fisheries in the WECAFC Region

Reduced vulnerability of fishers, fish farmers and their communities to natural disasters and climate change impacts in Latin America and the Caribbean region

INTRODUCTION

1. This paper starts with a brief overview of the importance of fisheries and aquaculture in Latin America and the Caribbean, it continues by discussing the vulnerability context of fishers, fish farmers and their communities, it reviews some of the principles and practices for responding to that vulnerability and finally it briefly discusses the potential for intervention as well as recent initiatives in the region. ¹

THE IMPORTANCE OF FISHERIES AND AQUACULTURE IN LATIN AMERICA AND THE CARIBBEAN

2. The number of fishers working in Latin America and the Caribbean was reported to be 1,287,000 in 2008 (FAO Statistics, 2010) which represents 2.9% of the global total. Given the number of people working in ancillary industries there is likely to be 5.1 million people involved in the sector supporting the livelihoods of around 15.4 million people. Latin America and the Caribbean have a higher percentage of mechanised boats than Africa and Asia, and a relatively large percentage of vessels over 100 GRT, although the percentage of vessels under 12m length is still around 85% of the total. Within the region there is considerable variation between the fisheries operating from small islands in the Caribbean, to those of larger continental countries of Central America and again to those of South America. Box 1 gives an example of the characteristics of a Caribbean island fishery.

3. Of the 90 million tonnes of fish caught globally in 2008, Peru was the second largest producer after China. Peru caught 7 million tonnes and Chile was the 7th largest producer with 3.6million tonnes (FAO Statistics, 2010). Of the inland fish catch, Brazil was the only country in

¹ This paper draws upon an unpublished background Paper on Disaster Risk Management in Fishing and Fish Farming Communities in Latin America and the Caribbean – September 2010 prepared by Jock Campbell for the Latin America and Caribbean Regional Consultative Meeting on Securing Sustainable Small-scale Fisheries: Bringing Together Responsible Fisheries and Social Development. San José, Costa Rica, 20–22 October 2010.

the region in the global top ten producers in 2006 with 251,000 tonnes or 2.5% of global production (FAO 2, 2009).

4. Aquaculture production from the Latin America and Caribbean region represented 3.4% by weight of the global production in 2008. Chile was in the top ten producers in 2008 with 843,142 tonnes. Guatemala and Mexico were the two countries from the region in the top ten for industry growth with average annual growth rate of 82.2% and 23.3% in the 2004-2006 period. In 2006 Salmonids overtook shrimps as the major species produced in the region. In 2006 Chile

BOX 1: FISHERIES OF THE CARIBBEAN

The fisheries of the Caribbean can be thought of as having four components:

1. A large artisanal fisheries sector, where the majority of fisherfolk operate on a small scale basis concentrating on mostly primary production, utilising small boats and limited technology which is comprised of traps, cast nets and hook and line;
2. An industrial fleet sector of large, modern, capital-intensive vessels which operate mainly in offshore areas, largely targeting high priced and valued added species. Targeted species include spiny lobsters (Jamaica and the Bahamas), conch (Jamaica, the Bahamas and Belize), shrimp and prawns (Guyana and Belize), tuna (wider Caribbean) and flying fish (Eastern Caribbean);
3. A processing, distribution and marketing sector; and
4. An unquantified, recreational fisheries sub-sector spanning various aspects of tourism, including domestic and international sports fishing tournaments, yachting, fishing, weekend group and family fishing events. The Caribbean is rated by international magazines as a prime destination for international anglers for billfishes, such as marlins and sailfish, and for several other species of game fishes.

Source: CRFM, 2004.

produced 31% of the global salmonid production (FAO 2, 2009).

5. Fish forms a vitally important part of food and nutrition security in the region. In the Central America and the Caribbean sub-region the annual per capita fish consumption in 2006 was reported to be 9.5kg, and 8.4kg in South America, although there is considerable variation between countries. In French Guiana fish is thought to make up 50% of total animal protein. The region as a whole is a net exporter of fish, generating much needed foreign exchange (FAO 2, 2009).

THE VULNERABILITY CONTEXT OF FISHERS, FISH FARMERS AND THEIR COMMUNITIES IN LATIN AMERICA AND THE CARIBBEAN

6. Whilst fishing and aquaculture are able to generate impressive export figures and play a vital role in national food security, many fisheries across the region are exploited by small scale operators often living in very poor circumstances. Fishers, fish farmers and their communities are often some of the most vulnerable communities, in part because of their location and interaction with dynamic natural conditions, but also because of the lack of clear property rights that characterise their operating environments. Increasing threats are coming from climate change, both directly and indirectly.

7. Box 2 illustrates the kinds of factors that make up the vulnerability context of the livelihoods of coastal people. This vulnerability context is particularly pronounced for the many poor people in the region who depend upon fisheries and aquaculture for their livelihoods. In disaster situations poverty tends to increase vulnerability, and reduce resilience and longer term

adaptive capacity. The Latin America and Caribbean region has 5.6% (30.7 million) of their population living on less than USD1.00/day and 16.6% (91.3 million) living on less than USD2.00/day (Chen and Ravallion, 2008). Other factors that also play a role are gender, age and disability².

8. As the diagram in Box 2 shows, the livelihoods of rural people are complex and the livelihood strategies that they adopt are influenced by many factors. When considering the vulnerability of fishing and fish farming communities it is important to recognise that fisheries is only one part of the livelihood strategies that households adopt and that concerns about health, education, land tenure, wider environmental issues and food security are also important. These are often of greater significance than immediate fisheries related concerns, especially after a disaster, and they will often impact upon how fishers and fish farmers can utilise fisheries resources in their livelihood strategies.

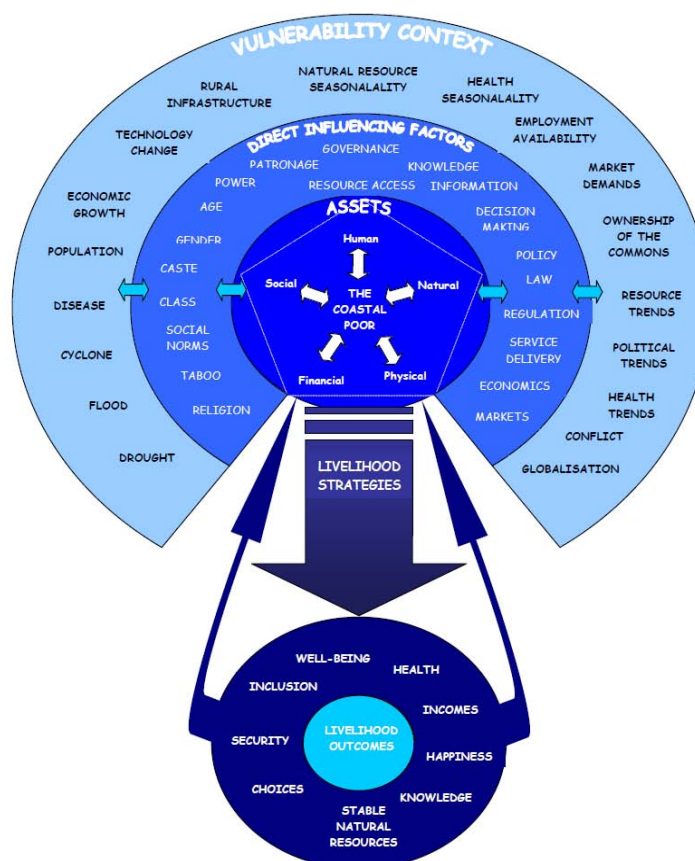
9. It should also be noted that the circumstances surrounding the livelihoods of fishers and fish farmers, particularly disaster-related interruptions to their productive ability, have serious implications for fish consumers through the Latin America and Caribbean region. But fisheries also have the capacity to play a significant role in recovery from disasters by being one of the few productive activities that can be restarted fairly quickly with a limited lead-in time.

Inherent vulnerability

10. The land-water interface which defines the operating environment for small-scale fisheries is

arguably one of the most dynamic environments on the planet. The daily tidal changes in the coast and the seasonal weather patterns are regular factors affecting this dynamism; in addition, the land-water interface is the focus of many sudden hazards such as tsunamis, hurricanes and floods. It is also subject to the changing patterns of river run-off from the land, which, often affect local flooding which can have profound effects on the availability of ecosystem services to the poor.

BOX 2: COASTAL LIVELIHOODS FRAMEWORK



Source: IMM Ltd (undated)

² Please see

http://www.recoveryplatform.org/assets/tools_guidelines/Annotated%20Bibliography%20of%20Gender%20in%20Recovery%20Documents.pdf for an annotated bibliography of gender in disaster responses.

These effects are worsened when externalities³ of global factors, upstream industries or neighbouring countries are concentrated in lakeshore, floodplain and coastal waters.

11. It is often the hostile nature of these aquatic environments that create opportunities for the poor. The remote and inhospitable nature of these environments, often with poor communications and poor market access, make for a less than welcoming environment, which, whilst tolerated by the poor, are often unacceptable to better-off operators who may prefer to seek opportunities in lower risk and higher return environments (Campbell, Whittingham and Townsley, 2006). These remote locations often lack the formal governance institutions of property rights, law enforcement and resource management. In the past, such frontier environments provided opportunities for the poor but more recently they are increasingly creating opportunities for outside investors to invest in tourism and large-scale aquaculture that do not always generate the expected benefits for the poor.

Hazards and disasters

12. The dynamic land-water interface exposes the livelihoods of fishers, fish farmers and their communities to a variety of hazards and disasters. Globally, over the last twenty years, there has been a trend towards an increase in the occurrence of disasters with some countries suffering very severely. The overall global trend in number of disaster-related victims is greatly influenced by the occurrence of single catastrophic events, such as the 2004 Asian tsunami. These result in high variations in disaster impact figures and make trends difficult to discern - in 2009 the figures actually fell.

13. Even when the incidence of disasters decreases the tendency is for the effects to increase. This increase is for a number of reasons (Baas et al., 2008):

- More frequent extreme weather events associated with increasing climate variability and change;
- Agricultural production systems that increase risk (e.g. heavy reliance on irrigated crops resulting in aquifer depletion and salinization, or unsustainable pasture/livestock or bio-fuel production on land that was formerly and more appropriately covered in forest);
- Population growth combined with demographic change and movements leading, for instance, to unplanned urbanization, growing demand for food, industrial goods and services – this is particularly pronounced in the coast; and
- Increasing pressure on (and over-exploitation of) natural resources (such as fisheries).

14. Coastal areas in particular are becoming more affected by inappropriate development which is increasing the concentration of people in coastal areas and leading to depletion of natural resources, such as mangrove and wetlands, and the ecosystem services that they provide especially in the form of protection from coastal hazards.

15. In the Latin America and Caribbean region the diversity of topographic, geological, meteorological, geographic and socio-economic conditions means that there is a large variation in the incidence of hazards and how those hazards materialise into disasters. The conditions, for instance, are quite different between St Lucia and Chile. The predominance of disaster types varies across the region. Storms and flooding are most common in the Caribbean; floods, landslides and earthquakes cause the most significant disasters in South America; and Central America suffers from floods, storms, earthquakes and volcanic eruptions.

16. A recent report by the IDB summarizes the situation in the region: “Latin America and the Caribbean are experiencing two trends that should make disaster risk management an

³ Such as climate change, pollution, sedimentation, water abstraction for irrigation and irregular flooding from dams.

important concern for development planners and governments in the region. First, the number and severity of natural hazard are rising. Second, the vulnerability to these hazards is increasing, mainly due to unplanned urbanization, demographic growth in risky areas and insufficient environmental management. Consequently disaster losses have risen much faster than average economic growth over the last two decades.” (IDB, 2007). The report goes on to say that in the last thirty years disasters have affected around 4 million people, killed 5,000 people and resulted in USD3.2 billion in physical losses.

17. 2009 saw a change in the trend for the region over recent years that resulted in a decline of disasters by 22.4% (Vos et al., 2010) but as mentioned above the occurrence of a small number of large events distort the year on year trends⁴. The 2009 decline in disasters (73 c.f. 94 annual average 2000-2008) has been due mainly to a fall off in meteorological events (see Box 5 for an explanation of classification of different natural disasters) falling to about half of the annual average for 2000-2008 (18 c.f. 35 annual average 200-2008). These accounted for 36.7% of disaster occurrence on average from 2000-2008 down to 24.7% in 2009. The number of hydrological disasters slightly increased (39 to 41) to 56.2% of the total. Climatological disasters caused the most victims, with 3.08 million affected in 2009 compared with an annual average of 1.02 for the 2000-2008 period. Extreme temperatures, droughts and fires caused almost half the victims. Hydrological victims fell from an average of 2.94 million to 2.26 million. The cost of damages fell from an average annual figure of USD46 billion to USD13.2 billion (Vos et al., 2010).

BOX 5: CLASSIFICATION OF NATURAL DISASTERS

Biological: infections outbreaks, HIV/AIDS, insect infestations, invasions of non-indigenous species and parasites for farmed fish.

Geophysical: Earthquakes, volcanoes, mass movements such as rock slides, avalanches.

Hydrological: flood, storm surge, tsunamis.

Meteorological: Tropical cyclones, storms.

Climatological: heat waves, extreme winters, extreme monsoons, droughts, wildfire.

18. Globally the impact of disasters on coastal communities is particularly pronounced in the case of sub-sea events resulting in tsunamis (geological), storm surges and coastal flooding (hydrological), and coastal and lakeshore storms (meteorological). Droughts can also affect river flows, wetland areas, and lake communities. More indirectly droughts and other events can cause large migrations of people into areas normally occupied by fishing and fish farming communities and can interact directly with them through competition for resources.

19. A number of “disaster and hunger hotspots” (based on the number of people affected by disasters in the period 2000-2008) have been identified in Latin America and the Caribbean including Bolivia, Haiti and the Dominican Republic (Palombi 1, 2009).

20. Given the importance of the role of women both as participants in the fisheries sector and dependents on the sector for their livelihoods, there is need to pay particular attention to the different DRM-related needs and vulnerabilities of men and women as well as their diverse potential contributions to effective DRM interventions (Palombi 2, 2009).

21. Biological disasters, such as the invasion of non-local species in coastal areas, for example starfish on reefs, lionfish, or diseases amongst farmed fish and shrimp, can have devastating effects on local resources and livelihoods.

Climate change

22. The Latin America and Caribbean region is highly vulnerable to the adverse effects of climate change and adaptation to this change is regarded as a priority for economic and social development (ECLAC and IDB, 2010). The IPCC predicts an increase in temperature, and an increase in surface water temperature, rising sea levels, increased precipitation, increased

⁴ The CRED figures for disasters in the Vos report do not differentiate between the different countries in the Americas.

likelihood of severe weather events for much of the area of Latin America and Caribbean region where fisheries are important.

23. In the small island states of the Caribbean sea-level rise is expected to exacerbate inundation, storm surge, erosion and other coastal hazards, thus threatening vital infrastructure, settlements and facilities that support the livelihood of island communities.

24. Climate change is likely to have profound effects on fishing and fish farming communities in Latin America and the Caribbean (Cochrane et al., 2009). Species distributions are being changed with species moving more towards the poles. Ecosystem productivity in the tropical waters is likely to be reduced because of surface water temperature increases which will have feedback effects on food chains. Increased temperatures are also likely to adversely affect coral reefs with greater incidences of coral bleaching occurring, especially in the wider Caribbean. Temperature changes will also affect fish physiology with implications for both capture fisheries and fish farming. Increased ambient air temperatures could have very significant effects on the types of fish that can be cultured. Increasing ocean acidification is also likely to affect reef structures and a wide array of other marine organisms with calcium carbonate structures.

25. Seasonal weather patterns are likely to change with some areas experiencing greater periods of drought and others with more floods. Extreme weather events, such as storms, are likely to increase in frequency affecting fishing operations and coastal and wetland flooding is likely to be more frequent. Storms are likely to damage fishing boats, fish processing facilities, landing infrastructure and houses. Increased precipitation in some areas will lead to the erosion of riparian lands and to greater sedimentation in coastal areas affecting seas grass and reef productivity. Sea level rise is likely to increase coastal flooding and the ingress of salt water into coastal areas will affect agricultural production and fish farming. Low lying coastal areas in all countries will be affected as are inland floodplains such as the Amazon basin. This combined with changes in seasonality and changes in freshwater run-off could have very significant effects on flooding patterns and on fish reproduction and migration patterns. Sea level rise, although it may take place slowly, will make coastal fisheries and aquaculture communities more exposed to storms and tsunamis.

26. Changes in fish abundance and distribution are likely to affect their availability to local fisheries and may result in mass migration of fishers affecting the wealth generated by fisheries in localised areas. For some people, their traditional knowledge will become redundant as species compositions change, for other people traditional knowledge will provide the means to adapt. Changes in weather patterns will affect traditional fish processing methods. In some locations this may be of benefit for processors, in other locations poor weather in fish landing seasons will affect drying rates with the potential for substantial losses. There are also likely to be changes in access roads to markets, whenever unusual flooding or heavy rains appear. These post-harvest effects will be particularly important to women who, in many parts of the region, play the major role in fish processing and trade.

27. Where increased shortage of freshwater arise these are likely to increase conflicts over resource use between fish farmers, farmers and pastoralists, and between them and people who need water for domestic purposes. There is also likely to be significant decreases in agricultural production in the region with adverse consequences for food security and export revenues (ECLAC and IDB, 2010).

28. Changing weather patterns are also likely to affect non-fisheries livelihood strategies and in many cases increase pressure on people to join the fishery where other opportunities have decreased. Efforts to redirect fishing through alternative livelihoods will also need to take into consideration climate change effects on livelihood options.

29. Key coastal hot spots for the region include Mesoamerica and the Caribbean that will suffer from a greater incidence of extreme weather events, coral reef and mangrove loss, and loss of biodiversity; and Northeast and northwest South America will suffer mangrove loss (ECLAC and IDB, 2010).

RESPONDING TO VULNERABILITY

30. Climate change is likely to have a worsening effect on periodic disasters in the region especially for fishers, fish farmers and their communities. This interconnectedness of hazards and climate change suggests that disaster risk reduction (DRR) and climate change adaptation (CCA) need to be integrated into a combined strategy. Given the overlaps and complementarity of these approaches this combined strategy is likely to increase efficiency, reduce costs, and increase effectiveness and sustainability. Recent research suggests that this needs to combine a focus on vulnerability reduction and the enhancement of resilience (Gero et al., 2010). This represents a convergence of goals of DRR and CAA which is perhaps most necessary at the land-water interface where fisheries and aquaculture are most active. In addition the interconnectedness of the vulnerability of the poor to both climate change and disasters would suggest that CCA and DRR need to be linked with these in an even more integrated approach.

31. Disaster risk management (DRM) goes beyond preparedness, prevention and mitigation, which forms the core of DRR, to incorporate emergency response, recovery and rehabilitation within a management framework (Baas et al. 2008). As discussed above, fishing and aquaculture communities in parts of Latin America and the Caribbean are very prone to the effects of disasters. Managing the effects of hazards and disasters (disaster risk management or DRM) involves three distinct phases: 1) reducing that vulnerability, 2) responding to emergencies when they arise, and 3) rehabilitating communities after the emergency has passed.

32. The vulnerability of communities is an interaction of their exposure to hazards and their ability to withstand (sensitivity), respond to, and recover from (adaptive capacity), those hazards. Reducing the effects of hazards can be achieved through prevention, mitigation, preparedness and effective response. Resilience to those effects can be achieved by developing coping and adaptive strategies, which respond to those hazards and return communities to a pre-disaster situation or better.

33. These approaches need to be implemented at a number of different levels from global, regional, sub-regional, national to local level. They require an integrated approach to institutional engagement that works across sectors and between levels. This in turn requires considerable coordination in preparation, response and rehabilitation. It also requires that DRM becomes much more central in sector development policies, strategies and plans, and that tools to implement those plans are developed and deployed. This is particularly so in the fisheries and aquaculture sector where communities are so vulnerable to adverse change. This in turn requires a better understanding at the sectoral level of the hazards affecting different areas, the vulnerabilities of different communities and stakeholder groups, the coping and adaptive abilities of those groups, and the capacities of different levels of institutions to prepare for and respond to hazards. It also requires strong participation by the different stakeholders involved and this in turn requires adopting new approaches to empowerment of communities, to the development of community-based disaster risk management processes, to establishing operational partnerships and to sharing and learning lessons from past experiences.

THE POTENTIAL FOR INTERVENTION

34. Interventions within the fisheries and aquaculture sector must be fully integrated with wider national, sub-regional and regional strategies. Key strategies emerging from these, adapted for the fisheries and aquaculture sector, include:

- To fully recognize the interconnectedness of climate change adaptation (CCA) and disaster risk management (DRM), to integrate them into a combined strategic approach and to mainstream them as an integrated part of fisheries and aquaculture development strategies;
- To more closely link poverty reduction to sector development, ecosystem approach to fisheries and aquaculture, DRM and climate change;

- To mainstream gender in sector responses to DRM and climate change.
- To strengthen national mechanisms, legal frameworks and capacities for mainstreaming and implementing DRM and CCA strategies and programmes in the fisheries and aquaculture sector;
- To develop fisheries and aquaculture policies, strategies, and practical tools for decision makers and practitioners to help facilitate implementation of regional approaches and the Hyogo Framework of Action⁵ within the fisheries and aquaculture sector.
- To strengthen long-term capacities at regional, sub-regional, national and local levels to systematically contribute to building resilience to hazards in fishing and aquaculture communities.
- To ensure that institutions concerned with fisheries and aquaculture development at the local, national, sub-regional and regional levels develop and maintain sustainable mechanisms of coordination to support the implementation of regional programmes for DRM and CCA across the fisheries and aquaculture sector.
- To develop partnerships and mobilize resources to contribute to the implementation of programmes and projects within the fisheries and aquaculture sector.
- To work with a range of other sector agencies to implement systematic approaches to livelihood diversification for poor fishing and aquaculture communities in ways that build their resilience and reduce their vulnerability.
- To adopt a holistic approach which respond to the complexities of the livelihoods of fisheries and aquaculture communities in the design and implementation of disaster preparedness, response and recovery programmes in fisheries and aquaculture policies and plans.
- To ensure that gender aspects of DRM and CCA are fully understood within the fisheries and aquaculture sector and are mainstreamed in sector policies, strategies and plans.
- To reinforce institutional and operational capacities dedicated to risk management of natural disasters within the fisheries and aquaculture sector, build local and national capacities to undertake hazard identification and analysis, undertake risk assessments and compile risk mapping, strengthen local early warning and response capacities, develop education and training for disaster mitigation, train networks of national and local disaster management experts, support the development of prevention and crisis management policies, improve preparedness for impact and needs assessment and resource mobilization, develop mechanisms and tools aimed at reducing risks and losses caused by natural disasters, improve the rebuilding and the rehabilitation in the aftermath of natural

⁵ The Hyogo Framework for Action (HFA) is at the core of the actions for the region as with other parts of the world. The HFA is a 10-year plan to make the world safer from natural hazards. It was adopted by 168 Member States of the United Nations in 2005 at the World Disaster Reduction Conference, which took place just a few weeks after the Asian Tsunami. <http://www.unisdr.org/we/inform/publications/1037>

disasters, and improve targeting, implementation and monitoring and evaluation of relief and rehabilitation assistance.

35. Where possible these should be implemented with clear linkages to existing national development planning processes and frameworks such as Poverty Reduction Strategy Papers (PRSP), National Adaptation Programmes of Action (NAPA) and the United Nations Development Assistance Framework (UNDAF).

RECENT INITIATIVES AT GLOBAL LEVEL AND IN THE REGION

36. FAO held an Inception Workshop of the FAO Extra-Budgetary Programme on Fisheries and Aquaculture for Poverty Alleviation and Food Security, in 2009, where the synergies between managing climate change and disaster risk reduction/management were explored (FAO, 2009). At regional workshops in Bangkok (Thailand), Maputo (Mozambique) and San José (Costa Rica), held in 2010, the integration of fisheries and aquaculture–DRM–CCA were discussed in more detail (FAO, 2010 and FAOa and b, 2011). Options for taking this integration forward were outlined. In particular the San José regional workshop recommended to:

Strengthen partnerships between stakeholders working on disasters, climate change and fisheries at global, regional, subregional and national levels:

- Develop a shared vision and strategic partnership/alliance on integrating DRM/CCA into fisheries.
- Coordinate and develop appropriate international and/or regional instruments and networks for DRM, CCA and fisheries.
- Formalize and strengthen existing mechanisms to improve the interactions between the main international and regional stakeholders in DRM, CC and fisheries, including with the development banks.
- Greater information exchange between the fisheries and the disasters stakeholders/organizations.
- Regional fishery bodies (RFB) to take the lead and advocate the inclusion of fisheries into regional and national DRM and CCA regional and national mechanisms.
- FAO and RFBs to represent fisheries into global and regional platforms on DRM and CCA.
- Build public private partnerships at national levels (including NGOs and research and knowledge communities).

Strengthen information flow, policy coherence, institutional structure

- Integrate DRM and CCA in fisheries policies and plans at national level.
- Regional Institutions responsible for DRM to contextualize and mainstream the 5 priority actions of the HFA at national levels.
- Raise awareness, develop capacity in relation to DRM/CCA for fisheries at all levels.
- Strengthen information flow including people centred early warning systems.
- Establish/ strengthen community based organizations in DRM/CCA integrating gender and cultural consideration.
- Establish institutional arrangements to move from local to national level and vice versa.
- Capture and disseminate local and indigenous knowledge and good practices.
- Develop regional research capacity and involvement.

Encourage investment for DRM

- Develop regional programmes to reduce the vulnerability of fishers, fish farmers and their communities to disasters and climate change and submit for funding.

37. In the Caribbean, FAO is working with the Caribbean Regional Fisheries Mechanism (CRFM), the Caribbean Disaster Emergency Management Agency (CDEMA), the Caribbean Community Climate Change Centre (CCCCC), WECAFC, and other partners in organising a workshop on “Formulation of a strategy, action plan and programme proposal on disaster risk management, climate change adaptation in fisheries and aquaculture in the CARICOM region”. The following outcomes are expected from the workshop:

- An Assessment study on the interface between DRM, CCA and fisheries and aquaculture in the CARICOM region, with a focus on small scale fisheries and aquaculture (SSF/A)
- A Strategy and action plan for integrating DRM, CCA and fisheries and aquaculture, with a focus on SSF/A.
- A Programme proposal with supporting project concept notes towards implementation and resource mobilization
- Awareness raised amongst the various stakeholders on DRM, CCA in relation to fisheries and aquaculture and vice versa in the CARICOM region

SUGGESTED ACTION BY THE COMMISSION

38. The Commission is invited to comment on the impacts of disasters and climate change on the sector in the region and suggest action by WECAFC members and the Secretariat regarding these issues.
39. The Commission is also invited to highlight the issue(s) and action with regards to DRM and CCA that it would like to bring to the attention of regional and international fora, in particular the 32nd FAO Regional Conference for Latin America and the Caribbean, which will be held in Buenos Aires, Argentina, from 26 to 30 March 2012, and the Thirtieth session of the FAO Committee on Fisheries (COFI), which is scheduled for 9-13 July 2012.

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