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ASIA-PACIFIC FISHERY COMMISSION

Executive Committee

Seventy-sixth Session

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BUILDING RESILIENCE TO CLIMATE CHANGE

CLIMATE CHANGE

1. On 12 December 2015 in Paris, the 21st Conference of the Parties (COP21) to the United Nations Framework Convention on Climate Change (UNFCCC) concluded negotiations on a landmark agreement (the Paris Agreement[1]) to limit global average temperatures to below 2°C and to pursue efforts to limit the temperature increase to 1.5°C. The Agreement will enter into force when it is ratified by at least 55 Parties that in aggregate account for at least 55 percent of total global emissions. The commitment period will commence in 2020 following the close of the extension period for the Kyoto Protocol and last at least until 2030.

2. The Agreement recognizes "the fundamental priority of safeguarding food security and ending hunger, and the particular vulnerabilities of food production systems to the impacts of climate change" and underlines the need to "increase the ability to adapt to the adverse impacts of climate change and foster climate resilience [...] in a manner that does not threaten food production." The Agreement also notes “the importance of ensuring the integrity of all ecosystems, including oceans, and the protection of biodiversity […]”.

3. Mitigation remains the core objective of the Paris Agreement; however it reflects increasing attention to adaptation, loss and damage, capacity building, technology development and transfer, and climate finance.

4. To tackle the drivers and impacts of climate change, the Paris Agreement requests countries to develop and implement Nationally Determined Contributions (NDC). While countries are not legally bound to achieve their NDC contributions, they have agreed to be bound to report their progress

[1] https://unfccc.int/documentation/documents/advanced_search/items/6911.php?priref=600008831

through an enhanced transparency framework to monitor country progress toward their NDCs. NDC cover all sectors, greenhouse gas emissions and mitigation as well as adaptation actions.

5. In the Agreement, UN Organizations are encouraged to support developing countries on enhancing adaptation actions and to report their efforts to UNFCCC. The Agreement decides that the Green Climate Fund, GEF, Least Developed Countries Fund and Special Climate Change Fund shall serve the Agreement and requests the GCF to expedite support for the least developed countries and other developing country Parties for the formulation and implementation of National Adaptation Plans (NAP).

6. It is important for the fisheries and aquaculture sector to be prepared for and to engage in the national UNFCCC-linked processes, such as the development of Nationally Determined Contributions (NDC), and National Plan of Action (NAP).

7. In 2007, COFI identified the need to address threats posed by climate change in fisheries and aquaculture and requested FAO to undertake a scoping study[2] to identify the key issues on climate change and fisheries, initiate a discussion on how the fishing industry can adapt to climate change, and for FAO to take a lead in informing fishers and policy makers about the likely consequences of climate change for fisheries. As a result of this study, the 29th session of COFI noted climate change to be one of the Fisheries and Aquacultures Divisions' priority areas of work. Since then, COFI has reiterated the need to improve understanding of the implications of climate change and ocean acidification on fisheries and aquaculture.

8. Over the past fifteen years, the sector has greatly improved its understanding of climate change implications to their fisheries and aquaculture sectors, through global and local monitoring of the aquatic systems, improved forecasting and impacts models, implementation of vulnerability assessments specific to sector, climate-proofing sector policies, participatory adaptation processes, as well as analyzing the sector's role in GHG mitigation. The latest IPCC reports[3] document much of this improved knowledge, however, they also highlight significant gaps, such as downscaling impacts, adaptation and mitigation information for food security and related food production sectors, and understanding implications for inland aquatic systems. To help remediate these gaps, IPCC AR6 Special Reports on 1) land use, land degradation and food security and 2) oceans and cryosphere will be undertaken and should include fisheries an aquaculture production systems.

9. FAO, along-side many partners, has been assisting countries in understanding climate change and ocean acidification implications to fisheries and aquaculture, in measuring the greenhouse gas emissions and mitigation potentials within the sector, in identifying and implementation adaptation priorities, in representing the sector in national and global climate change discussions and in accessing climate finance[4]. This work has been guided by the FAO Fisheries and Aquaculture Climate Change Strategy (2011-2016)[5], which is nested within the broader strategies and frameworks of FAO and coordinated through the Global Partnership for Climate, Fisheries and Aquaculture (PaCFA).

10. The 31st Session of APFIC emphasized that adaptation and mitigation of climate change impacts related to fisheries and aquaculture is a very important issue in the region and recommended that APFIC should review the effects of climate change on fisheries and aquaculture in the region and provide advice to member countries on strategic planning for adaptation and mitigation measures for

[2] www.fao.org/docrep/012/i0994e/i0994e00.htm
[3] www.ipcc.ch/report/ar5/
[4] For an overview of FAO's support to countries and climate change-related publications, please refer to background documents COFI/2016/SBD.19 and COFI/2016/SBD.20
[5] Refer to COFI/2016/Inf.18

the sector. The 31st Session further suggested that this advice should cover the key aspects of : likely effects on fisheries and aquaculture resources and production; implications for fisheries and farmers vulnerability and potential strategies and opportunities for adaptation and mitigation.

11. The APFIC/FAO regional consultative workshop "Implications of climate change on fisheries and aquaculture: challenges for adaptation and mitigation in the Asia-Pacific Region" was convened on 24-26th May 2011, in Kathmandu, Nepal[6]. It was convened in collaboration with the Directorate of Fisheries Development, Department of Agriculture, Ministry of Agriculture and Cooperatives of the Government of Nepal. The APFIC /FAO Regional consultative workshop was the APFIC Secretariat response to the recommendations of the 31st Session of APFIC.

12. The regional consultative workshop brought together 50 participants from member countries and competent regional organization partners to further raise the awareness of all relevant stakeholders to the threats of climate change the regional fisheries and aquaculture sector through sharing of best available information and knowledge, to discuss and analyze specific potential impacts of different types of climate change patterns on marine capture fisheries, inland capture fisheries, coastal aquaculture and inland aquaculture.

13. The workshop reviewed material prepared by APFIC Secretariat[7] and the presentations of the actions which have been taken national government and international and regional organizations in addressing the climate change issue in the fisheries and aquaculture context. It further analyzed the strength and weakness of the region in fisheries and aquaculture related climate change adaptation and mitigation, and identified the capacity gaps and other constraints of the APFIC member countries in effectively coping with challenge of climate change and maintain the sustainability fisheries and aquaculture industry in the region.

14. The following summary recommendations were reviewed and adopted in plenary:

Advocate for increased policy emphasis and financial resourcing to climate change adaptation & mitigation in the sector

- Increase resourcing to climate change adaptation and mitigation in fisheries and aquaculture, especially in countries with high dependence on these resources.
- Look for ways to harness adaptation benefits from mitigation strategies (within and outside sector)
- Emphasize comparative advantage of aquaculture in producing animal food in terms of GHG emission.
- Focus on how to deliver financial resourcing down to local levels
- Access Payment for Environmental Services (PES) for protection of coastal , inland ecosystems and fisheries resources
- Look for ways to capture opportunities presented by carbon credit and carbon sequestration incentive schemes
- Develop compensating funds from the national/domestic economy – making funds accessible for climate change activities/ adaptation (revolving fund)
- Government should develop or access innovative financial mechanisms, involving communities, to promote adaptation
- Promote sector insurance mechanisms and develop climate-based risk transfer instruments [this requires government support]

[6] For the workshop report, please refer to http://www.fao.org/3/a-ba0084e.pdf
[7] For the background report, please refer to http://www.fao.org/apfic/publications/detail/en/c/421249/

- Seek regional resources for climate change adaptation, and build capacity of national agencies in understanding resourcing opportunities and how to access these resources.

Strengthen governance and integrate climate change adaptation into decision making

- Integrate climate change into existing fisheries and habitat management/program frameworks
- Where the national climate change policies and/or strategy do not include the fishery or aquaculture sector, seek to review or supplement this (e.g. update NAPA, supporting review of climate change on the sector)
- Initiate the assessment of vulnerability of systems and people, using risk-based approaches to prioritize response and action
- Establish institutional mechanisms to deal with climate change issues with mandatory communication, consider creation of a national centre for climate change
- Establish focal point for climate change in fisheries agencies/ministry of fisheries & establish climate change focal points in each ministry to encourage two-way communication

Improving monitoring, tracking and assessment

- Strengthen and target support to climate monitoring to inform decision making. Increase climate change monitoring capacity
- Develop a baseline monitoring system that will give information for policy and planning (incorporating participatory monitoring approaches)
- Recognise the lack of climate change studies and limited experience within the country, and respond with capacity building initiatives.
- Downscale global models to national and local levels
- Develop ocean monitoring network to better understand and predict climate change impacts on fish
- Strengthen inland fisheries monitoring
- Develop simpler screening tools – adapted to each country and context
- Develop simple approaches that will help prioritize where to focus efforts

Strengthen management of fisheries and aquaculture to improve adaptation and resilience to climate change

- Recognize current problems in weak fisheries management make the sector vulnerable and these must be addressed
- Identify best practices in fishery management, identify gaps and look for solutions to bad management practices
- Strengthen management by engaging local fishing/ fishery dependent communities (ecosystem approach)
- Improve governance of aquaculture taking into account climate change vulnerability and options for adaptation

The involvement of communities and local institutions in climate change adaptation is critical for success

- Building capacity of communities to adapt to change
- Strengthen community preparedness and address their vulnerability
- Focus on climate change as an opportunity to bring fisheries and aquaculture to national attention, as it relates to food and job security
- These would be implemented through a strongly participatory approach.

Recognize the different gender related impact of climate change

- Take the opportunity for reducing gender-based inequalities in the sector by making sure women are included in adaptation strategies

Develop accessible information for decision makers (in other sectors).

- Climate change communication and advocacy for the fishery and aquaculture sub sectors is essential .
- Strengthen cooperation and climate change communication between sectors in governments, ministries and relevant private sector, education etc.
- Focus on translating science to management, and the associated science communication

Capacity building

- There is strong need for human capacity development to meet the challenges of climate change
- Strengthen capacity on aquaculture related adaptabilities and mitigation
- Support & training on decision making in case of high uncertainty
- Improve awareness of the impacts of climate change fisheries and aquaculture
- Institutional development to incorporate climate change, including transfer of knowledge through secondments and exchange
- Strengthening preparedness to climate related disasters and threats (e.g. safety at sea, flood/coastal protection, modified aquaculture systems/management)
- Integration of university research into climate change dialogues

Recommendations for targeted research and development, knowledge development

- Address information/data/technology gaps in climate change adaptation and mitigation
- Changing locations of fish stocks, resource assessments are needed
- Develop opportunities presented by increased fish stocks
- Promote green technology in capture fisheries
- More research on habitat restoration, especially mangroves, wetlands & coral reef rehabilitation
- Opportunities for to restocking/enhancement (but a note potential risks)
- Diversification of aquaculture species
- Technology development to use new species and facilitating markets for these new species
- Stimulating development and dissemination of low carbon footprint/green/eco-friendly aquaculture technologies
- Develop locally-based and low-emission fish culture inputs (e.g. fish feed)
- Develop and introduce Better Management Practices in aquaculture to accommodate climate change adaptations

Specific recommendations to regional organizations to support member countries

- The region needs mechanisms for lesson learning and sharing on best practices in adaptation and mitigation (Regional CC stakeholder forum)
- Regional organizations can assist in coordinating responses to transboundary issues using ecosystem approaches (EAF/EAA) and regional cooperation relating to climate change.
- Develop and articulate regional scientific needs
- Promote region-wide monitoring of key climate change related indicators.
- Make use of standard frameworks for valuing ecosystem services to support decision making in climate change
- Assist in collating current status assessments for ecosystems, habitats, species, freshwater supply
- Seek opportunities to engage regional cooperation to develop solutions to address climate change and develop series of connected MPAs/regional MPA
- Promote data/information sharing
- Link to integrated cyclone prediction system, coupled with synthesis of changes in cyclone patterns [note fisheries organizations unlikely to lead on this]
- Improve regional understanding of resource use/allocation particularly as it relates to fisheries and aquaculture interests.

- Represent the sector in non fishery forum and other national and regional bodies (e.g. economic bodies, multi-sectoral dialogues etc.)

Specific recommendations to FAO, APFIC and Regional Organizations to Support to improved integration of the sector in climate change planning

- Assist counties in integrating fisheries and aquaculture into national and regional climate change and related Disaster Reduction and Mitigation (DRM) plans and strategies. Where a NAPA may not include specific or comprehensive coverage in the NAP, there may be opportunities to develop an updated or revised NAPA. Analysis of the NAPA to rebalance this is possible and support to APFIC member countries in this regard may be of interest for members to follow up with FAO.
- Assisting in the development of an adaptation (and mitigation) strategy for the sector/integrating the sector into national plans and regional strategies (where there is a specific national request for support)
- Assist member countries to develop policy and legal guidance and awareness raising for integrating climate change into fisheries and aquaculture
- Support coordination of climate change activities within the sector throughout the region
- Promote partnerships to develop areas for collaborative actions to implement the national/sector plan
- Further investigate impacts of and vulnerabilities to climate on the food and livelihoods contributions of fisheries and aquaculture (on top of other drivers) at the local, national and regional levels to continue advocacy of the sector in climate change discussions.
- Promote the findings of the workshop into inter-governmental fora.

15. Based on the recommendations of the 2011 APFIC workshop, the FAO has been assisting APFIC members in 1) implementing National Plans of Action (NAPA) through the Least Developed Countries Fund managed by GEF (e.g. Bangladesh, Cambodia, Myanmar and Timor-Leste (in development)); 2) integrating climate change into regional projects (e.g. BoBLME, RFLP and ISLME); 3) supporting discussions on Green Climate Fund activities in fisheries and aquaculture (e.g. Myanmar, Viet Nam, Maldives, Sri Lanka); 4) responding to emergencies (e.g. Philippines); 5) learning and testing adaptation options for fisheries and aquaculture (e.g. Global FishAdapt conference[8], Lower Mekong River Basin workshop on environmental monitoring[9], Philippines TCP); and 6) testing means to improve fuel efficiency in fishing fleets (e.g. Thailand). The FAO is considering co-organizing a technical workshop towards an inland fisheries and climate change global assessment, to take place in Bangkok later in 2017.

SUGGESTED ACTIONS BY THE EXECUTIVE COMMITTEE

16. The Executive Committee is invited to:

a. Consider the draft FAO Fisheries and Aquaculture Climate Change Strategy presented in COFI/2016/Inf.18 for its relevance to the work of APFIC and the potential need for an APFIC Climate Change Strategy/Action Plan.

b. Advise on climate change related activities to be supported by APFIC to further implement the 2011 priority recommendations of the APFIC climate change workshop, such as a follow-up regional technical workshop, updated technical report as well as climate finance-related activities.

[88] See http://www.fishadapt.com/

[9] See http://www.fao.org/3/a-i6641e.pdf