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منظمة الأغذية والزراعة للأمم المتحدة | 联合国粮食及农业组织 | Food and Agriculture Organization of the United Nations | Organisation des Nations Unies pour l'alimentation et l'agriculture | Organización de las Naciones Unidas para la Agricultura y la Alimentación

ASIA-PACIFIC FISHERY COMMISSION

Executive Committee

Seventy-fifth Session

Colombo, Sri Lanka, 11-13 November 2014

APFIC INTER-SESSIONAL ACTIVITIES – CULTURE-BASED FISHERIES AND FISHERY ENHANCEMENTS

1. The Thirty-third Session of the Asia-Pacific Fishery Commission (APFIC) endorsed the proposed workplan presented by the secretariat, based on the recommendations of the Seventh-fourth Executive Committee Meeting. The workplan is presented as an information document APFIC:EXCO/14/INF 05.

SECOND REGIONAL CONSULTATIVE WORKSHOP (May 2015)

2. The APFIC biennial workplan agreed to the convening of an FAO/APFIC regional consultative workshop on the identified Commission priority theme covering the specific area of culture-based fisheries and fishery enhancements. The prospectus for the workshop is provided as APFIC:EXCO/14/INF 08.

3. The working title of the consultative workshop is: *"Improving the Contribution of Culture-based Fisheries and Related Fishery Enhancements in Inland Waters to Blue Growth"*

4. The date and venue are to be determined, but tentatively, 3 days in March 2015, in Sri Lanka.

BACKGROUND

ASIAN INLAND FISHERIES ARE A MAJOR SOURCE OF INLAND FISHERY PRODUCTS

5. Fish produced from inland fisheries are a major source of food and food security throughout the region (Table 1 and Figure 1). These inland fisheries are often overlooked in national statistics and in consideration of food security, yet they are present throughout the large river floodplains, deltas and rice farming areas of the region. The large irrigation tanks and reservoirs of the region also provide considerable quantities of fish in some countries.

6. Eleven APFIC member countries in the Asian region produce 65.5 percent of global fish catch from inland fisheries. Asian inland fisheries production shows a continuous strong increase, rising 50 percent over the past decade (compared with 21 percent in the rest of the world's inland fisheries. There are a number of notable increases in inland fisheries production amongst some Asian countries. In some instances production increases of over

50 percent more than the previous year have been reported during the past decade (this is rather unlikely even in the highly variable inland fisheries). In another case, consistent annual increases of 10–15 percent are reported, leading to a massive increase over the decade.

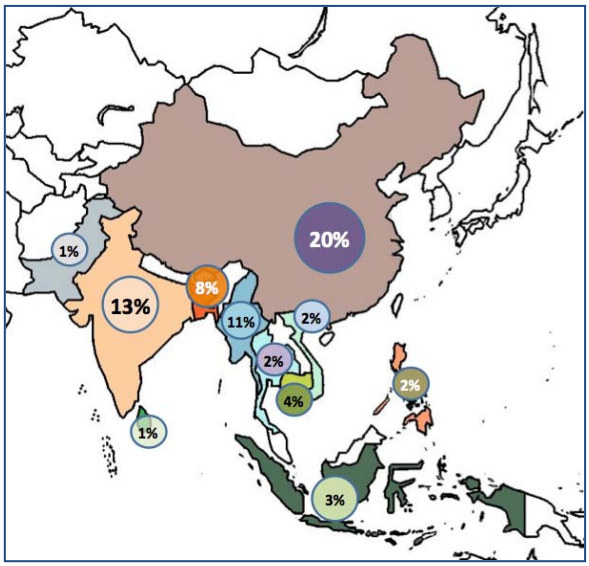
7. Most countries in the APFIC region report increasing production from inland fisheries (2002–2012). Very large decadal increases are reported by Myanmar (389 percent), Sri Lanka (170 percent). Japan and Viet Nam are notable exceptions, reporting decreases of 47 and 10 percent respectively over the decade. In cases where very large changes in production have been reported, some form of validation might be helpful, especially in cases where the inland fishery production is not based on catch collection data but on estimates.

8. Aggregated national production figures do not reveal the locations precisely of the inland fishery production and give rise to the perception that production may be spread nationwide. In fact, inland fisheries production is often focused in very specific areas.

Table 1: Inland fishery catches & percentage of global production (2012)

Country	Tonnes	Percent
China	2,297,839	19.8
India	1,460,456	12.6
Myanmar	1,246,460	10.7
Bangladesh	957,095	8.2
Cambodia	449,000	3.9
Indonesia	393,553	3.4
Thailand	222,500	1.9
Viet Nam	203,500	1.7
Philippines	195,804	1.7
Pakistan	120,240	1.0
Sri Lanka	68,950	0.6
Rest of the world	4,014,923	34.5
Total global inland fishery production	**11,630,320**	

Figure 1: Map indicating percentage contribution of Asian countries to global inland fishery catch



CULTURE-BASED FISHERIES

9. Culture-based fisheries (CBF) are a diverse set of activities, which involve the stocking and release into the environment, of juvenile aquatic species that have been raised in aquaculture facilities or transferred from the wild. CBF is considered one means to increase production and value from aquatic ecosystems. Stocking has also been used in efforts to re-establish populations of threatened and endangered species.

10. In 2003, FAO analyzed some of the major issues associated with culture-based fisheries. These issues, which were discussed at the Second Session of the COFI Sub-Committee on Aquaculture (COFI/AQ), comprised inter alia efficacy, cost-effectiveness, environmental impacts, conservation, monitoring and reporting, and social and economic considerations. Since then, there has been some progress in understanding the contribution that culture-based fisheries make to global fish production and economic development, but much more is needed.

11. More recently, FAO, the Asia-Pacific Fishery Commission and NACA have sought to increase the understanding of culture-based fisheries role in fishery management and improved livelihoods. The FAO/APFIC/NACA expert workshop on Fisheries Enhancement (February 2010, Pattaya, Thailand) highlighted the considerable expansion of inland fishery enhancement activities in the region and their important contribution to inland capture

fisheries, the livelihoods of the traditional inland fishers and their contribution to conservation of aquatic biodiversity. It also identified the major problems in current enhancement and conservation activities and their potential impacts on the biodiversity and ecosystem.

- Encouraged members to undertake inland fishery enhancement activities under a management framework, so that they can be monitored and reviewed.
- Recommended that information on the costs benefits and the environmental impacts of such measures should be collected and reported.

12. The need for the development of regional guidance on responsible enhancement of inland waters was also noted.

13. At the global level, FAO addressed the issue at COFI/AQ in 2013 and subsequently at the 31st Session of COFI, noting that the lack of standard terminology and inconsistent reporting are still pervasive and hinder accurate evaluation of culture-based fisheries and related enhancements as a viable fishery management option. The advances in breeding technologies that are conducive to increased fry production in hatcheries, coupled with the rising importance of eco-labelling as well as certification of fish and fish products and the establishment of measures facilitating adaptation to and mitigation of the impacts of climate change, will all greatly influence the role of culture-based fisheries in the future.

14. Several countries in the APFIC region have indicated that their rapidly increasing production from inland fisheries is due to their culture-based fishery activities. Although the technology necessary to produce and release large numbers of juveniles is straightforward for many aquatic species, concerns have been raised regarding cost-effectiveness and social and ecological impacts of stocking programmes.

15. Furthermore, it has proven difficult to monitor and report accurately the contribution stocking makes to fishery production and livelihoods.

RESPONSIBLE MANAGEMENT OF CBF

16. A primary responsibility of fishery managers is to establish clear objectives for the stocking programme and resulting fishery. Management objectives may be to rebuild a fishery, to enhance a fishery above normal production levels, to improve the profitability of a fishery, to create new fisheries, to provide employment or recreation, or to re-establish or augment endangered species. These different objectives will require different strategies and resource management plans, and will impact on society and the environment in different ways.

17. When stocking is an ongoing part of fishery management the term 'culture-based fishery (CBF)' is used. Stocking may also be used for a limited period of time to introduce fish to an area with the expectation that they will form self-recruiting populations and stocking will no longer be required to support the fishery (e.g. the Nile perch fishery of Lake Victoria). Accurate terminology and clear objectives will facilitate responsible stocking programmes and improve stakeholder participation in the programme.

18. These are complicated and inter-related considerations that will need to be addressed responsibly and with regard for management objectives. Resource managers and policy makers, therefore, need guidance on how to plan and manage a responsible stocking programme based on:

- the status of the resource and the environment
- potential impacts on biodiversity
- potential impacts on local communities that may lose access to habitats and resources once aquaculture and stocking programmes have been initiated
- assessment of possible alternatives to stocking

19. There is a need to develop guidelines hat accommodate risk and uncertainty as well as enhancing protocols associated with other aspects that require decision-making so stock enhancement programmes are carried out in an environmentally friendly, socially acceptable and economically justified manner.

20. Draft guidelines, based on existing best practices, have been developed by the Asia-Pacific Fishery Commission to help resource managers and decision makers address these issues.

REGIONAL CONSULTATION OBJECTIVES

21. It was in recognition of the above issues, that the Government of Sri Lanka, the Asia-Pacific Fishery Commission, FAO and partners, wish to convene a regional consultation to bring together existing and new material, as well as experts on stocking and culture-based fisheries to review and recommend best practices (guidelines) for responsible stocking programmes. The objectives of the regional consultation are:

- To review the main problems/opportunities for culture-based fisheries and related fishery enhancements in inland waters of the APFIC region
- To review the content of the draft APFIC Regional Guidelines for culture-based fisheries and related fishery enhancements
- To formulate recommendations for methods for monitoring and assessment of stocking programmes and CBF
- To advise on future work for a comprehensive global roadmap for guidance on stocking and CBF

REGIONAL CONSULTATION OUTPUTS

22. The outputs of the regional consultation will be:

- Recommendations on regional guidelines for responsible fishery enhancement of inland waters and development of basic advice on how to enhance inland fisheries through stocking
- Collection of case studies (contributions) from the APFIC region with selected studies from elsewhere
- Methods to monitor of estimate the productivity and production from CBF/enhanced fisheries including how to ensure proper reporting
- Advice on the use of the ecosystem approach to support management decision and planning of stocking and culture-based inland fisheries
- Road map on the future actions and further development on global guidance including marine and brackish waters and habitat modification and rehabilitation; and
- A report including the above.

PARTICIPANTS

23. The regional consultation would be comprised of:

- Regional technical subject matter specialists delegated by APFIC governments
- Representatives of regional organizations and projects relevant to CBF/fishery enhancements (for example MRC, NACA, SEAFDEC, ACIAR)
- Selected experts in specific aspects of stocking and culture based fisheries from other regions
- International resource persons which have been involved in the region developing guidelines and working with members on best practices or research

SUGGESTED ACTIONS BY THE EXECUTIVE COMMITTEE

24. The Executive Committee is invited to review the prospectus to:

- Suggest how culture-based fisheries may contribute to blue growth in the region
- Indicate any additional considerations for the workshop coverage

25. The Executive Committee is further invited to comment on whether the guidelines which will be developed by the workshop, should be presented to the Commission for consideration at its next session.