



Food and Agriculture
Organization of the
United Nations

MICHIGAN STATE
UNIVERSITY

THE ROME DECLARATION: TEN STEPS TO RESPONSIBLE INLAND FISHERIES



FRESHWATER, FISH AND THE FUTURE:

Cross-sectoral approaches to sustain livelihoods, food security, and aquatic ecosystems



PREAMBLE¹

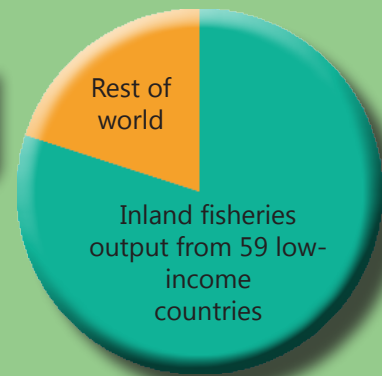
Inland fish² and their fisheries serve important nutritional, economic, cultural, and recreational roles and are key components of sustainable ecosystem function throughout the world. Particularly in developing countries, inland fisheries are a vital source of protein, essential fatty acids, minerals, and micronutrients for hundreds of millions of people. Fifty-nine Low-Income Food-Deficit Countries produce 80%—nearly 7 million tonnes—of reported global inland capture fisheries output. More than 60 million people in the developing world work with various aspects of inland fisheries, and women represent more than half of this workforce³. Inland fisheries often provide riparian communities with a sense of identity, cultural recognition, and in some areas, spiritual and religious connections to the world and to their ancestors. In many developed countries, and increasingly in developing countries, inland fish support recreational fisheries which enjoy high levels of public participation and contribute to local, regional, and national economic prosperity and human well-being.

Global attention on the depletion of fisheries has focused predominately on marine fish stocks despite the importance of freshwater fisheries around the world. Inland fisheries are often underappreciated and undervalued in agricultural, land-use, and water resource planning and decision-making. More attention is often placed on meeting demands for competing uses of freshwaters such as hydroelectric development, agriculture, and industry.

Inland fisheries will only be appropriately considered in decision-making and governance processes if the full range of their economic, social and environmental values are understood and effectively conveyed. Decision makers need timely and accurate information on the status of inland fish production, and on the economic, nutritional and societal contributions freshwater fisheries make to society. There is a growing body of evidence that inland fisheries are significant contributors to nutrition, food security, livelihoods and rural economies in many developing countries and have significant value in developed countries. However, this information is not complete at national and global levels and is often not included in policy discussions. Globally, the lack of information is evident by the low number of countries reporting inland capture fisheries production to the Food and Agriculture Organization of the United Nations (FAO). Of the 147 countries and territories which have some inland water capture fishery production, 96 reported their inland water catches to FAO while for 51 countries the total was estimated by FAO as they did not submit information on their inland water catches⁵. Obtaining accurate information on inland fisheries production is inherently a difficult process because most fisheries are small-scale, highly dispersed, and their catch often unreported to governmental agencies. Similarly, considerable numbers of fish caught in recreational fisheries are seldom reported. The lack of regular data reporting prevents analyses of trends in and performance of inland fisheries and therefore limits development of effective policies.

Inland Fisheries Production and Consumption

Inland fisheries are important source of protein for millions of people in some of the world's most low-income countries. Small inland fish in particular are nutrient rich, with just 20 grams of a small Cambodian river fish containing the daily needs of iron and zinc for a child. A diet containing such fish can help prevent growth problems such as stunting.





CHALLENGES AND TRENDS IN INLAND FISHERIES

Whereas the status of marine fisheries is mainly influenced by fishing pressure, the status of inland fisheries depends heavily upon the quantity and quality of freshwater and diversity of fish habitats—all of which are predominantly influenced by factors external to the fisheries. Fishing pressure is important in some areas, but production from inland fisheries is often more strongly influenced by the environment, especially human interventions that degrade environmental quality. About 10% of the world's freshwaters are abstracted annually for human use. Agriculture currently uses approximately 70% of this 10%, industry uses approximately 20% and domestic use withdraws another 10%⁵. These figures are global averages; some rivers have so much water abstracted that they don't reach the sea! Hydropower development and navigation are other major uses that disrupt aquatic habitats, waterway connectivity, and flow regimes. Although only 10% of freshwaters are withdrawn from the world's freshwater ecosystems, pollution, loss of habitat and degradation of water quality impacts the remaining 90% and thus negatively affect inland fisheries.

WHAT ABOUT AQUACULTURE?

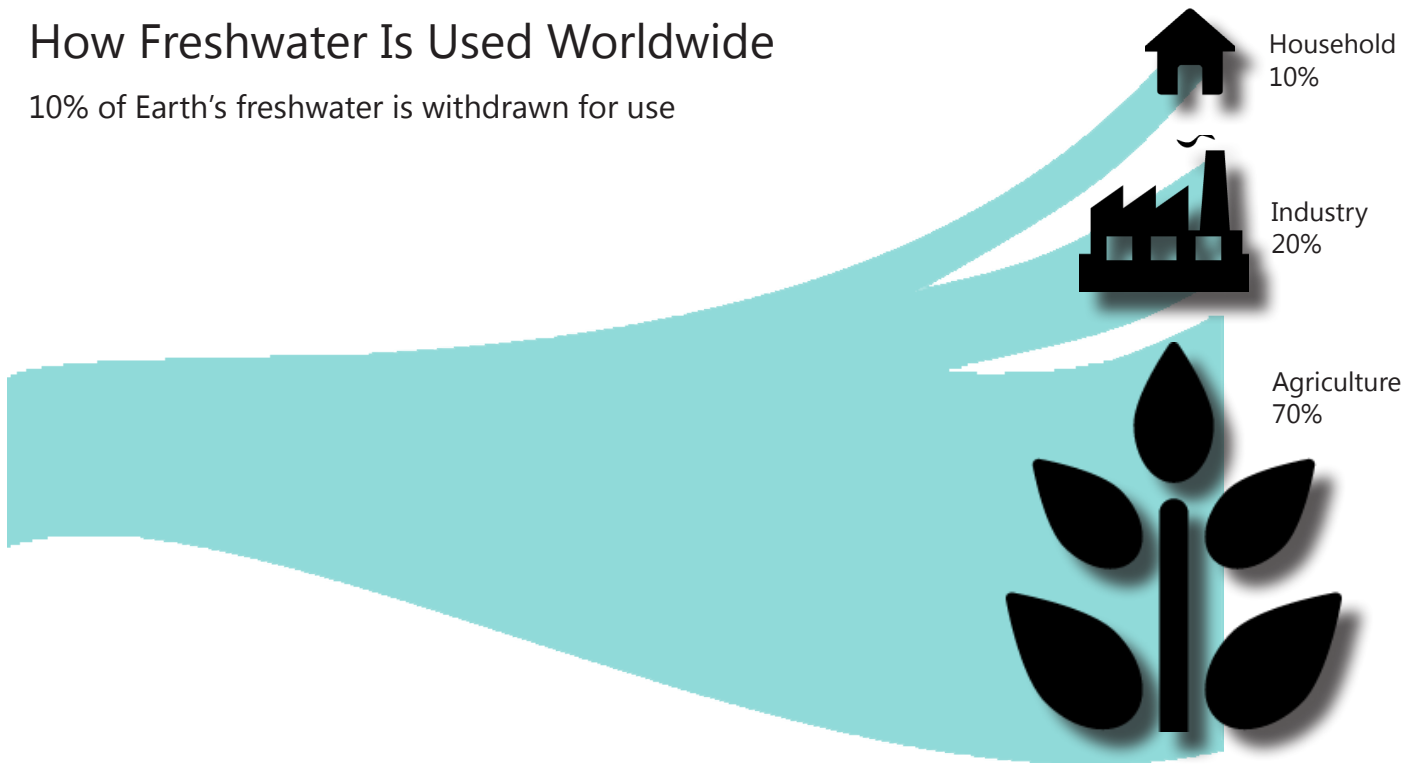
Aquaculture makes a large and growing contribution to inland fish production in many regions; it is a key aspect of several national poverty alleviation and food security programmes. However, aquaculture is still a minor contributor to food security in many areas; resource-poor people may not have the capacity to engage in aquaculture. Furthermore, aquaculture can negatively impact inland fisheries supporting resource poor people by competing for freshwater resources, restricting access to waterbodies and by providing a vector for disease, pollution, and invasive species. When implemented by an ecosystem approach and in a responsible manner⁶ that considers inter alia, the habitat, appropriate use of non-native species, and traditional and legitimate rights to land and water, aquaculture can become a valuable partner with capture fisheries in ensuring adequate water resources for fish production.

Inland Capture Fisheries by the Numbers

- » **780 million** global hectares of lakes, reservoirs, rivers, and other wetlands
- » **40,000** large dams worldwide
- » **90%** global inland fisheries catch from developing countries
- » **470 million** people downstream of dams in riverine communities that will be impacted by irresponsible dam development and water management
- » **15,000** fish species found in inland and brackish waters (only 257 species reported as caught to FAO)
- » **>50%** fish consumption coming from aquaculture
- » **60 million** people involved in inland small-scale inland fisheries (30 million of which are women)
- » **100** useful aquatic animal species found in well managed rice-paddies
- » **65%** world's rivers under medium to high levels of threat
- » **100%** increase in water withdrawal expected by 2050
- » **<1%** unused bycatch and discards from inland capture fisheries

How Freshwater Is Used Worldwide

10% of Earth's freshwater is withdrawn for use



The human population is expected to exceed 9 billion by 2050 thereby increasing the demand for freshwater and further stressing freshwater ecosystems. Current national institutions and systems of governance are generally ill-equipped to deal with these increasing pressures on inland fish and fisheries. Only by effectively conveying the value and contribution of these fisheries, will they be correctly represented in the governance process, and continue to contribute to food security and livelihoods. Good governance is derived from good information, meaningful stakeholder involvement and commitment from government, non-government stakeholders and private industry.





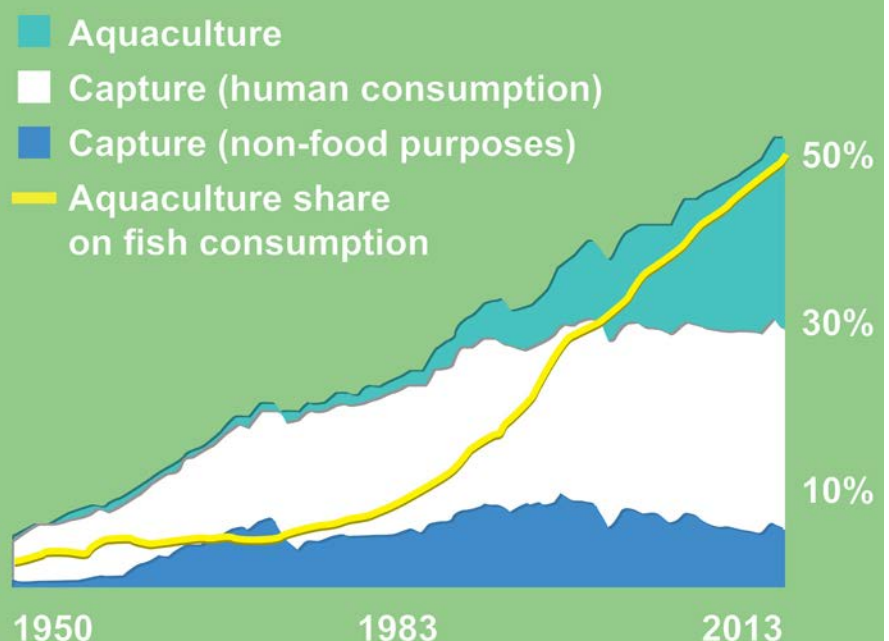
The following steps and recommendations were derived from contributions and interventions at the Global Conference on Inland Fisheries: Freshwater, Fish and the Future, convened at FAO Headquarters in Rome, Italy, 26-28 January 2015. More than 200 scientists, policy makers, resource managers, private industry and representatives from civil society organizations gathered to discuss the governance, food security, information needs, and drivers associated with inland fisheries. The recommendations are general and not targeted to specific groups; however, numerous entities at various levels of government and society will need to work together to implement them.

The steps and recommendations build on *inter alia*, the principles contained in the Convention on Biological Diversity⁷, the Voluntary Guidelines for Securing Sustainable Small-Scale Fisheries in the Context of Food Security and Poverty Eradication⁸, and the Voluntary Guidelines on the Responsible Governance of Tenure of Land, Fisheries and Forests in the Context of National Food Security⁹. As detailed in those instruments, for effective management and sustainability of freshwater ecosystems and their fisheries, it is critical to recognize and incorporate the rights of fishers, women, traditional resource users, and indigenous people into all levels of decision-making. Past development of inland water resources has often occurred in the absence of such recognition and deprived key groups of culturally and economically important connections and access to aquatic ecosystems and the services they deliver.

TEN STEPS TO RESPONSIBLE INLAND FISHERIES

The 10 steps are presented in an order that represents a logical progression. For example, it is first necessary to know what exists and how valuable it is before information can be communicated cogently and the sector optimally managed (in the absence of such information, a precautionary approach is required). Moreover, fisheries cannot be integrated into cross-sectoral governance if they cannot be effectively managed within the sector. Taking these ten steps will be part of a path towards a world where people can responsibly use and enjoy freshwater ecosystems and their fishery resources today and for years to come.

Growth of Aquaculture



IMPROVE THE ASSESSMENT OF BIOLOGICAL PRODUCTION TO ENABLE SCIENCE-BASED MANAGEMENT

1

Accurate and complete information about fishery production from inland waters is lacking at local, national and global levels. Governments often lack the resources or capacity to collect such information due to the diverse and dispersed nature of many inland fisheries. There is much scope for developing and refining biological assessment tools to facilitate science-based management.

Implementation

- » Develop, promote and support standardized methods for the assessment of inland fisheries harvest and aquaculture production including: data collection (including traditional [catch effort monitoring] and novel approaches such as household and government statistical surveys), database management, data sharing, and reporting that:
 - Reflect diversity of fisheries, fishing methods, ecosystem types and local cultural context, and enable intra- and cross-sectoral comparisons;
 - Include commercial, artisanal small scale, subsistence, and recreational fisheries; and
 - Include as far as possible the contribution of illegal, unreported, and unregulated fishing.
- » Support the development of novel approaches to collect inland fishery data, e.g., remote sensing of habitat types and population densities linked to fish production models.
- » Incorporate inland fisheries and aquaculture into ongoing agricultural statistical surveys to facilitate comparisons, and integrate information to support cross-sectoral decision-making.
- » Increase support for efforts to improve capacity of fishery resource officers to collect information on the sector.
- » Establish a minimum set of data requirements that would be practical for countries to collect and that would allow cross-sectoral comparisons.



CORRECTLY VALUE INLAND AQUATIC ECOSYSTEMS

2

The true economic and social values of healthy, productive inland aquatic ecosystems are often overlooked, underestimated and not taken into account in decision-making related to land and water use. Economic and social assessment is often difficult and valuation often limited. In most cases, especially in the developing world, inland fisheries are part of the informal or local economy, so their economic impact is not accurately measured in official government statistics.

Implementation

- » Apply the principles of the Voluntary Guidelines for “Securing Sustainable Small-scale Fisheries” in inland fisheries and in so doing, recognize, respect, and support governance rooted in traditional customs, rights, and ecological knowledge.
- » Promote and support the adoption of approaches that include assessment of the ecosystem services provided by inland aquatic ecosystems to value their contribution to ecosystem health and societal wellbeing.
- » Ecosystem services should be valued along the entire value chain.



3

PROMOTE THE NUTRITIONAL VALUE OF INLAND FISHERIES



The relative contribution of inland fisheries to food security and nutrition is higher in poor food-insecure regions of the world than in many developed countries that have alternate sources of food. Good nutrition is especially critical in early childhood development (i.e., the first 1,000 days). Loss of inland fishery production will undermine food security, especially in children, in these areas and put further pressure on other food producing sectors.

Implementation

- » Maintain or improve the accessibility/availability of nutrient-rich fish in areas with traditionally high fish consumption and/or high levels of under-nourishment and malnourishment by ensuring fair and equitable access regimes.
- » Establish fishery and water management plans that include maintenance of an adequate and diverse supply of nutrient rich aquatic products.

4

DEVELOP AND IMPROVE SCIENCE-BASED APPROACHES TO FISHERY MANAGEMENT



Many inland waterbodies do not have fishery or resource management arrangements that can adequately address sustainable use of resources. Where management arrangements exist, compliance and enforcement are often minimal or non-existent. This may result in excessive fishing pressure, decreased catch per unit effort, and conflicts between fishers, as well as changes in the productivity of fishery resources. In some areas, reductions in fishing capacity will be required. To facilitate fishery management, it will be important to improve access to and promote better sharing of data and information about inland fisheries supporting the assessment–management cycle.

Implementation

- » Implement an Ecosystem Approach to Inland Fisheries.
- » Support effective governmental, communal/co-operative, or rights-based governance arrangements and improve compliance with fishery management regulations.
- » Modify or establish fishery and resource management arrangements to protect the productive capacity of inland waters and the livelihoods of communities dependent on the resource.
- » Where reducing fishing capacity is called for, establish appropriate social safeguards and provision of alternative livelihoods for people leaving the fishery sector.

IMPROVE COMMUNICATION AMONG FRESHWATER USERS

5

Information on the importance of the inland fishery and aquaculture sectors is often not shared with or accessed by policy-makers, stakeholders and the general public, thereby making it difficult to generate political will to protect inland fishery resources and the people that depend on them. Moreover, many misconceptions exist on the needs and desires of fishing communities.

Implementation

- » Building from the “Small-Scale Fisheries Guidelines” and other relevant instruments, use appropriate and accessible communication channels to disseminate information about inland fish, fishers and fisheries to raise awareness of inland fisheries’ values and issues, to alter human behavior, and influence relevant policy and management.
- » The fisheries sector should engage other users of freshwater resources and participate in national and international fora that address freshwater resource issues, conflicts and synergies.
- » The fisheries sector should invite other users of freshwaters to participate in fisheries fora.



IMPROVE GOVERNANCE, ESPECIALLY FOR SHARED WATERBODIES

6

Many national, international and transboundary inland waterbodies do not have a governance structure that holistically addresses the use and development of the water and its fishery resources. This often results in decisions made in one area adversely affecting aquatic resources, food security, and livelihoods in another.

Implementation

- » Establish governance institutions (e.g., river or lake basin authorities) or expand and strengthen the mandate and capacity of existing institutions to address inland fisheries needs in the decision making processes.
- » Commit to incorporating internationally agreed decisions on shared water bodies within national government policies.



DEVELOP COLLABORATIVE APPROACHES TO CROSS-SECTORAL INTEGRATION IN DEVELOPMENT AGENDAS



Water-resource development and management discussions very often marginalize or overlook inland fisheries. Therefore, trade-offs between economically and socially important water-resource sectors and ecosystem services from inland water systems often ignore inland fisheries and fishers. Development goals based on common needs, e.g., clean water and flood control, can yield mutually beneficial outcomes across water-resource sectors.

Implementation

- » Promote cross-sectoral discussions about the trade-offs and synergies of inland water development and management options that consider the inland fishery sector a partner in resource development in an equitable manner.
- » Identify and strengthen platforms and legal frameworks for multi-stakeholder-based decision-making and management.
- » Incorporate inland fish and fisheries into the post-2015 sustainability-development goals on water issues and include all ecosystem services provided by inland aquatic ecosystems.

8

RESPECT EQUITY AND RIGHTS OF STAKEHOLDERS



Lack of recognition of the cultural values, beliefs, knowledge, social organization, and diverse livelihood practices of indigenous people, inland fishers, fishworkers, and their communities has often resulted in policies that exclude these groups and increase their vulnerability to changes affecting their fisheries. This exclusion deprives these groups of important sources of food as well as cultural and economic connections to inland aquatic ecosystems.

Implementation

- » Protect the cultural heritage of indigenous people and their connections to the environment.
- » Ratify and implement the Indigenous and Tribal Peoples Convention of 1989 (ILO-160), as well as the Universal Declaration of Indigenous Peoples and other International human rights instruments.

Notes

1. Compiled by: Devin Bartley (FAO), Chris Goddard (Great Lakes Fishery Commission), Kai Lorenzen (University of Florida), Ian Cowx (University of Hull), Abigail Lynch (U.S. Geological Survey), William Taylor (Michigan State University), Nancy Leonard (Northwest Power & Conservation Council), Carlos Fuentesvilla (FAO).

2. "Fish" in this paper includes freshwater crustaceans, molluscs, insects, amphibians, and reptiles.

3. FAO. 2014. State of World Fisheries and Aquaculture. FAO, Rome. 223p.

4. FAO. 2012. State of World Fisheries and Aquaculture.

5. Comprehensive Assessment of Water Management in Agriculture. 2007. Water for Food, Water for Life. A comprehensive assessment of water management in agriculture. London, Earthscan and Colombo, International Water Management Institute.

MAKE AQUACULTURE AN IMPORTANT ALLY

9

Aquaculture is the fastest-growing food production sector and an important component in many poverty alleviation and food security programmes. It can complement capture fisheries, e.g., through stocking programmes, by providing alternative livelihoods for fishers leaving the capture fisheries sector, and by providing alternative food resources. It can also negatively affect capture fisheries, e.g., introduction of invasive species and diseases, through competition for water resources, pollution, and access restrictions to traditional fishing grounds.

Implementation

- » Adopt an ecosystem approach to fisheries and aquaculture management¹⁰.
- » Recognize the common need for healthy and productive aquatic ecosystems and promote synergies and manage tradeoffs among fisheries, stock enhancement, and aquaculture.
- » Regulate and manage the use of non-native species in aquaculture development.



DEVELOP AN ACTION PLAN FOR GLOBAL INLAND FISHERIES

10

Without immediate action, the food security, livelihoods and societal well-being currently provided by healthy inland aquatic ecosystems will be jeopardized, risking social, economic, and political conflict and injustice.

Implementation

- » Develop an action plan based on the above steps to ensure the sustainability and responsible use of inland fisheries and aquatic resources for future generations.
- » The action plan should involve the international community, governments, Civil Society Organizations, indigenous peoples groups, and private industry, and include all sectors using freshwater aquatic resources.



Notes

6. FAO. 1995. FAO Code of Conduct for Responsible Fisheries (<http://www.fao.org/fishery/code/en>)
7. <http://www.cbd.int/convention/text/>
8. <http://www.fao.org/fishery/topic/18240/en>

9. <http://www.fao.org/docrep/016/i2801e/i2801e.pdf>
10. <http://www.fao.org/fishery/topic/16035/en> and <http://www.fao.org/fishery/topic/16034/en>

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This document serves as a policy makers' summary of the discussions and recommendations emerging from the Global Conference on Inland Fisheries, *Freshwater, Fish and the Future*. The 10 Steps to Responsible Inland Fisheries are presented that include improving information, communication, and governance relating to inland aquatic ecosystems and the fisheries and people they support. The steps further call for better integration of all the sectors using the world's freshwaters. The 10 Steps and implementation recommendations provide a roadmap to ensure inland fisheries continue to provide food security and livelihoods to people today and in the future.

For additional information, visit <http://www.fao.org/fishery/en> and www.inlandfisheries.org.