

# Potential for Transformation

**As a country in transition, Myanmar is seeking to unlock the potential of its fisheries and aquaculture sector for inclusive growth, improved livelihoods, and better food security**

**M**yanmar is a country in transition, having elected its first civil government in more than 50 years in November 2015. It is now over 200 days since the new government has taken office and the transition away from military rule will not be simple. The country faces many challenges and is one of the poorest and least developed in Southeast Asia. In the fishery sector, these challenges involve balancing the demand for fish in international and domestic markets against declines in fish stocks, increasing fishing pressures and aquatic habitats under risk.

In April 2016, at the Pyin Oo Lwin workshop, Myanmar's leading institutions, researchers and practitioners in fisheries and aquaculture came together with international experts to support the new government in finding the path that would best fulfill the potential of the fisheries and aquaculture sectors. The key resulting message from this workshop is that while there is an enormous potential for fisheries and aquaculture to sustainably and significantly increase their contribution to Myanmar's economy and societal well-being, there is an impending need for transformation in the governance and management of these sectors. These changes are needed to bring about positive and profound impacts on the livelihoods and food security of fishing communities and fishworkers and also to contribute to meeting Myanmar's international commitments to achieving the United Nation Sustainable Development Goals (SDGs).

Myanmar has a population of just over 51 mn of whom 70 per cent

are engaged in agriculture, including fisheries. The fisheries sector, comprising offshore, coastal, inland fisheries and aquaculture, is vital for national food security, income generation and export earnings. Fisheries and aquaculture are an important part of primary production and represented 8 per cent of the country's gross domestic product (GDP) in 2014-2015. During this period, fisheries and aquaculture produced 5.3 mn tonnes of fish and exported over 350,000 tonnes valued at US\$480 mn. In 2014, fisheries directly employed more than 3 mn people and 12 mn people are estimated to

**...there is an enormous potential for fisheries and aquaculture to sustainably and significantly increase their contribution to Myanmar's economy and societal well-being...**

be indirectly involved in the sector in transporting, trading and processing fish and fish products.

Over 70 per cent of the fish harvested is consumed nationally and it is estimated that an average of 21 kg per person is consumed per year, accounting for almost half the animal-source food consumed and making fish and fish products second only to rice in the national diet.

## **Fisheries governance**

Despite the importance of the fisheries sector to national food security, income generation and export earnings, fishery governance remains weak. A recent analysis of the effectiveness of fisheries governance across 28 countries that represent 80 per cent of the global catch scored

*This article is by **Gareth Johnstone** (g.johnstone@cgiar.org), the country manager for WorldFish, Myanmar*

GARETH JOHNSTONE



A fisherwoman at Thongwa fish market, Yangon, Myanmar. Fish is an extremely important component of the Myanmar diet, and demand is growing quickly as the country urbanizes and incomes rise

20

Myanmar is the lowest. Successive governments have failed to recognize the importance of fisheries to the rural economy, and policies and laws remain focused on revenue capture and meeting centrally planned production targets.

Fisheries management is limited by current fisheries policies and suffers from inadequate data, weak institutional capacity and insufficient experience of using science and local knowledge to develop sustainable and responsible fisheries. The government reported increasing fish production from 0.83 mn tonnes in 1994 to 5.05 mn tonnes in 2013-2014, figures that reflect centrally planned targets and not actual production, as evidenced from recent stock assessments and consumption surveys. As a consequence, important fish-producing areas (rivers, rice paddies, reservoirs, irrigation canals, wetlands, estuaries, coastal and offshore marine areas) are at risk.

As the country opens up and attracts more domestic and foreign investment, the government and sector stakeholders will need to make decisions about how the fishery

sector develops in order to meet growing demands. Myanmar has the 'late-mover advantage' and can benefit from learning from the many lessons of its neighbours and capitalize on and incorporate international experiences and best practices in its planning. Understanding the current status and the key drivers of change for fishery and aquaculture resources is fundamental in helping the new government, sector stakeholders, businesses and fishing communities make informed choices to sustain and increase the contribution of fisheries and aquaculture to rural development.

The Pyin Oo Lwin workshop brought together fishery managers from the government and researchers and practitioners from universities, private sector and NGOs with international experts to facilitate an assessment and evaluation of the fishery and aquaculture sectors.

### Opportunities

The workshop provided a platform for discussion and debate and identified key drivers of change and the opportunities and challenges facing fisheries and aquaculture in

Myanmar. The output is a collective analysis and synthesis of the fishery and aquaculture sector using the best available data. The deliberations produced a set of policy briefs outlining possible futures and suggested pathways for sustaining and increasing the contribution of fisheries and aquaculture to Myanmar's development. Fishery policy briefs were produced for aquaculture, offshore, inshore and freshwater fisheries. Data were also collated to reflect how Myanmar can respond to achieving the SDGs in the fishery sector and how to place the sector in the global context and assist the new government to better understand how fisheries and aquaculture can be optimized in achieving national and international development goals.

Myanmar's offshore fisheries are those beyond 10 nm from the shore to the limit of the exclusive economic zone (EEZ). More than 1.4 mn offshore and inshore fishers are registered in Myanmar and the offshore fleet is composed of over 2,700 vessels, which is widely considered to exceed the carrying capacity of target stocks. Data from recent ecosystem surveys found that offshore fish stocks have been depleted by up to 80 per cent since 1979, exposing Myanmar's people to significant economic, food security, nutrition and environmental risks. The ecosystem decline has not been aided by outdated and weak laws and policies and by inadequate management and institutional capacity. Accurate or reliable offshore fisheries production statistics do not exist, due to official adjustments made to landings statistics. The official production statistics put the total annual marine harvest at 2.85 mn tonnes during 2014-15, which is likely a gross overestimate of the real landings volume.

In spite of these challenges, Myanmar's fisheries can be rebuilt and long-term economic, social and environmental benefits derived by improving the laws, policies, partnerships, management and institutional capacities. Modernizing

the laws can enable fisheries regulation to monitor and sustainably manage Myanmar's stocks. Adopting and implementing the 2016 National Plan of Action (NPOA) to deter, combat and eliminate Illegal, Unreported and Unregulated (IUU) fishing (NPOA-IUU) would ensure the effective implementation of fisheries management, and contribute to securing legal and safe working conditions to minimize existing human-rights transgressions. Under an improved legal framework, stock recovery and increased value capture can be achieved.

Inshore fisheries are those areas less than 10 nm from the shore. Nearly half (48 per cent) of Myanmar's population live in coastal states and regions and the inshore fisheries support the livelihoods of millions of Myanmar citizens who are among the most marginalized, poorest and most vulnerable people in society. Coastal fishers use small-scale gears to target numerous species (fish, molluscs and crustaceans) and women play a vital role in inshore fisheries, particularly in fish processing, with locally

**Accurate or reliable offshore fisheries production statistics do not exist, due to official adjustments made to landings statistics.**

processed fish products providing a major nutritional component of the Myanmar diet, particularly in upland regions.

#### **Poor policy**

In recent years, the capacity of inshore fisheries to support viable livelihoods and contribute significantly to local economies has come under threat. There is an overharvest of stocks combined with insecure tenure and competition. The sustainability of inshore fisheries is threatened by multiple uses and users of the coastal resources. There is inadequate policy recognition of the importance of inshore fisheries and poor policy alignment between Union, state and

Box

## Key messages from the Pyin Oo Lwin fisheries workshop

### Myanmar's fisheries

- Enormous potential exists to increase fisheries contribution to Myanmar's economy and well-being.
- Transformation can be facilitated through improvements to fisheries legislation, policies, management, knowledge, institutional capacities and partnerships.

### Offshore fisheries

- Offshore stocks are depleted and require rebuilding plans.
- Offshore management can be improved through integrated ecosystem-based and spatial planning.
- A National Plan of Action (NPOA) to deter, combat and eliminate IUU fishing needs to be adopted and implemented.

### Inshore fisheries

- Coastal communities can be empowered and strengthened through co-management.
- Closer alignment of Union and state/regional agencies and institutions can improve inshore fisheries management and law enforcement.

### Freshwater fisheries

#### Better knowledge about the fishery is needed to ensure its sustainable exploitation.

- Integration of agriculture, irrigation and fisheries under a single ministry will provide the opportunity to address conflicts and help integrate land and water management.

### Aquaculture

- Employment can be generated and rural growth stimulated through a competitive aquaculture sector led by small farmers and small and medium enterprises (SMEs).
- Farmers should be allowed to choose how to use their agricultural land.
- Regulation can be improved, institutional and human capacity strengthened, and infrastructure built.

The Pyin Oo Lwin workshop was funded by the Australian Center for International Agricultural Research (ACIAR) and involved participants from the Myanmar Department of Fisheries (DoF), Myanmar Fishery Federation (MFF), WorldFish, Michigan State University (MSU), World Conservation Society (WCS), University of Arizona, Stockholm Resilience Center, Trade Development Program (EU), Food and Agricultural Organization (UNFAO), Pyoe Pin Program, Network Activities Group (NAG) and CUSO International. The process of developing the policy briefs stimulated the formation of the Myanmar Fisheries Partnership (MFP), a collation of national and international organizations that is supporting the Myanmar government to strengthen effective collaboration for the sustainable development of Myanmar's fisheries and aquaculture sector.

data collected on catch and effort. These actions should to be aligned with key development principles, including working through partnerships and striving for greater gender equality.

Freshwater fisheries are those in freshwater bodies such as rivers, streams, ponds and lakes of permanent or temporary nature. In 2015, Myanmar's freshwater fisheries yielded 1.5 mn tonnes, which represents 28 per cent of the total national fish production and is reportedly the largest freshwater fishery in Southeast Asia. Freshwater fisheries provide employment to 1.5 mn people and 27 per cent of the fresh fish is consumed nationally. There are two management regimes for inland fisheries—(a) leasable fisheries where exclusive exploitation rights of delimited water bodies are auctioned, and (b) open fisheries for which fishing gear licences are issued by the Department of Fisheries. There is growing evidence of a rapid reduction in the catch per fisher (catch per unit effort) and in the abundance of high-value fish species.

The freshwater fisheries in Myanmar are economically significant and important to livelihoods and food security. There are significant threats to the resource base and increasing domestic demand for fish calls for the development of improved laws, management initiatives and people-centered approaches. These include strengthening the knowledge base of the resource with specific monitoring of target species such as hilsa as current data are not detailed enough to inform management. Improving the existing fish-production systems (open fisheries, leasable fisheries) through co-management and developing new fish-production systems in the irrigation reservoirs. Land-use conflicts between farmers and fishers need to be addressed and can be resolved by optimizing the recent integration of the agriculture, irrigation and fisheries sectors under a single ministry, which can help to integrate land and water management. Improvements to the contribution of fisheries to food

local institutions. To reverse these trends, there is a need to empower and strengthen communities through effective co-management and to harmonize laws and policies that secure the contribution of inshore fisheries to food security and development. Fisheries boundaries need to be better defined, particularly as they vary between states and regions and there is need for better national fisheries statistics as currently there are no species-specific

security and livelihoods at the state/regional level is necessary and can be addressed by influencing the emerging new region and state legislation on freshwater fisheries.

In Myanmar aquaculture has been growing quickly at a rate of 9 per cent per year since 2004, and contributes 21 per cent of the fish consumed nationally. Farming fish generates average profits five to ten times higher than rice and other agricultural crops, and more than twice as much employment per acre as paddy farming. Aquaculture is very concentrated geographically, with 90 per cent of inland fish ponds located in the Ayeyarwady Delta, close to the main commercial centre, Yangon. A single species (rohu), accounts for around 70 per cent of the fish produced in Myanmar, with shrimp, a high-value crop grown mainly for export, contributing 5.6 per cent of production, with opportunities for growth.

Fish is an extremely important component of the Myanmar diet, and demand is growing quickly as the country urbanizes and incomes rise. Aquaculture is ideally placed to meet this demand, while also raising farm incomes and creating employment. Myanmar has several policy options that could help to unlock the full potential of aquaculture's contributions to rural growth and national food supply. These are: regulatory reforms that allow small farmers to use their agricultural land for aquaculture; improved access to farm inputs and technologies; and greater access to the knowledge and services needed to support sectoral modernization.

The Pyin Oo Lwin workshop and policy briefs can contribute to the national dialogue and strategic development as the Myanmar government shapes a new vision for the fishery sector. The policy briefs provide guidance on the integration of national fisheries obligations into wider regional and international planning processes and frameworks. The SDGs offer a tangible link to global policymaking and provide the international context for evaluating

the contribution of Myanmar's fisheries to the national economy and societal well-being. The SDGs help broaden discussions and address questions on the possible futures and suggested pathways for sustaining and increasing fisheries contribution to rural development. The assessment identified a total of 12 out of the 17 SDGs where Myanmar fisheries and aquaculture can directly contribute to achieving these goals.

The political transition period provides a window of opportunity for the government to revitalize the fisheries sector through actions such as restoring fish stocks and habitats, ensuring decent employment and labour conditions, and providing transparency in revenue raising and licensing. Myanmar's government will need to address these multiple challenges and opportunities in collaboration with national and international organizations. Currently, the sector is experiencing a steady growth in development support and is providing excellent opportunities to invest and build partnerships that are targeted at working with government to fulfill national and international development goals. Sustained engagement by government agencies is critical to this process and has the potential to transform the sector and to allow the fisheries sector to fully contribute to Myanmar's development. 

#### For more

[worldfishcenter.org/resource\\_centre/MFP-01-Overview.pdf](http://worldfishcenter.org/resource_centre/MFP-01-Overview.pdf)

[worldfishcenter.org/content/myanmar-fisheries-overview](http://worldfishcenter.org/content/myanmar-fisheries-overview)

#### **Myanmar Fisheries Partnership Policy Briefs – English Versions**

[worldfishcenter.org/resource\\_centre/MFP-02-Offshore.pdf](http://worldfishcenter.org/resource_centre/MFP-02-Offshore.pdf)

[worldfishcenter.org/content/myanmar-fisheries-offshore-fisheries](http://worldfishcenter.org/content/myanmar-fisheries-offshore-fisheries)

#### **Myanmar Fisheries Partnership. (2016) Myanmar Fisheries: Offshore Fisheries**

[worldfishcenter.org/resource\\_centre/MFP-03-Inshore.pdf](http://worldfishcenter.org/resource_centre/MFP-03-Inshore.pdf)

[worldfishcenter.org/content/myanmar-fisheries-inshore-fisheries](http://worldfishcenter.org/content/myanmar-fisheries-inshore-fisheries)

#### **Myanmar Fisheries Partnership. (2016) Myanmar Fisheries: Inshore Fisheries**

[worldfishcenter.org/resource\\_centre/MFP-04-Freshwater.pdf](http://worldfishcenter.org/resource_centre/MFP-04-Freshwater.pdf)

[worldfishcenter.org/content/myanmar-fisheries-freshwater-fisheries](http://worldfishcenter.org/content/myanmar-fisheries-freshwater-fisheries)

#### **Myanmar Fisheries Partnership. (2016) Myanmar Fisheries: Freshwater Fisheries**

[worldfishcenter.org/resource\\_centre/MFP-05-Aquaculture.pdf](http://worldfishcenter.org/resource_centre/MFP-05-Aquaculture.pdf)

[worldfishcenter.org/content/myanmar-fisheries-aquaculture](http://worldfishcenter.org/content/myanmar-fisheries-aquaculture)

#### **Myanmar Fisheries Partnership. (2016) Myanmar Fisheries: Aquaculture**