

Managing coastal biodiversity and sustaining livelihoods in a complex setting – the Gulf of Mottama Project in Myanmar

The mudflats and shallow waters of the Gulf of Mottama in South East Myanmar are renowned for their unique biodiversity. Within this area, the coastal population of some 1.5 million people traditionally gain their living from small-scale fishing and some inland cultivation. But overfishing and land speculation, leading to the destruction of mangroves, as well as the impacts of climate change, threaten the entire ecosystem. A Swiss Development Cooperation project is countering this.

By Jane Carter, Than Htike Aung, Wint Hte and Edwin Wennink

In the early months of 2021, the seizure of power by the military in Myanmar and the subsequent citizen protests made global headlines. A year on, far less is seen about Myanmar in the media – although the country's situation is deteriorating; the combination of an economic crisis, the Covid-19 pandemic, internal armed conflict and the internal displacement of people are resulting in a downward spiral of poverty. Already in June 2021, a United Nations report found that half of the country's 54.4 million people could be living below the official poverty line – effectively wiping out most development gains made since 2005. Inevitably, in such a situation, natural resources come under increasing threat as people seek ways to survive. Against such a grim context, this article offers a positive glimpse into the activities of a project with which the Swiss Agency for Development and Cooperation (SDC) has been supporting the promotion of sustainable livelihoods alongside biodiversity conservation in Mon State and Bago Region since 2015: the Gulf of Mottama Project (see Box).

A unique biodiversity

At the interface between land and sea, coastal ecosystems are always complex and diverse; this is especially true of the Gulf of Mottama in the South East of the country. The fresh water and nutrients borne by the rivers draining into the gulf, combined with abundant sunlight and high temperatures, result in a very high biological productivity. The rich benthic (bottom-dwelling) fauna and flora support at least 150,000 shorebirds, including many rare and highly vulnerable species, such as the critically endangered Spoon-billed Sandpiper. The Gulf is also home to a huge range of commercially important fishes and crustaceans, and a variety of other flora and fauna of conservation importance – and to a population of around 1.5 million who depend on the Gulf's valuable natural resources for their livelihoods.

But the valuable resources, and with them, people's livelihoods, are increasingly threatened. Fisheries stocks are declining, and mi-

gratory shorebirds face the risks of hunting and habitat degradation. Serious erosion along the western bank of the Gulf is destroying agricultural lands and displacing communities.

Combining conservation and livelihood objections

Against this background, the Gulf of Mottama Project was launched in 2015. Initially, the aim was to generate an understanding in each of the 30 selected villages of how sustainable livelihood and conservation objectives could be combined, draw up a Village Action Plan to this effect, and establish a gender-balanced committee to oversee decision-making and progress. Interventions focused on sustainable fishing and agriculture (chiefly paddy and green gram cultivation), training in alternative livelihood opportunities for young women and men (such as tailoring, rural mechanics and fish drying), access to affordable credit and disaster risk reduction. Gender ob-



Around 1.5 million people depend on the Gulf of Mottama's valuable natural resources for their livelihoods.

Photo: Helvetas Myanmar/ Wint Hte

jectives have not always been easy to achieve but are progressing, and 40 per cent of Village Development Committee office-bearers (although not in the most senior positions) are now women.

In the second project phase, the project expanded to 60 villages. Emphasis was given to consolidating village activities at township level – covering eight townships, five of which fall in Mon State, and three in Bago Region. Fishing and farming households were supported to come together in Fisheries Development Associations (FDA) and Coastal Farmers Development Associations (CFDA) at township level, and to interact actively with relevant stakeholders. Thus, for example, the FDAs developed strong working relations with the Myanmar Fishery Federation (MFF) through which it was possible to campaign successfully against illegal fishing. Such fishing entails the use of micro-small nets that trap indiscriminately, harvesting juvenile fish as well as adults.

Meanwhile, the CFDAs established their own seed banks, developed good relations with the rice millers for price regulation and quality control, and negotiated collective agreements with input suppliers. VDC level planning identified drinking water as an important concern, so project resources were allocated to WASH (Water, Sanitation and Hygiene) activities, especially drinking water infrastructure that could be readily moved if settlements had to shift due to coastal erosion. A Coastal Resources Management Plan (CRMP) was negotiated and drawn up in both Mon State and Bago Region and approved by the relevant authorities. The aim was for the CRMPs to become further embedded in government administration in phase III of the project, with national recognition; this is in keeping with the SDC Myanmar classification of the project under natural resource governance within its governance portfolio.

Action research for better understanding ecosystem interrelations

Concomitant with its support for livelihoods and institutional development, and in collaboration with academic institutions in Myanmar and Switzerland, the Gulf of Mottama Project has supported action research and data collection to deepen understanding of the unique ecosystem of the gulf. Examples of important project-funded research are on coastal erosion, fish migration and mangrove-associated livelihoods. The first of these studies showed

The Gulf of Mottama Project

The aim of the Gulf of Mottama Project (GoMP) is to conserve and sustainably develop the unique biodiversity of the Gulf of Mottama, benefiting the human communities that depend on it and increasing resilience to climate change. The Project began in September 2015, working in 30 coastal villages, and is currently in its third and final phase (January 2022 to December 2024), working in 60 villages. It is commissioned by the Swiss Agency for Development and Cooperation (SDC) with implementing partners Helvetas (lead), the International Union for Conservation of Nature (IUCN) and the local NGO Network Activities Group.

Key achievements to date:

- In 2020, the Ramsar area was extended from an original 42,565 hectares to 161,041 hectares – an increase of 380 per cent.
- As of 2020, illegal fishing had been reduced by 85 per cent, although the situation in 2021 was difficult to monitor.
- Shorebird hunting for food had been largely eliminated until 2020, but birds were again found for sale in markets in 2021.
- Over 120 ha of mangroves has been established as community forest under national legislation.
- Over 35 studies have been conducted on the ecology and/ or livelihoods of the area.
- Village Development Committees have been established in each of the 60 villages to plan and manage local resources according to a Village Action Plan.
- Eight Fisheries Development Associations and five Coastal Farmers Development Associations have been started at township level to coordinate relevant activities, with a membership totaling 1,550 fishers (389 of them women) and 2,192 farmers (724 of them women).
- Nearly 18,000 individuals (6,500 of them women) have received affordable credit for improved, sustainable livelihood activities.
- Almost 39,000 individuals (19,000 of them women) have gained access to clean drinking water and some 40,000 (17,600 of them women) have received information on safe sanitation and hygiene practices, including Covid avoidance measures.
- Over 4,041 individuals (1,032 of them women) accessed a Cash for Livelihoods scheme over the Covid period in 2020–21.

that coastal erosion is a cyclical phenomenon; currently the Western coastline (Bago) is being eroded and new deposits are forming on the Eastern side (Mon), but this will reverse over a period of 20 years or so. Rather than being caused by climate change, coastal erosion is exacerbated by it, so that villages established close to the coast may be forced to move two or three times within an individual's person's lifetime.

Fishing communities often have rich knowledge about fish behavioural patterns, but this is not necessarily reflected in official guidelines. The project-funded study by Fauna and Flora International (FFI) provided clear evidence that to spawn, the commercially important fish species Hilsa (*Tenuulosa ilisha*) used to travel many kilometres upstream along rivers draining into the Gulf of Mottama, especially the Sittaung River. The creation of dams and the pollution of river waters has reduced spawning significantly, but in addition, government fishing bans are enforced at an inappropriate time of year. The Hilsa mainly spawn in January–February and juveniles are most found in freshwater over March–May. However, the

Department of Fisheries closed season is May–July, reflecting earlier colonial laws developed in other parts of the country for freshwater fish spawning times. Amongst other matters, the study concluded that the closed season fishing period should be locally adapted for Hilsa, and that community conservation areas for spawning and nurseries would be helpful.

Challenges are mounting

Climate change is a clear challenge in planning the sustainable management of the Gulf of Mottama, given that the area is especially vulnerable to climate-induced hazards such as cyclones, tidal surges, floods, saline intrusion and droughts. All these are predicted to increase as temperatures rise and intense precipitation events occur more frequently; disaster risk reduction measures must be considered accordingly. At the same time, economic, social and political challenges demand immediate attention.

Since the military take-over of government, the Myanmar economy has contracted mas-



The project interventions included training in alternative livelihoods opportunities such as fish drying.

Photo: Helvetas Myanmar/ Wint Hte

sively, with cash becoming difficult to obtain. Transport disruptions associated with the coup and Covid-19 have hit the fishing industry extremely hard, with many fishing households losing most of their income. This has forced these and other poor households into activities such as hunting for mud crabs and shorebirds. Whilst there is much potential for sustainable mud crab harvesting, the illegal capture of increasingly small crabs will inevitably reduce crab populations. Shorebird hunting had been largely eliminated, and its re-emergence is worrying.

The Covid pandemic has also negatively impacted both the health of local people and their incomes. Over the past 1.5 years, the Project has diverted resources to awareness-raising on Covid prevention, and to environmentally friendly means of bolstering the incomes of the poorest and most affected households, notably cash for work. The type of work supported

includes digging/ renovating village ponds, supporting mangrove planting and rehabilitation, and constructing basic infrastructure such as roads and embankments.

The new approach

Whilst significant achievements have been made, the military coup of the 1st February 2021 necessitated a major re-orientation of the project approach, at the same time as heightening the need for action. As a project of SDC, the Gulf of Mottama Project complies with Swiss government policy of suspending engagement with the de facto authorities. It has therefore ceased to promote the concept of a Coastal Resources Management Plan implemented through the Mon State and Bago Region administrations.

Phase III of the project is supporting the various stakeholders in the sustainable management of the Gulf of Mottama to argue their case to the authorities – effectively strengthening local level action. For this, the project is working with the Village Development Committee, Fisheries Development Associations, Coastal Farmers Development Associations, the Myanmar Fishery Federation and other relevant actors at township level to plan and implement the management of an Ecosystem Management Unit (EMU). The activities of the eight EMUs (one for each township) will be coordinated through a self-financing umbrella body, the Gulf of Mottama Ramsar Association (GoMRA). This GoMRA will follow the norms of the Ramsar Convention (see

Box), as signed by the earlier democratic government – its membership being representative of all those whose livelihoods are derived in full or in part from the natural resources of the area.

Ecosystem Management Units are a logical development that recognise the importance of working at ecosystem level (land and sea) to integrate conservation and livelihood goals. One significant example in this regard was the successful campaign against illegal fishing; when the fish catch increased markedly some six to nine months after the enforcement of a ban on illegal pike nets, all legal players in the fish value chain were convinced of the benefits of conservation. They could gain higher market prices at the same time as assuring fish reproduction for the future. This also becomes clear in a statement by U Aung Thet Htay, the Chairperson of the Myanmar Fishery Federation, Mon State: “If we cannot control illegal fishing, after six months to a year, we will only be able to catch rosy jewfish. We won’t be able to get Hilsa and other good fish species. If controlling is done, we will be able to catch many types of fish.” (Rosy jewfish or croaker, *Johnius belangerii*, is a relatively cheap fish; Hilsa is far more prized).

Similarly, members of the mangrove community forest group of Kar Te village are clear about the conservation/ livelihood link: “Now, mangroves are conserved. In the future, our livelihoods will improve as we can easily get fish and other resources. Because of mangroves, resources such as fish, shrimps and crabs will become more abundant.” (Daw Htwe Nge in a video interview).

These testimonies, and others like it, show the impact of the project on the awareness of all stakeholders and give hope for the future sustainable management of the Gulf of Mottama through the activities of those who depend on it the most. It is on supporting such collective and coordinated stakeholder action that the project will focus in the coming three years.

Jane Carter is Senior Advisor in Natural Resource Governance at Helvetas in Bern, Switzerland.

Than Htike Aung is Project Manager,

Wint Hte is Ramsar Advisor/ Technical Officer, and **Edwin Wennink** is Chief Technical Advisor of the Gulf of Mottama Project. All three are based in Mawlamyine, Myanmar.

Contact: Jane.Carter@helvetas.org

The Ramsar Convention

The Convention on Wetlands, commonly known as the Ramsar Convention, was signed in 1971 in the city of Ramsar in Iran. It aims to halt the world-wide loss of wetlands and to conserve, through wise use and management, those that remain. When a country accedes to the Convention, it must designate at least one wetland site as a Wetland of International Importance. The Gulf of Mottama was declared a Ramsar site in 2017. The site was extended in 2020.