

# Building partnerships to improve resilience and safety of fisher families in the Bay of Bengal

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**T**he Bay of Bengal (BoB) region comprises the exclusive economic zones of eight countries: Bangladesh, India, Maldives, Sri Lanka, Malaysia, Indonesia, Thailand and Myanmar and the high seas. The western BoB region (WBoB) includes Bangladesh, India, Maldives and Sri Lanka, which are also members of the Bay of Bengal Programme Inter-Governmental Organisation (BOBP-IGO), a regional fisheries advisory body.

Approximately 2 million people in the WBoB region depend on marine fisheries as a primary source of their livelihoods. In addition, the sector also provides a substantial part of the livelihoods of a much larger population in upstream and downstream activities. Activities in the marine fisher-

ies sector in the WBoB region include the development of national and regional efforts in sustaining marine fisheries resources, improving occupational safety for fishers and building the resilience of fishing families.

The total fishing effort in the region is increasing as observed from the growing number of fishermen and the replacement of non-powered fishing vessels with powered fishing vessels. In terms of marine fish landings, while in India the landings seem to have declined during 2012-2014, in other countries the picture is still positive. However, fish stocks in the region as a whole are showing signs of pressure. The total marine fish landings in India have declined from 3.94 million metric tonnes (mmt) in 2012 to 3.78 mmt in 2013 and further to 3.59 mmt in 2014.<sup>1</sup> In Bangladesh, landings have increased from 0.588 mmt in 2012 to



Image: S Jayaraj, BOBP-IGO

Promoting monitoring, control and surveillance in the fisheries sector

### Fishing effort in the WBoB region

Type of fishing vessel	2007	2010	Growth (%)
Powered	180,268	194,209	1.55
Non-powered	148,170	95,298	-7.14
<b>Total</b>	<b>328,438</b>	<b>289,507</b>	

Source: BOBP-IGO, 2013<sup>2</sup>

### Safeguarding data buoys in the Bay of Bengal

The data buoys installed by the NIOT in the Bay of Bengal are often damaged/vandalized by passing commercial and fishing vessels. The damage to these ocean observation systems increases the vulnerability of coastal communities including fishing families, as timely information on adverse weather events cannot be transmitted to the Early Warning Centres in India and elsewhere in the region. The NIOT and BOBP-IGO, in association with WMO and its agencies such as the Data Buoy Cooperation Panel, have organized regional meetings with concerned agencies and initiated awareness programmes on the importance of data buoys and the need to safeguard them from damage. Multilingual posters on the importance of buoys was prepared for distribution to fishermen and other maritime agencies.



Image: S. Jayaraj, BOBP-IGO

A life float — ideal as a low-cost floatation device

0.595 mmt in 2013.<sup>3</sup> In Maldives, landings have increased from 0.120 mmt to 0.129 mmt between 2012 and 2013.<sup>4</sup> In Sri Lanka marine fisheries production increased from 0.417 mmt in 2012 to 0.459 mmt in 2014, a record high.<sup>5</sup>

On the status of fish stocks, disaggregated analysis shows that many stocks are long past their peak production level. Some species are also showing negative growth during the period 2000-13. Many other studies have also indicated that the region is facing both biological<sup>6</sup> and economic overfishing<sup>7</sup> and there is an urgent need to address this problem.

The number of active fisherfolk<sup>8</sup> in the region has grown by about 1 per cent per year from 2003 to 2014, although this growth average masks different trends in each country. Indeed, during this period, the number of active fisherfolk has increased by 4.4 per cent per year in Sri Lanka and by 2.3 per cent per year in India (mainland, excluding the Adaman and Nicobar islands and the Lakshadweep islands) In Bangladesh, the number of active fisherfolk increased marginally from 0.510 million to 0.516 million during 2007-2012. In the case of Maldives, the active fisherfolk population has gradually decreased (3.6 per cent decline each year), possibly due to increasing opportunities in the service sector, especially for the younger generation. In terms of fishing fleet composition, non-powered artisanal fishing vessels are being replaced by powered and larger fishing vessels. Although this development has decreased the total number of fishing craft, their efficiency has increased.

BOBP-IGO is working with its member countries in areas such as fisheries management, improving safety at sea (occupational safety) and building the resilience of fishing communities. In these initiatives, apart from the large number of national

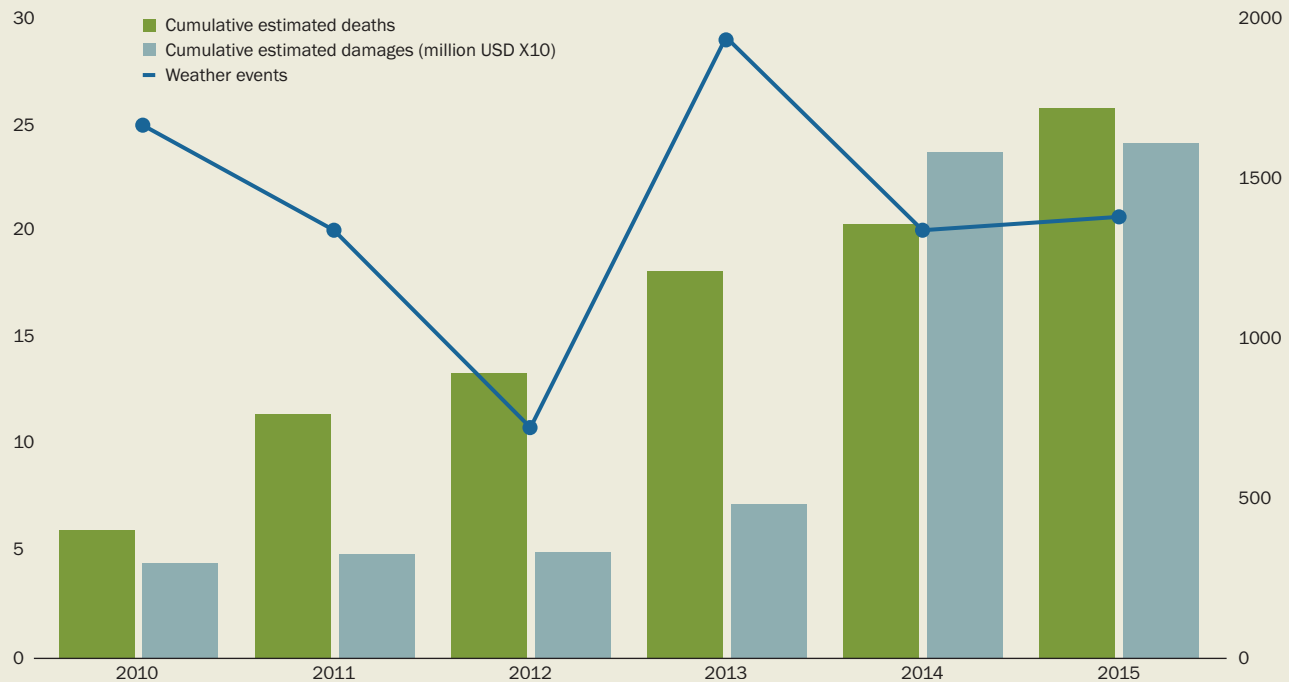
organizations of the member countries, BOBP-IGO is also partnering with the World Bank Organization (WBO); the United Nations Development Programme; the Food and Agricultural Organization; the International Labour Organization (ILO); the World Meteorological Organization (WMO) and its different agencies; the Ministry of Agriculture, Forestry and Fisheries, Government of Japan; the Swedish International Development Cooperation Agency; and the National Institute of Occupational Safety and Health of the USA.

Within the aforementioned areas, BOBP-IGO's specific interventions include the development of sustainable fisheries management plans at national and regional levels; building capacities in fisheries monitoring, control and surveillance (MCS) to curb illegal, unreported and unregulated (IUU) fishing; transfer of technology in the area of personal flotation devices (PFDs) and the design of safer fishing vessels; improving the social security net; awareness-building; and bringing in capacities and concepts to develop new fisheries.

In the context of fisheries, livelihood resilience is directly proportional to the resilience of fish stocks. An important feature of the fisheries sector in WBoB is its labour-intensive characteristic. Fishermen in this region also lack human and financial assets to move to other livelihoods and as such are engaged in the fisheries sector for generations. Therefore, a worsening fish stock risks both the present and future sustainability of fishers and their families. However, at the same time, these stocks are shared by one or more countries in the region and unilateral effort is unlikely to bring the desired results in sustaining stocks.

To address the scenario, the countries are coming together to develop compatible national and regional plans for the

### Weather events, cyclonic storms, loss of life and damages in BoB region



The WBoB region is highly prone to cyclones and extreme weather events. Subsequent to the 26 December 2004 Indian Ocean tsunami, studies have indicated that there are high chances of catastrophic events like tsunamis due to movements of tectonic plates.<sup>9</sup> In terms of weather events, during

2010-2015 there were 133 events in the BoB with 50 of them leading to an estimated loss of 1,700 lives and damage worth about US\$16 billion.<sup>10</sup> In terms of fishing activities, this implies loss of fishing days (economic loss) and loss of life and property (economic and social losses).

Source: North Indian Ocean tropical cyclone

management of important fish stocks such as hilsa fisheries between Bangladesh, India and Myanmar (presently a cooperating party to BOBP-IGO) and shark fisheries between all the BOBP-IGO member countries.

The BoB being situated in the tropical region, the fishery portrays a complex picture of multi-species and multi-gear configurations and it is difficult to develop stock-specific plans for most of the commercially important species. To address the issue of mixed fisheries management, BOBP-IGO has instituted a Regional Training Programme on Code of Conduct for Responsible Fisheries and a Regional/National Training Programme on Ecosystem Approach to Fisheries Management. These programmes primarily target fisheries and environment officials to develop the required capacities and subsequently work as resource persons to impart knowledge to a larger set of stakeholders.

The major challenge to manage such mixed fisheries is also to set up a sound fisheries MCS regime that can ensure compliance with the stipulated rules and regulations and in the process minimize the scope or extent of IUU fishing. However, with traditional open access systems, distributed fishing operation centres and the low human and financial capacity of the management agencies, fisheries MCS remains poor. The region is often identified as a hotspot of IUU fishing resulting in loss of revenue and over-exploitation of the stocks.



Fishermen enacting a folk drama on safety at sea to increase awareness on weather warnings in Chakoria, Cox's Bazaar, Bangladesh



Image: Y S Yadava, BOBP-IGO

Population pressure and dwindling fisheries resources

Marine fishing is inherently risky. ILO estimated that annually about 24,000 people lose their lives while fishing. This is mostly based on fishing-related mortality data available from developed countries. In the developing world, such data are hard to find. However, given the standard of fishing vessels and fishing conditions, it could be assumed that the mortality is much higher in developing countries. A three-pronged approach was undertaken to address this: first, to develop a mechanism to collect accident-related data; second, to improve weather warnings and compliance with weather warnings; and third, to develop PFDs.

Subsequent to the 2004 tsunami, the Indian National Institute of Ocean Technology (NIOT) has undertaken a programme to install data buoys across the Indian Ocean. The Indian Meteorological Department, which is also the Regional Specialized Meteorological Centre for Tropical Cyclones over the North Indian Ocean, uses satellite data to issue cyclone advisories. There has been considerable progress in weather warning and networking in this regard at the regional level through a series of community-level training programmes to build awareness. Folk media was used extensively to break the language barrier and create a communal response mechanism. As a result, although the number of events is on the rise, the number of deaths has declined considerably, especially in Bangladesh, where the dense coastal population was often subjected to horrific casualties during such weather events.<sup>11</sup>

Social security cover was another major issue, especially in respect of Bangladesh. While in other countries insurance for

fishermen is in place through the public sector (India) or the private sector (Maldives, Sri Lanka), fishers in Bangladesh are largely lacking any insurance cover. Therefore, a group insurance model based on Indian experience was advocated for Bangladesh, which is now under implementation by the state-owned Jiban Bima Corporation of Bangladesh. The policy is now providing safeguards to over 1,500 families (in 2012) from destitution in the wake of death or disability.<sup>12</sup>

BOBP-IGO is now working with WBO to develop business cases for a global project, 'Global Partnership for Sustainable Fisheries Management — Models for Innovation and Reforms'. The programme is aimed at developing offshore fisheries in the region which is considered vital given the over-exploitation of near-shore fish stocks, and the redistribution of fishing effort from over-exploited to under-exploited areas. The programme also aims at capturing maximum economic value from existing landings so as to improve the economic viability of fishing operations.

The resilience of fisher families is a dynamic issue which needs to be adjusted to the changing situation. The objective is to ensure surveillance to identify the changes and prepare beforehand. This has been targeted through improving fisheries MCS. The other part is to develop a choice/intervention menu for the governments to draw upon. This is targeted through building human capacities as well as improving fisheries management and developing new fisheries. The challenge is far from over and the progress made so far can be summarized as a roadmap that is taking shape to address the challenges.