NFIO RESPONSIBLE FISHERIES

PROJECT PROPOSAL SUMMARY FOR ABNJ ACTIVITIES

PROJECT TITLE: Fishing gear loss surveys in IOTC fisheries.

OVERVIEW

The aim of this survey is providing scientific, evidence-based and defensible global estimates of the amount of abandoned, lost or otherwise discard fishing gear (ALDFG), temporal and spatial distribution and trends of gear loss across fisheries, geographies and gear types. Data will be collected through surveys of fishers, and/or representatives with standardized survey forms and methodology. Data collected will be inputted and stored in a database for further analysis and synthesis of global estimates of gear loss, as well as for mapping the distribution of gear loss and estimates of temporal and spatial trends. The development and planning of this global survey has been guided by recommendations provided by GESAMP WG43 on Sea-Based Sources of Marine Litter[1] (also see COFI/2020/SBD.8[2]) jointly led by FAO and IMO, and co-sponsored by UNEP.

RATIONALE

Marine plastic litter in our ocean and waterways is a result of the rapidly increasing quantities of plastics produced and used, combined with limited of awareness of the impact of human behaviour and lack of, inadequate or mismanaged waste collection and recycling systems. Despite increasing efforts in this regard, there is an absence of reliable and/or up to date global estimates of how much marine plastic litter entering our oceans annually is attributable to fisheries. In the widely cited report by United Nations Environmental Program (UNEP. 2005. Marine Litter – An analytical overview) it was estimated that 6.4 million tons of marine litter attributed to both the shipping and fisheries sectors enters the ocean annually. This estimate might have originated from the 1975 study by the US National Academy of Science (NAS. 1975. Assessing Potential Ocean Pollution). Subsequently, it was assumed that 10% of total marine debris was from fisheries sector in the influential 2009 report published by UNEP and FAO (Macfadyen, Huntington, & Cappell. 2009. Abandoned, lost or otherwise discarded fishing gear); hence an estimate of 640,000 tons of annual marine debris from abandoned, lost or otherwise discarded fishing gear(ALDFG) was derived and became the most wildly cited figure. However, it is important to note that the 6.4 million tons estimates of marine debris dates back

[1] http://www.gesamp.org/work/groups/wg-43-on-sea-based-sources-of-marine-litter

[2] http://www.fao.org/about/meetings/cofi/documents-cofi34/en/

to almost 50 years ago when there were significant different circumstances in global population, plastic production, fisheries management, and public awareness on marine pollution compared to today. In addition, the 10% estimate related to ALDFG was also just a "crude approximation". In absence of new reliable and authoritative estimates, the figure of 640,000 tons of annual ALDFG has continually been cited, regardless of the out datedness and crudeness of the original estimates. To ensure a solid baseline for the future, especially for evaluating efforts and effectiveness of strategies in meeting SDG Targets 14.1 (Prevent and significantly reduce marine pollution of all kinds, including marine debris), and to implement strategic and scalable solution, there is an urgent need for a more reliable global estimate of ALDFG.

Regardless of the amount of gear lost in our ocean, fisheries are part of global marine plastic debris problem as fishing gear is predominantly made of plastics. ALDFG not only pollutes the ocean, but can also continue to catch fish and other animals (ghostfishing) and can damage fragile habitats and ecosystems, all of which threatens sustainability of fisheries and security of food supply especially for coastal communities and many developing countries. ALDFG is also a navigational hazard and presents a threat to safety at sea for fishers, divers, shipping and other ocean users.

Causes of ALDFG include accidental loss as a result of adverse weather conditions or accidents, as well as inadequate gear management practices during fishing operations, such as poor storage of gear on-board vessels, conflict between gears related to fishing effort management, and a lack of waste disposal procedures and facilities on board and in ports. There is also a link between ALDFG and illegal, unreported and unregulated (IUU) fishing because fishers may discard their gear to evade detection by authorities, use large volumes of gear to maximise catch or there may be conflict between gears due to poor regulation of fishing effort in a particular area. Ocean currents can also have a significant influence as to where ALDFG accumulates, which may be great distances from where it originated, hence highlighting the transboundary nature of the problem.

The Committee on Fisheries (COFI) has therefore recommended that FAO conduct more work to better understand and quantify the trends and impacts of the ALDFG. This project is the first step for Indian Ocean Tuna Commission (IOTC) to provide a basis for estimating quantities of lost and abandoned fishing gears and FADs used by fishing vessels included on the IOTC Record of Authorised Vessels.

BENEFITS

Expected benefits of the project include:

- Scientific, evidence based and defensible global estimates of the amount of abandoned, lost or otherwise discard fishing gear (ALDFG) and temporal and spatial

distribution and trends of gear loss across fisheries, geographical locations and gear types at a longer term.
- A reliable baseline of ALDFG that can be used for evaluating strategies and efforts in meeting goals and targets for reduction marine litter, especially SDG 14.1, nationally and internationally.
- Understanding of the reasons for gear loss and disposal that benefit future efforts in the development of technology, management strategies, and educational and awareness programs to reduce ALDFG and its impact.
- Contribution to the development of effective mitigation strategies to reduce ALDFG and its impact in the marine environment globally and in particular within key identified hotspot areas.

BUDGET

The estimated budget to carry out these surveys is USD 85 000.

IMPLEMENTATION METHOD

Conduct fisher surveys using FAO-developed and approved survey forms. Surveys will be conducted in collaboration with national administrations The implementation of the project will include the following components:

- Development of survey questionnaires associated to a FAO Global ALDFG database and instructions to complete them. A team of FAO consultants will develop the questionnaires by gear type. The questionnaires will be complemented by instructions for the interviewer in order to ensure answers to the same questions are collected in a standardized way.
- Development of a sampling plan based on IOTC dataset on fishing craft statistics.
- Establishment of any agreement or memorandum of understanding as required. Validation of survey data by technical experts through built-in validation mechanisms, analysis tools and/or other means.
- Survey data entry into the FAO Global ALDFG database.
- Analysis and report of collected data. The data may be aggregated from different fleets, by different flag states as required and extrapolated through fishing effort or other metrics used to extract information for analysis and generate reports.

TIMELINE

To be completed by December 2021

EXPECTED RESULTS

The expected results will include estimates of amounts of ALDFG, geographical distribution of loss, temporal and spatial trends in IOTC fisheries and causes of gear loss.

Depending upon the final design of the questionnaire, results may also include good practices for gear retrieval, and fisher view regarding historic and future gear loss trends.

EXPECTED OUTPUTS

Output 1: Survey questionnaires and sampling methodology developed to lead to the results mentioned above.

Output 2: FAO Global ALDFG database associated to the questionnaires developed in activity 1 is operational.

Output 3: Any formal means of agreement as may be required

Output 4: Survey data is entered in the FAO Global ALDFG database.

Output 5: Fishery-level reports to provide timely advice/guidance on hotspots and mitigate issues identified. With consideration to any data confidentiality issues and IOTC approval/clearance, fishery-level report to made publically available (NFIO website).

EXPECTED ACTIVITIES

Expected activities associated to the ouputs outlined below are:

Activity 1.1: Development of survey methodology with data validation mechanisms.
Activity 1.2: Design survey questionnaire and forms (mainly electronic, with paper option) to interview fishers on dynamics of ALDFG in their own fisheries. The draft survey forms may be tested before implementing the actual surveys.

Activity 2.1: Development of a FAO global data depository to store current and future ALDFG survey data. This will allow the production of time series to monitor amounts of ALDFG and trends. The database will be designed to match the survey questionnaires developed under Activity 1.2.

Activity 3.1: Based on the sampling design created following the methodology established in Activity 1.1 and using IOTC dataset on fishing craft statistics, establish relevant communications/agreements to conduct interviews to the identified number of fishers.

Activity 4.1: Conduct interviews to fishers using the questionnaires developed under Activity 1.1.

Activity 5.1: Undertake data analysis that estimates gear loss rates and/or amount of ALDFG by fishery.
Activity 5.2: Create maps that identify distribution of tuna fishing gear loss in the Indian Ocean.
Activity 5.3: Production and dissemination of a FAO publications within the framework of the ABNJ programme on results of activities 4.1, 5.1 and 5.2.