

24 January 2022

**Contribution of the Food and Agriculture Organization of the United Nations (FAO) to the Report of the Secretary General on oceans and the law of the sea, on the topic of focus, "Ocean Observing"**

1. The FAO is the technical agency of the UN responsible for fisheries and aquaculture. The provision of advice in relation to fisheries, aligned to the SDGs and its objectives, relies on the availability and access to data and information from ocean, lakes and rivers' observations. These observations are largely collected nationally or regionally by responsible government agencies and transmitted to FAO through formal channels, and include information on production and catch limits, which allows FAO to assess trends in space and time on the productive capacity of marine and freshwater environments.
2. Fisheries and aquaculture are activities that take place in the context of a changing natural environment, and as such having good information on existing and emerging observing systems is extremely useful, such as water and atmospheric temperatures and chemistry, and ecosystem composition. FAO works with leading academic institutions and internationally agreed processes (such as the IPCC) to access and interpret these observations in the context of our work.
3. In this context it is noted that ocean observations are particularly sparse in regions of the world without the capacity to develop or maintain proper observing systems. For more than 40 years, the FAO and the Government of Norway have been running the Nansen Programme, providing an opportunity for coastal developing countries to assess and manage their fisheries for a sustainable use of the oceans. The research vessels named Dr Fridtjof Nansen are the core of a unique science and management programme that for over four decades has been working to meet the challenges of a changing marine environment for a sustainable use of the oceans in Africa, Central America and Asia. The information and data collected through the Nansen Programme, in particular through surveys with the research vessels are used to produce reports on the state of fishery resources, but are also stored in a database managed by IMR for the benefit of all partners.
4. FAO adds value to these observation systems by also extracting and disseminating such observations. For example, FAO produces guides that help to critically analyse the exploitation actions taken with some commercial species. One example is the guide we have produced on commercially exploited sea cucumbers. Edition 1 was published in 2014 and now we are now working on the 2nd edition. The use of edition 1 and 2 will show how the resources are being exploited with traditional species becoming overfished, while new and less valuable species entering the trade or more valuable species from regions that were not traditionally exploited for sea cucumbers. These guide plus the FAO Fisheries and Aquaculture Paper on Managing sea cucumber fisheries with an

ecosystem approach (published in 2010) will hopefully help countries to make management decision based on evidence to ensure long-term resilience of the fisheries.

5. Another example of value adding is the FAO EX-Ante Carbon Balance Tool (EX-ACT), an appraisal system developed by FAO that provides ex-ante estimates of the impact of development projects, programs and policies on the carbon (C) balance (<https://www.fao.org/3/bt079e/bt079e.pdf>). Originally developed for land-based systems, modules have been developed to estimate the GHG balance of projects in fisheries and aquaculture which can help inform management decisions from the project to policy level about blue carbon.
6. The FAO Fisheries and Aquaculture Division has developed several software tools to support science-based decision-making and improve resilience in fisheries and aquaculture such as OPEN ARTFISH, FishStatJ and WAPI. These software tools provide access to FAO datasets and statistical monitoring and are supported by other outputs such as guidelines, manuals, technical papers and policy briefs.
7. FAO is also establishing and strengthening national and global characterization, monitoring and information system for aquatic genetic resources, with priorities on:  
1) Promotion of a globally standardized use of terminology, nomenclature and descriptions of aquatic genetic resources for food and agriculture; 2) Improved and harmonized reporting procedures and expanded existing species-based information systems to cover unreported AqGR; and 3) Development, promotion and institutionalization of national, regional and global standardized information systems for the collection, validation, monitoring and reporting on AqGR below the level of species (i.e. farmed types and stocks). (<https://www.fao.org/aquatic-genetic-resources/activities/aquagris/en/>).