Fisheries and Aquaculture

What's new

Advancing transparency and accuracy in fisheries stock assessments

For over half a century, the Food and Agriculture Organization of the United Nations (FAO) has regularly provided vital information on the state of global fish stocks. Captured through the State of Stocks Index, this critical information has been published every two years since 1971 and presented in FAO's flagship The State of World Fisheries and Aquaculture (SOFIA) report since 1995. Over time, the data, statistics, and information provided in SOFIA have become indispensable tools for scientists, policy-makers and decision-makers striving for the sustainable management of fisheries worldwide.

Recognizing the dynamic nature of the fisheries sector and the need to align with Sustainable Development Goal (SDG) reporting, FAO has initiated a comprehensive methodological update of the Index. Sharma Rishi, FAO senior fishery officer, has been leading this initiative and in an interview, elucidates the motivations behind this update.

Could you shed light on the motivations behind the comprehensive update to FAO's methodology for assessing the state of global fish stocks?

As dominant stocks shift in terms of distribution and targets, exploitation practices and targeted species also change. Furthermore, the landscape of data and assessment tools has improved due to computing efficiencies. These changes necessitate adaptations to our methodology to ensure its ongoing relevance and accuracy in representing the current state of our marine resources.

Can you elaborate on the key aspects of the updated methodology and its potential impact?

The updated methodology represents a paradigm shift as we transition to a more open and transparent reporting format. The current State of Stock Index relies on a fixed list of approximately 500 stocks. We are broadening our scope to cover around 2,500 disaggregated and some aggregated stocks. This not only provides a higher resolution of the state of the resources in each region but also addresses information gaps within specific geographic areas.

Given the inevitable variability in the level of available information across stocks and regions, the proposed upgraded methodology is based on a three-tiered system:

Tier 1 includes stocks with a formal assessment considered scientifically sound and reliable. The stock status for this tier is derived directly from national or regional assessments (RFB/RFMO's assessments) without additional computations by FAO.

Tier 2 includes stocks without formal or reliable assessments but with reliable catch data and other supporting information, such as an index of abundance or effort. The stock status in this tier is inferred using surplus-production type models.

Tier 3 includes stocks where a formal assessment has not been conducted, and information is not sufficient for a model-based approach. Instead, stock status is determined using a weight-of-evidence approach that combines all available data, knowledge, and information, combined with an expert review system.

By categorizing stocks into tiers as outlined above, it ensures that the decision-making process is clear, documented, and subject to expert and independent peer review. This enhances the overall credibility of our analyses.

Indian Ocean, Maldives - Fishermen fish for tuna with the traditional method one-by-one Pole-and-Line.

Kalk Bay, Cape Town, small-scale fishing vessels lie in the harbour.

How has the updated methodology been tested, and what role do regional fisheries institutions play in this process?

The methodology has undergone rigorous testing in seven selected FAO fishing areas, involving national and regional fisheries institutions and stakeholders (69 countries with over 600 fishery scientists and policy analysts). This testing phase has been crucial in actively engaging local experts through regional workshops and consultation methods, including the use of SDG indicator datasets. The contributions of local experts proved invaluable in refining and validating the inferences derived in each region, creating a collaborative framework that can always be refined or improved.

To further support these efforts, FAO is also developing the capacity of regional scientists and fisheries institutions to assess the status of fisheries resources within specific regions in the world.

Looking ahead, how do you envision this updated methodology contributing to the global effort for biologically sustainable fishing?

The updated methodology represents more than just a technical advancement in transparency and a higher resolution of stocks; it catalyzes positive change. By using a more comprehensive set of stocks globally, it will more robustly support policymakers and decision-makers in developing targeted policies that improve the state of their stocks in their respective regions. This effort underscores our commitment to effective management of 100% of marine and inland fisheries, a key component of Blue Transformation. Properly managed fisheries often result in stocks at biologically sustainable status (maximally sustainably utilized), contributing to food security and nutrition, addressing world hunger, and supporting a nutritious diet. The updated methodology has been shared with the FAO Sub-Committee on Fisheries Management and will be presented to the FAO Committee on Fisheries in July.

The updated Index promises enhanced transparency and a tiered analysis that will move us toward achieving sustainability in the marine capture fisheries sector.

Links

- Sub-Committee on Fisheries Management
- Indicator 14.4.1 - Proportion of fish stocks within biologically sustainable levels

Keywords

Stock assessment, Stock status

Food and Agriculture Organization of the United Nations

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