Evolution of fisheries data collection processes and procedures: responding to country needs

Australian Aid

Purpose

1.   High quality, scientifically sound data is essential for understanding and managing coastal fisheries effectively. Limited resources means that Pacific Island countries and territories are often operating in data-poor environments which impedes their ability to make timely and appropriate decisions. Improving this situation requires an acceptance that resources will remain limiting for the foreseeable future and therefore solutions are needed that will still provide significant improvements without major investments in capital.

2.   Combining technology with simplified fisheries methodologies is an ideal marriage from which to create more robust data collection processes and procedures. The development of information and communications technology across the Pacific has grown rapidly over the past 10 years with 50% of people having regular access to the internet in 2018. Development of methods and approaches which take advantage of this is yielding vastly improved efficiencies which have the potential to significantly improve coastal fisheries knowledge and benefit management.

Background

3.   The importance of accurate data as the backbone of effective fisheries management has never been clearer. As climate change imposes its effects on top of existing problems with over-fishing, pollution and increasing human populations, the need to have a clear and timely understanding of how fish stocks are responding is vital if management is to keep systems sustainable.

4.   At RTMCF 1 this importance was recognised with the inaugural technical meeting focussed entirely on data issues. There were several key areas identified:

   - Need for development and adoption of minimum data standards for coastal fisheries
   - Policy/legal development
   - Data repository development
   - Data storage
   - National collections
   - Dissemination
   - Training
   - Funding and staffing

5.   Progress against these working areas was presented at RTMCF 2 where there was recognition that while more countries were trying to conduct market surveys for fisheries information progress was slow and minimal across most areas identified at the RTMCF.

6.   Twelve months on from RTMCF 2 and there has been significant momentum generated across some of the key areas but less so in others. SPC's CFP has worked hard to make progress around tools for improving the capacity to collect data more efficiently and more accurately. The focus of this information paper is to present the progress to date and provide some recent output to demonstrate these tools in action.

Tools for improved data collection and processing

7.   There have been several tools developed and/or improved over the past 12 months, which are being trialled and tested during regular in-country visits by SPC's CFP. We will present examples and demonstrations of all these tools.

- **Creel survey app** for coastal fisheries programmed into TAILS

- **Market survey app** developed and currently undergoing field testing.

- **Measurement pack** for intensive sampling of fisheries catches

- **Computer program** for processing data collected through the measurement package

- **Online learning modules** for developing advanced fish identification skills

8.   Tools and applications are only as good as the data they collect. We have followed the recommended outcomes from previous RTMCF meetings and developed simplified creel and market survey questionnaires which are founded on the collection of species-specific data on size/length and, where practical, weight. We will demonstrate the types of outputs that are possible from such data and how these outputs can be used to guide decision making.

Feedback

9.   The next phase of the development and implementation of these approaches to data collection is to obtain feedback from the end-users on practicality of the tools, data analysis and visualisation needs. As these methods are being demonstrated and introduced to countries we will continue to seek and incorporate feedback into our improvement processes. These feedback processes will be most effective once programmes have been operating for a period. As countries request help and assistance with improving their fisheries data collection systems, we will work with them to design the most effective sampling programmes, followed by feedback and incorporation of any beneficial changes usually after a 12-month implementation phase.

Communication and dissemination

10.   We see engagement with communities, as pivotal to the success of an enduring programme of data collection. These tools should facilitate providing timely and appropriate output that can be shared and discussed with communities. Community-based and co-management is a core component of sustainable fisheries and adaptation of technologies to simplify and improve data collection and feedback processes is just as relevant with communities as it is with national fisheries agencies. We are already working with community-based programmes to develop these methods for use in the community setting.