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## A regional management framework to transform Pacific coastal fisheries

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## A regional management framework to transform Pacific coastal fisheries

### Summary:

- It is increasingly acknowledged that Pacific coastal fisheries are overexploited or likely to be overexploited in many locations and management needs to be improved.
- A recent study across the 22 PICTs found that historical data collection and their use do not effectively support national management processes or sustainable fisheries outcomes.
- Compounding this is a history of western approaches that promote methods of data collection and stock assessment that are not appropriate for use by PICTs.
- There is a need to redefine the paradigm in the Pacific Islands region to provide a coastal fisheries management framework appropriate to the regional context and capacity.
- The proposal is to develop a regional management framework with a menu of options that PICTs can easily use to customise their national coastal fisheries management system.
- The proposed management framework has the potential to positively transform coastal fisheries management in the region.
- This novel approach can be readily accommodated within existing national coastal fisheries budgets and may in fact deliver cost-savings.
- PICTs adopting this management framework at the national level will provide local independence and control, a clear and common national purpose for sustainable coastal fisheries, while also capitalising on available tools and resources.

### Background

1. In the Pacific Islands region, coastal fish and invertebrates are critically important for food security and livelihoods. They provide 50-90% of animal protein for Pacific Islanders and the per capita fishery product consumption rate in the region significantly exceeds the global average by as much as 3-5 times in some PICTs (FAO, 2015). While the recent Benefish study cannot allocate an actual monetary value on the social, health and cultural values that coastal fisheries support, it does demonstrate that coastal fishing is a significant contributor to the GDP of PICTs (Gillett and Fong 2023). Despite this importance, and the recent development of notable regional, subregional and national policies, implementation of these policies has been hampered to date by resourcing not yet matching the rhetoric (Gillett, 2016) and a lack of an overarching strategic framework to guide implementation. While there are examples of progress, management of coastal fisheries among PICTs is lacking or largely ineffective (e.g., Gillett et al., 2014; Govan et al., 2013; Welch, 2021). From the latest Benefish study Gillett and Fong (2023) stated the following as one of ONLY two key recommendations: *“The remarkable drop of per capita production from coastal fisheries over the period 2007–2021 alone (a decrease of 14% over 21 years) should be a “wake-up call” for countries that do not focus much attention on effective coastal fisheries management. Because it is coastal fisheries that provide most of the fisheries-related employment and food in the region, implementing the difficult task of improving coastal fisheries management should be pursued with greater vigour.”*

### *Current situation in the Pacific*

2. In 2021, with support from the Pacific arm of the Food and Agriculture Organization of the United Nations (FAO), C2O Fisheries reviewed available literature and engaged with the 22 PICT national fisheries department staff and SPC to identify and document:
  - a. What coastal fish and invertebrate data collections are available?
  - b. How have these data have been used to assess stock health (stock assessments)?
  - c. Have the outcomes of assessments informed effective management action?
3. After reviewing in excess of 100 historical Pacific coastal fisheries data collections, findings of this study found that even reliable basic data was generally absent, and data collected lacked replicability in time and space. Also, data collection activities were infrequent, often ad hoc and limited in scope, were mostly associated with short-term external projects, data were rarely linked explicitly to assessment outcomes, reliability of collected data was questionable, and strategic approaches to data collection were limited (Welch, 2021). Further, of the limited assessments of coastal fishery stock status, the vast majority used only simple methods dictated by available data, were reliant on external expertise, and explicit links to management responses was virtually non-existent. It is therefore not surprising that management of coastal marine resources in the Pacific is regarded as limited and that available data suggests that coastal marine resources are fully or overfished (Gillett and Fong 2023).
4. The underlying challenges that have impeded effective coastal fisheries data collection and assessment for data-limited fisheries globally are well documented (Dowling et al. 2014; Orensanz et al. 2005). Based on the data collection review and consultation with individuals from the majority of PICTs, Welch (2021) summarised the key challenges in the Pacific Islands region as:
  - a lack of funding,
  - a lack of personnel,
  - limited relevant expertise,
  - a lack of equipment,
  - large distances and remote areas to monitor, and
  - database issues.
5. Compounding these challenges has been a long history of external projects and “experts” promoting and introducing western approaches to “data-limited” monitoring and assessments that have been too time-consuming, data-intensive and complex. Western practitioners regularly promote data-limited fisheries approaches that require the collection of many years of accurate catch and/or effort data. These actually represent data-rich examples for many places, including the Pacific Islands region. One of the key issues with past efforts by external projects and experts has been the failure to acknowledge the local socio-economic, cultural and governance context (e.g. Cinner and McClanahan, 2006). Often these challenges are accompanied by other factors including: a lack of political will, ineffective policies, and low motivation among key staff. Collectively, these factors result in the lack of a strategic and achievable approach to coastal fisheries management for the entire region.

Therefore, there is a need to rethink approaches that have been used in classic fisheries management to align with and transform multispecies coastal fisheries in the Pacific Islands region.

### *A new approach for the Pacific*

6. The key overarching recommendation from the Welch (2021) report was for “*The development and adoption of an appropriate management framework designed to the “normal operating conditions” of the region...*”, and that if implemented appropriately “*...has the potential to transform Pacific coastal fisheries management, thereby securing future food security and livelihoods for the people of the Pacific Islands*”. This recommendation was endorsed by a FAO Pacific led roundtable meeting of several Pacific coastal fishery experts and scientists held in August 2021. This recommendation aligns with the findings of Gillett and Fong (2023) and application of the proposed new framework would help meet the recommendation in the Benefish4 Report.

#### What is a management framework?

7. There are three main components to a fisheries management framework, with well-managed and sustainable fisheries globally applying all these components in a linked framework (Sloan et al. 2013; Smith et al. 2014). These three components are: i) Data collection, ii) Stock assessment, and iii) Management actions (Figure 1). One of the basic foundations of sustainable fisheries management is the collection of relevant data for the *purpose* of understanding the health of fished populations, and in turn the *purpose* of stock health information is to inform the appropriateness of management decision-making.

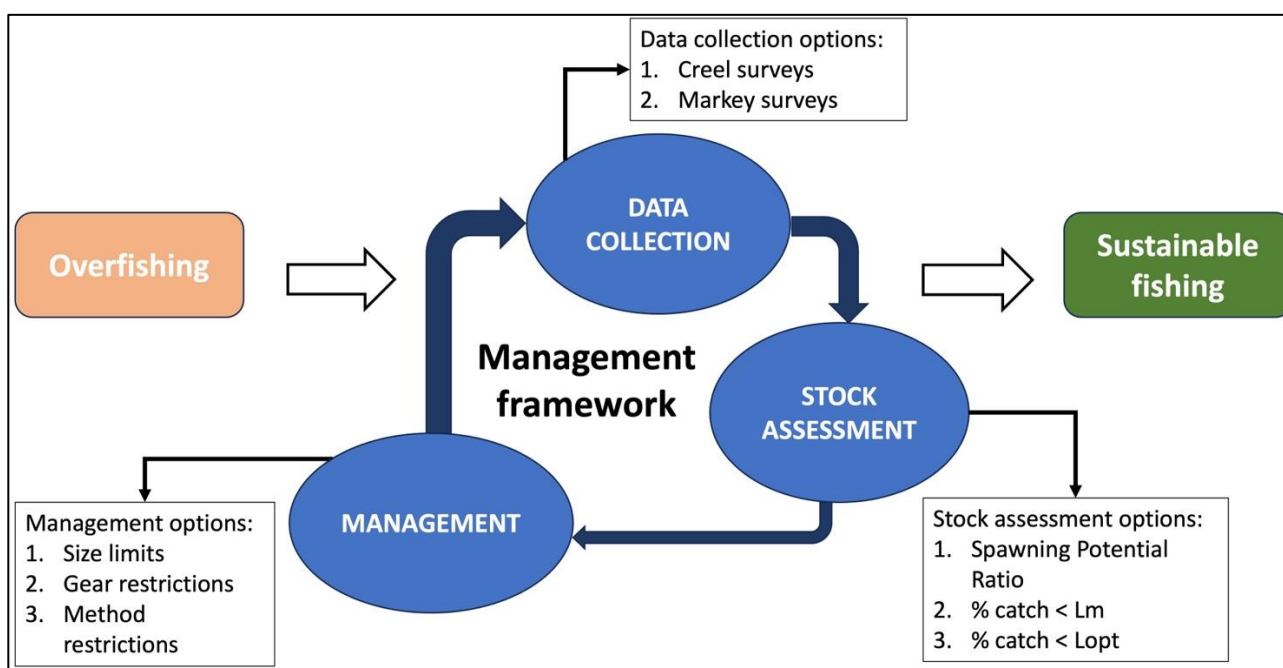


Figure 1. Conceptual diagram illustrating the three elements of a management framework and their linkages: Data collection, Stock assessment and Management actions. Examples of some options are given for each of these three elements. The key to a successful Pacific management framework would be to include options appropriate to the local context (e.g., capacity to conduct creel surveys given spatial extent of fishing, time and staff; technical capacity of staff to conduct different assessment types).

8. Application of such a framework has the potential to vastly improve management of coastal marine resources in the Pacific Islands region if it is locally driven. This will help to ensure the management system is readily sustained into the future. In the past, the typical project cycle has meant that funding and effort has progressed to the stage of data collections and storage, but rarely to the point that the data are incorporated in an iterative system of management. A key concept to a successful Pacific fisheries management system is “less is more”.

#### Developing a Pacific management framework

9. Adopting the concept of a **regional** management framework means developing elements that consider the overall capacity characteristics for all 22 PICTs and only provides options within the capacity of the region. The benefit of developing the framework at this scale is that it will ensure that it is applicable to the region and to all PICTs, thereby allowing the development of management systems that are customised to each PICT (Figure 2). Further, the framework would provide the flexibility for PICTs to modify their management system through time to include increasing or decreasing complexity in data types, monitoring methods and assessment approaches as, and if, capacity changes. Effectively, a regional management framework would provide all PICTs in the region a choice of **‘menu’ options** for data collection methods, stock assessment methods that match the data collected and technical capacity available, and relevant management choices. The framework itself would be supported by guidance to users on the most appropriate choice of these options. The regional framework would enable PICTs to independently develop their own management system, that is **customised** so that implementation requirements are well within local capabilities and local coastal fisheries management does not require external interventions or support (Figure 2).

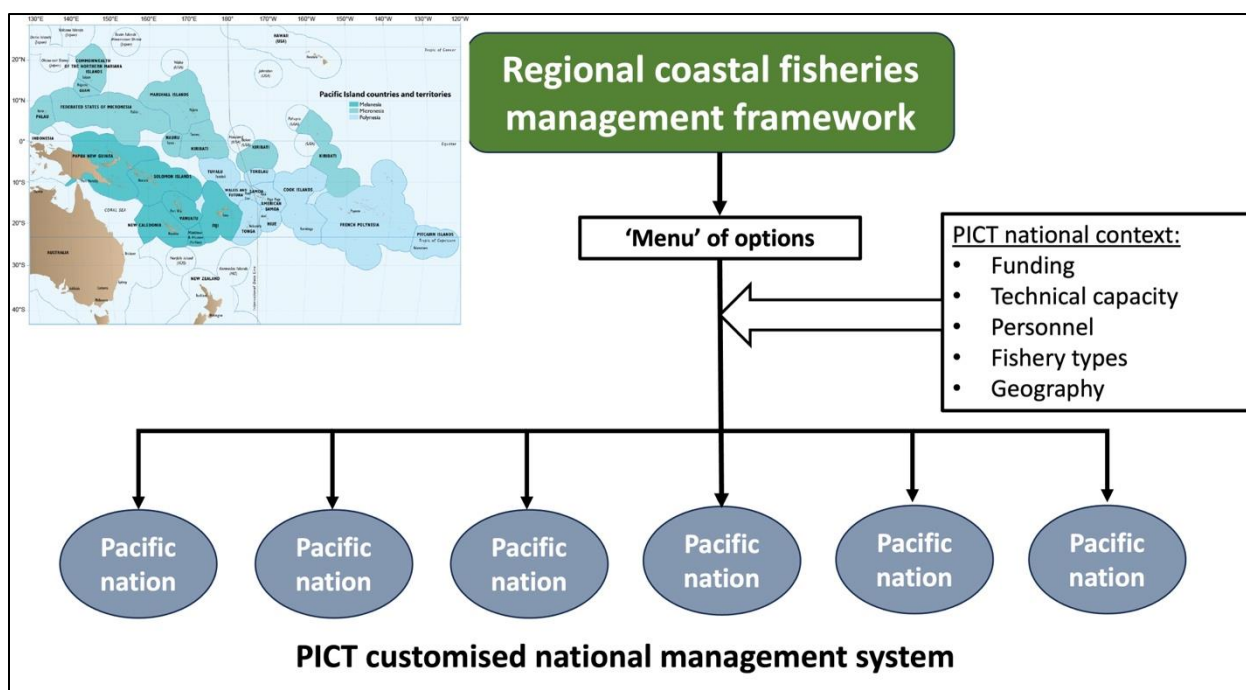


Figure 2. Conceptual diagram illustrating the process for each PICT in developing their own coastal fisheries management framework to suit the local context and guided by the regional management framework.

10. Further, and significantly, adoption of this framework and approach can and should be possible under existing budgets for PICT coastal fisheries departments, and if successful has the potential to reduce costs. For the development of a coastal fisheries management framework that is appropriate to the Pacific context there are several key elements that would need to be considered and incorporated into the process.

#### Consultation and ownership

11. Development of a Pacific coastal fisheries management framework MUST have significant involvement and leadership of representatives from PICTs. This is critical. While expert guidance and facilitation may be necessary and desirable during this initial step, meaningful involvement of local fisheries departments and governments is needed to ensure the outcomes are locally appropriate.

#### Regional and cultural diversity

12. While a single regional management framework is desirable as it provides a consistent overarching framework across the Pacific Islands region, acknowledging the regional diversity will ensure the overall scope and framework specificity is appropriate to the regional context; this is a foundational goal. For example, the range in local technical capacity, local resourcing capacity, fishery methods, species biology and current systems in place (data collection, assessment, management) can and should be considered in the regional framework.

#### Informing regional policy

13. The development and implementation of a successful regional coastal fisheries management framework will help to meet many of the objectives of the relevant regional and national policies (e.g., A New Song for Coastal Fisheries). Explicit and clear linkages of the regional management framework to these policies will be key for obtaining the necessary regional support.

#### Pilot and scaling up

14. Several PICTs have acknowledged the need for a strategic framework to guide management of coastal fisheries in the region. Development and testing of a regional framework will need to occur with the involvement of several PICTs willing to act in a pilot phase. Successful practical application would provide the motivation for scaling up across the region.

#### Integrating current resources

15. This is not about ‘reinventing the wheel’. Many resources, tools and systems exist that are currently under development that are relevant to a Pacific coastal fisheries management framework and exploring and integrating these resources where possible is important. An obvious example is SPC’s range of data management services that includes advanced tools that support data collection, data quality, data curation and analysis (e.g., the Ikasavea data tool; see <https://fame.spc.int/resources/tools/ikasavea>).

### *What it would mean for the Pacific*

16. Successful development and implementation of a coastal fisheries management framework outlined in this Information Paper has significant potential of being transformational for coastal fisheries management and ensuring food security for the Pacific Islands region and its' people. Key benefits and outcomes include:

- A clear but simple purpose to focus national government coastal resource management efforts.
- A clear and simple framework adapted to local capacities will create cost- and time efficiencies thereby enhancing the application of sustainable fisheries management.
- A clear purpose and guidance for fisheries staff in their roles.
- A system of management designed by Pacific Islanders for Pacific Islanders.
- A system of management that can be implemented under current budget regimes, and potentially create significant cost-savings.
- A consistent regional approach to support coastal resource management by national fisheries agencies provides a greater platform for inter-regional knowledge sharing and learning. This can include regional support or the development of databases to simplify data handling and assessment for feeding into management.
- Greater empowerment of national fisheries agencies in successfully self-managing critical local resources, and consistent information sharing through yearly regional technical meetings.
- Local adoption of the management framework provides significant leverage and purpose for governments to align external actors and donor funded projects to invest in meaningful and positive outcomes that better align with local needs.
- Better use of relevant currently available tools and resources that support the framework. It would align and be easily integrated with current significant developments by SPC in data collection tools and support.
- Significantly improve the capacity for PICTs to readily meet international targets and indicators for key Sustainable Development Goals, specifically SDG2, SDG13, and SDG14, and for improved capacity to report on Indicator SDG14.4.1.

### *Recommendations:*

17. Members and partners are invited to review and discuss the proposed management framework in this Information Paper and consider how implementation can benefit coastal fisheries management and the long-term sustainability of fisheries food systems in their country/territory. Members and partners are encouraged to contact the author for further information and discussion, and to consider progressing discussions with in-country colleagues and future regional meetings.