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Aquaculture data collection systems

BACKGROUND INFORMATION

1. Data in aquaculture is important for supporting policy and decision-making in the sector through providing knowledge and information on the status of the sector, contributions to food security, income generation, economic development and trends in the aquaculture sector. With up-to-date and accurate data, early detection of emerging events affecting aquaculture can be determined, which may improve national and regional preparedness, resilience and monitoring of capacity in aquaculture of the Pacific Islands region.
2. There is a strong and growing need for reliable and timely aquaculture statistics (covering aquaculture data collection, compilation, analysis and reporting) that can be realised through further improvements of national aquaculture statistics and information collection systems in member countries.
3. Up to now, efforts to address aquaculture statistics and analysis in presenting the status of the sector have been carried out on an *ad hoc* basis through regional fisheries and aquaculture reviews every couple of years. Data is scattered and is not focused on clear priorities and needs of the Pacific Islands region.
4. SPC member countries who are Food and Agriculture Organisation (FAO) members are requested by FAO to submit aquaculture data, which is then analysed by FAO statisticians and made available to the general public in the form of the 'FAO Fishstat' programme. Concerns have been raised from the Pacific Islands region in the past regarding how FAO data templates are difficult to fill out by member countries, and to a certain extent, are not well adapted to the Pacific Islands region context (e.g. for small scale aquaculture operations, ornamental operations, pearl farming).
5. There is an apparent lack of data in aquaculture for tracking progress of the sector in this region. In most cases, at the national level, reliable statistics tend to be limited to export data, which is perhaps a poor barometer for progress since the process excludes produce that is sold or consumed domestically.
6. While government agencies are aware of the need for good aquaculture data, there are concerns over availability of resources, processes that are suitable to the Pacific Islands region and, perhaps, technical services and appropriate technologies to support this area.
7. There is a need for an agreed approach on a feasible process that would allow aquaculture data collection, compilation, analysis and reporting, including methodologies to collect data, the type of data to collect (prioritisation of data) and the institutional arrangement that would allow the collection, storage and retrieval of such data.
8. In order to address data issues, it is necessary to highlight some of the priority data collection areas that may be relevant:
 - National and regional output (tonnage or numbers, and value) relative to input (seed, feed, labour, etc.). This is sorted by the species being cultured, type of environment (marine/brackish water/freshwater) and culture methods (ponds, cages, number of

culture units and surface area under culture, etc.). This should cover food fish, seaweeds and non-food products.

- Seed production from hatchery/nursery, covering number of juveniles (e.g., fry, fingerling, spats, etc.) produced from hatcheries. This should be sorted by species and by intended use, whether for aquaculture or release into the wild.
- Employment in aquaculture, in terms of the number of people employed whether full-time or part-time, which also takes into account gender and youth aspects, and engagement in the sector.

ISSUES AND CONCERNs

9. Weakness or absence of a national framework to mandate data collection at country level (e.g. lack of data requirement for licensing, or indeed a lack of licensing altogether).
10. Absence of a legal framework that mandates efforts for regional data collection.
11. Data efforts may be lacking at the subsistence farmers level, or subsistence farmers may lack incentives to collect data even for their own purposes. So it may be necessary to build and strengthen relationships and develop incentives to capture these areas.
12. Farming areas may be inaccessible such as countries with large in-land areas or large numbers of remote islands (e.g. Papua New Guinea, Kiribati).
13. Appropriate data collection procedure is unclear or with no standardisation of data collection methods at national and regional levels.
14. New technologies and data management systems are emerging, and advice is needed in order to select the most appropriate system.
15. Farmers have difficulties in recording data or maintaining basic farming records. There is a need for training on maintaining basic book keeping or record keeping.
16. Those farmers that do diligently provide data often comment that they never hear anything back about their data, and receive no feedback about what national purpose is being served by providing their data.

POSSIBLE DISCUSSION POINTS

- What are the data priorities and how can these be adapted to the specificities (limitations, expectations and needs) of the Pacific Islands region aquaculture sector? Will templates work?
- What methods would work for data collection (attractive and accessible tools), storage and retrieval that are cost effective, and how would countries adapt their systems to the size of their aquaculture sector?

- What approaches can be taken to show the strong contribution of the aquaculture sector to food security and economic development at the regional, sub-national and national levels?