Collection of Fisheries Data and Information:
The Need for Comprehensive National Systems

by Yasuhisa Kato

Introduction

At the ASEAN-SEAFDEC Millennium Conference, several priority issues were highlighted in the Resolution on Sustainable Fisheries for Food Security for the ASEAN Region. Among these issues was the importance of strengthening national fisheries statistical systems and of maximizing their use for fisheries planning and management.

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In implementing this particular resolution, ASEAN Member Countries must consider ways to improve their national statistics systems. This will include how more accurate and more timely data can be collected and analyzed, and how information is utilized in policy formulation and decision making to support governments' priority issues.

Too often, unreliable or untimely statistical analyses have provided inadequate information to key decision makers. This has led to dwindling support from these important actors for fisheries statistics and data collection systems, causing a vicious cycle affecting production of reliable national fisheries statistics.

"Why are we collecting statistical data and information?"

This highly pertinent question was raised at a regional meeting in 2002 on fisheries statistics. It was met with the stunning answer, "Because the FAO requested us to collect this information"! But such a reply is to be expected from government staff working on fisheries statistics in the region, not least if we replace the word 'FAO' with the phrase 'national requirements.' This might explain the current situation in which the daily concern of statistical staff is to produce data that will meet deadlines imposed by national statistical systems, rather than considering the utility of the produced statistical data. In other words, within the given terms of reference, most likely defined when government priorities were quite different to those of

today, even if the greatest efforts are made, the data produced are likely to be of little use to fisheries managers.

Studies carried out worldwide have identified dwindling governmental support to fishery statistical systems as the major constraint on the collection and production of reliable national statistical data. If this is so, the solution might be to increase governmental support for national fisheries statistical systems. But in Southeast Asia, it is worth also considering the latter part of the Resolution above, which notes the importance of making the most of the data collected for fisheries planning and management, rather than simply finding ways to increase financial and technical support to the system.

The special situation of the fisheries sector

In sectors such as agriculture, it is easier to collect information than in the fisheries sector. The nature of agriculture, with its clearly defined land tenure system, together with the characteristics of agricultural production can be easily assessed and understood.

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The fisheries sector, defined by the use of common resources under an open access regime, is inherently more unstable and complex in terms of both physical locations of harvests and associated livelihoods. Fisheries as such have no clear basis for production, such as an area of land. This situation is compounded by the highly migratory nature of the industry, with no defined geographical limitations. The situation is especially complex for tropical fisheries, in which the small-scale sector is dominant. More than 95 percent of fishers in the region belong to this sector, which is widely scattered along the shorelines of Southeast Asia.

The special nature of tropical fisheries makes data and information collection extremely difficult to achieve. The effectiveness of reliable information collection by the government sector, already hindered by the nature of fisheries, is further hindered by the requirement to measure daily catches. In the agricultural

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sector, by contrast, production consists of a limited number of planned harvests.

Further aggravating the situation, government agencies responsible for fisheries have generally much smaller financial and human capacities than the agricultural sector.

The different nature of the fisheries sector and the structure of government agencies has to be understood when national systems to collect fisheries statistical data and information are reviewed. Considering these differences, it may not be fair to expect government agencies responsible for fisheries to collect statistical data of a quality comparable to that produced by the agricultural sector.

Current fisheries statistical systems have been developed using agricultural statistical system as a model. Efforts should therefore be made to reassess the specific requirements of fisheries statistical systems, considering the existing limited human capacity and the particular nature of tropical fisheries.

Challenges

National fisheries statistical systems established in the past have normally not included fisheries management objectives, reflecting the lesser concern on these issues by governments in the past.

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However, government agencies for fisheries are increasingly concerned with regulating the industry, considering the current status of fisheries using common resources under an open access regime. To enable effective regulation, the collection of relevant scientific information is increasingly necessary.

As such, fisheries management actions are in most cases focused on resolving immediate and felt resource use problems. Government agencies and policy makers

usually collect needed information by mobilising government researchers rather than using existing national fishery statistic systems.

It is somewhat paradoxical that government agencies have utilized two different mechanisms to collect fisheries-related information, especially considering the limited financial and technical resources available. It might be time to rethink an appropriate policy and overall mechanisms to collect needed information in a more cost effective way.

On the importance of adequate collection of statistic and scientific information

In general, two major kinds of data and information are collected by two different groups of governmental agencies: fisheries statistical data collected by statistical units and scientific information collected by the research units. There is little or no coordination between the two groups.

Fisheries statistical units normally belong to a nationwide network, employing a number of enumerators across the country. Mechanisms for continuous collection of data are considered using an appropriate format. There is relatively little flexibility to accommodate comprehensive modifications of data and information required to be collected in line with national requirements and priorities.

Appropriately collected statistical data provide general information to understand status and trends of all kinds of fisheries at the national level. Unfortunately, under the current statistical framework, it is very difficult to collect information on individual fisheries, especially in terms of fishing grounds or areas.

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On the other hand, fisheries management requirements and actions are more locally specific, targeted at the regulation of particular fisheries in identified areas, while national frameworks such as the fisheries management program and plan provide a consistent policy and frame of reference.

In addition to statistical data, governments therefore frequently request researchers to collect scientific information directly from particular targeted fisheries. Such requirements are expected to be enlarged in the future, in accordance with growing fisheries management needs. This kind of data collection tends to be on an *ad hoc* basis, since such exercises are normally conducted when an information gap is identified, to solve an immediate management problem and to formulate policy in answer to the issue.

The SEAFDEC Program on the Collection of Fisheries Information

SEAFDEC has a long history of collecting statistical data on fisheries in the region, and has organized several training courses and workshops to improve national statistical systems.

"…collaborative work with regional actors will be increasingly necessary to collect information and ultimately promote sustainable fisheries in the region"

SEAFDEC has recently started working with its Member Countries to promote the collection of information focusing on various current fisheries concerns. These efforts include collecting scientific information on shark fisheries, fisheries indicators, pelagic species of the South China Sea, the extent of discarded catch, inland fisheries and marine turtle by-catch. The aim in all cases is to enable better understanding of fisheries trends as a basis for fisheries management.

Collection of statistical information in the region will be pursued under the SEAFDEC program. Meanwhile, collaborative work with regional actors will be increasingly necessary to collect information and ultimately promote sustainable fisheries in the region. From this perspective, it might be an appropriate time

Participants to the ASEAN-SEAFDEC Regional Technical Consultation on Fishery Statistics organized in Chiang Mai, Thailand, from 16 to 19 June 2003

Proposed activities for improving fisheries statistical systems in Southeast Asia

A.   Continuous strengthening of national networks of fisheries statistical systems

Government fisheries agencies will continue to develop national network systems to effectively collect statistical data with a clearly defined policy and objectives and within an appropriate framework.

B.   Strategic planning of government research activities

Government researchers normally select research issues based on their capacity to answer scientific needs defined by government programs. Requirements for fisheries management have recently been identified as urgent priority areas. Meanwhile, in most ASEAN Member Countries, government research programs have not yet been fully restructured to address these issues. In these cases, strategic planning of government research programs is required, reviewing work achieved and planned, in order to provide increased focus on fisheries management.

C.   Implementation of research programs

More governmental research work needs to be conducted in response to fisheries management problems, such as resolving resource use conflicts. Unlike collection of statistical data, such research work has clear objectives, usually to clearly understand the status and trends of a named fishery in a specific locality, and information from it will be used as the validated basis for the development of a management plan and actions to solve the immediate problem. Research program are typically conducted within a certain timeframe and on a project basis.

D.   Evaluation of research work

Such research work must be evaluated upon completion. In addition to a technical evaluation, policy makers must consider which initiatives should be continuously conducted, at a particular locality or in wider geographical areas. If these topics and kinds of data are to be continuously collected, responsibility to do so could be transferred to the national fishery statistics system, which can carry out the work in a sustainable manner, mobilizing the national network.

E.   Formulation of statistical formats

When continuous collection of data is evaluated, its requirements must be translated into a statistical format, such as tabulation, questionnaire, or revised classification. An appropriate format, taking full account of the nature of the statistical system, may be developed jointly by researchers and the statistical unit. As data collection under the statistical system is normally long term but relatively inflexible to carry out, the development of modified statistical formats is indispensable.

F.   Financial and Technical Assistance

Appropriate financial and technical assistance (including a human resource development program) should be provided to the fishery statistical system, in order to provide the resources needed to collect new or additional data requirements under the fisheries statistic scheme, either nationwide or at certain localities.

G.   Systematic Improvement of Fishery Statistics

Through the above process, together with coordination among policy makers, researchers and staff of statistical units, fishery statistics will gradually improve, accommodating the required data sets for priority assessment and evaluation of fisheries status and trends.

to clarify SEAFDEC activities at the regional level, with respect to the collection of fisheries data and information which may also be relevant at national levels, highlighting a need to coordinate activities with Member Countries.

A conceptual framework for data and information collection

While governmental agencies responsible for fisheries will continue to collect both statistical data and scientific information to support the formulation of national fisheries policies and to promote the implementation of effective fisheries management programs, coordination between different units implementing these activities has still to be established. The improvement of fishery statistics to accommodate information that will support identified priority issues can obviously not be achieved solely by statistical units increasing their efforts. Coordination between statistical units and government researchers is an important factor that has to be promoted by government policy makers.

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In order to improve coordination, different approaches need to be considered. Further development of a comprehensive framework and its eventual implementation will ultimately help to improve fisheries statistical systems in countries in Southeast Asia. An approach that builds on the present framework is set out in the box below.

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Pursuing efforts at the regional and national levels may first clarify the needs for statistic data given current government priorities, and may subsequently enable the present system to be developed to gradually accommodate the needs of each national system. This will hopefully maximize the use of statistics for national priority issues, including their use as a basis for fisheries management, as highlighted in the Millennium Conference Resolution.

The ASEAN-SEAFDEC Regional Technical Consultation on Fishery Statistics was organized in Chiang Mai, Thailand, from 16 to 19 June 2003. The purpose of the meeting was to discuss how to improve national fisheries statistics and ways to mobilize other scientific information to support required activities for governments' priority issues, particularly with regards to fisheries management. After discussion and an exchange of views, conclusions and recommendations were proposed, including guidelines and frameworks. These will strategically harmonize improved fisheries statistics with other information collection activities. All activities will be conducted by government agencies, ultimately improving the overall quality and effectiveness of data and information gathering by ASEAN Member Countries.

About the author

Yasuhisa Kato, Ph. D. in population dynamics and marine ecology, was successively President of Overseas Agrofisheries Consultants Co., Director of the FAO's Operation Services and later on Policy and Planning Divison. He is today Special Advisor for SEAFDEC, based at the Secretariat, Bangkok.