

IMPROVEMENT OF FISHERY STATISTICS

IN THE ASEAN REGION:

Why? What? How?

90%

80%

70%

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Introduction

Fishery statistics are widely recognized as an important tool for providing crucial help in determining national fisheries policies, formulating national management frameworks and actions, and understanding the status and trends of fisheries resources. It is nonetheless a fact that national fishery statistics systems of ASEAN member countries are currently not being effectively developed and implemented.

Strengthening national fishery statistics systems and maximizing their use for fisheries planning and management is one of the priority goals identified during the ASEAN-SEAFDEC Millennium Conference in 2001. This was reflected in the Resolution and Plan of Action adopted at the Conference, with Resolutions 4 and 7 stipulating the importance of *improving the understanding/knowledge of fisheries and aquaculture through harmonization of standards and capacity building, better presentation of statistics and information for various user groups taking into consideration of reduction of disparity among countries.*

Following these policy directives, SEAFDEC has initiated a project aiming at improving fishery statistics systems and related mechanisms in the region, under the Special 5-year programme (2002-2005). Since then, the importance of fishery statistics has been well recognized, not only by SEAFDEC and its Member Countries, but also by ASEAN and FAO,

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many joint activities were implemented in collaboration with these institutions. The recent membership of SEAFDEC in the Coordinating Working Party on Fishery Statistics (CWP) and the Fisheries Resources Monitoring Systems (FIRMS) are further steps toward the harmonization of standards both among ASEAN Countries and at the global level.

This article will highlight activities and achievement of the project in improving Fishery Statistics in the Asean Region from 2002 to 2005.

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of the ASEAN Foundation (Japan-ASEAN Solidarity Fund). These activities also aimed to reduce technical disparities among SEAFDEC Member Countries through the mobilization of existing regional experience and skills.

Several activities have been initiated, starting with the first ASEAN-SEAFDEC Regional Technical Consultation (RTC) on Fishery Statistics organized in Chiang Mai, Thailand, in June 2003, in order to develop directions and plan for capacity building of fishery statistics in the region, considering both institutional and human resource aspects. The outcome of the Consultation provided the basis, directions and plan for the forthcoming implementation of the project, including national workshops and two on-site trainings for each of the CLMV Countries.

Improving Fishery Statistics Systems in CLMV Countries

With the goal of strengthening the capacity of fishery statistics systems in the ASEAN region, human resource development exercises have recently been conducted, notably in the four new ASEAN Member Countries – Cambodia, Lao PDR, Myanmar and Vietnam (known as the CLMV Countries). This has been done with the support

Following-up the recommendations made at the first RTC, a national workshop on fishery statistics was thus organized in each of the CLMV Countries, clarifying needs and directions for the improvement of the fishery statistics system in response to national fisheries specificities and existing capacity. The outcomes of each national workshop concluded issues and problem areas as well as directions and approaches for the improvement of each national fishery statistics system.

BOX 1 – Activities Conducted in Cambodia

The national workshop on Fishery Statistics was held in Phnom Penh, from 8 to 10 September 2003. Its aim was to address the needs and directions for improving fishery statistics at both national and local levels. Special emphasis was placed on building human capacity, through addressing issues such as why statistics are required and the purposes for which they would be used; the types of statistics required and the information required, and means of collecting processing and using statistics.

The first on-site training workshop on Fishery Statistics was organized in Siem Reap province from 17 to 20 December 2003. The training highlighted aspects related to practical approaches for data collection, methodologies and techniques to ensure the quality of statistical data and to improve the national fishery statistical system on a short-term basis. The second on-site training was held in Sihanoukville from 23 to 29 March 2004. The training was conducted as a follow-up action on previous activities aimed at introducing data collection methodology at fish landing sites, focusing this time on marine fisheries.

At the end of the activities, the participants had a clearer understanding of how to improve data systems for fishery statistics in Cambodia, both for inland and marine fisheries. It is expected that the national data system for fishery statistics in the country will soon be comprehensively reformulated, including a revision and elaboration of data types, data items, priority of requirements, purpose, methods for data collection, frequency, and responsible agencies.

BOX 2 – Activities Conducted in Lao PDR

The national workshop on Fishery Statistics was held in Champasack, from 25 to 28 September 2003. Its objectives were to review the current status of fishery statistics in Lao PDR in order to help stakeholders review, clarify and possibly develop a national fishery statistics system, and the necessary support and underlying mechanisms. Through its proposed follow-up actions, the workshop came up with suggestions for responsible agencies in charge to solve identified problems and ultimately to improve fishery statistics in Lao PDR.

The first on-site training on Fishery Statistics was organized from 29 October to 1 November 2003, in Savannakhet. The training was aimed at improving fishery statistics in Lao PDR, emphasizing the formulation and establishment of data systems for inland fishery statistics in the country. Major outcomes from the training were draft concepts and definition of key terminologies for inland fishery statistics, draft classifications of inland fishery statistics, a minimum data system for inland fishery statistics including data types and items, and future follow-up actions and activities. The second on-site training on Fishery Statistics, organized from 8 to 12 March 2004 in Vientiane, aimed at providing concepts, design and planning as well as appropriate data collecting methodologies and practices for inland capture fisheries, such as landing site surveys and sample surveys.

BOX 3 – Activities Conducted in Myanmar

The national workshop on Fishery Statistics was held in Yangon from 1 to 3 October 2003 with the aim of reviewing the current status of fishery statistics in Myanmar in order to improve and develop the fishery statistics system by identifying needs and requirements to be addressed during the two subsequent on-site.

The first on-site training workshop was held in Yangon, from 11 to 14 February 2004. It aimed at improving the fishery statistics system in Myanmar, emphasizing the design and planning of data systems for fishery statistics both in inland and marine fisheries, and in aquaculture. The second on-site training, held at the same place from 25 to 30 May 2004, aimed at introducing methodologies such as fishing community surveys for in-shore fisheries, including their potential application and usage for the management of in-shore fisheries. It also aimed at providing the concepts, processes and basic skills required in the conduct of the fishing community survey for in-shore fisheries through planning, field practice, data collection, processing, analysis and reporting. In sum, the training attempted to clarify potential ways to incorporate fishing community surveys for in-shore fisheries into the national fishery statistics system of Myanmar.

As a result of the activities conducted in the country, a draft conceptual framework for a national fishery data and information management system was formulated. Recommended future activities for the improvement of Myanmar fishery statistics include:

1. To review the terminologies and their definitions and concepts used in the existing system;
2. To undertake studies to verify the accuracy of the existing information; and
3. To emphasize small-scale in-depth studies at a selected site covering the requirements of all sub-sectors of fisheries.

Once the problems and priority issues of each country had been identified, the participants – fishery administrators, managers and statisticians – gained a better understanding of the needs and areas for improvement of their respective national fishery statistics system. The second phase was then to train them on statistical data collection, analysis and reporting of quality fishery statistics in line with the gap identified during two subsequent national on-site trainings. During these exercises, a draft regional handbook

on collecting fishery statistics for inland and coastal fisheries was used as a reference document. The handbook is to be revised accordingly, based on experience gained through the national trainings organized in the CLMV countries and the recommendation made at the second RTC. It will be used in future activities to promote capacity building for the improvement of fishery statistics system in other ASEAN member countries.

BOX 4 - Activities Conducted in Vietnam

The national workshop on Fishery Statistics was organized in Hanoi from 15 to 17 October 2003. With the goal of promoting a sustainable system for national fishery statistics, the workshop recommended several immediate future actions.

These were 1) to establish a national taskforce for fishery statistics with identified tasks, and 2) to conduct human capacity building through the promotion of cooperation at national as well as regional and international levels on a few identified key areas.

The first on-site training was held in Nha Trang from 26 to 29 February 2004 while the second on-site training was conducted in Ho Chi Minh City from 18 to 21 May 2004. At the end of the on-site training workshops, the following outputs were achieved:

1. A common understanding and knowledge on fishery statistics system among participants from various agencies and provinces concerned
2. Enhanced awareness of participants on policy, strategies and plan for improvement of fishery statistics by relevant agencies
3. concepts and definitions of key terminologies and classifications of national fishery statistics
4. Strengthened practical capacity of officers responsible for the design and planning of fishery statistics data system, including survey design, and
5. Identified immediate future follow-up actions and activities for further improvement of fishery statistics in Vietnam.

Despite these positive outcomes, the improvement of the fishery statistics system in Vietnam is still facing many difficulties. The training concluded by identifying these problems and constraints and also by proving recommendations on future actions to be conducted to improve the system.

The first set of on-site training workshops on fishery statistics was conducted from October 2003 to March 2004, scheduled according to the readiness of each of the four countries. The training methodology used was developed on the basis of issues and problem areas identified, and elaborated upon during the earlier national workshop. The outcomes from the first on-site trainings were used as a framework for the conduct of the second set of trainings. These were organized from March to May 2004, and were primarily aimed at introducing field surveys and practices in line with national requirements (such as fish landing sites surveys and fishing community surveys).

Through the series of activities conducted at both national and regional levels, the project has been able to enhance the understanding of how national fishery statistics systems can be improved through human resource development activities. Although most of the actions have focused on developing the capacity of CLMV countries, the other member countries have been closely and continuously involved in sharing their expertise and experience.

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Supporting Sound Statistics Systems in the Region

The second RTC on Fishery Statistics was conducted from 15 to 18 June 2004. Its aim was to follow up the implementation of capacity-building activities by reviewing and evaluating the results of project implementation. It also aimed at identifying further priority activities to be undertaken for improvement of fishery statistics systems in the ASEAN region.

The Consultation concluded that actions should be further conducted with priority given to the ASEAN region as a whole. It came up with directions and considerations for future implementation as well as priority actions/activities to be undertaken on fishery

Box 5 Priority Activities on Statistics for Marine Fisheries

1. Major statistics issues and requirements

At the National level	
Major national and issues	Needs and requirements
1. Lack of resources	<ul style="list-style-type: none"> Clearly define requirements for statistics and its usage for decision making Cost effective methodologies for data collection
2. Lack of skills	<ul style="list-style-type: none"> Capacity building at all levels Human resource management
3. Awareness programme	<ul style="list-style-type: none"> Improve relationships with stakeholders Promote and enhance advocacy Provide awareness programme
4. Timeliness	<ul style="list-style-type: none"> Management of data collection Widening application of IT
5. Data accuracy and reliability	<ul style="list-style-type: none"> Validation and verification of data Training on species and gear identification, and units of measurement Correct application of data collection methodology Application of appropriate sampling techniques
6. Problems obtaining and estimating data	<ul style="list-style-type: none"> Awareness programme with stakeholders Establish good relationships with fishers, boat owners and fishing establishment Proper application of collection methodology
7. Data analysis to generate useful information for presentation	<ul style="list-style-type: none"> Capacity building; training IT applications
8. Data management	<ul style="list-style-type: none"> Proper database management system Software development Training
9. Linkage and coordination between routine and non-routine data collection	<ul style="list-style-type: none"> Coordination among various data providers, agencies and research institutions Incorporation of non-routine data sets into routine data sets
10. Sustainability in data collection	<ul style="list-style-type: none"> Set minimum requirements Stress the importance of data collection through regular consultations Legislation Fostering and promoting statistician groups
11. Lack of coordination at national level	<ul style="list-style-type: none"> Coordinating committees among relevant agencies Encourage regular meetings/workshops/dialogues, etc. among relevant agencies

Box 5 Priority Activities on Statistics for Marine Fisheries (Cont.)

At the Regional level	
Major national and regional issues	Needs and requirements
1. Disparity of statistics systems	<ul style="list-style-type: none"> • Continue capacity building in the CLMV countries • Sharing of expertise and experiences between Member Countries
2. Differences in statistics measurement and units	<ul style="list-style-type: none"> • SEAFDEC to play a coordinating role • Improvement of the framework for the Southeast Asian Fisheries Bulletin • Harmonization and standardization of measurement and terminologies
3. Differences in international and regional reporting formats	<ul style="list-style-type: none"> • SEAFDEC to play a coordinating role
4. Lack of networking among Member Countries	<ul style="list-style-type: none"> • Regular regional meetings • Regular communications • Establishment of a network of statisticians and personnel
5. Common statistical information for regional usefulness	<ul style="list-style-type: none"> • Common database and application systems
6. Unreported trans-boundary landing	<ul style="list-style-type: none"> • Encourage cooperation among Member Countries

2. Proposed Activities

- Pilot projects for data collection in CLMV Countries
- Pilot project for the development of databases and application systems at national levels
- Expert consultation workshop to improve the production of the regional statistics bulletin
- Review and expedite the development of common regional databases and application systems
- Establish a forum for networking among focal points and statisticians in Member Countries, and
- Finalize and translate into national languages the Handbook on collecting fishery statistics for inland and coastal fisheries.

statistics to support effective planning and management for sustainable fisheries in the region. The recommendations would be used as a basis for planning of future activities at both regional and national levels.

Elaborating Guidelines for Fishery Statistics

The importance of quality statistics and information is stressed in the Code of Conduct for Responsible Fisheries as a tool to facilitate development, planning and management of fisheries.

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Yet, as many issues are covered in the regional guidelines for responsible fisheries management in Southeast Asia, the guiding principles given are still broad and in need of further elaboration. The project is trying to fill that gap, especially in regard to actual implementation in order to clarify a clear direction for actions that will improve fishery statistics for the countries in the region.

One of the project's achievements was to develop the Regional Guidelines for Fisheries Statistics in Southeast Asia, which substantiate issues related to fishery statistics as included in the regional guidelines for responsible fisheries management. These regional guidelines are envisaged to provide an important framework for formulation of ASEAN-SEAFDEC collaborative programmes on fishery statistics and information as well as to support cooperation among the countries in Southeast Asia and regional or international organizations.

Harmonizing Standards: Improving the Compilation and Production of the Fishery Statistical Bulletin of Southeast Asia

The aim of this exercise was to improve the compilation and production of the Fishery Statistics Bulletin for the South China Sea Area, so that in terms of area coverage the ASEAN region is better represented. The new geographical coverage of *SEAFDEC Fishery Statistical Bulletin*, now know as the *Fishery Statistical Bulletin of Southeast Asia*, will from now on includes areas of relevance for all ASEAN Member Countries. Work has also been accomplished

in terms of scope, timeliness of statistics, and the global framework has been revised, with classifications, formats and definitions reviewed to be consistent with international standards, such as with FAO fishery statistics.

Under the new framework, the minimum requirements for a national statistics system have been set with the aim of providing a target for priority actions and improving national statistics in a cost-effective manner. The adoption of these minimum requirements is a follow-up of the FAO-SEAFDEC regional workshop for the improvement of fishery data and information collection systems, held in February 2005. In addition, there will be a streamlining process of the reporting of fishery statistics by Member Countries to both FAO and SEAFDEC.

Improving Regional Networking on Fishery Statistics

The establishment of an ASEAN Network of Fishery Statistics has this year been endorsed by the SEAFDEC Council and ASEAN. The network will be mobilized as a collaborative working mechanism among Member Countries and organizations concerned, so as to enhance cooperation in the development and improvement of fishery statistics and information in the region. The network's responsibilities include supporting the compilation of regional and international fishery statistics as well as being involved in the provision of technical inputs to initiatives related to fishery statistics and information.

Box 6 - Priority Actions/Activities Covering Statistics for Inland/Coastal Fisheries

Countries	Type of Water Bodies	Proposed Pilot Projects	Rationale for Initiation	Statistical Information to be Collected / Areas for Improvement
1.Brunei Darussalam	Inland	Coastal aquaculture – offshore cages/cage culture Freshwater aquaculture – ponds	1.To speed up data processing. <i>Note: The country encountered few problems when compared with others.</i>	1.Data processing 2.Data analysis
2.Cambodia	Coastal	Coastal capture fishery	1.To build awareness among stakeholders 2.To build capacity for statistical data for coastal capture fisheries 3.To strengthen communication and cooperation 4.To utilize cost effective methodologies 5.To support the planning and management office.	1.Catch and value 2.Fish species 3.Consumption 4.Ecological information 5.Fishing effort 6.Export value 7.Socio-economic survey
3.Indonesia	Inland and Coastal	Capture fishery in inland and coastal areas	1.To develop electronic data processing 2.To change transfer methods from paper-based through mail system to an electronic based system. <i>Note: The country needs capacity building on methodologies/ techniques on data transfer as well as raw data processing.</i>	1.Raw data processing 2.Methodologies and techniques on data transfer
		Freshwater and coastal aquaculture	1.To obtain information on socio-economic conditions for freshwater and coastal aquaculture.	1.Social data 2.Economical data
4.Lao PDR	Inland	Capture inland fishery (reservoir)	1.To study species composition and fishing gear 2.To support planning and management of inland fisheries.	1.Structure data 2.Fish production data 3.Community data 4.Socio-economic
5.Malaysia	Inland and Coastal	Aquaculture project (land based and cage culture in gazetted aquaculture industry zone – coastal, river, reservoir)	1.To achieve target production from the Third Agricultural Policy. 2.To look into the coordination between state and federal administrations 3.To look into differences in terms of production and viability of projects in different water bodies.	1.Production 2.Catch and value

Box 6 - Priority Actions/Activities Covering Statistics for Inland/Coastal Fisheries (cont.)

Countries	Type of Water Bodies	Proposed Pilot Projects	Rationale for Initiation	Statistical Information to be Collected / Areas for Improvement
6. Myanmar	Inland	Capture inland fisheries (flood plain area – leasable fisheries)	<ol style="list-style-type: none"> 1.To develop a data collection system 2.To obtain information of flood plain fisheries 3.To make a planning programme for flood plain fisheries based on actual data sets 4.To support national planning and calculation of GDP. 	<ol style="list-style-type: none"> 1.Socio- economic data 2.Consumption 3.Ecological information 4.Market study
7. Philippines	Inland and Coastal	Aquaculture (in Region 7– Visayas Island)	<ol style="list-style-type: none"> 1.To establish and update master sampling frame to generate more accurate and timely results 2.To be used as reference by NGOs, government, fisheries federation and associations. 3.To establish rapport and strong linkage with fishery federation and associations and stakeholders 4.To test a modified survey methodology and survey questionnaires 5.To develop data processing system for survey data evaluation and validation. 	<ol style="list-style-type: none"> 1.Master sampling frame 2.Lists of all aquaculture farms in the Region 7, including seaweed.
8. Thailand	Inland	Capture inland fisheries - riverine	<ol style="list-style-type: none"> 1.To estimate the total annual freshwater production from rivers, by species 2.To estimate fishing effort 3.To complete the freshwater production survey 4.To provide basic information for fisheries management, i.e. maintenance of fish species biodiversity for food security. 	<ol style="list-style-type: none"> 1.Fish production 2.Catch and value 3.Fishing effort
9. Vietnam	Inland and Coastal	Freshwater and coastal aquaculture	<ol style="list-style-type: none"> 1.To enhance the current fishery statistics system to make it more reliable, accurate and timely for policy-making. 2.To provide a basis for implementing strategy 3.To coordinate fishery statistical data between agencies and institutions 4.To monitor aquaculture activities (produce seed, consumption, quality of products). 	<ol style="list-style-type: none"> 1.Production 2.Fish price 3.Species composition 4.Market study 5.Socio-economic data

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Building up Regional and Global Collaborations and Partnerships

Considering the benefit to Member Countries, namely bringing the quality of their fishery statistics into line with international standards, SEAFDEC became a member of the Coordinating Working Party on Fishery Statistics (CWP) in 2004. Membership of CWP is considered beneficial to Member Countries, as it allows them to reflect requirements from the region when developing global common definitions, classifications and standards for the collection of fishery statistics. Member Countries will also be able to obtain first-class technical advice on fishery statistics matters through this connection with CWP.

2004 was an important year for the region, as SEAFDEC also entered into a partnership with the

Fishery Resources Monitoring System (FIRMS). Such partnerships help in promoting sustainable management of fisheries in the ASEAN region by improving Member Countries data and information systems in line with FIRMS standards, and by

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BOX 7. FAO-SEAFDEC Regional Workshop for the Improvement of Fishery Data and Information Collection Systems

In early 2005, SEAFDEC and FAO took progressive steps together, starting with the FAO-SEAFDEC regional workshop for the improvement of fishery data and information collection systems in Southeast Asia in February 2005. During the workshop, a number of important issues were raised to support the implementation of SEAFDEC Resolution and Plan of Action and FAO Strategy for improving information on status and trends of capture fisheries.

As the main input to the event, updates on the current status of fishery statistics collection and reporting systems in the region were given. Based on these, required follow-up actions were suggested with a view to promoting the implementation of Strategy-STF. The most immediate action identified was the needs for capacity building to facilitate the improvement of fishery statistics and information that will in turn support the development and implementation of sound policies and sustainable management in the region.

The outcomes of the workshop reflect the strong mutual interests of FAO and SEAFDEC for the benefit of the countries in the region, on which directions for the development of a programme work and activities of parties concerned have been developed. This includes the formulation of the next phase of the project on the “improvement of fishery statistics systems and mechanisms”.

“Membership of CWP is considered beneficial to Member Countries, as it allows them to reflect requirements from the region when developing global common definitions, classifications and standards for the collection of fishery statistics”

providing user-friendly tools and databases that greatly help in actually using the collected data and information. This partnership will also assist in meeting the objectives of the Code of Conduct for Responsible Fisheries (CCRF), including the implementation of international plans of action and the FAO Strategy for improving information on the status and trends of capture fisheries under the FishCode STF Project (Strategy-STF).

Promoting the Regional Uniqueness of Fisheries

Early 2005, SEAFDEC addressed regional specificities in fishery statistics and information development and requirements, at the biennial meeting of the Twenty-First Session of the Coordinating Working Party on Fishery Statistics (CWP21), and the Second Session of the FIRMS Steering Committee Meeting (FIRMS FSC2).

The major issues raised and discussed were the harmonization of FAO and SEAFDEC statistics reporting in the Southeast Asian region with adjustments for geographical areas, and follow-up to the SEAFDEC contribution to the FIRMS partnership in relation with shark-associated fisheries in Southeast Asia. Collaboration for the promotion of the implementation of Strategy-STF was also discussed further, especially in regard to the next phase of the SEAFDEC project on Fishery Statistics and Information. There was also some exchange of ideas about possible collaboration between the SEAFDEC and FAO for the development of aquaculture statistics in the Southeast Asian region.

Conclusion

Since the development of the special five-year programme (2002-2005), fishery statistics has been acknowledged by Member Countries, ASEAN and FAO as an issue of great importance, notably through the implementation of a series of activities in the region. SEAFDEC had started a long-term process that will hopefully support the improvement of fishery statistics and information in Southeast Asia. These activities aim to support Member Countries in implementing the Resolution and Plan of Action adopted at the Millennium Conference (i.e. “strengthening national fishery statistics systems and maximizing their use for planning and management, and developing standard definitions and classifications to facilitate regional fishery statistics and information exchange”). Outcomes of the project will help Member Countries to determine directions for the development of programmes and activities that will improve their national fishery statistics and information systems.

SEAFDEC will continue to strengthen the linkages between statistics and information systems and management for the benefit of the people in Southeast Asia. The implementation of the project in collaboration with regional and international will also further improve the quality and relevance of fishery statistics, laying a solid foundation for sound development planning and management of fisheries in the future.



ABOUT THE AUTHOR

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