



Steering the Small-Scale Fisheries of Southeast Asia towards Responsible Development

Signs are already evident that small-scale fisheries would be given more focus as FAO and the Regional Fisheries Bodies have already initiated the development of a global dedicated program on small-scale fisheries. This initiative is expected to also provide a momentum for the sustainable development of small-scale fisheries in Southeast Asia.

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Peoples in the Southeast Asian region have in principle depended on agriculture and its products for their economy. Recent developments however, have indicated that more and more people are already engaged in fishing but confining their activities in inland and inshore/brackish water areas avoiding risky operations when harvesting the fishery resources. To work in the ocean where people always stake high risk is considered a tough livelihood and is limited only to people with no other livelihood alternatives. Thus, the region's fisheries are concentrated in marine coastal waters.

Reports in 2004 (FAO, 2007) showed that the world's total fish production from marine and inland capture fisheries was 85.8 million mt. Indonesia and Thailand were counted among the world's top ten producers of marine and inland capture fishes, producing 4.8 million mt (5.6% of the world's total) and 2.8 million mt (3.3% of the world's total), respectively. Specifically for inland capture fisheries with the world's total production of 9.2 million mt, Myanmar, Indonesia and Cambodia were among the world's top ten producers, contributing 454,000 mt (4.9% of the world's total), 310,000 mt (3.4% of the world's total) and 250,000 mt (2.7% of the world's total), respectively.

With the world's total fish export amounting to 71,508 million USD, Thailand and Vietnam were among the top ten exporters of fish and fishery products in 2004 with their fish exports valued at 4,034 million USD (5.6% of the world's total) and 2,403 million USD (3.4% of the world's total), respectively. The above figures are very impressive in terms of the region's contribution to the world's total fish production and export from marine and inland capture fisheries. The efforts now being put up by the countries in Southeast Asia to improve production from marine and inland capture fisheries could result in the over-exploitation of the resources if such fisheries are not sustainably managed.

Issues and Concerns in Small-scale Fisheries

With the people's illusion that marine fishery resources can be infinite, unregulated fishing operations mushroomed in the region's fishing grounds, particularly the trawl fishing grounds in the Gulf of Thailand and Java Seas. While large-scale fisheries have increasing difficulties to economically operate in most fishing grounds, small-scale fisheries (SSF) have survived providing a large number of livelihoods to the people living along the coastal areas. A large number

of fishing communities are formed not only in particular areas near fishing ports but scattered all along the coastlines. Small-scale fishermen operate in inshore waters (less than 3 mi from the shore) using small-scale fishing boats less than 5 gross tons. These fishing units normally mobilize the work forces of family members using small-scale but large variety of fishing gears to harvest the multi-species fishery resources. As their financial capabilities are normally weak, the fishers maintain their informal financial cooperation with middlemen where in most cases the middlemen deal with the marketing of the fish and fishery products. Such linkages form an exploitation pattern by the middlemen over the economically weak fishers, especially in the remote rural areas.

There are many concerns that impede the sustainability of the region's marine coastal fisheries. These include: (1) large number of fisherfolk; (2) poverty in the coastal areas; and (3) weak law enforcement system. These factors have contributed largely to the difficulties in establishing fisheries management systems in spite of the management tools that have been introduced and adopted. For the sustainability of the region's marine coastal fisheries which is generally small-scale, a strong and sound management system is ideally needed.

However, under the aforementioned circumstances, the SSF sub-sector continues to engage in irresponsible fishing as most fishers do not have other livelihood alternatives other than fishing. Other measures to improve the daily incomes of small-scale fishers are lacking in the rural fishing communities. Therefore, while the livelihoods of the SSF sub-sector are already deteriorating as the fishery resources have already been depleted by the unregulated fishing operations, fishermen still continue to engage in fishing unmindful of any management and conservation measures.

Diversification, a Value of Small-Scale Fisheries

Generally small-scale, the marine and inland capture fisheries in the Southeast Asian region use different types and sizes of boats and different types of fishing gears and methods catching a variety of target species. Such situation leads to the difficulty in defining exactly the region's SSF, even if a general requirement during discussions on the various issues related to SSF at the international/regional levels is to define SSF. This could be one of the many reasons why SSF was not given much focus in the global Code of Conduct for Responsible Fisheries.

When the regionalization of the "Code of Conduct for Responsible Fisheries" was discussed among the Southeast Asian countries to specifically focus on the region's SSF, the development of its definition was attempted a number of times but an agreed logical definition could not be reached. Thus, the Regional Guidelines for Responsible Fisheries in Southeast Asia: Responsible Fishing Operations (SEAFDEC, 2000) for example, instead cited tables showing the differences of the respective SSF in the Southeast Asian countries operating in certain fishing zones.

Even in the Southeast Asian countries, obtaining a standardized definition of SSF was practically difficult therefore developing a global definition can be more difficult and not practical. SSF has been developed in each locality or countries with their respective specific cultures, social and economic situations including the use of different types of boats, types of traditional fishing gears and methods, target species, post-harvest technologies. Another aspect of SSF that should be considered during any discussion is its cultural heritage that must have been extinguished due to the globalization and modernization process. Nonetheless, the different types of SSF can be recognized sometimes in terms of their values for tourism and culture. SSF is not only considered as a means to produce fish and fishery products, but the value of its existence also serves as a multi-functionality of the traditional ways of life in the coastal areas.

Collecting Information on SSF

The collection of reliable statistics on SSF for management purposes is a difficult task in most countries in the region considering its multi-species and multi-gear situation. The recorded high catch of miscellaneous fishes in many statistics books contributes to the problem of analyzing species composition constraining the process of assessing the potential species and technological interactions, two important parameters in stock assessment. Due to the difficulties in collecting the necessary information, an economic analysis of the region's SSF is hardly achieved at the national and regional levels.

Collection of information from large-scale/commercial fisheries that normally unload their catch at offloading facilities such as fishing ports could be easier. In the case of coastal fisheries which normally unload their catch at beaches or simple mooring points that are scattered along the coastlines, collection of data could be a gigantic task. It is even more difficult to collect data from inland fisheries, considering the fluctuating water surface due to seasonal floods in rivers and lakes. It is therefore a major challenge for government fisheries administrations to collect the

necessary information covering the coastal and inland fisheries in order to better understand SSF.

Thus, the difficult task of collecting data should be tackled first in order to achieve sustainable SSF development. However, when it comes to improvement of statistical data collection, most fisheries administrations still do not have the clear objective for collecting such statistics. While in the past their focus has always been on the collection of production data mainly for recording purposes, they have not been conditioned to the fact that for the development and improvement of fisheries management system, an appropriate statistical system to collect usable data should be carefully designed. Such design should include various factors such as the number of fishers and fishing boats, in order to understand the extent of over-capacity as basis for taking appropriate measures to mitigate the situation.

Poverty Alleviation for SSF

Resource deterioration and poverty are closely interlinked and generally observed as the paramount problem for the SSF sub-sector specifically in the Southeast Asian region. Such problem may not be effectively solved by fisheries sectoral approach but by widely seeking solution through the improvement of the general program on poverty alleviation and economic development at the national level. In the “Resolution and Plan of Action on Sustainable Fisheries for Food Security for the ASEAN Region” adopted at the Ministerial Conference by fisheries related ministers in 2001 (SEAFDEC, 2001), no clause on poverty alleviation policy for the SSF was included. The Code of Conduct for Responsible Fisheries (FAO, 1995) which was used as basis for the formulation of the “Resolution and Plan of Action” also did not appropriately provide ways and means of mitigating poverty alleviation issues in order to achieve sustainable fisheries. This is in spite of the fact that poverty issue is an important element in ensuring sustainable fisheries, especially for the SSF which dominates in most developing countries.

Considering that in global fisheries more than 60% of the production comes from developing countries and that most fisheries in the developing countries can be categorized as SSF, poverty alleviation issue must be considered an important element in achieving global sustainable fisheries. In addition, if 90% of the 38 million global small-scale fishers are from the Asian region, again, sustainable fisheries in Asia must rely heavily on the sustainable livelihood of the SSF. The catch per unit effort by SSF may be much smaller than that of the large-scale commercial fisheries making the effect of SSF on fish production appears insignificant. However, even if the actual number of SSF fishers may not be precisely reported, it has been estimated that there might be about 38 million SSF fishers worldwide. If one fisher catches at least one ton per year, about 38 million tons of fish are annually caught by SSF, a figure which is no longer negligible.

The deterioration of the fisheries resource led the small-scale fishers to resort to destructive fisheries even illegal fishing operations, in order to improve their daily incomes even in a short-term basis. A global understanding on the poverty status of the SSF is therefore necessary in order to address the sustainability of small-scale fisheries. But this could be difficult to attain because some facts do not appropriately reflect the real economic situation of the small-scale fishers, which could be attributed more to government structural problems. Even a recent FAO study specified that the IMF’s “Poverty Reduction Strategy Paper (PRSF)” prepared by many developing countries failed to appropriately accommodate fisheries poverty issues in their reports (Thorpe, 2005).



The fisheries administrations in the government structure, which are normally small-sized had in the past focused their tasks mainly on technical improvement issues reflecting fisheries development requirements as in the case of most Southeast Asian countries. Fisheries management is considered by most fisheries administrations as a latest technically concerned issue and considering that SSF is a socially/economically weak sector, there is a general tendency that imposing government fisheries management interventions to SSF can be a heavy burden for many countries. Thus, the small-sized fisheries administrations are unable to provide fisheries management intervention leading to the absence of programs that would eventually give importance to SSF issues. Specifically, government agencies in most developing countries are not able to respond properly to the poverty issues of the SSF. In any way, poverty issues especially in the fisheries sector should be addressed somewhere in the government structure in order to achieve sustainable development of fisheries in the poorer communities of the developing countries.

Open-access vs. Limited-entry Policy

In the absence of a logical and legal definition of SSF, open-access to fishery resources continues to prevail in many developing countries including those in the Southeast Asian region. Although limited-entry has been tried in some countries, such regulation generally applies only to large-scale or industrial fisheries. Moreover, in the issuance of fishing licenses for example, a requirement to provide catch data to the fisheries administrations is imposed. The general non-observance of such requirement has constrained the efforts of fisheries administrations to monitor and assess the fish stocks, making it difficult to declare over-exploitation of certain stocks, in a way encouraging SSF to continue practicing the open-access system.

In many countries, even the development of gears and construction of fishing vessels are not well monitored contributing to the constraints in evaluating the fishing effort. The entry of large number of fishing boats in a relatively small area of fishing grounds is uncontrolled leading to heavy fishing pressure. Efforts should therefore be exerted to limit investments on boats, gears and also processing plant facilities. Although many countries in the region have already imposed moratorium on new coastal fishing licenses to reduce fishing effort, enforcement has always been lax especially because some law breaking activities happen in the oceans beyond the area of control of fisheries administrations. The cooperation among the various national law enforcement agencies is therefore necessary in order that sound fisheries management could be put in place.

Coastal Fisheries Management for SSF

Although the Code of Conduct for Responsible Fisheries (CCRF) encouraged the countries to establish appropriate fisheries management system in order to promote sustainable fisheries, a suitable direction and the methodologies on the management of SSF are not clearly provided. The CCRF gives more focus on high sea fisheries which could be due to the fact that SSF is generally understood as a socially/economically weaker fisheries sub-sector and that government management intervention on SSF including measures with authoritarian manner may not have been considered relevant by the developed as well as developing nations.

Furthermore, the CCRF included guidelines for fisheries management in general and the importance of community-based fisheries management in order to address issues related to small-scale fisheries has also been specified. Following the CCRF, several types of community-based fisheries management have been initiated in many countries of Southeast Asia. However, in most cases the implementation process failed as the country's customary laws may have not been considered in the formulation of new fisheries regulations. This leads to conflicts with the local populace who are bound to adopt such regulations. In addition, the management of marine capture fisheries in many countries in the region rests with their central governments, although in some instances the delegation of authority are already given to local government level, as in the case of the Philippines. With the adoption of the Philippine Fisheries Code in 1998, the authority to manage Philippine municipal waters has been delegated to the local government units. Such legal provision has however caused complications in terms of mobility of resources creating some problems for the local government units because they have not been prepared to undertake necessary actions including law enforcement.

Another factor that should be considered in developing sustainable fisheries management is to involve the fisherfolk as the important stakeholders of the fisheries sector. In order to empower the fisherfolk it is necessary that they form organizations that could represent them, considering the high illiteracy among the fishers. Through such organizations, fishers would be able to participate actively in any fisheries management activities including human capacity building. Considering also the various negative effects of unregulated SSF to the resources, government agencies should develop a management system that includes human capacity building with provisions for the promotion of alternative livelihoods for the fishers. The biggest challenge for any government agency therefore is to be able to identify appropriate management system for SSF.

There are special characteristics of the fisheries sector that need to be analyzed in order to facilitate the development of management system for SSF. Such characteristics are based on two issues, namely: (1) unclear ownership of the fisheries resources; and (2) government intervention in fisheries management.

Unclear ownership of the fisheries resources

Under the open access regime in fisheries, ownership of the resources could not be clarified due to the nature of the common resources and the migrating nature of the resources. Compared with other industries that normally invest assets on land such as in agriculture, fisheries operation tends to be irresponsible when utilizing such common resources. Legal instruments both international and national also failed to clarify the ownership of the fisheries resources by the users. It is therefore suggested that national general policy should be established modifying the direction of unclear ownership of the fisheries resource to: “providing a clear ownership” through the introduction of the rights-based fisheries.

The concept of rights-based fisheries for SSF could be different from those for commercial fisheries considering the nature of operation of SSF which is along the coastal areas by small units. A regional policy has been developed in 2001 through the “Resolution and Plan of Action on Sustainable Fisheries for Food Security for the ASEAN Region” which specify as Resolution 5 the need to “Encourage effective management of fisheries through delegation of selected management functions to the local level” and as Resolution 6 to “Recognize the need to progressively replace “open access” to fisheries resources with “limited access regimes” through the introduction of rights-based fisheries which may also facilitate the management of fishing capacity and promote the use of responsible fishing gears and practices”. Based on the aforementioned regional policy framework, the regional guidelines on “Co-management using group user rights for small scale fisheries in Southeast Asia” (SEAFDEC, 2006) was developed through a series of consultation processes with the SEAFDEC Member Countries considering the innovative concepts and approaches related to rights-based

fisheries and co-management. The guidelines have since then been promoted by SEAFDEC for adoption in the ASEAN region.

Government intervention in fisheries management

Since fisheries resources are common resources, government intervention in fisheries management is necessary. In fact, no other industry requires government intervention in their management except fisheries and because of its nature the users become irresponsible in exploiting the resources. Most government fisheries administrations in the developing countries, established with their original objectives of technically assisting the industry when marine capture fisheries had the economic potentials in the early stage, fail to structurally adjust to their latest enormous mandate (starting in 1980s) of managing the fisheries as a whole. In addition, no mechanism was developed to manage SSF scattering along the coastal areas, which can be an enormous task if the current centrally structured fisheries administrations should accommodate such additional mandate. In order to mitigate such concern, it is therefore encouraged that governments promote an intervention “to delegate the management authorities to the resource users”.

This particular Regional Guidelines also elaborate on the delegation of fisheries management authorities on coastal fisheries to local fisheries organizations in order to encourage the fisherfolk to take part in the management of the fishery resources. In consonance with such Regional Guidelines, SEAFDEC initiated a program on Integrated Coastal Resources Management with pilot locally-based coastal fisheries management projects in Thailand, Malaysia and Cambodia. The program generally aimed to establish sustainable coastal resources management at the local level; rehabilitate the coastal fishery resources; and alleviate poverty in coastal fishing communities. With the program having produced tangible impacts in the pilot project sites, SEAFDEC envisaged to impart the technologies including experiences and knowledge gained to the other SEAFDEC Member Countries.



Box 1: Regional Guidelines on Responsible Fisheries in Southeast Asia

- Responsible Fishing Operations supports the implementation of Article 8 (Fishing Operations) of the global CCRF in the ASEAN region
- Responsible Aquaculture which aims to mitigate the negative effects of aquaculture, provides supplementary guidance to Article 9 of the CCRF
- Responsible Fisheries Management supports the implementation of Article 7 (Fisheries Management) of the CCRF and provides suggestions for improving fisheries management with emphasis on human capacity enhancement for all levels of stakeholders involved in inland, coastal and marine fisheries
- Responsible Post-Harvest Practices and Trade serves as reference in identifying directions and priority actions for the implementation of Article 11 (Post-harvest Practices and Trade) of the CCRF
- Supplementary Guidelines substantiating the Regional Guidelines for Responsible Fisheries Management comprise: (1) Co-management Using Group User Rights for Small-scale Fisheries in Southeast Asia; (2) Fishery Statistics for Capture Fisheries in Southeast Asia; (3) Use of Indicators for Sustainable Development and Management of Capture Fisheries in Southeast Asia; and (4) Use of Fisheries Refugia for Capture Fisheries Management in Southeast Asia

Global Recognition on the Importance of SSF

Globalization of fisheries has been actively pursued since 1992 when the United Nations Conference on Environment and Development (UNCED) was organized due to the increasing international concerns over the global environment. FAO initiated the development of the CCRF in the same year as a response to the Cancun Conference as well as to Agenda 21 of UNCED. With decreased availability of development funding assistance corresponding to policy modifications of donor societies, FAO had to adopt a drastic policy change of its organizational mandate in the middle of the 90s with special focus on the promotion of globalization in concerned sectors including food security and sustainable development of primary industries. With such change of policy, FAO has therefore drastically shifted its focus from supporting developing countries to the promotion of globalization, a direction which was more accorded with much interest by developed nations.

The organization of the Committee on Fisheries (COFI) meetings has also been changed since the start of the formulation of the CCRF in 1992 to particularly focus on global agenda including various issues identified through the formulation process of the CCRF. Compared with small-scale fisheries that are country by country specific especially with respect to their socio-economic implications, high sea

or off-shore fisheries mobilizing larger vessels which are basically designed by developed fishing nations vis-à-vis the various common problems in achieving sustainable fisheries, were given more focus during global discussions.

During the COFI session in 2007, the overwhelming clamor of developing countries dominated the agenda on SSF calling on FAO to support SSF through appropriate global programs as indicated in the COFI report paragraph 61: “The Committee considered different options to give greater prominence to SSF in its deliberations and FAO’s Program of Work. The Committee also took note of the strong support by many Members to establish a dedicated COFI Sub-Committee and/or a specific program of work on SSF supported by dedicated extra-budgetary funding. Nevertheless, the Committee agreed that the issue of SSF was important and FAO should continue to work on the issue. Other Members highlighted the importance of integrating the concerns of SSF into all aspects of fisheries discussed at COFI and relevant subsidiary bodies.”

Immediately after the COFI session, the 1st Regional Fisheries Bodies Secretariat Network Meeting was held in FAO, where the possible development of a program framework among the Regional Fisheries Bodies that are mainly working for the SSF was discussed reflecting the outcome of the COFI session. The Meeting agreed to provide and advice on the terms of reference and scope of work of such program, and to explore the possibility of developing an FAO program for SSF including the establishment of a dedicated website in order to develop such program.

Way Forward

As seen in the foregoing, focus on the issues on SSF were not appropriately provided earlier in any global program including the CCRF. This could be largely related to the fact that SSF are country and locally specific and thus, are not appropriately identified as global common issues to be promoted under any global initiative. In the case of the Southeast Asian region, a series of the Regional Guidelines on Responsible Fisheries in Southeast Asia have been developed by SEAFDEC since 1998 (**Box 1**), as outcomes of its Program on the Regionalization of the CCRF specifically focusing on particular situations of tropical SSF and supporting the implementation of the CCRF in the ASEAN region. The efforts of SEAFDEC in promoting the Regional Guidelines in the ASEAN region have been globally recognized when SEAFDEC became the most recent recipient of the prestigious Margarita Lizárraga Award for the biennium 2006-2007, given by FAO in November 2007.

SEAFDEC after receiving the Award commits itself to

continue working towards the sustainable development of SSF in the region under the framework of the CCRF. Thus, efforts have been sustained to collect information on the region's SSF in order to assess its status and hopefully come up with recommendations on the development of management systems for SSF.

The outcome of the initiatives of SEAFDEC is expected to contribute greatly to the efforts of FAO and the Regional Fisheries Bodies to develop a global dedicated program on SSF even if it has been considered very difficult to design a global dedicated program commonly useful for the diversified SSF in various regions in the world. As an attempt to initiate an assessment of the status of SSF, SEAFDEC has developed a dedicated website (<http://www.rsn-ssf.net>) to serve as an avenue for all those concerned with SSF particularly in the Southeast Asian region to exchange experiences and views on the sustainable development of SSF. In order to start the momentum for the development of a program focusing on SSF, SEAFDEC has preliminarily proposed the following activities as means of exchanging views with those who have wide experiences on SSF.

1. Global Monograph on Fishing Vessels for SSF

Considering the global concerns on the need to clearly define the SSF and the technical difficulty in reaching the regional definition experienced in Southeast Asian region, it is proposed to refrain from developing such definition exercise and to appreciate the diversification of SSF that are traditionally developed by region, country and each locality. Therefore, instead of tackling the global definition, it is proposed to develop a global monograph on fishing vessels used for SSF by exchanging information at the global level in order to globally recognize its cultural heritage. A standardized format on the information of fishing vessels is now being developed by SEAFDEC including the general principle of typical vessels and usage of vessels with a note that drawing or picture of the vessels would make very clear idea of the information provided.

2. Global Geographical Information of SSF

Despite of many discussions on the SSF, the fact that the very limited information on SSF is currently available is one of the major constraints to appropriately understand the SSF that is experienced in Southeast Asia. In seriously considering the sustainable development of SSF, this activity could be a starting point prior to the start of the program on SSF. SEAFDEC therefore proposed that a geographical information system be provided where global information on the number of fishers/fishing vessel either full time or part time basis can be plotted. The information can be an estimate at the national level but which can be gradually substantiated by the detailed information by provinces and/

or district level of the participating countries. In addition, in order that cost effective data collection system can be analyzed, reports on success cases developed elsewhere in the world are also being collated.

3. Global Analysis on the Appropriate Methodologies on Rights-Based Fisheries for SSF

Through the global dedicated website, the cooperation to exchange experiences on rights-based fisheries that have shown certain success or potentials for future success is being called for. The global dedicated website is therefore meant to further create momentum on the issue in the long-term basis. The standardized format on the information of success cases on rights-based fisheries to be placed in the website is now being formulated by SEAFDEC.

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