



**PROCEEDINGS OF THE ASEAN-SEAFDEC CONFERENCE
ON SUSTAINABLE FISHERIES FOR FOOD SECURITY TOWARDS 2020**

“FISH FOR THE PEOPLE 2020:
ADAPTATION TO A CHANGING ENVIRONMENT”

Bangkok, Thailand, 13-17 June 2011

VOLUME I:
THE CONFERENCE PROCEEDINGS



The Conference is jointly organized by
the Association of Southeast Asian Nations (ASEAN)
and **the Southeast Asian Fisheries Development Center (SEAFDEC)**,
and hosted by
the Department of Fisheries, Thailand.

PREPARATION AND DISTRIBUTION OF THIS DOCUMENT

Proceedings of the ASEAN-SEAFDEC Conference on Sustainable Fisheries for Food Security Towards 2020 “Fish for the People 2020: Adaptation to a Changing Environment” comprise two volumes. “*Volume I: The Conference Proceedings*” publishes the summary outputs of the Conference together with all annexes, except technical papers that were presented during the Thematic Panel Sessions of the Conference; while “*Volume II: Thematic Panel Sessions*” publishes the outputs focusing on the conclusion and recommendations from the Thematic Panel Sessions together with the papers presented during the Sessions.

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**THE ASEAN-SEAFDEC CONFERENCE ON
SUSTAINABLE FISHERIES FOR FOOD SECURITY TOWARDS 2020
“Fish for the People 2020: Adaptation to a Changing Environment”**

**Bangkok, Thailand
13-17 June 2011**

I. INTRODUCTION

1. The Association of Southeast Asian Nations (ASEAN) and the Southeast Asian Fisheries Development Center (SEAFDEC) co-organized the ASEAN-SEAFDEC Conference on Sustainable Fisheries for Food Security Towards 2020 “Fish for the People 2020: Adaptation to a Changing Environment” in Bangkok, Thailand from 13 to 17 June 2011. Hosted by the Department of Fisheries of Thailand, the Conference aimed to pave the way for enhancing the contribution of fisheries to food security in the ASEAN region, assess the importance of fisheries to the socio-economic enhancement of the people in the region, and address the emerging issues that impede the sustainable development of fisheries in the ASEAN region.

2. The ASEAN-SEAFDEC Conference was attended by more than 500 participants and fisheries experts from the ASEAN-SEAFDEC Member Countries as well as from other parts of the world, regional and international organizations, and the Senior Officials and Ministers responsible for fisheries of the ASEAN-SEAFDEC Member Countries. The Conference was technically backed by more than 100 renowned experts in fisheries from all over the world who served as resource persons in the Technical Session. The financial support of the Government of Japan as well as that of the ASEAN Foundation through the Japan Solidarity Fund and that of the US-Agency for International Development (US-AID) through the ASEAN-US Technical Assistance and Training Facility (AU-TATF) had enabled a number of representatives from government agencies, NGOs, civil society, and other people’s groups to take part in the Conference. Other representatives from the ASEAN-SEAFDEC countries and from countries in other regions together with members of fisheries associations paid their way to be able to also take part in the Conference. Furthermore, the technical experts provided by the collaborating partners completed the representative mix of the general fisheries stakeholders which surely facilitated the establishment of the apparent direction and guiding principle for the sustainable development of fisheries in the ASEAN region towards 2020.

3. The ASEAN-SEAFDEC Conference comprised four main sessions, namely: the Inaugural Session; the Technical Session which included plenary discussions on sustainable fisheries for food security and thematic discussions on important areas of fisheries concern; the Senior Officials Session comprising the Senior Officials Plus Three Meeting attended by the ASEAN Senior Officials and Plus Three countries (Japan, the People’s Republic of China, and the Republic of Korea), the Senior Officials Meeting (FSOM) to discuss among others the Plan of Action on Sustainable Fisheries for Food Security for the ASEAN Region Towards 2020 which the FSOM subsequently endorsed for consideration by the Ministers responsible for fisheries in the SEAFDEC-ASEAN countries; and the succeeding Ministerial Meeting which acknowledged the endorsement of the Plan of Action by the FSOM and subsequently adopted the Resolution on Sustainable Fisheries for Food Security for the ASEAN Region Towards 2020. Moreover, the Conference also provided platforms for various organizations to discuss directions parallel with the Conference’s ultimate goal of sustainable fisheries development for food security in the ASEAN region through networking and establishment of collaborative mechanisms. The Program Structure of the Conference appears as **Annex 1**.

4. The preparatory processes for the Conference started in November 2008 when the initiative for the conduct of special event by SEAFDEC was supported by the 31st Meeting of the Program Committee of SEAFDEC in Singapore. In later developments, Regional Technical Consultations supported by the Japanese Trust Fund and other donor agencies, were convened by SEAFDEC and collaborating partners to formulate regional policies that would address issues focusing on the emerging ones that impede the sustainable development of fisheries in the ASEAN region, while national consultative processes were administered by the ASEAN Member Countries to facilitate more extensive dialogues with wider groups of national stakeholders. The results were used as basis for the development of the Thematic Areas for the Technical Session of the Conference and at the same time served as part of the inputs for the preparation of the draft Resolution and Plan of Action. The chronology of important activities/events related to the Conference is shown in **Box 1**.

Box 1. Chronology of Activities Related to the Conference		
Date	Activities/Events	By
November 2008	The PCM supported SEAFDEC to conduct a special event in 2011, and recommended SEAFDEC Secretariat to prepare more detailed proposal for further discussion.	31 st SEAFDEC PCM in Singapore
April 2009	The SEAFDEC Council endorsed the proposal to organize the ASEAN-SEAFDEC Conference on Sustainable Fisheries Development Towards 2020, and requested that the proposal also be submitted to the 17 th ASWGFi for consideration and support from ASEAN side.	41 st SEAFDEC Council Meeting in Fukuoka, Japan
June 2009	The ASWGFi supported the proposal of SEAFDEC for the conduct of the Conference.	17 th ASWGFi Meeting in Vietnam
November 2009	The AMAF endorsed the proposal of SEAFDEC for the conduct of the Conference including the program and required preparatory works, and the plan for conduct of Ministerial Session and the participation of Senior Officials and Ministers responsible for fisheries of the ASEAN Member Countries to the Conference.	Prep SOM 31 st AMAF, SOM-9 th AMAF Plus Three, and 31 st AMAF in Brunei Darussalam
November 2009	The Conference Organizing Committee discussed the detailed structure, work plan, date and venue, required technical and administrative preparatory works for the Conference, and other related matters.	1 st Meeting of the Organizing Committee for the Conference
November 2009	The PCM endorsed the plans and progress in the preparation of the Conference.	32 nd SEAFDEC PCM in Kota Kinabalu, Malaysia
November 2009	The FCG/ASSP endorsed the plans and progress of the preparation of the Conference including the date and venue to be on 13-17 June 2011 in Bangkok, Thailand, the Conference logo, the work plan and the required administrative and technical preparatory works. The Meeting further discussed the detailed structure, required preparatory works by Member Countries, and financial resources to support the preparation and conduct of the Conference.	12 th FCG/ASSP Meeting in Kota Kinabalu, Malaysia
January 2010	First Press Conference for the ASEAN-SEAFDEC Conference was organized in Bangkok, Thailand.	SEAFDEC Secretariat
February 2010	Regional Technical Consultation on International Fisheries-related Issues was organized in Bangkok, Thailand.	SEAFDEC Secretariat
February 2010	The Technical Sub-committee Meeting for the ASEAN-SEAFDEC Conference discussed technical programs (inaugural session and technical plenary/panel sessions) and technical preparatory works to be undertaken by SEAFDEC Secretariat, Departments and Member Countries.	SEAFDEC Secretariat
March 2010	Regional Technical Consultation on Sustainable Aquaculture in Southeast Asia Towards 2020 was organized in Bangkok, Thailand.	SEAFDEC/AQD
April 2010	The SEAFDEC Council endorsed the plan and progress in the preparations for the Conference.	42 nd SEAFDEC Council Meeting in Luang Prabang, Lao PDR
June 2010	The ASWGFi endorsed the plan and progress in the preparations for the Conference and requested SEAFDEC to prepare Conference promotional video to be launched at the 32 nd AMAF Meeting. The ASWGFi also discussed and agreed that drafting of the Resolution and Plan of Action to be adopted by the ASEAN-SEAFDEC Ministers should be undertaken by the ASEAN Member Countries through the ASEAN mechanism of ASWGFi with SEAFDEC providing the technical support if required.	18 th ASWGFi Meeting in Brunei Darussalam
July 2010	Regional Technical Consultation on Issues Related to Post-harvest and Safety of Fish and Fishery Products was organized in Singapore.	SEAFDEC/MFRD

Box 1. Chronology of Activities Related to the Conference (Cont'd)		
Date	Activities/Events	By
August 2010	2 nd Press Conference for the ASEAN-SEAFDEC Conference was organized in Bangkok, Thailand.	SEAFDEC Secretariat
September 2010	Regional Expert Consultation on Managing Fishing Capacity to Combat IUU Fishing was organized in Bangkok, Thailand.	SEAFDEC-Sida Project
October 2010	Regional Technical Consultation on Sustainable Fisheries Management was organized in Samut Prakan, Thailand.	SEAFDEC/TD and MFRDMD
October 2010	Regional Technical Consultation on Traceability Systems for Aquaculture Products in the ASEAN Region was organized in Singapore.	SEAFDEC/MFRD
October 2010	The AMAF endorsed the plan and progress in the preparations for the Conference; the revision of the Conference sub-title to "Fish for the People 2020: Adaptation to a Changing Environment"; the Conference structure and program including the conduct of FSOM and FSOM+3 Meeting; and the promotional video for the Conference.	Prep SOM 32 nd AMAF, SOM-10 th AMAF Plus Three, and 32 nd AMAF in Cambodia
November 2010	Regional Technical Consultation on Adaptation to a Changing of Environment was organized in Bangkok, Thailand.	SEAFDEC Secretariat
November 2010	First Sub-regional Public-Private Sector Dialogue on Sustainable Fisheries and Aquaculture was organized in Bali, Indonesia.	ASEAN Secretariat
November 2010	Second Sub-regional Public-Private Sector Dialogue on Sustainable Fisheries and Aquaculture was organized in Bangkok, Thailand.	ASEAN Secretariat
November 2010	The PCM requested SEAFDEC to provide the ASEAN Secretariat and Member Countries the outputs from the Regional Technical Consultations and Sub-regional Public-Private Sector Dialogues, the analysis of the progress and achievements of implementation by the Member Countries of the 2001 Resolution and Plan of Action, as well as outputs from National Seminars conducted by the respective countries. This is in order to provide a basis for the development of the Resolution and Plan of Action by countries as agreed at the 18 th ASWGF _i Meeting.	33 rd SEAFDEC PCM in Bangkok, Thailand
December 2010	The FCG/ASSP endorsed the plans and progress of the preparation of the Conference, including the revision of the Conference sub-title to "Fish for the People 2020: Adaptation to a Changing Environment". To support the drafting of Resolution and Plan of Action by countries as agreed at the 18 th ASWGF _i , the FCG/ASSP requested Brunei Darussalam as the Chairperson of the ASWGF _i to issue letter request SEAFDEC to support in the preparation of the First Draft Resolution and Plan of Action. The Meeting also requested ASEAN to support resource person; and further discuss the process/timeframe in the preparation of the Resolution and Plan of Action.	13 th FCG/ASSP Meeting in Bangkok, Thailand
January 2011	Regional Technical Consultation on International Fisheries-related Issues was organized in Bangkok, Thailand.	SEAFDEC Secretariat
February 2011	ASEAN-SEAFDEC Consultation on Drafting the Resolution and Plan of Action on Sustainable Fisheries for Food Security for the ASEAN Region was organized in Bangkok, Thailand.	SEAFDEC and ASEAN
Early March 2011	SEAFDEC circulated the Draft Resolution and Plan of Action for consideration by Member Countries.	SEAFDEC Secretariat
April 2011	The Council endorsed the plans and progress of the preparation of the Conference. The Council provided amendments and the comments on the Resolution and Plan of Action to be further conveyed to the 19 th ASWGF _i .	43 rd SEAFDEC Council Meeting in Malacca, Malaysia

Box 1. Chronology of Activities Related to the Conference (Cont'd)		
Date	Activities/Events	By
April 2011	The Preparatory Meeting for the ASEAN-SEAFDEC Conference was organized to discuss the progress of the preparation of the Conference, and to finalize the Draft Resolution and Plan of Action before further consideration by the ASWGFi.	ASEAN, Siem Reap, Cambodia
April 2011	The ASWGFi endorsed the plans and progress of the preparation of the Conference. The ASWGFi also discussed and endorsed the Final Draft Resolution and Plan of Action to be considered by the ASEAN-SEAFDEC Senior Officials and Ministers during the Conference.	19 th ASWGFi Meeting in Siem Reap, Cambodia
June 2011	Final Press Conference for the ASEAN-SEAFDEC Conference was organized in Bangkok, Thailand.	SEAFDEC Secretariat
13-17 June 2011	The ASEAN-SEAFDEC Conference on Sustainable Fisheries for Food Security Towards 2020 “Fish for the People 2020: Adaptation to a Changing Environment” was organized in Bangkok, Thailand.	SEAFDEC, ASEAN and DOF Thailand

II. CONFERENCE PROGRAM

2.1 Inaugural Session

2.1.1 Opening of the Conference

5. The Opening of the Conference was presided over by H.E. the Minister of Agriculture and Cooperatives of Thailand, *Mr. Theera Wongsamut*. Also present to lend support during the inauguration ceremonies were the Director-General of the Department of Fisheries of Thailand, the Secretary-General of SEAFDEC, and the representative of the Secretary-General of the ASEAN Secretariat. The Opening Ceremony was also attended by national delegates and representatives from the Member Countries of the ASEAN and SEAFDEC, where the Member Countries of SEAFDEC comprise the 10 ASEAN Countries plus Japan, as well as the resource persons for the Technical Session and other participants in the Conference. The list of participants attending in the Inaugural and Technical Session of the Conference appears as **Annex 2**.

6. In his Introductory Remarks (**Annex 3**), the Secretary-General of SEAFDEC, *Dr. Chumnarn Pongsri* emphasized on the importance of fisheries to food security and poverty alleviation in the Southeast Asian region. He added that while taking into consideration the various phases of development of the fisheries sector, SEAFDEC since its establishment in 1967 has always been extending technical support to the efforts of the ASEAN countries towards attaining sustainability in fisheries and in enhancing the contribution of fisheries to food security in the ASEAN region. However, everything did not come along fine since regional concern over the unsustainable fisheries practices had impacted on the fish supply for food security of the people in the region. It was for this reason that SEAFDEC and the ASEAN organized in November 2001 the ASEAN-SEAFDEC Conference on Sustainable Fisheries for Food Security in the New Millennium “Fish for the People” where the ASEAN-SEAFDEC Ministers adopted the 2001 Resolution and Plan of Action on Sustainable Fisheries for Food Security for the ASEAN Region. For almost ten years, the ASEAN countries had made significant strides in the implementation of the 2001 Resolution and Plan of Action, but the efforts of the countries had recently been hampered by a number of emerging issues brought about by the changing environment not only because of climate change but also changes in the requirements for trade of fish and fishery products. Such changing scenario therefore called for the conduct of a sequel Conference, being the ASEAN-SEAFDEC Conference on Sustainable Fisheries for Food Security Towards 2020 “Fish for the People 2020: Adaptation to a Changing Environment”.

7. The representative of the ASEAN Secretariat, *Mr. Suriyan Vichitlekarn*, in his capacity as the Deputy Director and Head of the Agriculture Industries and Natural Resources Division of the ASEAN Secretariat, cited the crucial part of the fisheries sector in the jigsaw puzzle of societies and development processes in the ASEAN region, considering the significant contribution of fisheries to the socio-economic development of the ASEAN countries. He also mentioned that there are still persistent issues that continue to challenge the fisheries sector in the region which impede its further development. Therefore, there is a need to revisit the sectoral policy and development as well as the regional cooperation in order to address such concerns. He added that in the vision and aspirations of the ASEAN, the development of the fisheries sector towards a fully integrated ASEAN Community is an important regional stepping stone towards enhancing competitiveness,

economic integration, sustainable development, and in achieving the medium development goals. Thus, fisheries had always been considered as an important sector that could set the course towards future development and in significantly contributing to the ASEAN Community building process. His Introductory Remarks appear as **Annex 4**.

8. In her Welcome Remarks (**Annex 5**), the Director-General of the Department of Fisheries of Thailand *Dr. Somying Piumsombun* reiterated the need to review the status of the ASEAN fisheries sector to ensure its sustainable development for the next decade. She stressed that “Fish for the People 2020” is a colossal and tall order in view of the vital importance of fisheries for the well-being and food security of the people in the ASEAN region. She acknowledged the insights of the organizers of the Conference for the timely conduct of the Conference and reiterated her gratitude to those who worked hard for the preparations and arrangements of the Conference. Finally, she welcomed the participants and expressed the hope that their stay in Bangkok would be meaningful.

9. The Minister of Agriculture and Cooperatives of Thailand, *H.E. Mr. Theera Wongsamut* stressed that although the importance of the fisheries sector to the economic development of the countries in the region has been widely recognized, it is important to also bear in mind the contribution of fisheries to food supply and job opportunities especially in many areas of the region where majority of the people depend on the fishery resources for livelihoods. He also emphasized that this Conference is very crucial as it serves as an avenue where ways and means of addressing the concerns and problems faced by the sector could be grounded, thereby sustaining the contribution of fisheries to the socio-economic well-being of the people in the ASEAN region. He added that the Resolution and Plan of Action which the Ministers of the ASEAN-SEAFDEC countries would adopt before the end of the Conference would pave the way towards realizing the goal of enhancing the contribution of fisheries to food security in the ASEAN region. Finally, he expressed the wish for the participants to take very active part in the deliberations especially during the Technical Session of the Conference in order that meaningful results and realization of the objectives of the Conference could be achieved. On behalf of the Government of Thailand, he welcomed all participants to the Conference and to Thailand, and declared the ASEAN-SEAFDEC Conference “Fish for the People 2020: Adaptation to a Changing Environment” open. His Opening Statement appears as **Annex 6**.

2.1.2 Keynote Addresses

10. On behalf of the Secretary-General of the ASEAN Secretariat, *Mr. Suriyan Vichitlekarn* reiterated the strong link between the region’s fisheries development and the ASEAN Community building processes, and called for the need to strengthen cooperation and partnership among the ASEAN Member States and with dialogue partners as well as with international and regional organizations. He stressed that it is through such strengthened cooperation that the goal of sustainable fisheries development for food security in the ASEAN region could be achieved. His Keynote Address on **Fisheries and ASEAN Community Building** appears as **Annex 7**.

11. In her Keynote Speech on **Fisheries for Poverty Alleviation and Socio-economic Well-being of Fishers** (**Annex 8**), the Director-General of the Department of Fisheries of Thailand, *Dr. Somying Piumsombun* cited two main aspects where fisheries can play vital role in alleviating poverty. These are in the area of enhancing the contribution of fisheries to poverty alleviation, and reducing poverty in fishing communities. The contribution of fisheries to poverty alleviation could be enhanced through effective management for sustainability, coherent policy objectives, governance and capacity building, and fair distribution of benefits. Reducing poverty in fishing communities could be achieved by addressing the root causes of poverty in a holistic approach considering that these could be more linked to institutional factors rather than to the fish resource itself.

12. The representative from the Food and Agriculture Organization (FAO) of the United Nations, *Dr. Lahsen Ababouch* who is the Chief of the Fish Products, Trade and Marketing Service of the Department of Fisheries and Aquaculture of FAO, presented the **Emerging Issues in World Fisheries and Aquaculture** which appears as **Annex 9**. While reiterating the important role that fisheries play in the national economies of countries especially in the ASEAN region, he also reported that in terms of fish as percentage of total annual protein intake, Asia shares the highest at 21.7% compared with the world’s average of 15.1%. This trend could however, change as the nutritional attributes of fish and seafood are becoming well recognized. Fisheries also provide employment opportunities to over 44.9 million people, 85.5% of whom are in Asia. Nevertheless, he added that there are emerging issues in fisheries and aquaculture that need to be addressed, which include: sustainability of capture fisheries (overfishing, overcapacity, IUU fishing); sustainability of aquaculture development (sources of fishmeal and fish oils, environmental and social considerations); globalization,

increasing demand and consumer protection; importance of post-harvest valorization; protection of livelihoods and equitable distribution of benefits; and climate change and natural disasters. He suggested that in order to attain sustainability in fisheries and aquaculture, it is crucial to improve management, combat IUU fishing and promote eco-labeling. Specifically for aquaculture, there is an urgent need to ensure environmental protection and socio-economic development, advocate animal health, and address the integrity of feed supply. Finally, he stressed that post-harvest losses should also be appropriately addressed.

2.2 Technical Session

2.2.1 Plenary I: Challenges and Vision on Sustainable Fisheries for Food Security in the ASEAN Region

13. Two papers related to the challenges and vision on sustainable fisheries for food security in the ASEAN region, were presented. The first on **ASEAN Fisheries: Status and Trends (Annex 10)** was presented by *Dató Ahamad Sabki bin Mahmood*, Director-General of the Department of Fisheries Malaysia and concurrently the Chairperson of the SEAFDEC Council for 2011-2012. The second paper on **ASEAN Fisheries Towards 2020: Challenges and Vision (Annex 11)** was presented by *Dr. Simon Funge-Smith*, Secretary of the Asia-Pacific Fishery Commission (APFIC), FAO Regional Office for Asia and the Pacific (FAO/RAP).

14. In the discussion, which was chaired by the Secretary-General of SEAFDEC, *Dr. Chumnarn Pongsri*, four experts served as Panelists, namely: *Mr. Suriyan Vichitlekarn* of the ASEAN Secretariat; *Mr. Ichiro Nomura*, Advisor to the President of Tokyo University of Marine Science and Technology (TUMSAT, Japan); *Dr. Naruepon Sukumasavin*, Aquatic Ecology Expert of the Department of Fisheries of Thailand; and *Dr. Stephen Hall*, Director-General of the WorldFish Center in Malaysia.

15. While commending the initiatives undertaken by the Southeast Asian countries in the regionalization and subsequent implementation of the Code of Conduct on Responsible Fisheries, *Mr. Ichiro Nomura* acknowledged the efforts of the countries in the region in putting greater emphasis on small-scale fisheries-related issues these being the main driving force and becoming a permanent agenda in the FAO/COFI discussions. While also recognizing the important role of fisheries in development, he reiterated that output control fisheries management measures, *e.g.* quota system may not be applicable for the region, and encouraged the countries in this region to adopt other more practical and applicable management measures. Thus, the region could spearhead the development of appropriate management measures and initiate the implementation of such measures that are applicable for the fisheries of the region. He added that as indicated in the two papers presented, there are issues and challenges that should be considered and addressed by the countries and relevant agencies in the region, but such issues should be prioritized to take into consideration the specific situation of each country/locality.

16. "*The more we know of what is going on in fisheries and aquaculture, the more we understand where things are coming from, who's benefitting from what, who's doing what, the better position we going to be in to make sensible decisions and derive good behavior*" was the message articulated by *Dr. Stephen J. Hall*. He added that by looking forward and building on the successes the region has achieved over the last 8-10 years would bring about positive information for more sensible planning. He shared his view on the importance of having better understanding of the situation of fisheries and aquaculture as this could provide basis for good decision making. In this regard, transparency is very crucial in dealing with issues, *e.g.* quality and safety of aquaculture products, use of fish meals for aquaculture, combating IUU fishing. He outlined some of the tools to enhance traceability, *e.g.* certification and traceability schemes, and emphasized that the more available information the better it would be for policy-makers to make decisions.

17. With regards to fisheries information, *Dr. Naruepon Sukumasavin* emphasized that insufficiency of information on inland fisheries has led to the under-valuation of inland capture fishery, and suggested that this aspect should be strengthened. While noting that in capture fisheries, everybody is talking about zoning at various levels, *e.g.* at local or community to national and regional level, this approach seems to add to the difficulties of capture fishers in sustaining their operations which could eventually create problems and displace a lot of fishers especially with the current high fuel-price situation. In addition, he also stressed on the need to address the inadequacy of labor especially in the case of Thailand which needs to import labor from other countries, as this aspect also contributed to the difficulties in fishing operations. For aquaculture, the emerging standards and requirements seemed to have created burden for countries in this region since there is a need to cope with the standards while meeting the demand, and at the same time trying to control the price of fish and fishery products. All these factors make aquaculture operations in this region becoming more risky. Therefore, the aquaculture sector should put more effort on adaptation of techniques that could reduce operations cost especially as a consequence of environment changes, diseases, standards and certification systems.

18. While sharing his views on the impacts of the ASEAN integration process to the fisheries sector, *Mr. Suriyan Vichitlekarn* emphasized that the ASEAN Community building which is characterized by being a single market and production base with free flow of goods, services, capital investment and skilled labor, could serve as an opportunity for the region to improve its fishery sector. It is the goal of the ASEAN Community to enhance the connectivity in terms of physical infrastructure such as land and marine transportation systems that would facilitate the flow of goods like fishery products within and outside the region, and promote cross border trade, among others. As envisioned, when the market and trade system is made fully functional, this would enhance the competitiveness of fisheries that could lead to food security in the region. However, the adverse impacts of the integration of fisheries into the ASEAN community with improved transportation and free flowing of goods, could include increased competition of fishery products, transboundary transfer of aquatic resources, and increased pressure to the fishery resources. The result could signify more stringent trade requirements and standards, while intra ASEAN dimension of market integration could lead to complexities in the value chain. The issues that lie ahead is therefore something that the countries in this region should think about while preparing to mitigate the possible adverse impacts that could take place in the fisheries sector in the next 5-10 years.

19. During the open discussion, the following major concerns were raised by the participants:
- The value of access to resources or ecosystem services should also be taken into consideration in the pricing of fish and fishery products, as the current pricing considers only the cost of licenses on top of fishing operations cost without taking into account the value of the ecosystem where the fish had been extracted;
 - Rehabilitation of fishery resources, particularly in areas where degradation has already gone far, should be considered an urgent issue, although this process would mean implementing significant projects to rebuild the damaged habitats;
 - Since the requirement for massive supply of fish could increase in the coming decade, consideration should be given on fisheries extension since this tool could generate the necessary knowledge on sustainable fisheries on the part of fishers and thus could lead to realization of the targeted goal;
 - Issues on energy saving and reduction of the fossil fuel consumption in fishery activities should also be addressed to ensure sustainable fisheries for food security in the coming decade, while also taking into account the need to enhance fishers' safety and working conditions, and fishers' knowledge on standards for safety at sea;
 - Improving fishers' lives including their safety and working conditions could be based on relevant international conventions but since their focus is mostly on large and medium size vessels, therefore the aspect of improving the safety and working conditions of fishers in small-size vessels in the region should be looked into considering that small-size vessels are the main fishing crafts used in this region;
 - The conduct of regional fisheries resource assessment with the collaboration of all ASEAN countries which also forms part of the integration of fisheries into the ASEAN Community building, should be supported since this is the means to better understand the status of the resources considering the possible drastic changes could happen in the region's fisheries in the next few years;
 - Decentralization and rights-based fisheries which had been introduced to and undertaken by the ASEAN countries during the past decade should be further promoted by enhancing the capacity of fishers in fisheries management in order to achieve effective management for sustainable fisheries;
 - Integrated water resource management is crucial for inland fisheries development, however construction of dams and other structures in rivers should be assessed as it still remains the biggest threats for inland fisheries considering its role in blocking the migration route of fish creating tremendous impacts to inland fisheries;
 - Decentralization of inland fisheries management and culture-based fisheries/capture-based aquaculture should be supported by legal frameworks while the capacity of community members and awareness building in resources management should be enhanced to ensure the sustainable management of inland fisheries;
 - The inadequacy of fishery information on inland fisheries could be due to the different nature of inland from marine fisheries while information is scattered considering the involvement of a huge number of grassroots-level fishers, therefore improvement of the collection of information on inland fisheries should be carried out taking as an example the methodology on inland fisheries information collection initiated by SEAFDEC in Myanmar which could be disseminated to other Member Countries through the SEAFDEC mechanism.

20. In his conclusion, *Dr. Chumnarn Pongsri* as Chairperson of Panel I expressed the concern on the anticipated shortage of human resources in fisheries in the near future, as many of the currently available skilled experts in most countries in the region would be retiring within a few years time. This situation should

be seriously taken into consideration by policy-makers of the countries in the region as the availability of skilled human resources in fisheries could also ensure the sustainable development of fisheries in the future.

2.2.2 Thematic Panel Sessions

21. Important fisheries-related issues and concerns were discussed in these panel sessions under eight pre-identified themes. The deliberations were separated into eight panels corresponding to the eight thematic areas, namely: (1) Enhancing Governance in Fishery Management; (2) Sustainable Aquaculture Development; (3) Ecosystem Approach to Fisheries; (4) Post-harvest and Safety of Fish and Fisheries Products; (5) Emerging Requirements for Trade in Fish and Fisheries Products; (6) Climate Change Adaptation and Mitigation Towards Food Security; (7) Livelihood among Fishing Communities and Prospects of Employment in Fisheries-related Activities; and (8) Sustaining Food Supply from Inland Fisheries.

2.2.2.1 Enhancing Governance in Fishery Management

22. Coordinated by the SEAFDEC Marine Fishery Resources Development and Management Department (SEAFDEC/MFRDMD), the theme comprised four sub-themes, namely: (1) Can small-scale and commercial fisheries co-exist?; (2) Management of fishing capacity; (3) Co-management; and (4) Application of global instruments and regional agreements. The coverage of the Theme was introduced by *Ms. Mahyam Mohd. Isa*, Chief of SEAFDEC/MFRDMD.

23. The Theme Keynote Paper on **Enhancing Governance in Fisheries Management in Southeast Asia** was presented by *Prof. Dr. Kuperan Viswanathan*, Professor of the College of Arts and Sciences of Universiti Utara Malaysia, Kedah Darul Aman in Malaysia. He started by acknowledging the efforts of the ASEAN and SEAFDEC Member Countries in paving the way for enhancing better governance of the region's fisheries within the context of the FAO Code of Conduct for Responsible Fisheries (CCRF) through the regionalized CCRF incorporating internationally accepted sets of principles and guidelines for governance and best practices in fisheries development and management. He continued by recognizing the initiatives of the ASEAN countries in responding to the requirements of other international instruments such as the International Plan of Action (IPOAs) on management of fishing capacity, conservation and management of sharks, reducing the incidental catch of seabirds, and on the Illegal, Unreported, and Unregulated (IUU) Fishing, all of which are aimed at enhancing governance in fisheries management. However, he also mentioned that there are still many challenges that confront the fisheries in the region. These include: developing co-management institutions on a larger scale and providing for representation of fishery groups at different levels; reconciling local and global agendas; identifying management knowledge base that would be acceptable to all stakeholders; developing approaches to manage conflicts in fisheries; and reforming the existing institutions to empower local communities to participate in various activities aimed at achieving fisheries management objectives.

24. Introduction of the First Sub-theme was made by the Chairperson, *Dr. Achmad Poernomo*, Executive Secretary and Research Scientist of the Agency of Marine and Fisheries Research and Development, Ministry of Marine Affairs and Fisheries of Indonesia. This was followed by the presentation of the resource paper on **Can small-scale and commercial fisheries co-exist?**, which was made by *Dr. Ratana Chuenpagdee*, Associate Professor of the Department of Geography, Memorial University of Newfoundland in St. John's Newfoundland in Canada. Discussion of the issues under the First Sub-theme was facilitated by the Panelists comprising: *Dr. Magnus Torell*, Senior Advisor to the Southeast Asian Fisheries Development Center in Thailand; *Prof. Dr. Kuperan Viswanathan*, and *Prof. Dr. Yasuhisa Kato*, Professor of the Center for International Planning, Kagoshima University of Japan.

25. The Second Sub-theme was introduced by the Chairperson, *Dr. Achmad Poernomo*. Presentation of the resource paper on **Management of Fishing Capacity** by *Dr. Magnus Torell* followed, and subsequently the general discussion of the issues on the Sub-theme which was led by the Panelists: *Dr. Ratana Chuenpagdee*; *Prof. Dr. Yasuhisa Kato*; *Dr. Gazi Md. Nurul Islam*, Research Fellow of the Bio-resource and Environment Laboratory, Institute of Agricultural and Food Policy Studies, Universiti Putra Malaysia; and *Prof. Dr. Masahiro Yamao*, Professor of Food Resource Economics, Hiroshima University of Japan.

26. The Third Sub-theme was introduced by the Chairperson, *Mr. Raja Mohammad Noordin Raja Omar*, Director of Research of the Fisheries Research Institute, Pulau Pinang in Malaysia. This was followed by the presentation of the resource paper on **Co-management** which was made by *Dr. Gazi Md. Nurul Islam*, Research Fellow of the Bio-resource and Environment Laboratory, Institute of Agricultural and Food Policy Studies, Universiti Putra Malaysia. Discussion of the issues under the Sub-theme was led by the Panelists comprising: *Dr. Kuperan Viswanathan*; *Prof. Dr. Masahiro Yamao*; *Dr. Yugraj S. Yadava*, Director of Bay of

Bengal Programme-Intergovernmental Organization in Chennai, India; and *Dr. Satoshi Ishikawa*, Visiting Associate Professor of the Research Institute of Humanity and Nature (RIHN) in Kyoto, Japan and Associate Professor of Tokai University of Japan.

27. Introduction of the Fourth Sub-theme was made by the Chairperson *Mr. Raja Mohammad Noordin Raja Omar*, and was followed by the presentation of the resource paper on **Application of Global Instruments and Regional Agreements** by *Prof. Dr. Yasuhisa Kato*, Professor of the Center for International Planning, Kagoshima University of Japan. Discussion of the Sub-theme was led by the Panelists: *Dr. Ratana Chuenpagdee, Dr. Magnus Torell, Dr. Yugraj S. Yadava*, and *Prof. Dr. Kuperan Viswanathan*.

28. The summary of the recommendations under **Theme 1: Enhancing Governance in Fishery Management** that were raised during the general discussions, includes the following:

(1) **Sub-Theme 1.1: Can Small-scale and Commercial Fisheries Co-exist?**

- Carry out appropriate assessment of fisheries institutions and governance systems that affect the co-existence and relationship between small-scale and large-scale fishing sectors for the development of policies that promote sustainability.
- Promote better understanding of the entire fisheries value chain as well as the anticipated changes brought about by effective governance interventions in order to restore balance in fisheries.
- Consider as ways forward the removal of government subsidies and reduction of fishing capacities while channeling such subsidies to support the promotion of sustainable fisheries.
- Recognize and adjust possible power differences among all governing actors to enable the marginalized groups to fully participate in the democratic, transparent and accountable processes.
- Consider the aspects of solving over-capacity and finding effective governance arrangement that support the co-existence of small-scale and large-scale commercial fisheries, as priority issues in fisheries governance.
- Develop a roadmap to alleviate competition over the same resources between small-scale and large-scale fisheries.
- Develop co-management system that could be equally participated by both small-scale and large-scale fisheries.
- Minimize the financial, technical and political gaps between the small-scale and large-scale fisheries sub-sectors.
- Manage large-scale fisheries properly in order to secure the resources and habitat thereby improving the well-being of small-scale fisherfolks.
- Gear-up regional initiatives that support both small-scale and large-scale fisheries to produce competitive products that have better access to national, regional and international markets.
- Specify the role of governments in managing small-scale and large-scale fisheries.
- Develop small-scale and large-scale fisheries sectors mutually and not in isolation.
- Improve collection of information on small-scale fisheries in order to better understand this fisheries sub-sector.
- Carry out careful examination of the values, principles and images of small-scale fisheries embraced by public and private sectors in the state, market and society in order to understand the positioning of small-scale fisheries with regards to large-scale fisheries.
- Ensure holistic governance of the two different fisheries (small-scale and large-scale) by going beyond management of fisheries *per se* but also considering other livelihood opportunities thereby calling for broad framework such as for example the integrated coastal management.

(2) **Sub-Theme 1.2: Management of Fishing Capacity**

- Ensure that management of fishing capacity (and combating illegal fishing) as emphasized during the ASEAN-SEAFDEC and FAO/APFIC consultations, is promoted as key to fisheries management, and provide guidance to ASEAN countries in promoting the development of regional and sub-regional initiatives to improve fisheries management arrangements and in directly addressing the issues of fishing capacity as well as in combating illegal and destructive fishing activities.
- Improve the collection of information on fisheries number, size and structure of vessels, types and number of gear, and number of people involved in fishing in order to establish a clear picture of the fisheries in the region.
- Strengthen institutional links at the national and regional levels in order to promote regional and sub-regional cooperation and coordination for managing fishing capacity and combating IUU fishing considering that the countries in the region are both “port states” and “flag states”.

- Encourage countries to evaluate/assess the limitations of their respective national laws in order to be able to implement the Agreement on Port State Measures and other relevant instruments aimed to combat IUU fishing.
- Strengthen the capacities of the countries in the region to improve fisheries management and to combat IUU fishing, by mobilizing the lead countries responsible for the "Key Clusters" under the ASEAN Fisheries Consultative Forum (AFCF) mechanism.
- Develop programs to promote capacity building of all stakeholders including technical persons, scientists, policy makers, legal officers, inspectors, economists, and the like.
- Provide a clear definition of fishing vessels, refrigerated transport vessel, supply vessels, transshipment vessels, and reefers (by SEAFDEC and RPOA IUU Fishing).
- Strengthen institutional capacity building to enhance fisher's participation in fisheries decision-making.
- Develop co-management arrangements as means of reducing transaction costs for monitoring and surveillance as fishers are capable of successfully protecting their resources and enforcing their respective local fisheries rules.
- Identify high technologically efficient and destructive gears, and impose license limitation strategies as means of reducing fishing effort.
- Develop long-term conservation-based management plan as part of fishing capacity management.
- Promote local level governance arrangement, including self-enforcement, is possible options in managing fishing capacity.
- Ensure that sharing of information to facilitate regional collaboration in fishing capacity should also include information that could depict the characteristics of fishers and the fisheries.
- Regionalize the international fisheries standards and certification in global trading system in order to address the tropical characteristics of small-scale fisheries of the region.

(3) Sub-theme 1.3: Co-management

- Examine the concept of purely community-based management as this may not be adequate in dealing with problems that arise outside the communities.
- Design a decentralization program that fits in with local reality.
- Promote zoning of fishing areas and identification of stakeholders (who has the rights and responsibility to the natural resources) in order to strengthen co-management.
- Put more focus on community development of the stakeholders for co-management to ensure wider participation and investigate the possibility of enhancing their potential abilities in resource utilization.
- Promote collaboration between local community, government and researchers groups including NGOs and universities, to ensure successful implementation of co-management.
- Conduct field surveys and information collection by fishing area for the purpose of identifying management reference points and benchmarking, considering the diverse ecosystem structures and features in tropical fisheries.
- Establish strong institutional and organizational arrangements to ensure that appropriate frameworks are available for stakeholders to refer to.
- Strengthen adequate capacity building of primary stakeholders and 'handholding' until the process of co-management is completed.
- Create an atmosphere that reflects strong political will and support to the process of co-management.
- Develop new institutional and organizational arrangements in co-management that would encourage governments to move away from directive-based management to consultative management leading to more open, accountable, transparent, and autonomous management processes.
- Facilitate the establishment of community rights over fisheries by governments and NGOs.
- Foster the support of NGOs in community-based fisheries as this could be the only promising approach for managing small-scale fisheries.

(4) Sub-theme 1.4: Application of Global Instruments and Regional Agreements

- Initiate modification to the global instruments to avoid confusions in achieving sustainable fisheries taking into consideration the regional specificities.
- Develop a system that could promote a gradual shift of government services towards technical services on management by fishers through co-management arrangements.
- Establish a system of co-management using group user-rights that could answer the fundamental question of 'who owns the fish' before moving forward.

- Promote with prudence the implementation of the provisions of the international instruments and agreements by the ASEAN countries within the set time-frame, and address the concerns on the adaptation of the provisions of the voluntary and non-binding instruments and agreements to meet the local level conditions, so that the communities would not be put to a disadvantage.
- Strengthen capacity for monitoring and control instead of surveillance, enhance the ability and institutional framework of each country as a basis for “simple effective enforcement systems”, and promote information sharing and dialogues with neighboring countries.

2.2.2.2 Sustainable Aquaculture Development

29. The Theme which was coordinated by the SEAFDEC Aquaculture Department (SEAFDEC/AQD), has four Sub-themes, namely: (1) Meeting Social and Economic Challenges in Aquaculture; (2) Quality Seed Production for Sustainable Aquaculture; (3) Healthy and Wholesome Aquaculture; and (4) Maintaining Environmental Integrity through Responsible Aquaculture. The coverage of the Theme was introduced by *Dr. Joebert D. Toledo*, Chief of SEAFDEC/AQD in the Philippines.

30. Presentation of the Keynote Paper on **Sustainable Aquaculture Development for Food Security in Southeast Asia Towards 2020: Issues and Perspectives** was made by *Dr. Sena de Silva*, Director-General of the Network of Aquaculture Centres in Asia-Pacific (NACA) in Bangkok, Thailand, and Professor of the School of Life and Biological Sciences, Deakin University in Victoria, Australia. In his keynote address, he explained the status of aquaculture in Asia-Pacific and its important role in meeting the fish food needs. He added that with the rapid growth of population and the current consumption which is 29 kg/caput/year, an extra 30 million tons will be needed by 2050. He also pointed out that in the Asian region which supplies over 90% of global aquaculture production, a great bulk of aquaculture is small-scale and will remain small-scale. Hence, there is a need to develop strategies that will address the challenges confronting the small-scale farmers. He also cited that climate change impacts, globalization and the expanding trade have impacted significantly on the aquaculture sector specifically the increasing emphasis on requirements for food quality and safety. He surmised that there is a looming food crisis globally but there is a way out if Governments will improve regulations and if strategies will focus on *the plight of small farmers*. He also added that to meet the general challenges in aquaculture, there should be a *gradual paradigm change in cultured commodities accompanied by a shift on consumption habits*.

31. The First Sub-theme was introduced by the Chairperson *Mr. Miao Weimin*, Aquaculture Officer of the FAO Regional Office for Asia and the Pacific in Bangkok, Thailand. This was followed by the presentation of the resource paper on **Meeting Social and Economic Challenges in Aquaculture** by *Dr. Nerissa D. Salayo*, Associate Scientist of SEAFDEC Aquaculture Department in the Philippines. Discussion on the issues under the Sub-theme was led by the Panelists comprising: *Dr. Le Xuan Sinh*, Senior Lecturer of the Department of Fisheries Management and Economics, Cantho University of Vietnam; *Dr. Maripaz Perez*, Regional Director for Asia of the WorldFish Center in Malaysia; and *Mr. Renato F. Agbayani*, Head of Training and Information Division of SEAFDEC Aquaculture Department in the Philippines.

32. Introduction of the Second Sub-Theme was also made by the Chairperson *Mr. Miao Weimin*, and was followed by the presentation of the resource paper on **Quality Seed Production for Sustainable Aquaculture** made by *Dr. Ma. Rowena Romana-Eguia*, Head of the Technology Verification and Demonstration Division of SEAFDEC Aquaculture Department in the Philippines. The discussion of the issues under the Sub-theme was led by the Panelists: *Dr. Felix Ayson*, Scientist and Leader of Marine Fish Program of SEAFDEC Aquaculture Department in the Philippines; *Prof. Dr. Peter Edwards*, Emeritus Professor of the Asian Institute of Technology in Thailand; *Prof. Dr. Uthairat Nanakorn*, Director of Research and Development Institute, Kasetsart University in Thailand; *Dr. Ketut Sugama*, Director-General of Aquaculture, Ministry of Marine Affairs and Fisheries in Indonesia; and *Dr. Koichi Okuzawa*, Chief Researcher of the Aquaculture Technology Division, National Research Institute of Aquaculture, Fisheries Research Agency of Japan.

33. The Third Sub-theme was introduced by the Chairperson *Dr. Michael Phillips*, Senior Scientist of the WorldFish Center in Malaysia. This was followed by the presentation of the resource paper on **Healthy and Wholesome Aquaculture** by *Dr. Relicardo M. Coloso*, Scientist of the Nutrition and Feed Development Section of SEAFDEC Aquaculture Department in the Philippines. The discussion of the issues under the Sub-theme was led by the Panelists, comprising: *Mr. Miao Weimin*; *Dr. Celia Lavilla-Pitogo*, Director of Aquatic Animal Health for Integrated Aquaculture in Brunei Darussalam; *Dr. Hiroshi Ogata*, Fish Nutrition Advisor of the National Research Institute of Aquaculture, Fisheries Research Agency in Japan; and *Dr. Mali Boonyaratpalin*, Fisheries Advisor of the Department of Fisheries of Thailand.

34. Introduction of the Fourth Sub-theme was also made by the Chairperson *Dr. Michael Phillips* and was followed by the presentation of the resource paper on **Maintaining Environmental Integrity through Responsible Aquaculture** which was jointly made by *Dr. Evelyn Grace de Jesus-Ayson*, Head of Research Division of SEAFDEC Aquaculture Department in the Philippines; and *Dr. Wenresti Gallardo*, Associate Professor and Coordinator of the Aquaculture and Aquatic Resources Management of the Asian Institute of Technology in Thailand. The discussion of the issues under the Sub-theme was led by the Panelists comprising: *Dr. Atsushi Ishimatsu*, Professor of the Institute for East China Sea Research, Nagasaki University in Japan; *Dr. Michael Pido*, Director of the Palawan State University in the Philippines; *Dr. Donald Macintosh*, Coordinator for Asia of the World Conservation Union (IUCN) and Mangroves for the Future (MFF) Initiative, IUCN Asia Regional Office in Bangkok, Thailand; and *Dr. Sena de Silva*, Director-General of NACA.

35. The summary of the recommendations under **Theme 2: Sustainable Aquaculture Development** that were raised during the general discussions, includes the following:

(1) **Sub-theme 2.1: Meeting Social and Economic Challenges in Aquaculture**

- Assess the role of aquaculture in poverty alleviation to serve as basis for policy formulation.
- Craft enabling policies and formulate mechanisms (*e.g.* cluster approach for small-scale farmers) to facilitate adoption of better management practices (BMPs) for sustainable aquaculture.
- Develop and implement strategic investments and financing programs for aquaculture operations and capital structures.
- Address emerging issues on the impacts of climate change and global trade on aquaculture with emphasis on small-holder farmers.
- Enhance multi-agency collaboration among important players (*i.e.* Member Countries, SEAFDEC and regional/international organizations).

(2) **Sub-theme 2.2: Quality Seed Production for Sustainable Aquaculture**

Producing and distributing good quality seeds

- Continue research on existing genetic resources and improve these for use in aquaculture.
- Promote the production and distribution of quality seeds through:
 - Establishment of certified government/private hatcheries as sources of quality seeds;
 - Dissemination of new breeding technologies and techniques for effective distribution and maintenance of improved strains;
 - Enhancement of the capacity of small-scale farmers and hatchery operators in adopting new simple technologies and innovations;
 - Support to small-scale farmers in gaining access to quality broodstock and seeds produced through farmer-friendly broodstock management methods;
 - Establishment of effective marketing or distribution links/channels; and
 - Implementation of sound policies that will promote better management practices (BMPs).
- Implement mechanisms for control of translocation of stocks.

(3) **Sub-theme 2.3: Healthy and Wholesome Aquaculture**

Producing safe aquaculture products with the least environmental impacts

Nutrition and effective feed management to promote healthy farmed aquatic animals

- Ensure that nutrition and effective feed management promote healthy farmed aquatic animals.
- Improve the efficient use of aquatic feeds by: (i) strictly regulating the quality of manufactured feed and feed ingredients; and (ii) supporting research for developing suitable alternative protein sources.
- Encourage the culture of species requiring no or low fish meal content in their feed.
- Apply effective feeding management practices and widely promote these to all levels of fish farmers (small-, medium- and large-scale operators).

Disease diagnosis, control, monitoring and surveillance

- Strengthen the countries' capabilities in disease diagnosis, control, monitoring and surveillance.
- Ensure widespread use of standardized diagnostic testing methodologies.
- Provide support in training and information dissemination to facilitate the use of affordable, field-friendly methods of detection and screening of diseases (by the governments).
- Conduct large-scale field trials or evaluation surveys to scientifically assess the efficacy of probiotics and immunostimulants.
- Apply widely the concept of biosecurity (through Good Aquaculture Practices; compliance to Codes of Conduct).

- Engage in development of high health and diseases resistant broodstock to facilitate access of small-scale hatchery operators (by the governments).
- Enhance collaboration among agencies to prevent and control serious disease outbreaks while Member Countries should support coordinated regional initiatives to handle new and emerging diseases.
- Extend surveillance of diseases to wild population of aquatic animals.

Environmental integrity, certification and food safety

- Create and enforce regulations (for instance, zoning of aquaculture areas) to avoid conflicts in use of common resources and at the same time promote the farming of healthy and wholesome aquaculture products.
- Develop and implement the ASEAN guidelines for good aquaculture practices to secure food safety of aquaculture products.
- Encourage good practices in aquaculture such as the FAO Technical Guidelines on Aquaculture Certification.

(4) Sub-theme 2.4: Maintaining Environmental Integrity through Responsible Aquaculture

Maintaining environmental integrity and adapting to climate change impacts

Protecting the environment

- Implement strategies to (i) strictly monitor and regulate aquaculture operations; and (ii) prevent over development (for instance, adopting the concept of environmental carrying capacity to prevent aquatic pollution).
- Intensify information dissemination on feeding management schemes.
- Promote the use of various culture technologies that integrate aquaculture with the environment (e.g. aqua-silviculture, integrated multitrophic aquaculture systems-IMTA).
- Adopt precautionary approach to safeguard the environment from the acceleration of offshore aquaculture.

Adapting to climate change

- Define and implement strategies for mitigating greenhouse gas emissions from aquaculture.
- Conduct mapping of aquaculture sites that are vulnerable to climate change.
- Identify aquaculture species, strains, farming systems, techniques that will adapt better to climate change.
- Assess and improve infrastructures/habitat to ensure safety of coastal farming communities.
- Enhance awareness on the importance of aquaculture in climate change initiatives.
- Increase resilience and overall capacity of various stakeholder groups through training and knowledge transfer.
- Improve cooperation within the aquaculture sector and with other sectors.

2.2.2.3 Ecosystem Approach to Fisheries

36. The Theme which was coordinated by SEAFDEC Training Department (SEAFDEC/TD) was introduced by *Mr. Bundit Chokesanguan*, Head of the Information and Training Division, SEAFDEC/TD in Thailand. The Theme covered three Sub-themes, namely: (1) Ecosystem Interventions; (2) Resource Enhancement and Habitat Improvement; and (3) Reduction of Impacts from Fishing on Marine and Coastal Environment.

37. The Keynote Paper on **Ecosystem Approach for Sustainable Development of Fisheries in Southeast Asia Towards 2020: Issues and Challenges** was presented by *Dr. Simon Funge-Smith*, Secretary of the Asia-Pacific Fishery Commission, and Senior Fisheries Officer of the FAO Regional Office for Asia and the Pacific in Bangkok, Thailand. He stressed that ecosystem approach to fisheries (EAF) is an integrated management system to promote sustainable fisheries development, and in implementing the EAF, there is a need to balance the objectives of human and environmental well-being within an effective governance framework. As an integrated management system, EAF includes all important factors of the ecosystem and the different activities of humans, can be implemented at various levels of the government, and can be integrated with broader ecosystem management schemes.

38. The introduction of the First Sub-theme was introduced by the Chairperson *Dr. John C. Pernetta*, Freelance Fisheries Management Consultant from Thailand, and was followed by presentation of two resource papers. The first on **Understanding Ecosystem Approach to Fisheries and Its Applicability in Southeast Asia** was presented by *Ms. Panitard Taladon*, Head of Training and Fishery Extension Section, Information and Training Division of SEAFDEC/TD in Thailand, while the second on **Implementing the Ecosystem**

Approach to Fisheries in the Bay of Bengal Large Marine Ecosystem Project was presented by *Dr. Rudolf Hermes*, Chief Technical Advisor of the Bay of Bengal Large Marine Ecosystem (BOBLME) Project based in Phuket, Thailand. Discussion of the issues under the Sub-theme was led by the Panelists comprising: *Dr. Simon Funge-Smith* and *Mr. Christopher Paterson*, Advisor of the Secretariat of the Pacific Community in Fiji.

39. The Second Sub-theme was also introduced by the Chairperson *Dr. John C. Pernetta*. This was followed by the presentation of two resource papers. The first paper on **Resource Enhancement through Fish Refugia** was presented by *Mr. Noel Barut*, Deputy Executive Director (*a.i.*) of the National Fisheries Research and Development Institute, Bureau of Fisheries and Aquatic Resources in the Philippines, and the second paper on **Fisheries Refugia** was presented by *Mr. Christopher Paterson*. Discussion on the issues under the Sub-theme was led by the Panelists: *Mr. Pirochana Saikliang*, Director of the Deep Sea Fisheries Research and Technology Development Institute, Department of Fisheries of Thailand; and *Mr. Wudianto*, Senior Scientist of the Research Center for Fisheries Management and Conservation in Indonesia.

40. Introduction of the Third Sub-theme was made by the Chairperson *Mr. Bundit Chokesanguan*, and was followed by the presentation of three resource papers. The first paper on **Reducing the Impacts of Fishing Activities on Coastal and Marine Environments in the Southeast Asian Waters** was presented by *Dr. Worawit Wanchana*, Head of Capture Fishery Technology Division of SEAFDEC Training Department in Thailand, the second paper on **Ecosystem-based Technology and Management for Capture Fisheries with Case Studies on Light Fishing – Experiences in Japan** by *Dr. Takafumi Arimoto*, Professor of the Tokyo University of Marine Science and Technology in Japan; and the third paper on **Modifying Fishing Gears and Fishing Strategies to Reduce Seabed Impact and Fuel Consumption** was presented by *Dr. Christopher Glass*, Director of Northeast Consortium, Institute for the Study of Earth Oceans and Space, University of New Hampshire in the U.S.A.

41. The summary of the recommendations under **Theme 3: Ecosystem Approach to Fisheries** that were raised during the general discussions, includes the following:

(1) **General Recommendations**

- Develop comprehensive indicators for long-term planning and decision making on Ecosystem Approach to Fisheries (EAF), taking into consideration its aspects which are difficult to measure especially the characteristics of ecosystem which appear to be uncertain and complex.
- Make use of co-management as tool suitable for EAF although this could pose challenge for managers and build the interdependence of the two aspects of EAF such as ecosystem and human well-being.
- Expand the scale of EAF projects to make these applicable not only for the beneficiaries of pilot projects or the participating communities but for a wider audience, but develop realistic scale for short-term EAF projects.
- Develop extensive framework for EAF starting with 5-year framework as starting point, and establish network of community-based management.
- Develop formal process of collaboration and communication for fisheries agencies within countries and among countries.
- Establish standardized methods for monitoring EAF projects for countries to provide their inputs on the progress in a form of score card, and share information with other countries.
- Develop online data repository that could be accessed by resource managers and policy makers.
- Establish regional technical groups comprising agency representatives based on boundaries of large/regional ecosystems.

(2) **Sub-theme 3.1: Ecosystem interventions**

- Promote inter-agency cooperation to make EAF work, and encourage ministries to work together, *e.g.* cooperation among ministries on fisheries, environment and tourism as well as other ministries.
- Develop consensual information to support EAF.
- Recognize the value of connecting small community-based management areas or protected areas, to work towards improving habitat and production.
- Build capacity of fishers, managers and other stakeholders on general ecology, and conduct scientific research to underpin EAF.
- Develop social safety nets as the impact of failures in relation to EAF could be huge, although there is remote chance for large-scale failure in the region because of catch diversity (multi-species).

- Promote the concept of Local Commons (as practiced in Japan) considering that the philosophy of the “Tragedy of Commons” could have some influence in fisheries management in coastal waters, by introducing the idea that “the front of sea is one’s own garden under one’s responsibility, and fish is one’s own property to be conserved for next generation”.

(3) Sub-theme 3.2: Resource Enhancement and Habitat Improvement

- Maximize the benefit-cost ratio in resource enhancement.
- Promote sustainable management rather than prohibition of fishing operations.
- Build up on collaboration between fisheries and eco-tourism which is usually successful at local level, and promote such collaboration at national level.
- Establish cross-sectoral coordination considering that information available with other agencies is also necessary for effective fisheries management.
- Consider biodiversity objectives in the selection of MPA sites in addition to the adoption of no take zones which is the main target of developing coastal areas into MPAs in the ASEAN region.
- Develop ways of identifying critical areas and period of closed season in the implementation of fish *refugia*.
- Address the lack of expertise on larvae identification in the region to be able to identify the critical areas and closed season.
- Put emphasis on training in larvae identification and training of trainers in this area.
- Select properly the important and area criteria where conservation and rebuilding of fish stocks could be carried out.
- Address the misconception of information failure in fisheries in which case education is necessary.
- Consider the experience of Thailand in crab banking for restocking and conservation of resources.
- Consider the ecological aspects in enhancing coastal areas and social well-being of stakeholders.
- Provide information on basic aspects and not on science *per se* to extension workers who in turn could provide the information to fishers, in which case appropriate training programs should be developed for extension workers and trainers.
- Promote eco-tourism as good support and big aspect for community development, to attain increased economic and improved social well-being of fisherfolk.
- Consider communication as essential for the community in a wider and higher level of management, *e.g.* fisheries/environment and tourism sectors.

(4) Sub-theme 3.3: Reduction of Impacts from Fishing on Marine and Coastal Environments

- Establish gear management plan and promote gear selectivity supported by legislations and regulations.
- Implement management measures for ecologically friendly and selective fishing gears and practices that reduce the negative impacts on biodiversity and the environment.
- Promote regional capacity building programs to increase awareness of responsible fishing technologies.
- Conduct regular dialogue and enhance involvement of stakeholders in project development, implementation and monitoring to enhance awareness, cooperation and sustainability.
- Consider long-term monitoring of catch composition for fish species and sizes.
- Promote the use of renewable energy and balance selective fishing against energy optimization.
- Conduct energy audits to fundamentally promote efficient fishing operations.
- Minimize cost of fuel consumption especially in lights fishing (*e.g.* use of LED for light fishing).
- Incorporate climate change adaptation strategies into fishing policies to achieve low carbon high efficiency economy.
- Consider modification of fishing gears’ selectivity.
- Promote set net fisheries as a community operation and enhance community involvement in the fisheries.
- Link the idea of livelihood and fisheries management.
- Relate community subsidies with fisheries management.
- Consider the impacts of aquaculture to the environment.
- Consider the impacts of fish consumers on the fishery resources and the environment.
- Consider reducing the cost of investment of artisanal fisheries.
- Strengthen and promote the Network for the Reduction of Impact of Fishing on Coastal and Marine Environment (IFCOME).
- Develop National Plans of Action on reduction of impacts of fishing on environment.
- Regulate the implementation of incentives and subsidies.

2.2.2.4 Post-harvest and Safety of Fish and Fisheries Products

42. The Theme which was coordinated by SEAFDEC Marine Fisheries Research Department (SEAFDEC/MFRD) was introduced by *Mr. Yeap Soon Eong*, Chief of SEAFDEC/MFRD in Singapore. The Theme covered three Sub-themes, namely: (1) Improving Fish Handling, Processing and Preservation; (2) Improving Traditional Products; and (3) Quality, Safety and Control Systems for Fish Products.

43. The Keynote Paper on **Fish Utilization and Trade** was presented by *Dr. Lahsen Ababouch*, Chief of Fish Products, Trade and Marketing Service of the Department of Fisheries and Aquaculture, FAO in Rome, Italy. He emphasized that being a highly perishable commodity, fish is often processed to conserve its nutritional properties and prolong its shelf life. Fish is processed in a great variety of ways and product forms, and is generally distributed as live, fresh, chilled, frozen, heat-treated, fermented, dried, smoked, salted, pickled, boiled, fried, freeze-dried, minced, powdered or canned, or a combination of two or more of these forms. The many options for processing fish allow for a wide range of tastes and presentations, making fish one of the most versatile food commodities. Yet, unlike many other food products, processing does not necessarily lead to greater value than that of premium fresh fish. In fact, for many fish species, premium fresh gutted fish can fetch the highest price. Of the fish destined for direct human consumption, fish in live or fresh-fish form has been the most important product, with a share of 49.1% followed by frozen fish (25.4%), prepared or preserved fish (15.0%) and cured fish (10.6%). Specifically in Asia, a large proportion of fish is marketed in live or fresh forms representing 60% of fish destined for human consumption. However, notwithstanding technical changes and innovations, many of the Asian countries still lack adequate infrastructure, especially properly equipped landing centers with access to electricity, potable water, roads, ice plants, cold rooms and refrigerated transport. These factors, combined with tropical temperatures, lead to high percentage of post-harvest losses and quality deterioration. Furthermore, market infrastructure and facilities are often limited and congested, increasing the difficulty of marketing the very highly perishable fish.

44. Introduction of the First Sub-theme was made by the Chairperson *Mr. Yeap Soon Eong*, followed by an overview of the Sub-theme which was reported by *Mr. Leonard G. Limpus*, Chief Executive Officer, L.G. Limpus Associates, Food/Fish Quality Management Consultants in Australia, and presentation of four resource papers. The first paper on **Emerging Trends in Fish Processing Technology** was presented by *Mr. Goh Kian Heng*, Assistant Director of Supply Chain Section, Post-Harvest Technology Division of the Agri-Food & Veterinary Authority of Singapore; the second paper on **Improvement of Fish Handling at Sea** was presented by *Mr. Suthipong Thanasarnsakorn*, Head of the Fisheries Engineering Section of SEAFDEC Training Department in Thailand; the third paper on **International Experience in Maximizing Fish Utilization** was presented by *Dr. Lahsen Ababouch*; and the fourth paper on **By-product Utilization** presented by *Mr. Bordin Iddhibongsa*, Officer of the Fishery Technological Development Division, Department of Fisheries of Thailand. Discussion of the issues under the Sub-theme was facilitated by the Panelists: *Mr. Goh Kian Heng*, *Mr. Suthipong Thanasarnsakorn*, *Dr. Lahsen Ababouch*, and *Mr. Bordin Iddhibongsa*.

45. The Second Sub-theme was introduced by the Chairperson *Mr. Leonard G. Limpus* who also presented an overview of the Sub-theme, which was followed by the presentation of four resource papers. The first paper on **Traditional Fish Products: National and Regional Markets and Trade** was presented by *Mrs. Fatima Ferdouse*, Chief of Trade Promotion Division, INFOFISH in Malaysia; the second paper on **Improved Traditional Fish Products: Quality, Marketing and Trade** by *Ms. Melanie R. Guerra*, Supervising Aquaculturist of the Bureau of Fisheries and Aquatic Resources in the Philippines; the third paper on **Traditional Fish Products** by *Ms. Varatip Somboonyarithi*, Head of Fishery Technological Development Division of the Department of Fisheries of Thailand; and the fourth paper on **Safety of Traditional Fish Products: From Home Industry to Small and Medium Enterprises** was presented by *Mr. Mohd Nor bin Noordin*, Head of Processing and Fish Handling of the Department of Fisheries Malaysia. The discussion of the issues under the Sub-theme was led by the Panelists comprising: *Mrs. Fatima Ferdouse*, *Ms. Melanie R. Guerra*, *Ms. Varatip Somboonyarithi*, and *Mr. Mohd Nor bin Noordin*.

46. The Third Sub-theme was introduced by the Chairperson *Dr. Lahsen Ababouch* with the overview presented by *Mr. Leonard G. Limpus*, and followed by the presentation of four resource papers. The first paper on **Harmonizing Fish Import and Export Inspection and Certification Systems** was presented by *Dr. Lahsen Ababouch*; followed by the second paper on **Harmonizing Laboratories within the ASEAN Region** which was presented by *Ms. Saw Huiyi*, Scientist of the Post-harvest Technology Division, Technology and Industry Development Department of the Agri-Food & Veterinary Authority of Singapore; the third paper on **Quality, Safety and Control Systems for SME** by *Dr. Simson Masengi*, Deputy Director of Small-Medium Processing Enterprises, Directorate General of Fisheries Product Processing and Marketing, Ministry of Marine

Affairs and Fisheries of Indonesia; and the fourth paper on **New Challenges: Safety of Freshwater Fish, Aquaculture Safety and Certification, and Traceability of Fisheries Products** was presented by *Mrs. Niracha Wongchinda*, Senior Expert in Fishery Products of the Department of Fisheries of Thailand. Discussion on the Sub-theme was led by the Panelists, namely: *Dr. Lahsen Ababouch*, *Ms. Saw Huiyi*, *Dr. Simson Masengi*, and *Mrs. Niracha Wongchinda*.

47. The summary of the recommendations under **Theme 4: Post-harvest and Safety of Fish and Fisheries Products** that were raised during the general discussions, includes the following:

(1) **Sub-theme 4.1: Improving Fish Handling, Processing and Preservation**

Improve human resources and expertise in fishery post-harvest technology by:

- Developing training programs on post-harvest technology which could be used by extension workers.
- Conducting training programs for trainers from both the government and industry on critical aspects of handling, processing, distribution and marketing in the fish supply chain and implementation of the cold chain at all levels.
- Developing standard training requirements on fish handling as part of the requirements for issuance of permits for fishing vessel crews at all levels.
- Developing guidelines for specialized on-board handling or on-shore activities.

Improve national infrastructure by:

- Encouraging governments through their national development activities to improve fisheries infrastructure where appropriate.
- Developing guidelines for small-scale fisheries infrastructure requirements for landing areas.
- Developing standards and guidelines for fishing vessel design and construction taking into consideration on-board fish hygiene.

Improve handling, processing, distribution and marketing by:

- Developing guidelines for handling live fish.
- Continuing work on the development of value-added products, particularly for low value fish using low-cost methods as appropriate.
- Conducting studies on distribution and marketing of fish and investigating the means of redistributing benefits along the supply chain towards primary producers.
- Conducting studies on economic returns of low value fish.
- Conducting baseline studies on post-harvest losses.
- Conducting research on energy efficient ways to preserve fish on-board and during transportation.
- Conducting research on appropriate tools, equipment and techniques for fish handling on-board.

Increase utilization of under-utilized species, by-products, and recovery of processing waste by:

- Continuing research on optimum utilization of under-utilized species.
- Conducting studies on waste reduction and recovery, and environmental impact of fish waste.
- Conducting research in by-product utilization.

Improve the use of incentives/credit to promote the industry and alleviate poverty by:

- Promoting greater access to credit for post-harvest activities, and greater support to develop marketing cooperatives and/or SMEs.
- Investigating incentives to foster the demand for higher economic returns and more fish for human consumption.

(2) **Sub-theme 4.2: Improving Traditional Products – Quality, Marketing and Trade**

Improve raw materials supply and quality by:

- Conducting work on diversification of raw materials to see if different types of raw materials can be used for the same traditional product.
- Conducting work on different materials to create ‘improved’ traditional products.
- Enhancing community cooperation in producing raw materials and endemic (indigenous) ingredients.

Improve processing and preservation technologies and facilities by:

- Developing training programs on handling, processing, distribution and marketing of traditional products at all levels.
- Conducting work on reduction of insect infestation and use of insecticides, and the use of non-food grade additives/preservatives.
- Continuing the work on the development of traditional and value-added products, particularly using low-cost methods.

- Conducting work on improving efficiencies of processing equipment/facilities and promoting the use of alternative energy sources.
Improve packaging by:
- Conducting research on traditional and/or indigenous materials for packaging, and use of modern technology to reduce the cost of packaging and better preservation of products.
- Investigating the utilization of government-established fish processing centers to reduce the costs of processing and packaging.
Improve marketing practices by:
- Investigating marketing strategies that promote traditional fish products in urban communities.
- Investigating means whereby rural communities may gain better market access for their products.
- Promoting the concept of "One Village, One Fisheries Product (FOVOP)" initiated by SEAFDEC, and developing products and marketing strategies for this program.
- Developing a joint platform to improve international trade competitiveness of traditional products.
- Harmonizing data collection and reporting systems for traditional products.
- Improve the use of incentives/credits to promote the industry and alleviate poverty, by:
 - Assisting in the development of co-operatives or SME's based in fishing communities, FOVOP programs, processing centers or other means to assist traditional fish processors; and
 - Investigating means whereby traditional processors could gain better access to credit or micro-credit facilities.

(3) **Sub-theme 4.3: Quality, Safety and Control Systems for Fish Products**

Implement GMP/SSOP in SMEs by:

- Developing training materials, conducting training programs for trainers, and training of industry on the implementation Good Manufacturing Practices/Standard Sanitary Operating Practices (GMP/SSOP).

- Investigating the means whereby the industry could obtain funds to incorporate GMP/SSOP.

Improve traceability methodology and capacity to deal with new emerging export requirements by:

- Investigating the current and existing traceability systems, and developing the mechanism whereby such systems can be harmonized nationally and regionally.
- Investigating new emerging issues, and examining how these could be incorporated into a harmonized certification management mechanism.

Improve harmonization between inspection systems and standards in ASEAN by:

- Studying certification and accreditation issues related to Halal and organic foods.
- Continuing ASEAN laboratory accreditation, developing methodologies and mechanisms for proficiency testing, and promoting Good Laboratory Practices (GLP).
- Continuing the process of harmonizing food/fish inspection systems and standards for common products.
- Building capacity in risk assessment and its implementation.
- Investigating how private certification schemes could be incorporated into national or ASEAN certification management mechanisms.
- Providing a platform for the sharing of information among ASEAN Member Countries on the implementation of harmonization activities within the fisheries sector.

Improve internal regulatory control, and technical manpower by:

- Developing a National Plan of Action in conjunction with other regulatory agencies to coordinate and control all aspects of fish handling, processing, distribution, and marketing.
- Encouraging the recruitment and training of quality management personnel.

2.2.2.5 *Emerging Requirements for Trade in Fish and Fisheries Products*

48. The Theme which was coordinated by SEAFDEC Secretariat was introduced by *Dr. Somboon Siriraksophon*, Policy and Program Coordinator of SEAFDEC in Thailand. The Theme covered two Sub-themes, namely: (1) Required and Compulsory Actions; and (2) Trade Facilitation and Supply Chains.

49. The Keynote Paper on **Emerging Requirements for Trade of Fish and Fisheries Products** was presented by *Dr. Lahsen Ababouch*, Chief of Fish Products, Trade and Marketing Service of the Department of Fisheries and Aquaculture, FAO in Rome, Italy. He cited that trading in fish and fisheries products is usually characterized by a wide range of product types and actors. Exporting fish is important for many economies, in particular the developing nations as it generates foreign currency earnings, in addition to its impact on employment, income and food security. Among the Southeast Asian countries, Thailand is the top three exporters of fish and fisheries products while Vietnam is experiencing significant growth in fish export linked

to its flourishing aquaculture of *Pangasius* as well as marine shrimps and freshwater prawns. Nevertheless, a major barrier for fish export by developing countries is the stringent quality and safety standards and buyers' requirements for animal health, environmental and social responsibility standards. While large retail and food services in seafood distribution is shifting negotiating power towards the final stages in the value chain, more private- or market-based standards and labels are imposed on exports from developing countries. All these are making it more difficult for small-scale fish producers and operators to penetrate the international markets and distribution channels.

50. Introduction of the First Sub-theme was made by the Chairperson *Dr. Jose Ingles*, Project Leader of the World Wild Fund for Nature (WWF) Philippines, and followed by the presentation of five resource papers. The first paper on **Addressing Emerging International Fish Trade Concerns that Support the Sustainable Development of Fisheries** was made by *Ms. Sawitree Chamsai*, Policy and Program Officer of SEAFDEC Secretariat in Thailand; the second paper on **Japanese Shark Research Activities in Response to Recent Change of World's Opinions on the Fishery Stock Managements** by *Ms. Miki Ogura*, Director of the Tuna and Skipjack Resources Division, National Research Institute of Far Seas Fisheries, Fisheries Research Agency of Japan; the third paper on **Challenges on Foreign Trade and Marketing** by *Mr. Saut P. Hutagalung*, Director of Foreign Market Division, Trilateral Partnership Secretariat, Ministry of Marine Affairs and Fisheries of Indonesia; the fourth paper on **Lessons Learnt from the Implementation of the EU Regulation to Combat IUU Fishing** by *Dr. Kamonpan Awaiwanont*, Senior Fisheries Biologist, Upper Gulf Marine Fisheries Research and Development Center of the Department of Fisheries of Thailand; and the fifth paper on **Legislation and Regulations Related to Fish Trade** was presented by *Atty. Benjamin F.S. Tabios, Jr.*, Assistant Director for Administrative Services, Bureau of Fisheries and Aquatic Resources of the Philippines. Discussion of the issues under the Sub-theme was led by the Panelists comprising: *Dr. Achmad Poernomo*, Executive Secretary and Research Scientist of the Agency for Marine and Fisheries Research and Development, Ministry of Marine Affairs and Fisheries of Indonesia; *Dr. Jose Ingles*; *Mr. Duncan Leadbitter*, Technical Director of the Sustainable Fisheries Partnerships, U.S.A. and Director of Fish Matter – Australia; and *Mr. Arthorn Piboonthanapathana*, Secretary of the Thai Frozen Foods Association of Thailand.

51. Introduction of the Second Sub-theme was made by the Chairperson *Dr. Somboon Siriraksophon*, which was followed by the presentation of five resource papers. The first paper on **Traceability and Food Safety Assurance** was presented by *Ms. Niracha Wongchinda*; the second paper on **International Trade: Challenges for Small-scale Fisheries in the ASEAN** by *Dr. Sebastian Mathew*, Programme Advisor of the International Collective in Support of Fishworkers (ICSF) in India; the third paper on **Partnerships with Business Towards Sustainable Seafood Trade** by *Dr. Jose Ingles*; the fourth paper on **New Standards to Drive Sustainable Fish Meal from Wild Harvest Fisheries** by *Mr. Duncan Leadbitter*; and the fifth paper on **Sustainable Tuna Trade in Southeast Asia** was presented by *Mr. Marc Wilson*, Regional Program Manager of GEF International Pacific Waters' Integrated Water Resources Management (IWRM) Project of the Pacific Islands Applied GeoScience Commission (SOPAC) at the Secretariat of the Pacific Community (SPC) in Fiji. Discussion of the issues under the Sub-theme was facilitated by the Panelists, namely: *Atty. Benjamin F.S. Tabios, Jr.*, *Dr. Amonpan Awaiwanont*, and *Dr. Lahsen Ababouch*.

52. The summary of the recommendations under **Theme 5: Emerging Requirements for Trade in Fish and Fisheries Products** that were raised during the general discussions, includes the following:

(1) **Sub-theme 5.1: The Required and Compulsory Actions**

- Develop standards to raise the competence of countries in trading their fish and fisheries products.
- Ensure and improve compliance to standards and requirements (consistency), *i.e.* for food quality and safety.
- Harmonize standards and requirements for the ASEAN countries.
- Improve sustainability (need protection of livelihoods of producers – fishers), and promote cooperation and partnership among producers, traders, and consumers (for better distribution of benefits).
- Improve competence and quality of fish and fisheries products for export, through capacity building of fisheries associations.
- Investigate what offers higher benefits comparing the cost in producing fish for food security of own country with producing and selling fish to other countries, considering that the numerous trade regulations make production very costly.
- Educate people and increase awareness on fish trade concerns.
- Address the concern of imposing equal and uniform application of tariffs on ASEAN Member Countries (by the ASEAN).

- Develop market-based measures, along line with international laws and standards, and private regulations.
- Benchmark the equivalence of international standards and national initiatives.
- Ensure that benefits from adopting the system of better practices and improved sustainability should trickle down to the fishers as the producers.
- Advocate the fact that trade regulations led to increasing requirements and that fisheries sustainability is affected by these regulations.
- Ensure that governments consider fish sustainability as an emergency rather than an evolving issue for better decision-making.
- Learn from lessons in solving problems related to trade regulations in the European region as these could also be very useful for the ASEAN countries.
- Consider fishers as price takers and not price makers.
- Consider the need for an ASEAN dialogue in order that the region can sell seafood following its own standards.
- Educate the stakeholders on fish trade-related issues through the use of cartoons to make information more interesting rather than using traditional documents which could be boring.
- Investigate the need for traders paying the cost of complying with the trade regulations.

(2) **Sub-theme 5.2: Trade Facilitation and Supply Chains**

- Provide platform for sharing of information among ASEAN Member Countries on traceability system, and promote the implementation of traceability systems in the ASEAN region.
- Implement traceability also for products for domestic markets.
- Improve infrastructure, *e.g.* develop a floating fish port near the fishing grounds to maintain the best state of freshness of the catch so that there is no need to catch twice as much fish.
- Build up partnership with stakeholders being part of the supply chain without neglecting the poorest of the suppliers who are very vulnerable and often left out in most development activities.

2.2.2.6 *Climate Change Adaptation and Mitigation Towards Food Security*

53. The Theme which was coordinated by SEAFDEC Secretariat was introduced by *Dr. Magnus Torell*, Senior Advisor to SEAFDEC in Thailand. The Theme covers two Sub-themes, namely: (1) Impacts of Climate Change on Fisheries and Aquaculture; and (2) Adaptation to the Climate Change.

54. The Keynote Paper on **Climate (Change) Adaptation and Mitigation: Application Towards Food Security** was presented by *Dr. Anond Snidvongs*, Director of the Southeast Asia Global Change System for Analysis, Research and Training (SEA-START) in Thailand. He accentuated on the capability of fish stocks and harvest practices and technologies in terms of exposure, sensitivity, risk, coping capacity and vulnerability to climate change in marine (capture) fishery, inland fishery and aquaculture. He also suggested that for marine (capture) fishery adaptation could focus on reducing exposure through the use of long-lead weather forecast, reducing sensitivity based on weather proof technology, and increasing the coping capacity through surveillance/rescue, insurance/compensation. In inland fishery, the adaptation could focus on reducing exposure through proper water management (quality and quantity), reducing sensitivity by establishing *refugia* and management of "introduced" species, and increasing the coping capacity through the enforcement of closed season and adoption of restocking schemes. For aquaculture, adaptation could focus on reduced or lessened intensity of exposure through appropriate water quantity and quality control, promote area protection (erosion, severe weathers), relocation, weather/water forecast; reduced sensitivity by promoting the use of climate tolerance species, climate/weather proof technology/practices; and increased coping capacity through the introduction of insurance schemes. He added that climate contingency plans and strategies for fisheries could include the promotion of climate resilience fishery and climate friendly fishery, and adaptation of new technologies in fisheries that promote low carbon footprint.

55. The introduction of the First Sub-theme was made by the Chairperson *Dr. Worawit Wanchana*, and was followed by presentation of four resource papers. The first paper on **Climate Change and Fisheries: Philippine Experience** was presented by *Dr. Mudjekeewis D. Santos*, Head of Marine Fisheries Research Division of the Bureau of Fisheries and Aquatic Resources in the Philippines; the second paper on **Adaptation to the Climate Change in the Fisheries Sector in Japan** by *Dr. Kaoru Nakata*, Deputy Director of the Research Management Department, Fisheries Research Agency of Japan; the third paper on **Impact of Climate Change on Growth of *Penaeus* Shrimp: Results of Numerical Modeling** by *Dr. Jutarat Kittiwaniich*, Fisheries Biologist of the Marine Shrimp Culture Research Institute, Coastal Fisheries Research and Development Bureau, Department of Fisheries of Thailand; and the fourth paper on **Climate Change: A**

Challenge for Marine Transportation was presented by *Mr. Pakorn Prasertwong*, Chief of Environment Subdivision of the Marine Department of Thailand. Discussion of the issues under the Sub-theme was facilitated by *Dr. Maria Rebecca Campos*, Consultant of the International Institute of Fisheries Economics and Trade, Southeast Asian Regional Center for Graduate Study and Research in Agriculture (SEARCA) in the Philippines.

56. The Second Sub-theme was also introduced by the Chairperson *Dr. Worawit Wanchana*. This was followed by the presentation of two resource papers. The first paper on **Adaptive Responses of Traditional Fishers of Indonesia to Climate Change** was presented by *Dr. Ari Purbayanto*, Professor of the Faculty of Fisheries and Marine Sciences, Bogor Agricultural University of Indonesia; and the second paper on **Experience and Conceptual Framework of the Modeling Study for Mitigation of the Impact of Climate Change on Shrimp Farming in Thailand** was presented by *Dr. Putth Songsangjinda*, Director of the Marine Shrimp Culture Research Institute, Coastal Fisheries Research and Development Bureau, Department of Fisheries of Thailand. Discussion on the Sub-theme was facilitated by *Dr. Mudjekeewis D. Santos*. The discussion of the issues under the Sub-theme was led by the Panelists, namely: *Dr. Magnus Torell*; *Ms. Suzanne Young*, Climate Change Specialist of the ASEAN-US Technical Assistance and Training Facility in Indonesia; *Dr. Mudjekeewis D. Santos*; *Dr. Rudolf Hermes*; and *Dr. Donald Macintosh*.

57. The summary of the recommendations under **Theme 6: Climate Change Adaptation and Mitigation Towards Food Security** that were raised during the general discussions, includes the following:

(1) **Key Issues on Climate Change**

- Improve capacity of fishery sector to access information since the sector is vulnerable to climate change, *e.g.* impact to both resource (sustainable use) and people (socio-economic).
- Consider it is difficult/impossible to predict climate change due to unclear/insufficient information from the region.
- Investigate the source of CO₂ emission which is not mainly contributed by the fisheries sector, and clarify misunderstanding that mangrove replanting and other relevant activities are not the only means that could contribute to the reduction of the greenhouse gas emission.
- Conduct more action-oriented research in the region on climate change because only few of such research are done in the tropical areas (*e.g.* Southeast Asia).

(2) **Things that need to be done under ASEAN framework**

- Promote awareness building (for planners and traditional fishers).
- Improve weather/climate forecast, and establish early warning systems.
- Enhance information exchange among relevant agencies.
- Explore the new technologies for reduction of the sensitivity to climate change.
- Strengthen capacity building (especially for those living in high and medium risk areas).
- Advocate effective communication on climate change at community level.
- Promote “early stock estimation/prediction” as means of mitigating the impact of climate change.
- Develop National Plans of Action for adaptation and mitigation of climate change.
- Conduct impact assessment (resource and people at all levels).
- Develop long-term and short-term mitigation measures/adaptation.

(3) **Summary of the recommendations**

Suggestions and recommendations made during the Conference were in line with the following recommendations that were developed through the ASEAN-SEAFDEC RTC (November 2010), and consequently at the APFIC Workshop on Climate Change in Nepal (May 2011):

- Ensure that fisheries aspects are incorporated in the national action plans on response to climate change.
- Integrate climate change into fisheries policy framework.
- Integrate climate change into existing fisheries and habitat management program framework.
- Develop and implement policy/program to maintain and restore coastal/inland habitats.
- Minimize the impacts from climate change to fisheries/aquaculture and the contribution from fisheries/aquaculture to climate change.
- Build up adaptive capacity of people dependent and involved in fisheries-related activities to cope with changing environment, including effects of climate change.
- Strengthen information collection, capacity building and inter-agency coordination.

2.2.2.7 Livelihood among Fishing Communities and Prospects of Employment in Fisheries-related Activities

58. The Theme which was coordinated by SEAFDEC Training Department was introduced by *Dr. Sebastian Mathew*, Programme Advisor of the International Collective in Support of Fishworkers (ICSF) in India and *Dr. Yugraj Singh Yadava*, Director of the Bay of Bengal Programme-Intergovernment Organization (BOBP-IGO) in India. The Theme covered five Sub-themes, namely: (1) Social and Economic Aspects of an Ecosystem Approach to Fisheries; (2) Monitoring and Recording of Social Aspects, Migratory Labor (Fishing Crews, Factory Laborers, Fishers); (3) Meeting Social and Economic Challenge Building Capacity to Adapt to Change; (4) Social Rights, Social Security and Labor (including Social Rights and Social Security in Traditional Small-scale Fisheries, Social Rights and Social Security among Migratory Fishers in Large Vessels); and (5) Safety at Sea for Small-scale Fisheries.

59. The Keynote Paper on **Promotion of Livelihoods Diversification in Coastal Fishing Communities** was presented by *Dr. Don Griffiths*, Senior Technical Advisor of the Regional Fisheries Livelihoods Programme (RFLP), FAO Regional Office for Asia and the Pacific in Bangkok, Thailand. He stressed that many small-scale coastal fishers are very vulnerable and face numerous constraints brought about by under-developed infrastructures, lack of collateral and assets, weak extension and micro-financing services, and few livelihood diversification options. Since coastal fishers need to improve their incomes, and enhance livelihood security and resilience, diversification is important to reduce vulnerability and pressure on natural resources. Nevertheless, this should be done with caution considering that many plug-in livelihoods had failed, thus, livelihoods diversification needs holistic multi-sectoral approaches that include assessment of available standard of living assets (SLA), learning lessons from past livelihoods initiatives, strengthening sustainable livelihoods first and foremost, promotion of participatory process to identify and agree on livelihoods options, and adoption of “discovery-direction-doing” under the concept of sustainable livelihoods and economic development (SLED). He added that in dealing with people’s livelihoods, it is crucial to make it right because to a poor household, failure of a new livelihood can be disastrous. It is therefore very important not to get wrong.

60. The First Sub-theme was introduced by the Chairpersons *Dr. Sebastian Mathew* and *Dr. Kungwan Juntarashote*, Associate Professor of the Faculty of Fisheries, Kasetsart University in Thailand. This was followed by the presentation of two resource papers, the first paper on **Diversification of Livelihood Strategy toward Sustainable Development of Fishing Community in Southeast Asia** was made by *Dr. Masahiro Yamao*, Professor of Food Resource Economics, Hiroshima University of Japan; and the second paper on **Social and Economic Aspects of the Mekong Fisheries** made by *Dr. Suchart Inghamjit*, Senior Professional Fisheries Biologist of the Department of Fisheries of Thailand. Discussion of the issues under the Sub-theme was led by the Panelists, namely: *Prof. Dr. Yasuhisa Kato*, Professor of the Center for International Planning, Kagoshima University of Japan; and *Dr. Don Griffiths*.

61. The Second Sub-theme was also introduced by the Chairpersons *Dr. Sebastian Mathew* and *Dr. Kungwan Juntarashote*. This was followed by the presentation of two resource papers. The first paper on **Monitoring Social Aspects of Fisheries in the ASEAN** was presented by *Dr. Sebastian Mathew*, Programme Advisor of the International Collective in Support of Fishworkers (ICSF) in India, and the second paper on **International Standards and Good Practices on Protection of Migrant Workers Applicable in the Fishing Sector** was presented by *Mr. Nilim Baruah*, Chief Technical Advisor of the Tripartite Action to Protect Migrant Workers from Labour Exploitation (TRIANGLE) Project, International Labour Organization, United Nations in Thailand. Discussion of the issues under the Sub-theme was facilitated by *Dr. Yugraj Singh Yadava*.

62. The Third Sub-theme was again introduced by the Chairpersons *Dr. Sebastian Mathew* and *Dr. Kungwan Juntarashote*, and followed by the presentation of a resource paper on **Livelihood Approach to Fishing Ground Use in the Lower Mekong Basin: A Case Study of a Lao Village in Korat Plateau** made by *Dr. Akiko Ikeguchi*, Associate Professor of Geography, Faculty of Education and Human Sciences, Yokohama National University of Japan. Discussion of the issues under the Sub-theme was led by the Panelists, namely: *Dr. Masahiro Yamao* and *Prof. Dr. Yasuhisa Kato*.

63. The Fourth Sub-theme comprised the concerns on small-scale fishers and migrant fishers, and the concern on small-scale fishers was introduced by the Chairpersons *Dr. Yugraj Singh Yadava* and *Dr. Yuttana Theparoonrat*, Head of the Coastal and Small-scale Fisheries Management Division of SEAFDEC Training Department in Thailand. This was followed by the presentation of two resource papers, the first paper on **Social Rights and Social Security in Traditional Small-scale Fisheries (including economic security)** was presented by *Dr. Phattareeya Suanrattanachai*, Head of Fishery Governance and Management System Section of the SEAFDEC Training Department in Thailand, and the second paper on **Livelihood Among Fishing**

Communities and Prospects of Employment in Fisheries-related Activities: Options for Improvement and Monitoring of Change was presented by *Prof. Dr. Yasuhisa Kato*. Discussion of the issues under this concern on small-scale fishers was led by *Dr. Tatsuro Matsuoka*, Professor of Kagoshima University in Japan.

64. The second concern under the Fourth Sub-theme was introduced by the Chairpersons *Dr. Yugraj Singh Yadava* and *Dr. Yuttana Theparoonrat*, and was followed by the presentation of a resource paper on **Origins of Social Rights and Social Security of Fishers** by *Dr. Tatsuro Matsuoka*. Discussion of the issues under this concern on migrant fishers was facilitated by the Panelists comprising: *Mr. Nilim Baruah* and *Dr. Waraporn Prompoj*, Senior Expert on International Fisheries Affairs of the Department of Fisheries of Thailand.

65. The Fifth Sub-theme was introduced by the Chairpersons *Dr. Yugraj Singh Yadava* and *Dr. Yuttana Theparoonrat*. This was followed by the presentation of a resource paper on **Impact of Fisheries Management in Improving Safety at Sea Measures: A Case Study in Thailand** made by *Mr. Bundit Chokesanguan*, Head of Information and Training Division of the SEAFDEC Training Department in Thailand. Discussion of the issues under the Sub-theme was facilitated by *Dr. Tatsuro Matsuoka*.

66. The summary of the recommendations under **Theme 7: Livelihood Among Fishing Communities and Prospects of Employment in Fisheries-related Activities** that were raised during the general discussions, includes the following:

(1) **Sub-theme 7.1: Social and Economic Aspects of an Ecosystem Approach to Fisheries**

Diversification of livelihood strategy towards sustainable development of fishing community in Southeast Asia

- Integrate policy for livelihood improvement at the local (households) to national levels with overall water resource planning strategy and development programs.
- Support directions for diversification of community-based livelihoods in fishing communities within (fish processing) and outside fisheries (textile/batik, local business, micro-finance) while maintaining sustainable use of resources.
- Maintain sustainable use of common-pool coastal resources while improving fishing livelihoods.
- Ensure government and external donor support to rehabilitate tsunami and similar affected areas in the region.
- Develop an integrated and comprehensive policy for livelihood improvement at the local (households) to national levels with overall water resource planning strategy and development program.

(2) **Sub-theme 7.2: Monitoring and Recording of Social Aspects, Migratory Labor**

- Promote and improve equity including gender equity, sustainability of human well-being, and respect for human rights and welfare for those who are dependent on fisheries.
- Recognize comprehensively and improve responsibly the social aspect of fishery modernization (*e.g.* choice of technology, labor access to capital and credit, access to fishing ground).
- Assess the impact of receiving migrant workers by ASEAN Member Countries in protecting the community pillar of ASEAN Community for the benefit of fishers and fisher workers.
- Ensure that international labor standards and requirements are complied with (*e.g.* the rights at work, freedom of association, rights to collective bargaining, freedom from forced labor and child labor, and non-discrimination).
- Make sure that social security aspects such as food, education, medical care and health protection, is equally provided to migratory labor as with nation's labor.
- Provide information, training and assistance on their rights, condition of life and work in the destination country to migratory labor before departure from their countries and on arrival at receiving countries.

(3) **Sub-theme 7.3: Meeting Social and Economic Challenge Building Capacity to Adapt to Change**

- Secure low-investment on-farm and off-farm livelihoods for young families preferring to stay in rural areas rather than migrating to cities to work.
- Monitor multiple uses of the Lower Mekong River Basin and its impact on floodplains, including areas with good access to urban labor market.

(4) Sub-theme 7.4: Social Rights, Social Security and Labor

- Encourage global and regional organizations to provide comprehensive guidelines combined with guiding principles on extreme poverty and human rights, which is integral in social inclusion, decent work and full employment along with poverty eradication.
- Promote social rights in improving social and economic conditions, and human rights.
- Put in place social security as it also performs the function of a welfare system.
- Recommend improvement of the provisions of the CCRF and Regional Guidelines, which are acceptable instruments, to include human rights principles to fulfill the social dimension of fisheries.
- Promote good practice and lessons learned concerning responsible fisheries management especially on the economic points of view: benefit, cost and increase of job opportunities to secure means of livelihoods and reduce poverty.
- Promote the adaptation of social security such as decent occupation, medical care, and safety at work under the social security convention 188-principle of social security of fishing workers.
- Provide social security pension equally to migrant workers as with the national workers.
- Make sure that pension should be paid to migrant workers when they are back to their home countries.
- Address the shortage of skilled labor and inadequate number of workers through bilateral agreement or other relevant channels.
- Ensure that enabling environment should cover four main criteria, namely: decent work onboard vessels, provision of amenities onboard such as safe drinking water, registration system for migrant workers in order to avoid illegal workforce, and prevention of labor-refusing or accepting cheap labor.
- Develop a regional guideline on decent work in fisheries sector in order to manage both national and migrant workers onboard fishing vessels, which should also include labor standards and practices.

(5) Sub-theme 7.5: Safety at Sea

- Develop appropriate incident reporting and investigation systems for the purpose of improving safety at sea, taking into account the following considerations:
 - Guidelines on accident reporting and analysis currently being developed by FAO;
 - Possible establishment of incentives for fishers, indemnity programs, registration systems for fishing vessels, MCS systems and subsidies to the fishing industry; and
 - Objective of the systems should be appropriate for the size of vessels and types of fishing operations and the facilities onboard.
- Promote the registration of small fishing boats.
- Promote and ensure that safety aspects, including considerations on working conditions and socio-economic development, are incorporated and addressed by concerned authorities while improving the monitoring and control of the status and use of small fishing vessels.
- Strengthen local authorities and local organizations and promote application of safety at sea standards among the coastal communities.
- Promote technical and financial support from authorities, including subsidies, at all levels for issues on safety at sea, including considerations of the working conditions and socio-economic development.
- Identify and promote the basic requirements for safety at sea in the following areas:
 - Research on the design and construction of small fishing boats including the modification of traditional type boats;
 - Safety equipment including fire fighting and life-saving appliances;
 - Regular maintenance and repair of boats, gear and equipment; and
 - Development of regular boat inspection systems.
- Implement training and education programs for all stakeholders including the fishers, family members, boat builders and others, on the basic requirements of:
 - Boat design and construction;
 - Equipment and its correct use (including avoidance of dangerous fishing practices);
 - Search and rescue operations;
 - Occupational health, working conditions and safety awareness; and
 - Awareness of environmental factors.
- Promote awareness among policy makers, central authorities and broader public on the safety hazards faced by people involved in fisheries, in order to:
 - Attract more attention and resources to be allocated to safety at sea aspects;

- Provide knowledge on the working conditions and hardships faced by fishers (which are increasing following the impact of climate change); and
- Raise political will to address safety at sea and strengthening of local organizations.
- Develop and promote the use of appropriate communication systems for:
 - Weather forecasting information; and
 - Search & rescue systems.
- Consider the definition of ‘small fishing boats’ and ‘operational range’ as referred to in the respective rules and laws of individual countries.

2.2.2.8 Sustaining Food Supply from Inland Fisheries

67. The Theme which was coordinated by SEAFDEC Marine Fishery Resources Development and Management Department (MFRDMD) was introduced by *Dr. Masaya Katoh*, Deputy Chief of SEAFDEC/MFRDMD in Malaysia. The Theme covered four Sub-themes, namely: (1) Safeguarding Food Security; (2) Sustainable Development of Inland Fisheries; (3) Towards Sustainable Community-based Management in Inland Fisheries; and (4) Integrating Fisheries with Multiple Inland Water Resources Use.

68. The Keynote Paper on **Integrating Inland Fisheries Management in Southeast Asia Towards 2020: Issues and Perspectives** was presented by *Mr. Xaypladeth Choulamany*, Fisheries Program Coordinator of the Mekong River Commission (MRC) Secretariat in Cambodia. He started by acknowledging a major novelty in the present Conference where a separate panel is dedicated to inland fisheries, which was not the case during the Millennium Conference in 2001. This could be due to certain reasons that included inadequate information on the real magnitude and importance of the inland fishery sector. Although he also recognized that there are still some gaps in terms of information, it is important to discuss this sector considering that its contribution to food security in the ASEAN region has often been undervalued, while the importance of inland fisheries to developing countries in the region in terms of participation and employment of local fishers should be understood. He stressed that management of inland fisheries is necessary in order to achieve sustainable development, this is notwithstanding the rapidly changing situation with regards to the environment and the practice of extracting from it to satisfy people’s needs and secure access to food. He added that one of the most serious threats to inland fisheries is infrastructure development in rivers which impede important migration of fish species leading to transboundary repercussions on the regional fishery resource.

69. The First Sub-theme was introduced by the Chairperson *H.E. Dr. Sam Nuov*, Deputy Director-General of the Fisheries Administration of Cambodia and Vice Secretary-General of the Tonle Sap Authority of Cambodia. This was followed by the presentation of a resource paper on **Safeguarding Food Security** made by *Dr. Maripaz Perez*, Regional Director for Asia and Country Manager for the Philippines, WorldFish Center in Malaysia. Discussion of the issues under the Sub-theme was led by the Panelists, namely: *Mr. Kent G. Hortle*, Chief Technical Advisor of the Mekong River Commission Fisheries Programme in Cambodia; *Mr. Wolf Hartmann*, Independent Consultant on Aquatic Resource Management of the Mekong River Commission in Cambodia; and *Dr. Satoshi Ishikawa*, Visiting Associate Professor of the Research Institute of Humanity and Nature (RIHN) and Associate Professor of Tokai University, Japan.

70. Introduction of the Second Sub-theme was also made by the Chairperson *H.E. Dr. Sam Nuov*, and followed by the presentation of a resource paper on **Sustainable Development of Inland Fisheries** by *Mr. Khin Maung Soe*, Deputy Director of Research and Development Division of the Department of Fisheries of Myanmar. Discussion of the issues under the Sub-theme was led by the Panelists comprising: *Mr. Kent G. Hortle*, *Mr. Wolf Hartmann*, *Dr. Satoshi Ishikawa*, and *Mr. Xaypladeth Choulamany*.

71. The Third Sub-theme was introduced by the Chairperson *Mr. Sommano Phounsavath*, Technical Staff of the Fisheries Division, Department of Livestock and Fisheries, Ministry of Agriculture and Forestry in Lao PDR. This was followed by the presentation of a resource paper **Towards Sustainable Community-based Fisheries Management** by *Mr. Wolf Hartmann*. Discussion of the issues under the Sub-theme was led by the Panelists, namely: *Dr. Maripaz Perez*, *Mr. Khin Maung Soe*, *Dr. Satoshi Ishikawa*, and *Dr. Kuperan Viswanathan*, Professor of the College of Arts and Sciences, Universiti Utara Malaysia in Kedah, Malaysia.

72. The Fourth Sub-theme was also introduced by the Chairperson *Mr. Sommano Phounsavath*, and was followed by the presentation of a resource paper on **Integrating Fisheries with Multiple Inland Water Resource Use** by *Mr. Kent G. Hortle*. Discussion of the issues under the Sub-theme was led by the Panelists comprising: *Dr. Maripaz Perez*, *Mr. Khin Maung Soe*, *Dr. Satoshi Ishikawa*, and *Dr. Suchart Ingthamjit*.

73. The summary of the recommendations under **Theme 8: Sustaining Food Supply from Inland Fisheries** that were raised during the general discussions, includes the following:

(1) Sub-theme 8.1: Safeguarding Food Security

- Identify and align appropriate management strategies for inland fisheries development with national poverty alleviation strategies.
- Sustain and/or modify the collection of more comprehensive information/statistics on inland fisheries, which could include fish consumption data.
- Make concerted efforts to promote consultation among concerned agencies in maintaining the ecological health of water bodies and the connectivity of the habitats.
- Promote alternative livelihood especially during seasonal flooding/drought.
- Ensure and safeguard food supply during off-season by developing post-harvest and processing techniques and ensure that food quality and safety of the fish and fish products are maintained.
- Sustain the investments of government and international donors in fisheries education, research and extension, as well as in infrastructure development.
- Enhance the support of local and national governments in credit and market development especially for small-scale fisheries outputs/products.
- Formulate strategic policy response in order to increase the resilience and sustainability of agriculture and fisheries productivity, improve disaster risk management, enhance social protection schemes, and strengthen community-based development.
- Empower vulnerable groups through human capacity building taking into consideration the role of women and indigenous peoples in sustainable small-scale fisheries development and management.
- Recognize environmental dimensions of food security in regional food security frameworks and facilitate community-based responses to the challenges associated with food insecurities.
- Institute governance arrangements that are transparent and accountable.
- Ensure that management of inland fisheries should cover all activities, which are conducted by local people, including farming and labors.
- Consider management target, which should not only be meant to increase income but also improve livelihoods and match the peoples' interests and hopes.

(2) Sub-theme 8.2: Sustainable Development of Inland Fisheries

- Put emphasis on enhancing awareness of local ecological knowledge, species conservation and the impacts of introducing alien species and aquaculture technology.
- Reactivate and/or develop fisheries extension in order to enhance knowledge-based information and management.
- Conduct regular assessment and evaluation of man-made and harnessed activities, and pollutants from land-based activities that may impact the health of freshwater ecosystem.
- Strengthen the collection, compilation, analysis and dissemination of scientific and statistical data and information in order to increase the visibility of inland fisheries as an economic sector.
- Consider the use of indigenous species in restocking programs to maintain and secure genetic structure of the species in a particular environment, and avoid the introduction of alien species.
- Create alternative employment options to improve livelihoods of the rural poor and users of the fisheries resources thereby enabling effective empowerment of fisheries management to take place.
- Ensure that irrigation systems should not disturb fish reproduction.
- Include the rural and other sectors development in the sustainable development of inland fisheries, *e.g.* civil engineering infrastructure, tourism, industry, and processing.
- Strengthen the collaboration of and/or communication between fishers and researchers in order to obtain the necessary on-site reliable data (*e.g.* from each reproduction unit) to be used in evaluating the situation of stocks.
- Propose alternative jobs for subsistence fishers instead of regulating their activities.
- Ensure that reduction of commercial fishing efforts is acceptable even if the price of fish is increased through market mechanisms and processing technology.
- Pay attention to the fish reproduction aspects, in order to gather information on genetics and population structure of the fishes.
- Integrate inland fisheries development into overall development plans.
- Promote discussions and consultations on the issue of overcapacity and IUU fishing.
- Make use of GIS for classifying habitats and ecosystems, considering that the current estimates tend to be grossly under-estimated.

(3) Sub-theme 8.3: Towards Sustainable Community-based Management in Inland Fisheries

- Establish rights-based approach in inland fisheries as it is a remedy to unsustainable fisheries in inland waters, which should be implemented through fisheries co-management.
- Make sure that governance reforms should aim for downward decentralization.
- Promote the out-scaling (horizontally) and up-scaling (vertically) of community-based fisheries management.
- Consider the shift from “focus on community location to a community focus at all levels”.
- Develop and/or strengthen organizational and institutional linkages with other sectors and their users, *e.g.* by bringing together (or merge) local fishers, forest users and irrigation organizations, in order to make use of synergies, and to economize on villagers’ time for community development purposes.
- Promote the concept of supra-village area approaches to fisheries co-management, such as catchment and basin-wide approaches.
- Align organizational structure with that of overall decentralized rural administration, in order to benefit from funds made available at different levels.
- Promote, in policy development as well as in practice, rights-based approach in fisheries that goes beyond mere access limits, based on development strategies on peoples’ claims to their basic entitlements, such as enough food, decent work, freedom from oppression, and the right to a dignified life.
- Strengthen and make visible the women’s involvement in fisheries co-management.
- Take a more active role in fisheries co-management and effectively strengthen community-based organizations, including financial support (by governments).
- Establish licensing system or registration not only for large-scale fishery but also middle-scale fishery for the sustainable co-management of commercial fishery and fish trade.
- Establish communication line between local people and managers for the promotion of co-management in subsistence inland fishery.
- Develop the capacity of local communities to effectively and efficiently manage the resources.
- Developed and nurture governance structures within the community with assistance from the government and private sector in order that community-based management would succeed and be sustainable.
- Identify and develop resource utilization and marketing strategies to ensure optimum benefits from the resource.
- Enhance capacity building as a first step in implementing community-based management in inland fisheries, especially for women who play the major role in improving livelihood through post-harvest activities.

(4) Sub-theme 8.4: Integrating Fisheries with Multiple Inland Water Resource Use

- Document and disseminate the importance and potential of inland fisheries, and their habitats.
- Promote better understanding of the impacts of other sectors on inland fisheries, and on how to mitigate and manage such impacts.
- Promote the integration of fisheries with water resources and agriculture development activities.
- Expand the scope of the functions of fisheries agencies to include where possible environmental management and increase their inclusion in other agencies outside the fisheries sector.
- Enhance awareness of fisheries issues as well as issues on food production and food safety through the use of various media.
- Increase and sustain funding for inland fisheries integration in accordance with their value and potential (by governments).
- Control rapid industrial development in areas where farming and fisheries support large communities considering that farming and fisheries support many rural people’s lives.
- Develop propagation techniques for indigenous species to support aquaculture development and/or fish stocking programs in order to replace the use of alien species, which can bring about loss of biodiversity, habitat alteration, increased competition, predation, and introduction of diseases.
- Ensure that fish stocking should focus more on the purpose of diversity conservation and production enhancement instead of being associated with ceremonies, particularly for rare species and those that are vulnerable to development projects.
- Strengthen the role of genetic investigation of captive and wild stocks in fisheries management planning, and mitigate the likely impact of dam construction on fisheries development.

- Develop key indicators that focus on establishing the importance of inland fisheries, instead of conducting census which could be time-consuming and the results of which may not be easily accessible.
- Promote understanding of the impact of other sectors on inland fisheries which is very crucial to identifying critical interventions to enhance development.
- Identify the champion who could push inland fisheries issues at every forum.
- Strengthen the capability of fisheries agencies to be able to project themselves and the sector they represent within the broader context of development, climate change debates and poverty alleviation discussions.
- Integrate inland fisheries development in the overall development strategy of the locality, country or region.
- Collect and compile reliable information and more accurate statistics to assess the real status of inland capture fisheries (*i.e.* whether it is declining or developing).

2.2.3 Plenary II: Overview of Sustainable Fisheries for Food Security Towards 2020

74. In order to conclude the discussions and recommendations of the eight panels based on the eight thematic areas, Plenary II was convened and chaired by *Dr. Chumnarn Pongsri*, Secretary-General of SEAFDEC. In his Introductory Statement (**Annex 12**), *Dr. Chumnarn Pongsri* reiterated the two most basic factors that could lead to food insecurity in the future, which are the rapidly growing population and the shifting paradigm in food consumption pattern. While the fisheries sector had been playing the major role in improving the food security situation especially in the ASEAN region, such contribution should be sustained to provide adequate supply of fish for the people of the region. He added that during the just-concluded thematic panel discussions, views and insights were presented on how these concerns could be addressed, while experiences were shared that served as lessons to avoid committing mistake in the future. Through the deliberations, technical recommendations were raised under each important issue, and such recommendations should be mainstreamed in fisheries policies on sustainable development for food security and poverty alleviation, which could be fulfilled through the Resolution and Plan of Action that would be adopted by the Ministers at this Conference. He also stressed that the development of these two instruments had considered the outputs of the series of preparatory processes that included regional and national consultations, as well as the outputs from the Technical Session of this Conference. In conclusion, he asked the SEAFDEC officers in charge of the themes to present the summary of the recommendations raised by the Conference participants during the past two days of deliberations.

75. The Chief of SEAFDEC Aquaculture Department, *Dr. Joebert D. Toledo* summarized the outputs of the panel discussion on sustainable aquaculture development for food security. He reiterated that the challenges and issues could be grouped into four main categories, namely: meeting social and economic challenges in aquaculture; producing and distributing good quality seeds; producing safe aquaculture products with the least environmental impacts; and maintaining environmental integrity and adapting to the impacts of climate change. His presentation appears as **Annex 13**.

76. The Chief of SEAFDEC Marine Fishery Resources Development and Management Department, *Ms. Mahyam Mohd. Isa* presented the outputs of the panel discussion on marine fisheries management (**Annex 14**). She stressed that in order to strengthen the capacity of Member Countries in achieving sustainable fisheries over the next decade, it will be necessary for ASEAN Member Countries to strengthen their fisheries governance mechanisms which should also ensure comparability and compatibility between practices and operations of fisheries.

77. On behalf of SEAFDEC Marine Fisheries Research Department, *Mr. Leonard G. Limpus* presented the outputs of the panel discussion on post-harvest and safety of fish and fisheries products for food security (**Annex 15**). He reiterated that there is a need to improve human resource capabilities and expertise in post-harvest technology through training programs. He added that there is also a need to improve infrastructure by mainstreaming the recommendations in fisheries policies.

78. The Head of the Information and Training Division of SEAFDEC Training Department, *Mr. Bundit Chokesanguan* presented a summary of the recommendations related to Planning and Information, and Regional and International Policy Formulation. His presentation appears as **Annex 16**.

79. The Policy and Program Coordinator of SEAFDEC, *Dr. Somboon Siriraksophon* summarized the key recommendations from the panel discussion on emerging requirements for trade of fish and fishery products (**Annex 17**). He reiterated that emerging issues such as globalization of trade with focus on consumer

protection, requirements for sustainability of fisheries and aquaculture production considering their adverse environmental impacts and the quality of food and food products derived from the fisheries sector, and the effects of climate change, had been increasing. As such, compliance to the quality and safety standards and requirements with consistency has become an obligation to enable the countries to continue trading fish and fish products. Nevertheless, for the ASEAN region, such standards and requirements should be harmonized considering equivalence, including equal application of tariffs in order that the ASEAN countries could continue providing huge quantity of fish and fisheries products in the world market, sustain the competitive position of ASEAN fish and fishery products in world markets, and at the same time provide fish for the security of the people in the region.

80. The outputs of the panel discussion on inland fisheries management was presented by *Mr. Xaypladeth Choulamany*, Fisheries Programme Coordinator of the Mekong River Commission (MRC) Secretariat. He emphasized that inland capture fisheries play a significant role in food security both in urban and rural areas of the ASEAN countries. However, these resources are likely to come under increasing pressure in the future as trade between ASEAN and non-ASEAN countries will become liberalized. Inland fisheries therefore should be paid more attention in view of its role in local food security in the ASEAN countries as well as in sectoral development at the national, sub-regional and regional levels. His presentation appears as **Annex 18**.

81. Renowned experts, namely: *Prof. Dr. Peter Edwards* of the Asian Institute of Technology, *Dr. Simon Funge-Smith* of the FAO Regional Office for Asia and the Pacific, and *Dr. Stephen Hall* of the WorldFish Center were requested to provide comments that would strengthen the afore-mentioned recommendations in order that these could provide the necessary justifications for the formulation and finalization of the Resolution and Plan of Action.

82. In addition to the recommendations from the Technical Panel Sessions, *Prof. Dr. Peter Edwards* specified the most important aspects that need to be addressed for the sustainable development of fisheries for food security. Firstly, successful current practices throughout the aquaculture sectors in the region should be documented and promoted through proper extension programs, however, assessment of the best practices should be undertaken taking into consideration the need to mobilize scientific knowledge through training and extension programs. Secondly, institutions like SEAFDEC should have sufficient technical manpower to disseminate such information appropriate for all types of stakeholders. Thirdly, the possible ways of sustainably integrating fisheries in rice paddy cultivation should be examined as such integrated system could contribute to the food safety of the rural people. He also reiterated the need for small-scale fisheries to maintain its high profile for although small-scale fishers and farmers dominate in the ASEAN region in terms of numbers but in terms of production this may not necessarily hold true. Finally, he stressed on the need for rapid rural transformation by “hanging-in”, “stepping-in”, or “stepping-out” especially in the aquaculture sector, in which case there is a need to conduct more studies on fishery socio-economics to support actions that emanate from these recommendations.

83. While confirming the recommendations from the Technical Panel Sessions, *Dr. Simon Funge-Smith* reiterated on the need to have very clear vision on the national and regional responsibilities as regards fisheries management. Specifically for regional mechanisms, there is a need to understand the transboundary issues that include transfer of diseases, movement of animals, traceability and harmonizing of standards, sharing of information, and managing the diverse approaches of fisheries. He added that there is a need for sharing of resources in the region, especially in terms of the financial aspects. At the national level, the government would need adequate number of human resources in order to be able to respond to the initiatives of the private sector with respect to the issues in sustainable fisheries development. It is therefore necessary for governments to envision their roles in fisheries management and build the capacities of government officers and staff at provincial and local levels.

84. In addition to the recommendations from the Technical Panel Sessions, *Dr. Stephen Hall* reiterated the need to prioritize the huge agenda in order to enhance the contribution of fisheries to food security in the ASEAN region. This process would make it easy for the government sector to frame a clear picture of the outputs from the Conference. He suggested that the highlights could focus on sustainable aquaculture including the need to encourage innovations, link research and technologies, increase production without increasing carbon footprint; climate change and adaptation measures; gender issues which has not been given much attention; social justice and rights through rights-based approach; and inland fisheries. Moreover, he also mentioned the need to make more efforts in mobilizing partnerships between farmers and the private sector.

85. During the general discussion, the following recommendations were also made:
- Consider that all fish and fisheries products should comply with international standards and not only halal and organic fishery products.
 - Consider improving relationship with the Almighty in order to improve relationship with nature and mitigate climate change.
 - Find ways and means of implementing the inter-related recommendations bearing in mind that fisheries is an economic activity.
 - Develop human resources not only in scientific areas but also at the extension level, and ensure that such human resource is committed to fisheries.
 - Ensure that the recommendations are addressed to higher level of authorities in the countries in order to have continuity of effort and support.
 - Develop collaboration among countries to promote sharing of information, among others.
 - Address aggressively the issues on IUU fishing in response to the Code of Conduct for Responsible Fisheries.
 - Prioritize the recommendations which are not specific enough taking into consideration important areas of concerns such as: socio-economics, fair benefit distribution in the production and distribution chain, increased practice of stock enhancement in inland fisheries, and development of mechanism in genetic improvement.
 - Ensure that all stakeholders are involved through awareness campaign on food scarcity not only to consumers but also to business sectors, considering that food security is a very serious challenge.
 - Find ways of minimizing the risks in the aquaculture sector especially that unpredictable weather affects production.
 - Integrate the output of the Conference to the national level policies taking into account the specific socio-economic situation of each country in the region.
 - Bring together political and technical levels, and develop ways and means of accessing food by all stakeholders.

2.2.4 Plenary III: Fisheries Cooperation in the ASEAN Region – Vision of Cooperation in the Region Towards 2020

86. In the discussion of possible future cooperation in fisheries, expressions of support were made for the sustainable development of fisheries in the ASEAN region. On behalf of the Government of Japan, *Mr. Ichiro Nomura*, Advisor to the President of Tokyo University of Marine Science and Technology of Japan presented the status of the fisheries sector in Japan after tsunami in March 2011, where about 40% of fishing vessels were lost and many aquaculture farms and fishing ports were damaged. He also mentioned that Japan had been assisting the fisheries of the ASEAN countries through three channels, such as the Japanese Trust Fund Program, collaborative projects with the Japan International Cooperation Agency (JICA), and research collaboration with Japanese universities. Although the country is currently exerting urgent efforts to restore the damaged fisheries facilities and infrastructures in order to continue supplying fish to the people of Japan, and in spite of such situation, the Government of Japan intends to continue its support to SEAFDEC and the ASEAN countries through the best possible way that it can, particularly in the areas of food security and responsible fisheries for the ASEAN countries. His Statement appears as **Annex 19**.

87. The Executive Director of the ASEAN Foundation, *Dr. Makarim Wibisono* cited that based on the mandate of the Foundation to support the sustainable development of fisheries in the ASEAN region, it has provided funding assistance to seven projects implemented by SEAFDEC as well as provided support for the Conference to enable representatives from the ASEAN countries to take part in the Conference. He added that the ASEAN Foundation, which also aims to attain the vision of a caring and sharing ASEAN Community, envisions that it is essential for agricultural workers, fisherfolks and other stakeholders in the agriculture and fisheries sectors to be provided with the means to participate actively in shaping the future development of the region. He therefore looked forward to cooperating in the implementation of the regional Resolution and Plan of Action for Food Security in the next decade. His Statement appears as **Annex 20**.

88. The Officer for Regional Environment, Science, Technology and Health of the United States-Agency for International Development (US-AID) for Southeast Asia, *Dr. Howell Howard* cited the linkage between the US-AID and the ASEAN especially in the area of climate change, aquaculture and food security. He stressed the importance of developing private-public sectors partnership in attaining food sufficiency and security. He specifically mentioned that the US-AID could also work together with the SEAFDEC and the ASEAN countries in the area of ecosystem approach to fisheries.

89. While recognizing the role of SEAFDEC in the regional coordination in fisheries and aquaculture in the ASEAN region, the Secretary of the Asia-Pacific Fisheries Commission (APFIC) and Senior Fisheries Officer of the FAO Regional Office for Asia and the Pacific, *Dr. Simon Funge-Smith* expressed the intention of FAO to continue its cooperation with SEAFDEC especially with regards to the implementation of the Code of Conduct for Responsible Fisheries in the region. He also reiterated that FAO and SEAFDEC could sustain cooperation for the sustainable development of fisheries in the ASEAN region, in the areas of: trawl fisheries by-catch (through the Global Environment Facility (GEF) project), resource management, managing fishing capacity and combating IUU fishing, human resource capacity building, and sustainable development of small-scale fisheries. He added that the priority areas of cooperation could be in the areas of: Global Record of Fishing Vessels, HRD on climate change, aquaculture development, and improved management of inland fisheries. His Statement appears as **Annex 21**.

90. The Director-General of the WorldFish Center, *Dr. Stephen J. Hall* thanked the organizers for giving the WorldFish Center the opportunity to launch its Report on **Blue Frontiers: Managing the Environmental Costs of Aquaculture**, during the Conference. He indicated the possible cooperation in fisheries development in the ASEAN region, which could be in the areas of improved livelihoods, large-scale sustainable fish production, policy development, aquaculture development, climate change and building resilience, inland fisheries, gender issues, and research within the development context. His Statement appears as **Annex 22**.

91. The Fisheries Programme Coordinator of the MRC Secretariat, *Mr. Xaypladeth Choulamany* cited that with the participation of four SEAFDEC Member Countries in the Fisheries Programme of MRC, *i.e.* Thailand, Lao PDR, Cambodia, and Vietnam, research and development has been promoted in the area of rice-fish culture, rural aquaculture and inland capture fisheries. He suggested that the areas of future cooperation between MRC and SEAFDEC for the sustainable development of fisheries in the ASEAN region, could be in: gender and fisheries development, inland fisheries development and “land use”, nutrition and livelihood for rural people, inland fisheries management, impact of infrastructure development on fisheries, small-scale inland fisheries development for poverty alleviation, co-management in inland fisheries, and aquaculture of indigenous Mekong River fish species. His Statement appears as **Annex 23**.

92. The Chief Technical Advisor of the Bay of Bengal Large Marine Ecosystem (BOBLME) Project, *Dr. Rudolf Hermes* reiterated that the BOBLME Project includes four ASEAN Member Countries, namely: Indonesia, Malaysia, Thailand, and Myanmar, which collaborates with the South Asian countries in the BOBLME Project, namely: India, Bangladesh, Sri Lanka and Maldives. He mentioned that cooperation with SEAFDEC and the ASEAN countries could be sustained in the areas of fisheries including pollution and habitats; resource management, ecosystem approach to fisheries; management of Hilsa, sharks, and Indian mackerel; joint Myanmar-Thailand project to manage the fisheries in Myiek Archipelago; ecosystem services; fisheries statistics; climate change; NPOA sharks; and sub-regional cooperation in the Andaman Sea. His Statement appears as **Annex 24**.

93. The Coordinator of the Aquaculture and Aquatic Resources Management of the Asian Institute of Technology (AIT), *Dr. Wenresti Gallardo* cited that in line with the thrust of SEAFDEC to intensify the development of human resources in the ASEAN region, AIT could collaborate in the aspects of education, research and outreach with relevant institutions to develop human resources for fisheries and aquaculture in Asia and beyond. His Statement appears as **Annex 25**.

94. In summary, the Chairperson of Plenary III *Mr. Suriyan Vichitlekarn*, Assistant Director and Head of Agriculture Industries and Natural Resources Division of the ASEAN Secretariat, stressed that human resource development and community-based approach is essential to ensure food security. It is therefore necessary that every organization and country in the ASEAN region should guarantee that human resource development activities are promoted considering their importance to food security. He added that since the future of fisheries goes beyond fish production, it is necessary to also assess the resilience and capacity of fishers and fish farmers, and promote resource mobilization. Considering the wide-ranging recommendations that came out from the Technical Panel Sessions of the Conference he reiterated the need to prioritize the issues based on their “doability” taking into consideration the available financial resources. He reiterated that the areas of collaboration could focus in the aspects of: partnerships with various stakeholders (private-public partnership), linkage – national, regional and sub-regional levels, academic research network – link into policy making and intervention as well as cooperation, and multi-sectoral initiatives. He also suggested the possibility of using the ASEAN processes to foster cooperation and technical link between policy and political levels.

95. In closing the Technical Session of the Conference, the Secretary-General of SEAFDEC, *Dr. Chumnarn Pongsri* thanked the resource persons and participants for their inputs and contribution to the Conference, as well as the ASEAN Secretariat as co-organizer and the donors for providing financial assistance to the Conference. As the preparation of the Conference took more than two years since 2008, going through several regional and national technical consultations and processes, he also expressed the appreciation to all those who had been involved during the processes, commending their valuable efforts and inputs which have greatly contributed to the success of the Conference. Considering the challenges and visions of sustainable fisheries for food security in the ASEAN region that had been broached during the Plenary I of the Conference, and keeping sight on the visions over the next decade, the Technical Panel Sessions comprising eight thematic areas came up with recommendations for the governments of the ASEAN countries to prioritize and support their implementation. In this regard, he also acknowledged with deepest gratitude the support extended to SEAFDEC by the collaborating organizations and partners and especially the collaborative spirit that was demonstrated during the Conference, which needs to be expanded and strengthened in the future. His Closing Statement appears as **Annex 26**.

2.3 Senior Officials Session

96. Organized by the ASEAN Secretariat in collaboration with SEAFDEC and hosted by the Department of Fisheries of Thailand, the Senior Officials Session for the ASEAN-SEAFDEC Conference on Sustainable Fisheries for Food Security Towards 2020 "Fish for the People 2020: Adaptation to a Changing Environment" was held on 16 June 2011 in Bangkok, Thailand. Comprising the Senior Officials Plus Three and the Senior Officials Meetings, the Session was attended by the Senior Officials responsible for fisheries of the ASEAN-SEAFDEC Member Countries, representatives from the Plus Three countries, namely: Japan, the People's Republic of China and the Republic of Korea as well as representatives from the ASEAN Secretariat and SEAFDEC. The List of Participants of the Senior Officials Session appears as **Annex 27**.

2.3.1 Meeting of the ASEAN-SEAFDEC Senior Officials Plus Three

97. The Senior Officials (FSOM) Plus Three Meeting for the ASEAN-SEAFDEC Conference was held on 16 June 2011. The Summary Record of the FSOM Plus Three Meeting appears as **Annex 28**. At the onset, the Secretary-General of SEAFDEC, *Dr. Chumnarn Pongsri* presented the report of the Technical Session of the Conference. He emphasized that the summary of the recommendations raised during the Technical Session has been dovetailed towards addressing the emerging issues that tend to impede the sustainable development of fisheries in the ASEAN region. His Report of the Outputs from the Technical Session appears as **Annex 29**.

98. The representative from Japan during the FSOM Plus Three, *Mr. Akira Inoue*, Director-General, Resource Management Department of the Fisheries Agency of Japan, expressed his appreciation for the opportunity in exchanging opinions with representatives of the ASEAN countries as well as with the People's Republic of China and the Republic of Korea. While Japan has been conducting collaborative projects aimed at developing the fisheries of Southeast Asia, it considers such projects as movers in the sustainable development of fisheries in the ASEAN region. Therefore, Japan would continue to cooperate with SEAFDEC and the ASEAN countries especially in terms of the sustainable utilization of fishery resources based on scientific data. His Statement appears as **Annex 30**.

99. The ASEAN Plus Three Cooperation Strategy (APTCS) on Food, Agriculture and Forestry for 2011-2015, which had been endorsed at the 10th AMAF Plus Three in October 2010, aims to ensure long-term food security and livelihoods in the ASEAN and Plus Three Countries. Since fisheries had always been considered an important sector, the Meeting adopted the APTCS in Fisheries to enhance the overall ASEAN Plus Three relationship and support in fisheries cooperation in order to bring the whole profile of this sector into a new level to ensure sustainable development and attain the Millennium Development Goals (MDGs). The Meeting also agreed to support the Resolution and Plan of Action on Sustainable Fisheries for Food Security for the ASEAN Region Towards 2020 which will be further submitted for consideration by the Senior Officials Meeting and the Ministerial Meeting, respectively. The summary of the ASEAN Plus Three Cooperation in Fisheries: Overview and Prospect appears as **Annex 31**.

100. On behalf of the Government of Thailand, the Deputy Director-General of the Department of Fisheries of Thailand, *Dr. Nanthiya Unprasert* summarized the major areas where cooperation of the Plus Three Countries with the ASEAN region could be focused on, considering their expertise and experience in these major areas. She specified that Japan and the Republic of Korea could assist the ASEAN countries in artificial reefs management, *e.g.* design, construction, installation; China, Japan and the Republic of Korea could play active role in supporting the activities in the ASEAN region towards mitigating the impacts of climate change

in fisheries and aquaculture; and technical cooperation between China, Japan and the Republic of Korea, and the ASEAN countries could be established and/or strengthened in offshore aquaculture as this has great potentials for aquaculture development in the ASEAN region. Lastly, she thanked the Meeting of the ASEAN-SEAFDEC Senior Officials Plus Three for their support to the draft Plan of Action. Her Statement appears as **Annex 32**.

2.3.2 Meeting of the ASEAN-SEAFDEC Senior Officials

101. The Senior Officials Meeting (FSOM) for the ASEAN-SEAFDEC Conference was held on 16 June 2011 to review the matters relevant to the ASEAN-SEAFDEC Conference that require the attention of the Ministers, including the series of preparatory events, side events and the outputs of the Technical Session which could provide important regional basis for and reference by the ASEAN countries in promoting collaboration with SEAFDEC and other international and regional organizations in the sustainable development of fisheries for food security in the region. The FSOM also noted the support expressed by the Plus Three countries including the possible areas of cooperation under the AMAF Plus Three arrangement. Summary Record of the FSOM appears as **Annex 33**.

102. After thoroughly reviewing the draft Plan of Action, the FSOM endorsed the “Plan of Action on Sustainable Fisheries for Food Security for the ASEAN Region Towards 2020” (**Annex 34**). In addition, the FSOM also reviewed and supported the ASEAN Programme Concept Note on Sustainable Fisheries for Food Security: 2011-2015 (**Annex 35**) to support the future implementation of the Plan of Action.

103. Moreover, the FSOM supported the draft Resolution to be further considered and adopted by the ASEAN-SEAFDEC Ministers as a common regional policy framework, which would support the implementation of the Plan of Action. The FSOM also acknowledged the support of the Plus Three Countries through the Meeting of the ASEAN-SEAFDEC Senior Officials Plus Three for their support to the Plan of Action, as well as for their expression of support in the potential areas of cooperation under the AMAF Plus Three arrangement. The Report of the Chairman of the Senior Officials Meeting appears as **Annex 36**.

2.4 Ministerial Session

104. The Ministerial Meeting for the ASEAN-SEAFDEC Conference on Sustainable Fisheries for Food Security Towards 2020 “Fish for the People 2020: Adaptation to a Changing Environment” was held in Bangkok on 17 June 2011 under the chairmanship of *H.E. Mr. Theera Wongsamut*, Minister of Agriculture and Cooperatives, Thailand. The Ministerial Meeting of the Conference was also organized by the ASEAN Secretariat and hosted by the Government of Thailand through the Department of Fisheries of Thailand in collaboration with SEAFDEC. The Opening Ceremony of the Ministerial Meeting was presided over by the Deputy Prime Minister of Thailand, *H.E. Mr. Trairong Suwankiri*, on behalf of the Prime Minister of Thailand *H.E. Mr. Abhisit Vejjajiva*. Summary Record of the Ministerial Meeting appears as **Annex 37**; while the List of Participants of the Ministerial Meeting appears as **Annex 38**.

105. While welcoming the Distinguished Ministers and Delegates from the SEAFDEC-ASEAN countries, the Minister of Agriculture and Cooperatives of Thailand, *H.E. Mr. Theera Wongsamut* recalled that about ten years ago, the Resolution and Plan of Action on Sustainable Fisheries for Food Security for the ASEAN Region was adopted in November 2001. Since then such instruments had been used by the ASEAN countries as policy framework and guiding principles in the development of our respective fisheries. In spite of such efforts however, emerging issues have become great global concerns. He therefore advocated the need to strengthen collaboration among the ASEAN countries in order to shape the regional direction for revitalizing the promotion of sustainable fisheries for food security in the ASEAN region. He added that such cooperation could be demonstrated through the governments’ unified effort of considering the new decade Resolution and Plan of Action, which could strengthen the countries’ performance in the sustainable development of their respective fisheries sector. His Welcome Remarks appears as **Annex 39**.

106. In his Opening Remarks (**Annex 40**), the Deputy Prime Minister of Thailand, *H.E. Mr. Trairong Suwankiri* called on the ASEAN Ministers and Senior Officials at the Ministerial Session to ensure that the new policy framework would guide the ASEAN countries in implementing priorities for achieving sustainable fisheries in line with the ASEAN Integrated Food Security Framework adopted by the ASEAN Leaders during the 14th ASEAN Summit in 2009. Considering also that in the succeeding 15th Summit the ASEAN Leaders supported the establishment of a fully integrated ASEAN Community by 2015 characterized by Community of Action, Community of Connectivity, and Community of Peoples, he expressed the hope that the adoption by the Ministers of the revitalized Resolution and Plan of Action on Sustainable Fisheries for Food Security for

the ASEAN Region Towards 2020, and the subsequent implementation of such instruments by the countries in the region would demonstrate the clear evidence that the countries also embrace the principles agreed upon by the ASEAN Leaders which are envisioned towards the realization of an integrated the ASEAN Community. After thanking the Ministers, Senior Officials and their Delegations for lending their time and support to the very significant forum of the ASEAN region, he declared the Ministerial Meeting of the ASEAN-SEAFDEC Conference open.

107. While recognizing the importance of the fisheries sector in the ASEAN region and the role it plays in building the ASEAN Community, and having considered the conclusions and technical recommendations developed through a series of national and regional preparatory processes for the Conference, public-private sector dialogues, Technical Session of the Conference, and Senior Officials Meetings, the Ministers adopted the "Resolution on Sustainable Fisheries for Food Security for the ASEAN Region Towards 2020" (**Annex 41**) on 17 June 2011. The Resolution will be implemented through individual and collective efforts among ASEAN-SEAFDEC Member States, in order to promote sustainable fisheries for food security in the region. The Ministers also welcomed the endorsement of the Plan of Action on Sustainable Fisheries for Food Security for the ASEAN Region Towards 2020 during the Senior Officials Meeting on 16 June 2011 that will support of the implementation of the Resolution. The Plan of Action will serve as a framework for formulating and implementing programs, projects and activities through appropriate mechanisms at both the national and regional levels, including increased regional cooperation through the ASEAN-SEAFDEC mechanism.

108. The Chairman of the Ministerial Session then welcomed and sought the support from the ASEAN-SEAFDEC countries in the promotion of the Resolution and Plan of Action on Sustainable Fisheries for Food Security for the ASEAN Region Towards 2020. In response, the Ministers and Senior Officials provided their expressions of support for the promotion of sustainable fisheries for food security in the ASEAN region.

109. The Minister of Industry and Primary Resources of Brunei Darussalam, *H.E. Pehin Dató Yahya* thanked the organizers of the Conference especially the host country, the Government of Thailand. He mentioned the progress made by Brunei Darussalam with respect to the sustainable development of fisheries and aquaculture. While recognizing the need to give more attention to inland fisheries development for food security of the rural people in the ASEAN region, he supported the proposal of Indonesia to establish a regional center for inland fisheries development. He expressed the intention of Brunei Darussalam in collaborating and cooperating with neighboring countries as well as with regional and international organizations for the development of sustainable fisheries for food security. His Statement appears as **Annex 42**.

110. The Minister of Marine Affairs and Fisheries of Indonesia, *H.E. Dr. Fadel Muhammad* while expressing his appreciation to all who had been involved in the preparatory processes of the Conference, acknowledged that the issues addressed in the Resolution and Plan of Action are crucial for the sustainable development of fisheries in the region. He acknowledged the efforts of the countries to combat IUU fishing in the region as spelled out in the Resolution and Plan of Action. While stressing that inland fisheries play a very significant role in attaining food security of the region, he suggested that a regional center for inland fisheries development could be established in Indonesia as part of the SEAFDEC organization. His Statement appears as **Annex 43**.

111. On behalf of the Government of Japan, *H.E. Mr. Seiji Kojima*, the Ambassador Extraordinary and Plenipotentiary of Japan to the Kingdom of Thailand, expressed the gratitude of his country for the generous support and kind expression of solidarity extended by the ASEAN Member Countries in the wake of the earthquake and tsunami that struck Japan in March 2011. He reiterated that as expressed by the Prime Minister of Japan during the G8 Summit in May 2011, the country is determined to overcome the challenges including the impacts of the nuclear accident. He also expressed his country's appreciation to the efforts of the ASEAN Member Countries in promoting sustainable development of fisheries in the region and ensured the ASEAN countries of the continued support of Japan to such efforts. His Statement appears as **Annex 44**.

112. The Vice Minister of Agriculture and Forestry of Lao PDR, *H.E. Dr. Ty Phommasack* while recognizing the Conference as an important step towards promoting awareness on sustainable fisheries to enhance participation and solidarity among the ASEAN Member Countries, cited that his country has been actively participating in the implementation of several projects in the areas of utilization of water resources. He also mentioned that his country has promoted related initiatives in land-locked Lao PDR, especially in harmonizing international and regional efforts. His Statement appears as **Annex 45**.

113. The Minister of Agriculture and Agro-Based Industry of Malaysia, *H.E. Noh Bin Omar* recognized the timely adoption of the Resolution and Plan of Action considering the global challenges in fisheries brought

about by the changing environment and emerging issues in fisheries. He also expressed his country's support to the effective implementation of the Resolution and Plan of Action with renewed commitment of sharing the responsibility of the implementation of such instruments. He encouraged SEAFDEC and the ASEAN to enhance their collaboration in devising the appropriate mechanism for the speedy implementation of the Resolution and Plan of Action. His Statement appears as **Annex 46**.

114. The Deputy Minister of Livestock and Fisheries of Myanmar, *H.E. Mr. Khin Maung Aye* thanked Thailand for hosting the ASEAN-SEAFDEC Conference and acknowledged the initiatives of the ASEAN and SEAFDEC for the timely organization of the Conference. From the common issues that could impact on the sustainable development of fisheries in the ASEAN region, he stressed that the most important issue which his country considers with much urgency is the issue relating to Disaster Risk Reduction. This is considering the fact that the changing climatic conditions bring about vivid impacts on the small-scale coastal fisheries sub-sector which is the majority in the ASEAN region. He cited a case after the 2008 Cyclone Nargis in Myanmar where many small-scale fishers lost their fishing boats devastating their whole livelihoods. In this regard, he suggested that there is a need to enhance the capability of the fishers through the conduct of training programs on safety at sea as well as promote the use of identification (ID) system for the fishers from the ASEAN countries. With that note, he expressed the willingness of his country to work hand-in-hand with the other ASEAN countries for the realization of the objectives put forth in the Resolution and Plan of Action. His Statement appears as **Annex 47**.

115. On behalf of the Government of the Philippines, the Ambassador Extraordinary and Plenipotentiary of Republic of Philippines to the Kingdom of Thailand *H.E. Ms. Linglingay F. Lacanlale* thanked SEAFDEC and the ASEAN for co-organizing the Conference, and the other organizations that have been involved in the preparation of this Conference for making this Conference a successful one. While expressing support for the adoption of the Resolution and Plan of Action, she acknowledged that such instruments could address the current and emerging challenges faced by the fisheries sector in this decade. She stated that the Philippine Government in its policy on fisheries is committed to give full attention in the continuing decline of its fisheries production which is attributed to resources destruction brought about by over-fishing and destructive fishing methods, as well as pursue sound aquaculture and marine capture practices in response to the provisions spelled out in the Code of Conduct for Responsible Fisheries. She added that the Philippine Government also notes the importance of protecting important common migratory fisheries and marine resources such as tuna, skipjack, marine turtles, and whales. She suggested that this is one area where regional collaboration could be further strengthened, and in this regard, the Philippine Government welcomes the proposal of Indonesia to host the Conference on the IUU Fishing at the end of 2011 for the sustainable utilization of country's marine resources. Her Statement appears as **Annex 48**.

116. The Senior Parliamentary Secretary for National Development of Singapore *H.E. Dr. Mohamad Maliki Bin Osman* commended SEAFDEC and the ASEAN for taking proactive steps to organize the Conference. While recognizing the need to promote the sustainability of fisheries in the ASEAN region, he expressed his country's continued support in the area of aquaculture development and fisheries post-harvest technology as means of enhancing the contribution of fisheries to food security in the ASEAN region. His Statement appears as **Annex 49**.

117. The Minister of Agriculture and Cooperatives of Thailand *H.E. Mr. Theera Wongsamut* expressed the appreciation of the Government of Thailand to the other ASEAN countries for their cooperation in providing inputs that went into the preparation of the Resolution and Plan of Action on Sustainable Fisheries for Food Security Towards 2020. He also acknowledged the significant role that these instruments could play for the development of sustainable fisheries for food security and food supply of the people in the region. His Statement appears as **Annex 50**.

118. Deputy Director-General of Fisheries Administration of the Ministry of Agriculture and Rural Development of Vietnam, *H.E. Dr. Chu Tien Vinh* thanked the organizers of the Conference and especially the host country Thailand. He recognized the urgent need to develop fisheries sustainably under the context of changing environment and promote cooperation among the countries in the region to ensure that fisheries development will continuously contribute to the improvement of socio-benefits, food security, economic environment, and livelihoods of the communities in the region. On the part of Vietnam, the country has strongly paid attention to the sustainability of its marine resource by conducting various national programs and activities for this purpose. Considering that sustainable development is a multi-targeted matter, he called for the strong cooperation and unified support among the countries in the ASEAN region especially in addressing emerging issues and in developing a collaborative mechanism in transferring and sharing of information. His Statement appears as **Annex 51**.

119. The ASEAN-SEAFDEC Ministers and Representatives at the Ministerial Meeting expressed their commitment of support to the implementation of the Resolution and Plan of Action in the ASEAN region. The ASEAN-SEAFDEC Ministers then adopted the Joint Statement, which appears as **Annex 52**.

120. Representatives from FAO, Private Sector, and Civil Society Organization also expressed their statement of support and cooperation for the sustainable development of fisheries in the ASEAN region. The Assistant Director-General of the Food and Agriculture Organization of the United Nations (FAO), the Regional Office for Asia and the Pacific, *Mr. Hiroyuki Konuma* congratulated the ASEAN Ministers for adopting the Resolution and Plan of Action on Sustainable Fisheries for Food Security for the ASEAN Region towards 2020, and for recognizing the role of SEAFDEC as a regional advisory and capacity building body in the development of the fisheries and aquaculture sectors in Southeast Asia. FAO commended the efforts of SEAFDEC and the ASEAN in cooperating closely to meet the challenges faced by fishery and aquaculture sectors of the region. While FAO works closely with regional bodies and economic cooperation arrangements in the ASEAN region, it welcomes the commitment of the ASEAN Member Countries to the promotion of the newly adopted Resolution and Plan of Action as their guide towards the sustainable development of fisheries in their respective fisheries sector. He reiterated that the significant challenges to sustaining the supply of fish and fishery products from the ASEAN region could be addressed through the implementation of the Code of Conduct for Responsible Fisheries. While welcoming the adoption of the “Resolution and Plan of Action on Sustainable Fisheries for Food Security for the ASEAN Region Towards 2020” and on behalf of FAO, he offered the continued cooperation of FAO to both the ASEAN and SEAFDEC to facilitate the implementation of the Resolution and Plan of Action, and to assist in mobilizing the resources needed, particularly those that concern the implementation of the Code of Conduct for Responsible Fisheries. His Statement appears as **Annex 53**.

121. The Vice President of Vietnam Association of Seafood Exporters and Producers (VASEP), *Dr. Nguyen Huu Dung* in his capacity as the Chairman of ASEAN Seafood Federation (ASF), explained that the ASF was established by joining the leading national seafood producers and exporters’ associations of the ASEAN countries with the objectives of improving cooperation among regional seafood processors and exporters especially in exchanging views on matters of mutual interest and giving its members access to improved technologies, food safety assurance systems, environmental and social responsibility, and marketing. While acknowledging the key issues and challenges posed to the fisheries and aquaculture sector, the ASF also recognized the need for all seafood associations in the seafood sector to work together to step-by-step ensuring sustainable development of fisheries and aquaculture in the ASEAN region. His Statement appears as **Annex 54**.

122. The Executive Director of Tambuyog Development, *Mr. Arsenio Tanchuling* in his capacity as the Coordinator of SEAFish for Justice, considers it ironic to perceive that despite the huge contribution and value of fisheries in the region, about 17 million small-scale fishers with more than a hundred million dependents still live in poverty and confronted with an even worsening social, environmental and economic conditions. He put forth common issues and offered solutions to address such issues. The issues include trade liberalization of fishery products resulting in overfishing and degradation of fishery resources; massive and uncontrolled expansion of aquaculture causing negative environmental and social impacts in coastal communities; increased warming of sea surface temperature and more extreme weather events greatly damaging the coastal ecosystems and displacement of fishing communities; mega-infrastructure projects in coastal waters affecting small fishers and their families’ livelihood and income, and denying them access to fishing areas; Illegal, Unreported and Unregulated (IUU) Fishing, in both national fishing territories and borders in the shared water bodies contributing to further depletion of fishery resources; unclear territorial boundaries and the overlapping territorial claims among ASEAN Member Countries leading to unjustified arrests of small-scale fishers; and the alarming situation of trafficking of persons forcing many workers work illegally in fishing boats. He therefore expressed the hope that the ASEAN and SEAFDEC would seriously consider the proposed means of addressing such issues to be incorporated as part of the regional Resolution and Plan of Action on Sustainable Fisheries for Food Security for the ASEAN Region Towards 2020. His Statement appears as **Annex 55**.

123. On behalf of the co-organizers of the ASEAN-SEAFDEC Conference, the Secretary-General of SEAFDEC, *Dr. Chumnarn Pongsri* thanked the ASEAN-SEAFDEC Ministers and Senior Officials for their confidence in SEAFDEC in playing the leading role in promoting the sustainable development of fisheries for food security in the ASEAN region. Nevertheless, in spite of utmost efforts placed in the fisheries sector, it remained a rather small sector compared with other food production and development sectors, which is due to the characteristics of fisheries in the region as multi-species, and undertaken mostly by small-scale fishers. Considering the significant contribution of fisheries to food security, he encouraged the policy makers to

recognize the importance of fisheries and provide the necessary support to ensure the sustainability of the sector. He added that while the Resolution and Plan of Action provide policy and direction in channeling the future undertakings of fisheries development in the region, human resources development should be considered a priority area as this could ensure the availability of capable and knowledgeable people providing insights in optimizing the utilization of fishery resources, maximizing the benefits for all stakeholders, and ensuring the long-term sustainability of fisheries of our region. Moreover, he indicated that many of these aspects could be undertaken by SEAFDEC, only if the Member Countries sustain their commitment of support and clear guidance as well as their expression of ownership to enable SEAFDEC to sail towards the direction of sustainability. His Statement appears as **Annex 56**.

III. SIDE EVENTS

124. Side events were also conducted during the Conference. These included the Technical Exhibition, Display of the Best Drawings, Side Meetings, and Excursion Programs for interested participants and their accompanying guests.

3.1 Technical Exhibition

125. The SEAFDEC Member Countries, namely: Brunei Darussalam, Cambodia, Indonesia, Japan, Lao PDR, Malaysia, Myanmar, Philippines, Singapore, Thailand, and Vietnam hand-in-hand participated in the Technical Exhibition to showcase their respective activities and achievements towards enhancing the contribution of fisheries to food security and poverty alleviation. The countries also reflected through their exhibits, their efforts in the implementation of the Code of Conduct for Responsible Fisheries as well as in addressing the emerging issues that impede the sustainable development of fisheries. SEAFDEC also had a booth which displayed its achievements and activities implemented by the four Technical Departments, namely: Training Department in Thailand, Marine Fisheries Research Department in Singapore, Aquaculture Department in the Philippines, and Marine Fishery Resources Development and Management Department in Malaysia, as well as those implemented by the SEAFDEC Secretariat. Specifically the information displayed in the SEAFDEC booth included those in the areas of fisheries management (marine and inland), aquaculture development, fisheries post-harvest and trade, and fisheries information and statistics.

3.2 Display of Best Drawings

126. As part of the Conference, Children's Drawing Contests were held by the SEAFDEC Member Countries from June 2010 until April 2011. The selected best drawings from each Member Country were displayed during the Conference (**Annex 57**). The theme of the Children's Drawing Contest focused on Fisheries for Food Security: Adaptation to a Changing Environment. The participants of the Contest were school children 15 years old and below. The judges for the best four drawings were picked by the respective Member Countries. The main objective of the Children's Drawing Contest is to instill upon the children the need to conserve the fishery resources for this and future generations considering the current deteriorating state of the resources as well as the impact of the changing environment. Through the Drawing Contest, it is envisaged that the children would also be able to enhance their resilience to adapt to climate change. With the ultimate goal of gaining a multiplier effect, the Drawing Contest targets the school children for their capacity and ability to discuss the topic and related issues with their classmates, playmates, peers as well as members of their families including their parents.

3.3 Side Meetings

127. Several side meetings were conducted by a number of organizations in conjunction with the conduct of the Technical Session of the Conference as shown in **Box 2**.

Box 2. Side Meetings convened in conjunction with the Technical Session of the Conference

Organization(s)	Event	Date/Time
WorldFish Center (Malaysia)	Global Food Production and Aquaculture including the launching of the Report on Blue Frontiers: Managing the Environmental Costs of Aquaculture	14 June 2011 1800-1900 hrs
Marine Institute (MI) of the Memorial University of Newfoundland (Canada)	International Cooperation on Sustainable Fisheries for Food Security - a practical value chain approach	14 June 2011 1630-1700 hrs
Tokai University (Japan)	Area Capability Approach for Harmonizing Ecosystem Health and Rural Development	14 June 2011 1700-1730 hrs
European Commission and the SEA-EU-NET Project	European Union Research Funding Opportunities in Fisheries and Aquaculture: FP7 Information and Matchmaking Session	14 June 2011 1740-2000 hrs
ASEAN-US Technical Assistance and Training Facility (AU-TATF)	Private Sector Roles on Sustainable Fisheries for Food Security	15 June 2011 1730-1900 hrs
FAO, Italy	Small-scale Fisheries Guidelines Development Process	15 June 2011 1730-1900 hrs
Hokkaido University, Japan	Future Collaboration with Hokkaido University (for SEAFDEC staff only)	15 June 2011 1730-1900 hrs

3.4 Excursion Programs

128. Post-Conference Excursion Programs were also arranged for interested participants and their accompanying guests for a minimal fee as shown in **Box 3**.

Box 3. Post-Conference Study Tour Programs

Date	Destination and Program	Fee	Number and Origin of Guests
16 June 2011	Pomprachul, Samut Prakan Province (<i>half-day</i>) (observe traditional shrimp processing, mangrove forests, and eco-friendly shrimp farming)	USD 80.00 to cover transportation cost, expenses for visiting places of interest, snacks, and dinner	9 persons USA - 3, Malaysia - 2, Maldives - 3, UK - 1
16 June 2011	Ayuthaya Floating Market, Ayutthaya Province (<i>half-day</i>) (sightseeing/shopping and watch Thai traditional shows)	USD 80.00 to cover transportation cost, expenses for visiting places of interest, snacks, and dinner	6 persons Philippines – 3, Japan - 3
17 June 2011	Phetchaburi Province (<i>one-day</i>) (observe small-scale traditional fishing in the mouth of Bang Taboon River, and activities in One Tambon, One Product or OTOP)	USD 120.00 to cover transportation cost, expenses for visiting places of interest, snacks, and lunch	9 persons Philippines - 3, USA – 2, Japan - 4
17 June 2011	Ratchaburi Province (<i>one-day</i>) (observe Damnoen Saduak Floating Market, “Phra Pathom Chedi” (biggest Pagoda in Thailand), and watch Thai cultural shows and elephant demonstration)	USD 120.00 to cover transportation cost, expenses for visiting places of interest, snacks, and lunch	5 persons all from Myanmar

IV. EVALUATION OF THE CONFERENCE

129. Participants in the Technical Session were asked to evaluate the organization of the Conference through an Evaluation Form which appears as **Annex 58**. Through the Evaluation Form, the participants were asked to provide feedback by rating the various aspects of the Form, such as their Overall Evaluation of the Conference, the Technical Session, as well as the Social and Side Events.

130. Out of the 236 participants who returned their evaluation forms to the Conference Secretariat (**Table 1**), about 17% came from Thailand while 11% were from Malaysia, 10% came from Vietnam and another 10% from Myanmar. All SEAFDEC-ASEAN countries were well represented during the Conference. Moreover, most of the participants came from the government agencies (64%), while 14% were from international and regional organizations, 7% from the academe and 5% from the private sector (**Table 2**).

131. Regarding the overall evaluation (**Table 3**), the participants indicated satisfaction with the Conference venue, meeting rooms and facilities (44%); food and beverage (41%); and documents and materials (41%). The participants were very satisfied with the services of the Conference secretariat staff (39%) but were moderately satisfied with the amount of registration fee (33%). The participants were also asked to indicate which among five aspects of the Conference they like most. The result indicated that they liked most the Technical Session, speakers and discussions (**Table 4**). On the whole, about 48% of the participants expressed that they were very satisfied with the Conference while about 37% were moderately satisfied. With respect to the Social and Side Events, the Exhibition was rated very good (52%) as well as the Post-Conference Excursion (45%). The participants also indicated that the Conference was well managed and arranged. The Summary of the Outputs of the Conference Evaluation is shown as **Annex 59**.

Table 1. Countries of Origin of the participants

Country	No. of respondents	%	Country	No. of respondents	%
Bangladesh	1	0.4	Myanmar	22	9.3
Brunei Darussalam	9	3.8	Philippines	19	8.1
Cambodia	17	7.2	Scotland	1	0.4
Canada	1	0.4	Singapore	8	3.4
China	1	0.4	Sweden	1	0.4
Germany	1	0.4	Thailand	41	17.4
India	1	0.4	USA	1	0.4
Indonesia	20	8.5	Vietnam	23	9.8
Italy	1	0.4	U.K. and other countries not specified	10	4.2
Japan	11	4.7			
Lao PDR	17	7.2			
Malaysia	27	11.4			
Maldives	3	1.3			
			Total	236	100.0

Table 2. Type of organization represented by the participants

Type of your organization	No. of respondents	%
Governmental agencies	152	64.4
Private sector	12	5.1
Academic institutions	17	7.2
NGOs	8	3.4
International/regional organizations	34	14.4
Donor agencies	2	0.8
Not specified	11	4.7
Total	236	100

Table 3. Overall evaluation of the Conference

Overall Evaluation	Rating (%)					
	1	2	3	4	5	NA
Amount of registration fee	1.3	7.2	32.6	28.0	14.8	16.1
Pre-conference on-line registration and payment	1.7	3.8	19.1	39.0	25.0	11.4
On-the-spot registration processes	0.8	3.8	19.1	39.8	21.2	15.3
Conference location/venue, meeting rooms and facilities	2.5	4.7	16.5	44.1	24.1	8.1
Transportation between your hotel and Conference venue	0.4	13.1	24.2	29.2	17.4	15.7
Documents and materials	0.4	4.7	24.1	40.7	23.3	6.8
Food and beverage	1.3	3.4	19.5	41.1	28.4	6.3
Conference secretariat staff and their services	0.8	2.5	15.3	33.1	39.0	9.3

Level of satisfaction of Conference: 1=Very unsatisfied; 2=Unsatisfied; 3=Moderate; 4=Satisfied; 5=Very satisfied

Table 4. Participants' rating on five aspects of the Conference that they liked most

Aspects of the Conference	%
1. Technical Session, Speaker and discussion	55.6
2. Conference Arrangements and Facilities	16.1
3. Networking opportunity	12.1
4. Information and knowledge sharing	9.7
5. Exhibition	6.5

CONFERENCE STRUCTURE

ASEAN-SEAFDEC Conference on Sustainable Fisheries for Food Security Towards 2020 “Fish for the People 2020: Adaptation to a Changing Environment”

1. Inaugural Session: 13 June 2011 (morning)

The Inaugural Session of the Conference is presided over by His Excellency the Minister of Agriculture and Cooperatives of Thailand, and is an **open session** for guests and all registered participants. The Session starts with an opening ceremony, and followed by keynote speeches by the organizers and FAO as the key partner organization.

2. Technical Session: 13 June (afternoon)-16 June 2011 (morning)

The Technical Session is an **open session** for all registered participants. The Session starts with a plenary presentation to provide an overview of the status and the importance of fisheries to food security of the ASEAN Member Countries. The Session is then separated into panel sessions for two days (four panels each day) to discuss the important fisheries-related topics under eight pre-identified themes. This would be followed by two more plenary sessions to conclude the outputs from the panel discussions and discuss on the way forward, as well as future cooperation that would ensure the sustainable development and the contribution of fisheries to food security in the ASEAN region.

3. Senior Officials Session: 16 June 2011 (afternoon)

This Session comprises the “Senior Officials Plus Three Meeting for the ASEAN-SEAFDEC Conference” to be participated in by Senior Officials of the ASEAN Plus Three countries (ASEAN countries, plus China, Japan and Republic of Korea); and the “Senior Officials Meeting for the ASEAN-SEAFDEC Conference” to be participated in by the Senior Officials responsible for fisheries from the ASEAN-SEAFDEC Member Countries. While taking note of the conclusion and recommendations from the Technical Session, it is expected that the Draft Resolution is reviewed during this Session (for further endorsement by the ASEAN Ministers), and the Draft Plan of Action on Sustainable Fisheries for Food Security for the ASEAN Region Towards 2020 is endorsed. During this Session, the Plus Three Countries would also make statements on the possible roles of their respective countries in supporting the ultimate goal of enhancing the contribution of fisheries to food security in the ASEAN region.

4. Ministerial Session: 17 June 2011 (morning)

This Session is participated mainly by the Ministers responsible for fisheries from the ASEAN-SEAFDEC Member Countries (except certain specific agenda that are open for invited guests and the press). It is expected that the Draft Resolution as previously reviewed by the ASEAN-SEAFDEC Senior Officials would be presented for endorsement by the ASEAN Ministers. Upon the endorsement by the Ministers, the Resolution and Plan of Action would serve as a regional policy and priority actions in guiding the development of ASEAN fisheries in the coming decade.

The overall program for the different sessions of the Conference is shown below:

13 June 2011	
09.00-10.30	Inaugural Session <ul style="list-style-type: none"> ○ Opening of the Conference <ul style="list-style-type: none"> - Introductory Remarks by the Secretary-General of SEAFDEC - Introductory Remarks by the Secretary-General of ASEAN - Welcome Remarks by the Director-General of the Department of Fisheries of Thailand - Opening Address by His Excellency the Minister of Agriculture and Cooperatives of Thailand
	○ Photography Session
10.30-11.00	Coffee/Tea Break

11.00-12.00	<ul style="list-style-type: none"> ○ Keynote Addresses <ul style="list-style-type: none"> - Fisheries and ASEAN Community Building by ASEAN - Fisheries for Poverty Alleviation and Socio-economic Well-being of Fishers (DOF, Thailand) - Emerging Issues in World Fisheries and Aquaculture (FAO) ○ Introduction of the Framework and Arrangements of the Technical Session 			
12.00-14.00	Lunch Break			
14.00-17.00	Technical Session Plenary I <ul style="list-style-type: none"> ○ ASEAN Fisheries: Status and Trends (Chairperson, SEAFDEC Council) ○ ASEAN Fisheries Towards 2020: Challenges and Vision (FAO/Regional Office for Asia and the Pacific) ○ Open Forum for Plenary Discussion 			
19.00-22.00	Reception Dinner			
14 June 2011 (four panel sessions to run simultaneously)				
09.00-17.30	Theme 1: Enhancing governance in fishery management	Theme 2: Sustainable aquaculture development	Theme 3: Ecosystem approach to fisheries	Theme 4: Post-harvest and safety of fish and fisheries products
17.30-18.30		Side Meeting: Global Food Production and Aquaculture including the launching of the Report on Blue Frontiers: Managing the Environmental Costs of Aquaculture (WorldFish Center (Malaysia))	Side Meeting: International Cooperation on Sustainable Fisheries for Food Security - a practical value chain approach (Marine Institute (MI) of the Memorial University of Newfoundland (Canada))	
18.30-19.00			Side Meeting: Area Capability Approach for Harmonizing Ecosystem Health and Rural Development (Tokai University (Japan))	
19.00-20.00			Side Meeting: European Union Research Funding Opportunities in Fisheries and Aquaculture: FP7 Information and Matchmaking Session (European Commission and the SEA-EU-NET Project)	
15 June 2011 (four panel sessions to run simultaneously)				
09.00-17.30	Theme 5: Emerging requirements for trade in fish and fisheries products	Theme 6: Climate change adaptation and mitigation towards food security	Theme 7: Livelihood among fishing communities and prospects of employment in fisheries-related activities	Theme 8: Sustaining food supply from inland fisheries

17.30-20.00	Side Meeting: Private Sector Roles on Sustainable Fisheries for Food Security (ASEAN-US Technical Assistance and Training Facility (AU-TATF))		Side Meeting: Small-scale Fisheries Guidelines Development Process (FAO, Italy)	Side Meeting: Future Collaboration with Hokkaido University (Hokkaido University, Japan)
16 June 2011				
09.00-12.00	<p>Plenary II: Overview of Sustainable Fisheries for Food Security Towards 2020</p> <ul style="list-style-type: none"> ○ Summary of Outputs – Sustainable Aquaculture Development (AQD Chief) ○ Summary of Outputs – Marine Fisheries Management (MFRDMD Chief) ○ Summary of Outputs – Post-harvest and Safety of Fish and Fisheries Products (MFRD Chief) ○ Summary of Outputs – Planning and Information, and Regional and International Policy Formulation (SEAFDEC/TD) ○ Summary of Outputs – Emerging Requirements for Trade of Fish and Fishery Products (SEAFDEC Policy and Program Coordinator) ○ Summary of Outputs – Inland Fisheries Management (MRC Fisheries Programme) <p>Plenary III: Fisheries Cooperation in the ASEAN Region - Vision of Cooperation in the Region Towards 2020</p> <ul style="list-style-type: none"> ○ The Government of Japan ○ ASEAN Foundation ○ United States Agency for International Development (USAID) ○ Asia-Pacific Fisheries Commission (APFIC) ○ The WorldFish Center ○ Mekong River Commission (MRC) Fisheries Programme ○ Bay of Bengal Large Marine Ecosystem (BOBLME) Project ○ Asian Institute of Technology (AIT) 			
13.30-17.00	Senior Officials Session (<i>Arranged by ASEAN Secretariat and DOF Thailand</i>)			
13.30-14.30	○ Senior Officials Plus Three Meeting for the ASEAN-SEAFDEC Conference (<i>By Invitation</i>)	Half-day Excursion Programs		
14.30-17.00	○ Senior Officials Meeting for the ASEAN-SEAFDEC Conference (<i>By Invitation</i>)			
17 June 2011				
09.00-12.00	Ministerial Session (<i>Arranged by ASEAN Secretariat and DOF Thailand</i>)			
09.00-10.00	○ Inauguration Session (<i>By Invitation</i>)	Full-day Excursion Programs		
10.00-12.00	○ Ministerial Meeting for the ASEAN-SEAFDEC Conference (<i>By Invitation</i>)			
13.30-14.00	○ Joint Press Statement for the ASEAN-SEAFDEC Ministerial Session (<i>By Invitation</i>)			
14.00-14.30	○ Statement by Stakeholders (<i>By Invitation</i>)			
14.30-15.00	○ Press Conference (<i>By Invitation</i>)			

**LIST OF PARTICIPANTS OF THE INAUGURAL AND TECHNICAL SESSIONS
OF THE ASEAN-SEAFDEC CONFERENCE**
(13 June - morning of 16 June 2011)

Inaugural and Technical Sessions
ASEAN-SEAFDEC Conference on Sustainable Fisheries for Food Security Towards 2020
“Fish for the People 2020: Adaptation to a Changing Environment”

COUNTRY PARTICIPANTS**Australia****Duncan Leadbitter**

Technical Director
Sustainable Fisheries Partnership
14 Maxwell Crescent Stanwell Park,
NSW 2508, Australia
Tel: (614) 398 22515
E-mail: duncan.leadbitter@sustainablefish.org

Bangladesh**Harvey Demaine (Dr.)**

Senior Advisor, RFLDC
Agricultural Sector Program Support
c/o RFLDC House #16, Road #36 Maijdee
Housing Estate, Noakhali-3800, Bangladesh
Tel: (88) 1713 102762 Fax: (88) 321 62808
E-mail: gnaep@citechco.net

Belgium**Moguedet Philippe (Dr.)**

Research Programme Officer
European Commission Directorate-General
for Research & Innovation (RTD)
Unit E4 - Agriculture, Forestry, Fisheries and
Aquaculture
SDME 11/007, B-1049 Brussels, Belgium
Tel: (322) 298 68 17 Fax: (322) 299 16 72
E-mail: philippe.moguedet@ec.europa.eu

Brunei Darussalam**Celia Lavilla-Pitogo (Dr.)**

Director of Aquatic Animal Health,
Integrated Aquaculture International
c/o Aquatic Animal Health Services Center, Jalan
Tanjung Batu, Muara,
Brunei Darussalam
Tel: (673) 819 6628 Fax: (673) 265 2628
E-mail: celia.pitogo@fulbrightmail.org

Hajah Hasnah Ibrahim (Ms.)

Director, Department of Fisheries,
Ministry of Industry & Primary Resources
Jalan Menteri Besar, Bandar Seri Begawan,
BB3910 Brunei Darussalam
Tel: (673) 238 3862 Fax: (673) 238 2069
E-mail: hasnah.ibrahim@fisheries.gov.bn

Hajah Laila Hj Hamid (Ms.)

Department of Fisheries,
Ministry of Industry and Primary Resources
Jalan Menteri Besar, Bandar Seri Begawan
BB3910 Brunei Darussalam
Tel: (673) 277 0234-6 Fax: (673) 277 0237
E-mail: laila.hamid@hotmail.com

Hajah Rosinah Haji Yussof (Ms.)

Department of Fisheries,
Ministry of Industry and Primary Resources
Jalan Menteri Besar, Bandar Seri Begawan,
BB 3910 Brunei Darussalam
Tel: (673) 277 0757 Fax: (673) 277 1157
E-mail: rosinah.yussof@fisheries.gov.bn

Haji Abdul Rajid Haji Metali

Department of Fisheries,
Ministry of Industry and Primary Resources
Jalan Menteri Besar, Bandar Seri Begawan,
BB3910 Brunei Darussalam
Tel: (673) 277 1202, 238 3067
Fax: (673) 238 2069 to 277
E-mail: abdulrajidmetali@gmail.com

Haji Sabri Haji Mohd Taha

Head, Industrial Development and Promotion
Division, Department of Fisheries,
Ministry of Industry and Primary Resources
Jalan Menteri Besar, Bandar Seri Begawan,
BB3910, Brunei Darussalam
Tel: (673) 238 2113 Fax: (673) 238 2069
E-mail: sabri.taha@fisheries.gov.bn

Matzaini Haji Juna

Department of Fisheries,
Ministry of Industry and Primary Resources
Jalan Menteri Besar, Bandar Seri Begawan,
BB 3910 Brunei Darussalam
Tel: (673) 277 2787
Fax: (673) 277 0065
E-mail: matzaini.juna@gmail.com

Munah Haji Lampoh (Ms.)
Senior Fisheries Officer
Department of Fisheries,
Ministry of Industry and Primary Resources
Jalan Menteri Besar, Bandar Seri Begawan,
BB3910, Brunei Darussalam
Tel: (673) 238 3412
Fax: (673) 238 2069
E-mail: alif2701@yahoo.com

Cambodia

Chhuon Kimchhea
Deputy Director
Fisheries Affairs Department,
Fisheries Administration
186, Preah Norodom Blvd,
P.O. Box 582, Phnom Penh, Cambodia
Tel: (855) 168 86509
E-mail: chhuonchhea@yahoo.com

Cheav Vichak
Deputy Director
Southern Tonle Sap Great Lake,
Fishery Administration Inspectorate,
Peal Nhek village, Sangkat Phtars Prey,
Pursat city, Pursat province, Cambodia
Tel: (855) 127 36888 Fax: (855) 529 51935

Chea Phala (Dr.)
Officer, Marine Aquaculture Development Center,
Fisheries Administration
186, Preah Norodom Blvd,
P.O. Box 582, Phnom Penh, Cambodia
Tel: (855) 173 28345 Fax: (855) 232 15470
E-mail: cheaphala76@yahoo.com

Deap Loeung
Deputy Director
Fishery Administration
#186, Preah Norodom Blvd,
Sangkat Tonle Bassac, Khan Chamcar Mon, P.O.
Box 582, Phnom Penh, Cambodia
Tel: (855) 168 28820 Fax: (855) 232 15470

Em Puthy (Dr.)
Deputy Director,
Fishery Administration
#186, Preah Norodom Blvd,
Sangkat Tonle Bassac, Khan Chamcar Mon,
P.O.Box: 582, Phnom Penh, Cambodia
Tel: (855) 16 850003 Fax: (855) 23 215470
E-mail: emputhy@yahoo.com,
drputhy@gmail.com

Haing Leap
Deputy Director
Department of Aquaculture Development,
Fishery Administration
#186, Preah Norodom Blvd,
Sangkat Tonle Bassac, Khan Chamcar Mon,
P.O. Box 582, Phnom Penh, Cambodia
Tel: (855) 239 96380 Fax: (855) 239 96380
E-mail: leap_ad@yahoo.com

Ing Try
Deputy Director-General
Fishery Administration
#186, Preah Norodom Blvd,
Sangkat Tonle Bassac, Khan Chamcar Mon, P.O.
Box 582, Phnom Penh, Cambodia
Tel: (855) 129 95665 Fax: (855) 232 15470
E-mail: ttmp.cam@online.com.kh

Mith Soksopheak
Vice Chief
Battambang Fishery Administration Cantonment,
Cambodia
Tel: (855) 127 78968 Fax: (855) 539 52695
E-mail: msoksopheak@yahoo.com

Pich Sereywath
Deputy Director
Department of Community Fisheries Development,
Fishery Administration
#186, Preah Norodom Blvd,
Sangkat Tonle Bassac, Khan Chamcar Mon,
P.O. Box 582, Phnom Penh, Cambodia
Fax: (855) 232 15470
E-mail: sereywath_pich@yahoo.com

Poum Sotha
Director of Marine Inspectorate
Fishery Administration
#186, Preah Norodom Blvd,
Sangkat Tonle Bassac, Khan Chamcar Mon,
P.O. Box 582, Phnom Penh, Cambodia
Tel: (855) 169 11142 Fax: (855) 232 15470
E-mail: p.sotha@yahoo.com

Sam Nuov, H.E. (Dr.)
Deputy Director-General
Fisheries Administration
186 Preah Norodom Blvd.,
Sangkat Tonle Bassac, Khan Chamcar Mon,
P.O. Box 582, Phnom Penh, Cambodia
Tel: (855) 128 53747 Fax: (855) 232 19446
E-mail: samnuov.fia@maff.gov.kh

Sok Khom

National FP Coordinator
Cambodian National Mekong Committee
364, Monivong Blvd,
Sangkat Phsar Deumthkov,
Khan Chamkar Mon,
Phnom Penh, Cambodia
Tel: (855) 12 235 ext. 406
E-mail: khom.sk@gmail.com

Thach Phannady (Ms.)

Fishery Administration,
Dam Spay Village, Sangkat Slaket, Battambang
city, Battambang Province
#186, Preah Norodom Blvd,
Sangkat Tonle Bassac, Khan Chamcar Mon, P.O.
Box 582, Phnom Penh, Cambodia
Tel: (855) 169 50904 Fax: (855) 232 15470
E-mail: phannady_thach@yahoo.com

Vith Thearith

Vice Chief
Kandal Fisheries Administration
Cantonment Street 103, Takhmau Town,
Kandal Province, Cambodia
Tel: (855) 979 52999 Fax: (855) 249 85149
E-mail: thearithvith@gmail.com

Canada

Bill Chislett

Director
MI International, Marine Institute of the
Memorial University of Newfoundland
P.O. Box 4920, St. John's, NL,
Canada A1C 5R3, Canada
Tel: (709) 778 0558 Fax: (709) 778 0371
E-mail: bill.Chislett@mi.mun.ca

Carrey Bonnell

Head, School of Fisheries
Marine Institute of Memorial University of
Newfoundland
P.O. Box 4920, St. John's, NL,
Canada A1C 5R3, Canada
Tel: (709) 778 0428 Fax: (709) 778 0535
E-mail: Carey.Bonnell@mi.mun.ca

Ratana Chuenpagdee (Dr.)

Canada Research Chair and
Associate Professor
Memorial University of Newfoundland,
Department of Geography, Science Building, St.
John's, NL A1B 3X9, Canada
Tel: (709) 864 3157 Fax: (709) 864 3119
E-mail: ratanac@mun.ca

Egypt

Sabrah Manal (Dr.)

Associated Professor
Fisheries Biology Laboratory
National Institute of Oceanography and Fisheries,
Red Sea
P.O. Box 182, Suez, Egypt Or 13,
El-Horia Street, Suez, Egypt
Tel: (201) 010 07516 Fax: (206) 233 60015
E-mail: manal_sabrah@yahoo.co.uk

Fiji Islands

Christopher Paterson

Advisor, Secretariat of the Pacific Community
c/o SPC/South Pacific Applied Geoscience
Commission (SOPAC) 241 Mead Road, Nabua,
Suva, Fiji Islands
Tel: (679) 338 1377 Fax: (679) 337 0040
E-mail: chrispaterson@yahoo.com.au

Marc Wilson

Regional Manager
GEF Pacific International Waters Project, SOPAC,
Private Mail Bag Suva, Fiji
Tel: (679) 338 1377 Fax: (679) 337 3002
E-mail: M.Wilson@SOPAC.org

India

Reghu Raghu Prakash (Dr.)

Senior Scientist
Central Institute of Fisheries Technology Ocean
View layout, Pandurangapuram Visakhapatnam
530 003
Andhra Pradesh, India
Tel: (918) 912 567856 Fax: (918) 912 567040
E-mail: drraghuprakash@hotmail.com

Indonesia

Achmad Poernomo (Dr.)

Executive Secretary
Agency for Marine and Fisheries Research and
Development, Ministry of Marine Affairs and
Fisheries (MAFF)
Jalan Pasir Putih 1 Ancol,
Jakarta 14430, Indonesia
Tel: (622) 164 711583 Fax: (622) 164 711438
Email: achpoer@yahoo.com

Agus A. Budhiman

Director, Fisheries Resource Management
Directorate General of Capture Fisheries, Ministry
of Marine Affairs and Fisheries
Mina Bahari Building II,
10th Floor Jl. Medan Merdeka Timur No. 16,
Jakarta 10110, Indonesia
Tel: (622) 134 53008 Fax: (622) 134 53008
E-mail: budhiman2004@yahoo.com

Andi Soesmono

Deputy Director for Multilateral Cooperation,
Secretariat General, MMAF
Jalan Medan Merdeka Timur No. 16, Jakarta Pusat
10110, Indonesia
Tel: (622) 138 64293 Fax: (622) 138 64293
E-mail: ansoes_69@yahoo.co.id

Ari Purbayanto (Prof.)

Head, Fishing Technology Laboratory
Department of Fisheries Resource Utilization,
Faculty of Fisheries and Marine Sciences, Bogor
Agricultural University
Jl. Agathis Kampus IPB Darmaga Bogor
16680, West Java, Indonesia
Tel: (622) 518 625961, 8622908
Fax: (622) 518 622907
E-mail: purbayanto@ipb.ac.id,
purbayanto@yahoo.com

Atmamihardja Taufiq Budiman

Assistant Deputy Director of ASEAN Cooperation,
MMAF
Jalan Medan Merdeka Timur
No. 16 Jakarta 10110, Indonesia
Tel: (622) 135 19070 ext. 7115
Fax: (622) 138 64293
E-mail: atmamihardja@gmail.com

Besweni (Dr.)

Head of Sub-directorate of Capture Fisheries
Statistics, Directorate of Fisheries Resource
Management, MAFF
Jl. Medan Merdeka Timur No. 16, Gedung Mina
Bahari II, 10th Floor, Jakarta, Indonesia
Tel: (622) 135 19074 Fax: (622) 135 19074
E-mail: besweni06@yahoo.com

Endang Heruwati (Dr.)

Ministry for Marine and Fisheries,
Jl. KS Tubun, Petamburan VI,
Jakarta, Indonesia
Tel: (628) 131 6619323 Fax: (622) 153 650158
E-mail: endang_heruwati@yahoo.com

Endhay Kusnendar Kontara (Dr.)

Chairman of the Agency for Marine and Fisheries
Research and Development, MAFF
Jl. Pasir Putih 1, Ancol Timur,
Jakarta Utara, DKI Jakarta, Indonesia
Tel: (622) 164 711583 Fax: (622) 164 711438
E-mail: endhay_kusnendar@gmail.com

Erwin Dwiyanana

Chief of Program Cooperation, MAFF
Jln. Medan Merdeka Timur No.16
Gedung Mina Bahari III Lt. 14
Jakarta Pusat 10110, Indonesia
Tel: (628) 138 5192185 Fax: (622) 135 00132
E-mail: erwdwy@yahoo.com

Hari Eko Irianto (Prof. Dr.)

Director, Agency for Marine and Fisheries
Research and Development,
Research Center for Marine and Fisheries Product
Processing and Biotechnology
Jl. Petamburan VI Jakarta 10260, Indonesia
Tel: (622) 153 850157 ext. 102
Fax: (622) 153 650158
E-mail: harieko_irianto@yahoo.com

Ida Kusuma Wardhaningsih (Ms.)

Secretary-DG of Surveillance, MMAF
Jl. Medan Merdeka Timur No. 16,
Jakarta 10110, Indonesia
Tel: (622) 135 19070 ext. 6066
Fax: (622) 135 13262
E-mail: idakusumaw@gmail.com

Iman I. Barizi

Head of Programme Cooperation,
Directorate General of Aquaculture, MAFF
Jl. Harsono RM No. 3 Gedung Ps. Minggu,
Jakarta Selatan 12550, Indonesia
Tel: (622) 178 22779 Fax: (622) 178 22779
E-mail: ibtea@yahoo.com

Jefery Syam

Legal Division
Ministry of Marine Affairs and Fisheries
Jalan Medan Merdeka Timur Nomor 16 Gambir
Jakarta Pusat 10110 (Gedung Mina Bahari 3 Lantai
11, Sekretariat Ditjen Kp3k, Bagian Hukum),
Indonesia
Tel: (628) 521 8045070 Fax: (622) 135 22060
E-mail: bang_ijef@yahoo.com

Ketut Sarjana Putra

Marine Director
Conservation International
Jalan dr. Muwardi no.17
Renon Denpasar Bali, Indonesia
Tel: (623) 612 37245 Fax: (623) 612 35430
E-mail: kputra@conservation.org

Ketut Sugama (Dr.)

Director-General of Aquaculture, MAFF
Jl. RM Harsono No 3, Gedung Deptan B Lt 5,
Ragunan Pasar Minggu,
Jakarta 12550, Indonesia
Tel: (622) 178 90552 Fax: (622) 178 835853
E-mail: sugama@indosat.net.id

Lilie Soeprijadi

Head of Sub-directorate of Fishing Business
Management, MAFF
Jl. Medan Merdeka Timur No 16,
Central Jakarta, Indonesia
Tel: (622) 135 22173 Fax: (622) 135 22173
E-mail: lilieksoeprijadi@yahoo.com

Minhadi Noer Sjamsu

Head of the Programme
Agency for Marine and Fisheries Research and
Development, MAFF
Gd Balitbang KP (BRKP)
Jl. Pasir Putih 1, Ancol Timur
Jakarta 14430, Indonesia
Tel: (622) 164 711583 Fax: (622) 164 711438
E-mail: nimhaid@gmail.com

Muawwanah (Ms.)

Head, Section of Domestic Market Information,
MAFF, Jakarta, Indonesia
Tel: (622) 135 00163 Fax: (622) 135 00163
E-mail: ummu.abie99@gmail.com

Muhdi Sadullah

Director of Domestic Market, MAFF
Valarta, Indonesia
Tel: (662) 135 00163 Fax: (662) 135 00163

Ngurah Ngoman Wiadnyona (Prof. Dr.)

Researcher/Head of Monitoring and Evaluation
Division, Research Center for Capture Fisheries
(RCCF),
Agency for Marine and Fisheries Research,
Jln. Pasir Putih 1, Ancol Timur,
Jakarta 14430, Indonesia
Tel: (622) 164 711940 Fax: (622) 164 02640
E-mail: ngurah_prpt@indo.net.id

Saut P. Hutagalung

Director of Foreign Market Development
Directorate General of Fisheries Product
Processing & Marketing, MAFF
Jl. Medan Merdeka Timur No. 16 Central Jakarta
10110, Indonesia
Tel: (622) 135 21977 Fax: (622) 135 21977
E-mail: trilateral_partnership@yahoo.com

Simson Masengi (Dr.)

Deputy Director for Processing Small and Medium
Enterprise, MAFF
Jl. Merdeka Timur 16, Jakarta Pusat
10110, Indonesia
Tel: (622) 135 00187 Fax: (622) 135 00187
E-mail: simsonmasengi@hotmail.co.id

Singgih Wibowo (Dr.)

Jl. KS Tubun Petamburan VI,
Jakarta 10260, Indonesia
Tel: (622) 153 650158 Fax: (622) 153 650158
E-mail: paksingh@yahoo.com

Slamet Soebjakto (Dr.)

Director of Seeds Development
Directorate General of Aquaculture, MAFF
Jl. Harsono RM No.3 Gedung B Lantai 4 - 6
Ragunan, Pasar Minggu,
Jakarta Selatan 12550 Indonesia
Tel: (622) 178 22779 Fax: (622) 178 22779
E-mail: slamet_subyakto@yahoo.com

Taufiq Dwi Ferindra

Head, Information and Collaboration Division,
Secretariat of AMAFRAD
Jl. Pasir Putih 1, Ancol Timur,
DKI Jakarta, Indonesia
Tel: (622) 164 711583
Fax: (622) 164 711438
E-mail: tadif@yahoo.com

Trian Yunanda

Head of Sub-division for Program Cooperation,
Directorate General of Capture Fisheries, MMAF
Jl. Medan Merdeka Timur No. 16
Jakarta 10110, Indonesia
Tel: (622) 135 21781 Fax: (622) 135 21781
E-mail: tryand_fish@yahoo.com

Wardhaningsih Ida Kusuma (Ms.)

Secretary-DG of Surveillance, MAFF
Jl. Medan Merdeka Timur No. 16,
Jakarta 10110, Indonesia
Tel: (622) 135 19070 ext. 6066
Fax: (622) 135 13262
E-mail: idakusumaw@gmail.com

Wudianto (Dr.)

Senior Scientist, Research Center for Fisheries
Management and Conservation
Jl. Pasir Putih I Ancol Timur,
Jakarta 14430, Indonesia
Tel: (628) 161 946426 Fax: (622) 164 02640
E-mail: wudianto_prpt@indo.net.id

Japan

Akiko Ikeguchi (Dr.)

Yokohama National University
79-1 Tokiwadai, Hodogaya,
Yokohama 240-8501, Japan

Akira Fujiwara

Manager, Kensetsu Gijutsu Center, Co. Ltd.
4-7-10 Iidabashi, Chiyoda-ku,
Tokyo 102-0072, Japan
Tel: (813) 326 28646 Fax: (813) 323 93620
E-mail: fujiwara@c-kengi.co.jp

Akira Hamano (Prof.)

National Fisheries University
2-7-1 Nagata-honmachi,
Shimonoseki, Yamaguchi, Japan
Tel: (818) 328 65111 Fax: (818) 328 67432
E-mail: ahamano@fish-u.ac.jp

Akira Inoue

Director-General, Resource Management
Department, Fisheries Agency
1-2-1, Kasumigaseki, Chiyoda-ku
Tokyo 100-8907, Japan
Tel: (813) 674 32367 Fax: (813) 350 20571
E-mail: akira_inoue@nm.maff.go.jp

Akira Takagi (Dr.)

The University of Tokyo
1-1-1 Yayoi Bunkyo-ku,
Tokyo, Japan

Atsushi Ishimatsu (Dr.)

Professor, Nagasaki University,
1551-7 Tairamachi, Nagasaki
851-2213, Japan
Tel: (819) 585 07312 Fax: (819) 584 01881
E-mail: a-ishima@nagasaki-u.ac.jp

Hirono Ikuo (Prof.)

Professor, Tokyo University of Marine Science
and Technology
4-5-7, Konan, Minato-ku, Tokyo
108-8477 Japan
Tel: (813) 546 30689 Fax: (813) 546 30689
E-mail: hirono@kaiyodai.ac.jp

Hiroshi Ogata (Dr.)

National Research Institute of Aquaculture,
Fisheries Research Agency,
Tamaki, Mie 519-0423, Japan
Tel: (815) 965 86411 Fax: (815) 965 86413
E-mail: ogata1@affrc.go.jp

Hisashi Kurokura

Professor, The University of Tokyo
1-1-1 Yayoi, Bunkyo-ku,
Tokyo 113-8657, Japan
Tel: (813) 584 17500 Fax: (813) 584 15187
E-mail: akekrh@mail.ecc.u-tokyo.ac.jp

Ichiro Nomura

Advisor, Tokyo University of Marine Science and
Technology
3-1100-12-M708, Shinmaruko-Higashi, Nakahara,
Kawasaki, 211-0004, Japan
Tel: (818) 034 557080
E-mail: inomura75@gmail.com

Isao Tsutsui (Dr.)

Researcher, Japan International Research Center
for Agricultural Sciences
1-1 Owashi, Tsukuba, Ibaraki, Japan
E-mail: cong@affrc.go.jp

John Bower (Dr.)

Associate Professor, Hokkaido University
3-1-1 Minato-cho Hakodate, Japan
Tel: (811) 384 08896 Fax: (811) 384 08896
E-mail: akaika@fish.hokudai.ac.jp

Junji Kawasaki (Dr.)

Associate Professor,
National Fisheries University
2-7-1 Nagata-Honmachi,
Shimonoseki 759-6595, Japan
Tel: (818) 328 65111 Fax: (818) 328 67432
E-mail: kawasaki@fish-u.ac.jp

Junichiro Okamoto (Prof.)

Professor, Faculty of Fisheries Sciences,
Hokkaido University
3-1-1 Minato-cho, Hakodate,
Hokkaido
041-8611, Japan
Tel: (811) 384 05522 Fax: (811) 384 05522

Kaoru Nakata (Dr.)

Fisheries Research Agency
Queen's Tower B, 15F, Minato Mirai,
Nishi-ku, Yokohama,
Kanagawa 220-6115, Japan
Fax: (814) 522 72700

Kazushige Sasamoto

Chief, Marino-forum 21
Yusen-Okachimachi Bldg. 8F 4-8-7,
Taito-ku, Tokyo, Japan
Tel: (813) 383 75214 Fax: (813) 581 73870
E-mail: sasamoto@mf21.or.jp

Keigo Ebata (Dr.)

Associate Professor, Kagoshima University
4-50-20, Shimoarata, Kagoshima, Japan
Tel: (819) 928 64231 Fax: (819) 928 64231
E-mail: ebata@fish.kagoshima-u.ac.jp

Kim Buyeong (Ms.)

Tokyo University of Marine Science and
Technology,
4-5-7, Kounan, Minato-Ku,
Tokyo, Japan

Koichi Okuzawa (Dr.)

Senior Researcher, Fisheries Research Agency
422-1 Nakatsuhamura, Minami-ise,
Watarai, Mie 516-0193, Japan
Tel: (815) 996 61830 Fax: (815) 996 61962
E-mail: kokuzawa@fra.affrc.go.jp

Koji Mori

Director, Kensetsu Gijutsu Center, Co. Ltd.
4-7-10 Iidabashi, Chiyoda-ku,
Tokyo 102-0072, Japan
Tel: (813) 326 28647
Fax: (813) 323 93620
E-mail: mori@c-kengi.co.jp

Masahiro Yamao (Dr.)

Professor, Hiroshima University,
1-4-4 Kagamiyama, Higashi,
Hiroshima 739-8528, Japan
Tel: (818) 242 47962 Fax: (818) 242 47962
E-mail: yamao@hiroshima-u.ac.jp

Masashi Maita (Dr.)

Professor, Tokyo University of Marine Science
and Technology
4-5-7, Konan, Minato, Tokyo
108-8477 Japan
Tel: (813) 546 30544 Fax: (813) 546 30544
E-mail: mmaita@kaiyodai.ac.jp

Miki Ogura (Dr.)

Director, Tuna and Skipjack Resources Division,
NRIFSF, Fisheries Research Agency
5-7-1, Orido, Shimizu,
Shizuoka 424-8633, Japan
Tel: (815) 433 66000 Fax: (815) 433 59642
E-mail: ogura@fra.affrc.go.jp

Mina Hori (Prof.)

Assistant Professor, Kochi University
2-5-1 Akebono-cho, Kochi, 780-8520, Japan
Tel: (818) 884 48227 Fax: (818) 884 48227
E-mail: mina@kochi-u.ac.jp

Miyata Tsutom (Dr.)

Senior Researcher, National Research Institute of
Fisheries Science, Fisheries Research Agency
2-12-4 Fukuura Kanazawa-ku
Yokohama 236-8648, Japan
Tel: (814) 578 87672 Fax: (814) 578 87672
E-mail: tmiyata@affrc.go.jp

Osamu Baba (Prof.)

Professor, Department of Marine Policy and
Culture, Tokyo University of Marine Science and
Technology
4-5-7 Konan, Minato-ku, Tokyo, Japan
Tel: (813) 546 30564 Fax: (813) 546 30564
E-mail: obaba@kaiyodai.ac.jp

Ryutaro Kamiyama

Postgraduate
Department of Agricultural and Life Sciences, The
University of Tokyo
2-8-1-303, Honkomagome, Bunkyo-ku, Tokyo,
113-0021 Japan
Tel: (813) 584 15018 Fax: (813) 584 15018
E-mail: KamiRyutaro@gmail.com

Satoshi Ishikawa (Dr.)

Associate Professor, Tokai University
3-20-1, Orido, Shimizu,
Shizuoka 424-8610, Japan
Tel: (815) 433 40411 Fax: (815) 433 70239
E-mail: oounagi@scc.u-tokai.ac.jp

Satoshi Watanabe (Dr.)

Senior Researcher
Japan International Research Center for
Agricultural Sciences
1-1 Owashi Tsukuba Ibaraki, Japan

Takahiro Kobayashi

Junior Associate Professor
Tokai University
3-20-1, Orido, Shimizu-ku, Shizuoka,
424-8610, Japan
Tel: (815) 433 40411 ext. 2273
Fax: (815) 433 49768
E-mail: getakoba@tokai-u.jp

Takatsugu Kudoh

Tokyo University of Marine Science and
Technology
4-5-7, Konan, Minato-ku,
Tokyo, 108-8477, Japan

Takeshi Miwa

Assistant Director, International Affairs Division,
Fisheries Agency and SEAFDEC National
Coordinator
1-2-1, Kasumigaseki, Chiyoda-ku
Tokyo 100-8907, Japan
Tel: (81) 3 6744 2367 Fax: (81) 3 3502 0571
E-mail: takeshi_miwa@nm.maff.go.jp

Tatsuro Matsuoka (Prof.)

Professor, Kagoshima University,
Shimoarata 4-50-20,
Kagoshima 890-0056, Japan
Tel: (819) 928 64241 Fax: (819) 928 64241
E-mail: matsuoka@fish.kagoshima-u.ac.jp

Tatsuya Yurimoto (Dr.)

Senior Researcher, Japan International Research
Center for Agricultural Sciences
Owashi 1-1, Tsukuba,
Ibaraki 305-8686, Japan
Tel: (812) 983 86608 Fax: (812) 983 86655
E-mail: yurimoto@affrc.go.jp

Teruo Kitade

Technical Official, International Affairs Division,
Fisheries Agency
1-2-1, Kasumigaseki, Chiyoda-ku
Tokyo 100-8907, Japan
Tel: (813) 674 42367 Fax: (813) 350 20571
E-mail: technical_official@nm.maff.go.jp

Yasuaki Takagi (Prof.)

Professor, Hokkaido University
Minato-cho 3-1-1 Hakodate
Hokkaido 041-861, Japan
Tel: (811) 384 05550 Fax: (811) 384 05550
E-mail: takagi@fish.hokudai.ac.jp

Yasuhisa Kato (Dr.)

Professor, Kagoshima University
1-21-24, Korimoto,
Kagoshima 890-8580, Japan
Fax: (819) 928 57098
E-mail: kato@ms.kagoshima-u.ac.jp

Yasuo Ishimoto

Managing director, OAFIC Co. Ltd,
2F, Kanada 4th amalex Bldg.
2-13, Kanda Tsukasamachi
Chiyoda-ku, Tokyo, Japan
Tel: (813) 528 11071 Fax: (813) 528 11072
E-mail: ishimoto@oafic.co.jp

Yukio Maeno (Dr.)

Director, Fisheries Division, Japan International
Research Center for Agricultural Sciences
1-1 Owashi, Tsukuba,
Ibaraki 305-8686, Japan
Tel: (812) 983 86370 Fax: (812) 983 86655

Lao PDR

Aloune Sayavong

Head, Mekong Affairs, Water Resources &
Environment Administration, Department of Water
Resource, Water Resources & Environment
Administration,
Lanexang Avenue Nahaidieo Road
P.O. Box 7864, Vientiane Capital, Lao PDR
Tel: (856) 212 60983 Fax: (856) 212 6098
E-mail: alounesv@gmail.com

Bouaphan Konedavong

Deputy Director, Provincial Agriculture and
Forestry Office of Vientiane Province, Department
of Livestock and Fisheries
P. O. Box 6644 Vientiane, Lao PDR
Tel: (856) 212 15243 Fax: (856) 212 15141
E-mail: konedavong@yahoo.com

Bouasavanh Viengsobath

Head, Fisheries Inspector Section,
Fisheries Division,
Department of Livestock and Fisheries
P. O. Box 6644 Vientiane, Lao PDR
Tel: (856) 212 15243 Fax: (856) 212 15141
E-mail: viengsobathb@yahoo.com

Bounkhouang Khambounheuang (Dr.)

Director-General
Department of Livestock and Fisheries
P. O. Box 6644 Vientiane, Lao PDR
Tel: (856) 212 15243 Fax: (856) 212 15141
E-mail: lao_dlfmaf@yahoo.com

Bounthong Saphakdy

Director, Fisheries Division
Department of Livestock and fisheries P.O.Box
6644 Vientiane, Lao PDR
Tel: (856) 212 15243 Fax: (856) 212 15141
E-mail: saphakdy@yahoo.com

Chainuek Phakhounthong

Fisheries Officer, Provincial Agriculture and
Forestry Office of Bolikhamsai Province
Department of Livestock and Fisheries
P. O. Box 6644 Vientiane, Lao PDR
Tel: (856) 212 15243 Fax: (856) 212 15141

Chanthaboun Sirimanotharn

Director, Planning Division
Department of Livestock and Fisheries
P. O. Box 6644 Vientiane, Lao PDR
Tel: (856) 212 15243 Fax: (856) 212 15141
E-mail: csirimanotham@yahoo.com

Dongdavanh Sibounthong (Ms.)

Head of Fisheries Management Section, Fisheries
Division,
Department of Livestock and Fisheries
P. O. Box 6644 Vientiane, Lao PDR
Tel: (856) 212 15243 Fax: (856) 212 15141
E-mail: apone53@yahoo.com

Douangkham Singhanouvong

Head, Capture Fisheries Unit,
Living Aquatic Resources Research Center
P.O. Box 9108 Vientiane, Lao PDR
Tel: (856) 212 15015 Fax: (856) 212 23436
E-mail: douangkham_s@yahoo.co.uk

Douangtavanh Sisombath

Fisheries Officer, Fisheries Division, Department
of Livestock and Fisheries
P. O. Box 6644 Vientiane, Lao PDR
Tel: (856) 212 15243 Fax: (856) 212 15141
E-mail: d_saysombath@yahoo.com

Khonesavan Douangphachanh (Ms.)

Fisheries Officer, Namxuang Aquaculture
Development Center,
Department of Livestock and Fisheries
P. O. Box 6644 Vientiane, Lao PDR
Tel: (856) 212 15243 Fax: (856) 212 15141

Nantha Phandavong

Deputy Director
District Agriculture and Forestry Office of
Naxaythong District,
Department of Livestock and Fisheries
P. O. Box 6644 Vientiane, Lao PDR
Tel: (856) 212 15243 Fax: (856) 212 15141
E-mail: nanthaphandavong@yahoo.com

Sommano Phounsavath

Senior Fishery Officer
Fisheries Division,
Department of Livestock and Fisheries
P. O. Box 6644 Vientiane, Lao PDR
Tel: (856) 212 15243 Fax: (856) 212 15141
E-mail: sommanop@gmail.com

Vannaphar Thammajedy

Deputy Director of Namxuang Aquaculture
Development Center,
Department of Livestock and Fisheries
P. O. Box 6644 Vientiane, Lao PDR
Tel: (856) 212 15243 Fax: (856) 212 15141
E-mail: vannaphar@yahoo.com

Malaysia

Abdullah bin Jaafar

Fisheries Officer, Legal Section,
Fisheries Department Headquarters, Level 2,
Podium 2, Block 4G2 Wisma Tani, Presint 4
Ministry of Agriculture and Agro-Based Industry,
Federal Government Administrative Centre, 62628
Putrajaya, Malaysia
Tel: (603) 887 04608 Fax: (603) 888 92180
E-mail: abj@dof.gov.my

Ahamad Sabki bin Mahmood, Dató

Director-General
Department of Fisheries Malaysia
Tower 4G2, Wisma Tani, Presint 4,
62628 Putrajaya, Malaysia
Tel: (603) 887 04008 Fax: (603) 888 92460
E-mail: ahamadsabki@dof.gov.my

Ahmad Adnan Nuruddin

Director, Capture Fisheries Division
Fisheries Research Institute
Department of Fisheries, FRI Kampung Acheh
32000 Sitiawan, Perak, Malaysia
Tel: (605) 691 4752 Fax: (605) 691 4742

Datukh Hj. Salleh Hj. Masood

General Manager
Ko-Nelayan Aras 4, Block A, Wisma Pertanian
Sabah, Jalan Tasik Luyang (Off Jalan Maktab
Gaya). Locked Bag 150, 88994 Kota Kinabalu,
Sabah, Malaysia
Tel: (603) 882 94301, 882 94304
Fax: (603) 882 33076
E-mail: masood.salleh@Sabah.Govt.my

Derek Staples (Dr.)

President, Asian Fisheries Society
AFS Secretariat, c/o Laboratory of Marine
Science and Aquaculture of Bioscience Universiti
Putra Malaysia, 43400 UPM, Serdang, Selangor,
Malaysia
Tel: (603) 389 472216 Fax: (603) 389 472217
E-mail: info@asianfisheriessociety.org

Ismail Abu Hassan

Deputy Director-General (Development)
Department of Fisheries Malaysia
Tower 4G2, Wisma Tani, Precinct 4,
62628 Putrajaya, Malaysia
Tel: (603) 123 911708 Fax: (603) 888 95490
E-mail: ismail@dof.gov.my

Gazi Md. Nurul Islam (Dr.)

Research Fellow
Institute of Agricultural and Food Policy Studies,
Universiti Putra Malaysia, Putra Infoport, 43400
UPM, Serdang, Selangor Darul Ehsan, Malaysia
Tel: (603) 894 71093 Fax: (603) 894 32611
E-mail: gazinurul236@gmail.com,
gazinurul@yahoo.com

Hamdan Jaafar

Head of Centre
Department of Fisheries, Malaysia
Fisheries Biosecurity Centre, Persiaran Barat,
46630 Petaling Jaya, SELANGOR, Malaysia
Tel: (603) 795 41609, 795 41612
Fax: (603) 795 40651
E-mail: hamjaa01@dof.gov.my

Heng Boon Choo

Assistant Director
Fisheries Development Authority of Malaysia
Tingkat 4, Menara Olympia, No.8 Jalan Raja
Chulan, Peti surat 12630, 50200
Kuala Lumpur, Malaysia
Tel: (603) 261 77000 Fax: (603) 207 09323
E-mail: choohb71@hotmail.com

Jan Mohammad Gulamsarwar

Director, Licensing & Resource Management
Division, Department of Fisheries Malaysia
Level 1, Tower Block 4G2, Wisma Tani, Precinct
4, 62628, Putrajaya, Malaysia
Tel: (603) 887 04406 Fax: (603) 888 91233
E-mail: gulamsarwar@dof.gov.my

Jephrin Zefrinus Wong

Deputy Director (Marine Fisheries Division)
Department of Fisheries Sabah, 4th floor, Wisma
Pertanian Sabah 88300 Kota Kinabalu, Sabah,
Malaysia
Tel: (608) 823 5966 Fax: (608) 825 0321
E-mail: jephrin.wong@sabah.gov.my

Kuperan Viswanathan (Dr.)

Professor
College of Arts and Sciences Universiti Utara
Malaysia 06010 UUM Sintok Kedah Darul Aman,
Malaysia
Tel: (601) 2498 4972 Fax: (604) 928 6781
E-mail: kuperan@gmail.com

Ku Kassim Ku Yaacob

Research Officer
Fisheries Research Institute, 11960 Batu Maung
Pulau Pinang, Malaysia
Tel: (604) 626 3925 Fax: (604) 626 2210
E-mail: kukassim@gmail.com

Mohamad Norpi Abu Hassan

Director
Fisheries Development Authority Malaysia
Fisheries Development Authority Malaysia
(LKIM) 3rd Floor, Menara Olympia Jalan Raja
Chulan P.O Box 12630, Kuala Lumpur 50200
Kuala Lumpur, Malaysia
Tel: (603) 261 77000, 26177156
Fax: (603) 207 09323
E-mail: norpi@lkim.gov.my

Mohd Noor bin Noordin

Head of Processing & Fish Handling
Department of Fisheries Malaysia, Level 3,
Podium 1 Block 4G2, Precinct 4, Federal
Government Administrative Complex, 62628
Putrajaya, Malaysia
Tel: (603) 887 04415 Fax: (603) 888 91055
E-mail: mnn@dof.gov.my

Munir Mohd. Nawi

Head Section of Marine Aquaculture
Department of Fisheries Malaysia,
Ministry of Agriculture & Agro Based Industry
Malaysia
Tel: (603) 877 04618 Fax: (603) 888 91794
E-mail: munir@dof.gov.my

Othman Maznah (Ms.)

Head, Resource Conservation & Fisheries
Recreation Section
Department of Fisheries Malaysia
Level 6, Tower Block 4G2, Wisma Tani, Precinct
4, 62628 Putrajaya, Malaysia
Tel: (603) 887 04422 Fax: (603) 888 91233
E-mail: maznahoth@dof.gov.my

Raja Mohammad Noordin Raja Omar

Director of Fisheries Research
Fisheries Research Institute Malaysia, FRI Batu
Muang, Jalan Batu Maung, 11960 Pulau Pinang,
Malaysia
Tel: (604) 626 3925 Fax: (604) 626 2210
E-mail: rnoordin@hotmail.com

Razali Lajis

Fisheries Officer
DOF Malaysia, No.13, Jalan Amanputra 3/1,
Taman Amanputra, 47100 Puchong, Selangor
Malaysia
Tel: (601) 392 70776
E-mail: zaliputra@yahoo.com

Zahir

Director
Land and Marine Environmental Resources Group,
3rd Floor, Azum Ameeneem Magu Henveyru Male,
Maldives
Tel: (960) 330 5049 Fax: (960) 331 0776
E-mail: hzahir@riyan.com.mv

Maldives

Ahmed Rashid

Senior Research Officer
Ministry of Fisheries and Agriculture
H.Velaanaage, Seventh Floor,
Male', Maldives
Tel: (960) 333 9272 Fax: (960) 332 6558
E-mail: ahmed.rashid@fishagri.gov.mv

Mohamed Shameem

Project Officer
Ministry of Fisheries and Agriculture
Velaanage, 7th Floor, Ameeru Ahemed Magu,
Male, Ppublic of Maldives, Maldives
Tel: (960) 333 9291 Fax: (960) 332 6558
E-mail: mohamed.shameem@fishagri.gov.mv

Myanmar

Aung Aung

Assistant Director
Department of Fisheries, Mon Ywar Township,
Saging Region, Myanmar
Tel: (951) 647 536, 2131823
Fax: (951) 647 519
E-mail: irnp.dof@gmail.com

Aung Myint

Joint Treasurer (MFF) Mandalay Region
Myanmar Fisheries Federation of Corner of Bayint
Naung Road and Say War Sat Yone Street, West
Gyo Gone, Insein T/S, Yangon, Myanmar
Tel: (951) 683 658 Fax: (951) 683 657
E-mail: info@fishfedmyanmar.com

Hla Win

Advisor
Myanmar Fisheries Federation Kyo Gone,
Insein, Yangon, Myanmar
Tel: (950) 25572
E-mail: hlwin.dofmm@gmail.com

Khin Maung Soe

Deputy Director
Department of Fisheries, Myanmar, Conner of
Bayintnaung Road and Bayintnaung Avenue,
Insein Township, Yangon, Myanmar
Fax: (951) 647 519
E-mail: aquadof10@gmail.com

Kyaw Tun Myint (Dr.)

Joint General Secretary
Myanmar Fisheries Federation
Building, Bayintnaung Road, West Gyogone,
Insein Township Yangon, Myanmar
Tel: (950) 53028 Fax: (951) 683 657
E-mail: ukyawarrman@gmail.com

Moe Myint Kyaw

Chairman
Myanmar Fishery Products Processors & Exporters
Association
Corner of Bayint Naung Road&Say War Sat Yone
Street, West Gyo Gone, Insein Township, Yangon,
Myanmar
Tel: (951) 644 031 Fax: (951) 683 669
E-mail: rogermakro@gmail.com

Moe Thwin

Chairperson (MFF)
Myanmar Fisheries Federation
Corner of Bayint-naung Road and Say War Sat
Yone Street, West Gyo Gone, Insein T/S, Yangon,
Myanmar
Tel: (951) 683 658 Fax: (951) 683 657
E-mail: info@fishfedmyanmar.com

Myint Aung

Secretary (MFF), Saging Region
Myanmar Fisheries Federation
Corner of Bayint Naung Road and Say War Sat
Yone Street, West Gyo Gone, Insein T/S, Yangon,
Myanmar
Tel: (951) 683 658 Fax: (951) 683 657
E-mail: info@fishfedmyanmar.com

Myint Myint Kyi (Ms.)

Fishery officer
Research and Development Division, Department
of Fisheries, Yangon, Myanmar
Tel: (951) 680 748 Fax: (951) 647 519
E-mail: mmk.thet01@gmail.com

Myint Pe

Assistant Director
Department of Fisheries, Conner of Bayint Naung
Road & Bayint Naung Avenue, Insein
Township, Yangon, Myanmar
Tel: (951) 680 748 Fax: (951) 647 519
E-mail: myintpe@myanmar.com.mm

Myint Swe

C.E.C Board member
Myanmar Fisheries Federation
Building, Bayintnaung Road, West Gyogone,
Insein Township Yangon, Myanmar
Tel: (951) 290 049 Fax: (951) 683 657
E-mail: myintswe786@gmail.com

Myint Zin Htoo

Assistant Director
Department of Fisheries, Building (36), Ministry
of Livestock and Fisheries,
Nay Pyi Taw, Myanmar
Tel: (950) 674 08049 Fax: (950) 674 08055
E-mail: chomarmolf@gmail.com

Myo Naing

Fishery Station officer
Yaezin Fisheries Station, Department of Fisheries,
Naypyidaw, Myanmar
Yaezin Fisheries Station Compound, Department
of Fisheries, Naypyidaw, Myanmar
Tel: (951) 647 536 Fax: (951) 647 519
E-mail: irnp.dof@gmail.com

Nilar Kywe (Ms.)

Assistant Director,
Department of Fisheries
Room 002, Building 1, Departmental Housing
Myanmar Seafood Rd., West Gyogone, Insein
Township, Yangon, Myanmar
Tel: (951) 647 527 Fax: (951) 647 720

San Aye

Chairperson (MFF)
Shan State Myanmar Fisheries Federation
Corner of Bayint Naung Road and Say War Sat
Yone Street, West Gyo Gone, Insein T/S, Yangon,
Myanmar
Tel: (951) 683 658 Fax: (951) 683 657

San Lwin

Assistant Director
Department of Fisheries, Myanmar
Bayint-naung Road, West Gyo-goon, Insein T/S
Department of Fisheries, Myanmar
Tel: (951) 647 512 Fax: (951) 647 512
E-mail: sanlwin3dof@gmail.com

Soe Tun

Vice Chairman
Myanmar Fisheries Federation,
Bayintnaung Road, West Gyogone,
Insein Township Yangon, Myanmar
Tel: (950) 15251 Fax: (951) 683 657
E-mail: nyeinst@gmail.com

Tint Swe

Deputy Director
Department of Fisheries, Myanmar, Bayintnaung
Road, West Gyogone, Insein Township, Yangon,
Myanmar
Tel: (951) 647 524
E-mail: dof.tintswe@gmail.com

Win Myint Maung

Director (FIQC)
Department of Fisheries, Myanmar, Bayintnaung
Road, West Gyogone, Insein Township, Yangon,
Myanmar

Zaw Lwin Win

Fishery Officer
Department of Fisheries, Taungoo District, Bago
Region, Myanmar
Tel: (951) 647 536, Fax: (951) 647 519
E-mail: irnp.dof@gmail.com

Philippines

Alma C. Dickson (Dr.)

Center Chief
Bureau of Fisheries and Aquatic Resources PCA
Compound, Elliptical Road, Diliman Quezon City,
Philippines
Telefax: (632) 929 6668
E-mail: alma_dickson@yahoo.com

Arap (Ms.)

Aquaculturist
Cotabato City, Philippines
Tel: (639) 176 335812
E-mail: arapium@yahoo.com

Arlene Nietes Satapornvanit (Ms.)

Institute of Aquaculture
University of Stirling, FK9 4LA U.K.
E-mail: ans1@stir.ac.uk

Asis G. Perez, Atty.

Director, BFAR and SEAFDEC Council Director
for the Philippines
PCA Compound, Elliptical Road, Diliman Quezon
City, Philippines
Tel: (632) 929 8390 Fax: (632) 929 8074

Beldia Pacifico

Marine Protected Areas Specialist
Conservation International - Philippines,
#6 Maalalahanin St., Teachers' Village Diliman,
Quezon City, Philippines
Tel: (632) 924 8235 Fax: (632) 435 6446
E-mail: pbeldia@conservation.org

Benjamin F.S. Tabios, Jr.

Assistant Director for Administrative Services
BFAR, 3rd Floor, PCA Building, PCA Compound,
Elliptical Road, Diliman, Quezon City, Philippines
Tel: (632) 929 8390 Fax: (632) 929 8390
E-mail: benjo_tabios@yahoo.com

Diosdado Crisostomo

President
Tiger Properties Development Group, Inc.
34 Rigal Ave. East, Lingayen,
Pangasunan, Philippines
Tel: (637) 549 41019 Fax: (637) 544 21118
E-mail: dnctiger@yahoo.com

Elena M. Garces (Ms.)

Technical Staff (Fisheries Coordinator)
DA-Bureau of Agricultural Research, RDMIC
Building, Elliptical Road corner Visayas Avenue,
Diliman, Quezon City 1104
Philippines
Tel: (632) 928 8624 Fax: (632) 920 0231
E-mail: emgarces@bar.gov.ph

Gil A. Adora

Assistant Director for Technical Services
Bureau of Fisheries and Aquatic Resources PCA
Compound, Elliptical Road, Diliman Quezon City,
Philippines
Tel: (632) 455 9493, 3796523
Fax: (632) 929 8074
E-mail: giladora.bfar@yahoo.com

Ismael Jerry C. Fermo

Agricultural Center Chief
Bureau of Fisheries and Aquatic Resources PCA
Compound, Elliptical Road, Diliman Quezon City,
Philippines
Tel: (632) 929 9597, 9295847
Fax: (632) 929 8074

Jeremy S. Regino

Chairman of the Board
Tiger Properties Development Group, Inc.
5039 Batiller St., Portview Home, Sunualley,
Bicutan, Paranaque City, Philippines
Tel: (639) 175 599241
E-mail: jeremyre2000@yahoo.com

Jonathan O. Dickson (Dr.)

Chief, Capture Fisheries Division and SEAFDEC
National Coordinator for the Philippines, BFAR,
PCA Annex Bldg. 4th Floor, Elliptical Road,
Diliman, Quezon City 1100, Philippines
Tel: (632) 929 4296 Fax: (632) 929 4296
E-mail: jod_bfar@yahoo.com

Jose Ira Archimedes D. Borromeo

Executive Assistant
DA-Bureau of Agricultural Research,
RDMIC Building, Elliptical Road corner Visayas
Avenue, Diliman, Quezon City 1104, Philippines
Tel: (632) 926 2538 Fax: (632) 927 5691
E-mail: jborromeo@bar.gov.ph

Keise T. Usman

Regional Director
Bureau of Fisheries and Aquatic Resources
ORG Compound Cotabato City, Philippines
Tel: (644) 213 246 Fax: (644) 219 788

Ligaya C. Santos

Senior Agriculturist
DA-Bureau of Agricultural Research, RDMIC
Building, Elliptical Road corner Visayas Avenue,
Diliman, Quezon City 1104
Philippines
Tel: (632) 928 8624 ext.3121 Fax: (632) 920 0227
E-mail: lsantos@bar.gov.ph

Maria Rebecca Campos (Dr.)

Consultant
Southeast Asian Regional Center for Graduate
Study and Research in Agriculture,
10996 Campos Compound
Faculty Village College,
Laguna 4031, Philippines
Tel: (639) 164 785958
E-mail: cmaribec@yahoo.com

Melannie R. Guerra (Ms.)

Supervising Aquaculturist
BFAR, PCA Bldg., Elliptical Road, Diliman,
Quezon City, Philippines
Tel: (632) 454 5863 Fax: (632) 454 5863
E-mail: murguerra2002@yahoo.com

Michael Pido (Dr.)

Director, Center for Strategic Policy and
Governance, Palawan State University,
G/F Medical Building, Tiniguiban Heights 5300,
Puerto Princesa City,
Palawan, Philippines
Tel: (634) 843 49524 Fax: (634) 843 47046
E-mail: mdpido@yahoo.com

Moonyeen Alava (Ms.)

Marine Conservation Specialist
Conservation International - Philippines,
#6 Maalalahanin St., Teachers' Village Diliman,
Quezon City, Philippines
Tel: (632) 924 8235 Fax: (632) 435 6446
E-mail: malava@conservation.org

Mudjekeewis D. Santos (Dr.)

Scientist and Officer-in-Charge,
Marine Fisheries Research Division,
National Fisheries Research and Development
Institute, 940 Kayumanggi Bldg.,
Quezon Ave., Quezon City 1103, Philippines
Tel: (632) 410 8709 Fax: (632) 372 5063
E-mail: mudjiesantos@gmail.com

Nieves Toledo

Assistant Professor
Institute of Aquaculture College of Fisheries and
Ocean Sciences,
University of the Philippines Visayas,
Miagao, Iloilo 5023, Philippines
Tel: (633) 331 58090
E-mail: ncatph@yahoo.com

Noel C. Barut

Deputy Executive Director
NFRDI/BFAR, 940 Quezon Avenue,
Quezon City 1103, Philippines
Tel: (632) 372 5063 Fax: (632) 372 5063
E-mail: noel_c_barut@yahoo.com

Patri Chan (Ms.)

City Vice-Mayor
LGU, Dapitan City
068 Rizal Ave., Cawa-cawa, Dapitan City,
Zamboanga del Norte, Philippines
Tel: (652) 136 244 Fax: (652) 136 580
E-mail: patribchan@yahoo.com

Rafael V. Ramiscal

Senior Aquaculturist, NMFDC
Bureau of Fisheries and Aquatic Resources PCA
Compound, Elliptical Road,
Diliman Quezon City, Philippines
Tel: (632) 929 6668, 837581 Fax: (632) 929
6668
E-mail: rv_ram55@yahoo.com

Romulo P. Soliva

Chairman-Committee on Appropriation and
Finance, Social Welfare And Urban Development,
City Government of Dipolog, Malvar Street Ext.
Miputak, Dipolog City 7100, Philippines
Tel: (652) 128 106 Fax: (652) 126 406
E-mail: romulosoliva@yahoo.com

Sammy Malvas

Chief
Fisheries Policy and Economics Division,
Bureau of Fisheries and Aquatic Resources PCA
Compound, Elliptical Road, Diliman Quezon City,
Philippines
Tel: (632) 929 7673 Fax: (632) 929 8074
E-mail: formerwgrfp@yahoo.com

Sani D. Macabalang

Regional Director
Bureau of Fisheries and Aquatic Resources
Regional Fisheries Office No. 12,
Vensu Building, National Highway,
General Santos City, Philippines
Tel: (638) 355 29331 Tel: (638) 355 29331
E-mail: sanird12@gmail.com,
abd_mannan12@yahoo.com

Teresita de Jesus (Ms.)

72B Saint Michael st., West kalayaan SBMA,
Olongapo City Zambales, Philippines
E-mail: terrytaba@yahoo.com

Singapore

Carmen Lee Jiamin (Dr.)

Veterinarian/Surveillance & Inspection Division
(Animal Section)
AVA Singapore, Veterinary Public Health Center
10 Perahu Road 718837, Singapore
Tel: (656) 795 2821 Fax: (656) 861 9492
E-mail: carmen_lee@ava.gov.sg

Fong Shuefatt (Dr.)

Nexans Singapore Pte Ctd
Triple One Somerset Road, Singapore
Tel: (659) 119 1132
E-mail: simon.fong@nexaus.cors

Khoo Gek Hoon (Ms.)

Deputy Director (Post-harvest)
AVA Singapore
2 Perahu Road 718915, Singapore
Tel: (656) 790 7068, 7907973
Fax: (656) 861 3196
E-mail: khoo_gek_hoon@ava.gov.sg

Melvin Chow Wing Chung

Deputy Director (Food Supply)
AVA Singapore, 5 Maxwell Road,
Tower Block, MND Complex,
069110, Singapore
Tel: (656) 325 7635 Fax: (656) 220 6068
E-mail: Melvin_Chow@ava.gov.sg

Tan-Low Lai Kim (Ms.)

Director (Food Supply Resilience) and SEAFDEC
Alternate Council Director for Singapore
AVA Singapore, 5 Maxwell Road, #04-00,
Tower Block, MND Complex,
069110, Singapore
Tel: (656) 325 5280 Fax: (656) 220 6068
E-mail: Tan-Low_Lai_Kim@ava.gov.sg

Tan Lu Hsia (Ms.)

Assistant Director (Food Security and Statistics)
AVA Singapore, 5 Maxwell Road, #03-00,
Tower Block, MND Complex,
069110, Singapore
Tel: (656) 325 7616 Fax: (656) 220 6068
E-mail: Tan_Lu_Hsia@ava.gov.sg

Tan Poh Hong (Ms.)

Chief Executive Officer and SEAFDEC Council
Director for Singapore
AVA Singapore, 5 Maxwell Road, #04-00,
Tower Block, MND Complex,
069110, Singapore
Tel: (656) 325 7530 Fax: (656) 220 6068
E-mail: TAN_Poh_Hong@ava.gov.sg

Tan Yit Wee

AVA Singapore, Aquaculture Services Centre
Sembawang Research Station 17km,
Lorong Chencharu 769194, Singapore
Tel: (656) 751 9853 Fax: (656) 752 3242
E-mail: Tan_Yit_Wee@ava.gov.sg

South Korea

Helen Davies (Ms.)

Marine Environment Officer-Fisheries and
Biodiversity, UNDP/GEF Yellow Sea Large
Marine Ecosystem Project,
Room 3113, Bldg. R-3, KORDI Compound, 1270,
Sa2-dong, Sangnok-gu,
ANSAN 426-744, South Korea
Tel: (823) 140 07827
Fax: (823) 140 07826
E-mail: helen@yslme.org

Sweden

Joacim Johannesson

Fisheries Advisor
Swedish Board of Fisheries
BOX 423 401 26 Goteborg, Sweden
Tel: (433) 174 30331 Fax: (463) 174 30444
E-mail: joacim.johannesson@fiskeriverket.se

Malin Jonell (Ms.)

Stockholm University Dept. Systems Ecology
SE-106 91 Stockholm, Sweden
Fax: (006) 164 304672
E-mail: malin.jonell@hgo.se

Thailand

Adhinand Indrapim (Ms.)

Department of Fisheries, Kaset Klang,
Chatuchak, Bangkok 10900, Thailand
Tel: (668) 181 97969
E-mail: adhinand@gmail.com

Amorn Samma

Department of Fisheries, Kaset Klang,
Chatuchak, Bangkok 10900, Thailand
Tel: (668) 193 30110 Fax: (662) 561 4685
E-mail: amornsamma@hotmail.com

Amporn Laowapong (Ms.)

Economist, Senior Professional
Department of Fisheries, Kaset Klang,
Chatuchak, Bangkok 10900, Thailand
Tel: (662) 558 0194-5 Fax: (662) 558 0212
E-mail: amporn0108@yahoo.com

Anond Sanidvongs (Dr.)

Director
START/Thailand, Chulalongkorn University, 5th
Floor, Chulawich 1 Building, Henri Dunant Rd.,
Patumwan, Bangkok 10330, Thailand
Tel: (668) 987 38843 Fax: (662) 519 416
E-mail: Anond@start.or.th

Apichart Termvidchakorn (Dr.)

Senior Expert
Department of Fisheries, Kaset Klang,
Chatuchak, Bangkok 10900, Thailand
Fax: (668) 179 12075
E-mail: inland_larvae@yahoo.com

Apichat Somrith, Lt.

Navigator specialist, Fisheries Administration and
Management Bureau,
Department of Fisheries, Kaset Klang,
Chatuchak, Bangkok 10900, Thailand
Tel: (668) 194 43250, (662) 562 0568
Fax: (662) 562 0568
E-mail: Apichat03@hotmail.com

Arthorn Piboonthanapathana

Secretary
Thai Frozen Foods Association,
92/6 6th floor Sathon Thani II, North Sathorn Rd.,
Bangrak Bangkok 10500, Thailand
Tel: (662) 636 9001-4 Fax: (662) 235 5625
E-mail: thai-frozen@thai-frozen.or.th

Bordin Ittipong

Food Technologist Professional level
Fishery Technological Development Division,
Department of Fisheries, Kaset Klang,
Chatuchak, Bangkok 10900, Thailand
Tel: (662) 940 6130 Fax: (662) 940 6200
E-mail: bord7227@yahoo.com

Chanin Sangrungruang

135 M.11, Lad-Yai, Amphoe Mueang,
Samutsongkhram, Thailand
Tel: (668) 117 13175 Fax: (66) 347 56 625
E-mail: chanin99@yahoo.com

Chaweewan Lomlek (Ms.)

Department of Agriculture, Kaset Klang,
Chatuchak, Bangkok 10900, Thailand

Chuanpid Chantarawarathit (Ms.)

Department of Fisheries, Kaset Klang,
Chatuchak, Bangkok 10900, Thailand
Tel: (662) 562 0529

Chutima Khomvilai (Dr.)

Fisheries Biologist
Department of Fisheries, Kaset Klang,
Chatuchak, Bangkok 10900, Thailand
E-mail: chutimakk@gmail.com

Damrong Silpachai

91/449 Pathavikorn 2 Residential Village,
Ram-Indra 44, Klong Khum, Bung Khum,
Bangkok 10230, Thailand
Tel: (662) 510 9652
E-mail: dsilpachai@yahoo.com

Jasmin Espejo-Hermes (Ms.)

Food/Fish Safety Specialist
Bel air Resort, Phuket, Thailand
Tel: 491724661187
E-mail: JEHermes@gmx.de

Jinda Saikliang (Ms.)

49 Moo 1, Soi Prarachveriyaporn16, Bangpeung
Sub-district,
Prapradaeng, Samut Prakan 10130, Thailand
Tel: (662) 816 7635-38 Fax: (662) 816 7634
E-mail: chindanak@yahoo.co.th

Jintana Nugranad (Ms.)

Director, Prachuap Khiri Khan Coastal Fisheries
Research and Development Center,
Klong Wan, Prachuap Khiri Khan 77000, Thailand
Tel: (663) 266 1298 Fax: (663) 266 1398
E-mail: jnugranad@gmail.com

Jiraporn Kasornchandra (Dr.)

Senior Expert in Fish Diseases
Department of Fisheries, Kaset Klang,
Chatuchak, Bangkok 10900, Thailand
Tel: (662) 940 6529 Fax: (662) 562 0571
E-mail: kasornj@gmail.com

John C. Pernetta (Dr.)

35/323 Yingrouniwes, Bangtalad, Pak Kret,
Nonthaburi 11120, Thailand
Tel: (668) 702 26996
E-mail: jpernetta@gmail.com

Joompol Sanguansin

Senior Expert in Fisheries Management
Department of Fisheries, Kaset Klang, Chatuchak,
Bangkok 10900, Thailand
Tel: (668) 507 06463 Fax: (662) 562 0571
E-mail: joompols@fisheries.go.th

Juadee Pongmaneerat (Dr.)

Senior Expert
Department of Fisheries, Kaset Klang,
Chatuchak, Bangkok 10900, Thailand
Tel: (662) 940 6210 Fax: (662) 562 0571
E-mail: juadeep@gmail.com

Jutarat Kittiwanch (Dr.)

Fisheries Biologist
Marine Shrimp Culture Research and Development
Center,
Department of Fisheries, Kaset Klang,
Chatuchak, Bangkok 10900, Thailand
Tel: (662) 561 4678 Fax: (662) 561 0786
E-mail: jutark@yahoo.com

Kamonpan Awaiwanont (Dr.)

Senior Fisheries Biologist
Fishing Ground Development Unit, Department of
Fisheries, Kaset Klang,
Chatuchak, Bangkok 10900, Thailand
Tel: (662) 940 6558 Fax: (662) 940 6558
E-mail: kamonpana@fisheries.go.th

Katoh Satomi (Ms.)

Assistant
SEAFDEC Secretariat
c/o Deputy Secretary-General
P. O. Box 1046, Kasetsart Post Office Bangkok
10903, Thailand
Tel: (609) 631 8191 Fax: (609) 617 4042
E-mail: skatoh@my.email.ne.jp

Khom Silpajan (Dr.)

Director, Planning Division
Department of Fisheries, Kaset Klang,
Chatuchak, Bangkok 10900, Thailand
Tel: (662) 562 0586 Fax: (662) 5620531
E-mail: ksilapajarn@yahoo.com

Khomkrit Senarak

Thai Shrimp Association

Kingdeuan Somjit (Dr.)

Senior Food Technologist
Fish Inspection and Quality Control Division,
Department of Fisheries, Kaset Klang,
Chatuchak, Bangkok 10900, Thailand
Tel: (662) 558 0143 Fax: (662) 558 0142
E-mail: kingdueans@fisheries.go.th,
kingduean@yahoo.com

Krissana Sukhumparnich (Ms.)

Senior Food Technologist
1st Floor Preeda Karnasuta Bldg.,
Department of Fisheries, Kaset Klang,
Chatuchak, Bangkok 10900, Thailand
Tel: (662) 558 0150-5 ext. 13101
Fax: (662) 558 0134
E-mail: krissana_s@yahoo.com

Kulapa Boonchuwong (Ms.)

Senior Economist
Fisheries Economics Division,
Department of Fisheries, Kaset Klang,
Chatuchak, Bangkok 10900, Thailand
Tel: (662) 558 0194 Fax: (662) 558 0212
E-mail: kboonchuwong@yahoo.com

Kungwan Juntarashote (Dr.)

Director, Coastal Development Center (CDC),
Department of Fishery Management,
Faculty of Fisheries, Kasetsart University,
50 Paholyothin Road,
Chatuchak, Bangkok 10900, Thailand
Tel: (662) 579 1697 Fax: (662) 579 1698
E-mail: ffiskwj@ku.ac.th

Lukhana Boonsongsrikul (Ms.)

Fishery Biologist
Department of Fisheries, Kaset Klang,
Chatuchak, Bangkok 10900, Thailand
Tel: (662) 562 0600 ext. 1108
Fax: (662) 562 0529
E-mail: lukhanabsk@gmail.com

Mali Boonyaratpalin (Dr.)

Advisor
Department of Fisheries, Kaset Klang, Chatuchak,
Bangkok 10900, Thailand
Tel: (662) 562 0557, (668) 989 21417
Fax: (662) 562 0561
E-mail: boonyaratpalin@yahoo.com

Malinee Smitritthee (Ms.)

Director, Fisheries Foreign Affair Division,
Department of Fisheries, Kaset Klang,
Chatuchak, Bangkok 10900, Thailand
Tel: (662) 579 8215 Fax: (662) 562 0529
E-mail: Malinee_pom@hotmail.com

Montri Kritpaiboon

National Bureau of Agricultural Commodity and
Food Standards (ACFS), Kaset Klang,
Chatuchak, Bangkok 10900, Thailand

Nantiya Unprasert (Dr.)

Deputy Director-General
Department of Fisheries, Kaset Klang, Chatuchak,
Bangkok 10900, Thailand

Nartaya Srichantuk (Ms.)

Economist
Fisheries Economic Section,
Department of Fisheries, Kaset Klang,
Chatuchak, Bangkok 10900, Thailand
Tel: (662) 558 0194 Fax: (662) 558 0212
E-mail: nartayas@gmail.com

Naruepon Sukumasavin (Dr.)

Senior Expert in Aquatic Ecology
Department of Fisheries, Kaset Klang,
Chatuchak, Bangkok 10900, Thailand
Tel: (668) 507 07838 Fax: (662) 562 0493
E-mail: naruepos@gmail.com

Niracha Wongchinda (Ms.)

Senior Expert in Fishery Products
Department of Fisheries, Kaset Klang, Chatuchak,
Bangkok 10900, Thailand
Tel: (662) 940 6526 Fax: (662) 562 0571
E-mail: nirachaw@gmail.com

Orasa Dissathaporn (Ms.)

Department of Agricultural Extension
2143/1 Phaholyothin Rd. Chatuchak, Bangkok
10900, Thailand
E-mail: servicelink@doae.go.th

Orawan Kongpun (Ms.)

Food Technologist senior-professional level
Department of Fisheries, Kaset Klang,
Chatuchak, Bangkok 10900, Thailand
Tel: (662) 940 6130-45 Fax: (662) 940 6200

Paiboon Bunlipatanon

Director
141 Moo 6 Saithai Muang Krabi 81000
Thailand
Tel: (667) 566 2059-60 Fax: (667) 566 2060
E-mail: paiboonbun@hotmail.com

Pakorn Prasertwong

Chief, Environment Division
Marine Department, 1278 Yotha Road,
Samphanthawong, Bangkok 10100, Thailand
Tel: (662) 234 3832 Fax: (662) 234 3832
E-mail: pakornp2002@yahoo.com

Pantip Suwansakornkul (Ms.)

Food Technologist senior-professional level
Department of Fisheries, Kaset Klang,
Chatuchak, Bangkok 10900, Thailand
Tel: (662) 940 6130-45 Fax: (662) 940 6200

Pensri Muangyao (Ms.)

Fisheries Biologist
Coastal Aquaculture Research Institute,
1/19 M.3 Kaorupchang, Muang District,
Songkhla 90100, Thailand
Tel: (667) 431 1895 Fax: (667) 444 2054
E-mail: p_muangyao20@yahoo.com

Permsak Perngmark

Fishery Biologist
Southern Marine Fisheries Research and
Development Center, Songkhla, Thailand
Tel: (668) 189 79043 Fax: (667) 431 2495
E-mail: permsak2504@yahoo.com

Phanpop Plangprayoon

Director, Division III
Department of ASEAN Affairs,
Ministry of Foreign Affairs,
Sri Ayudhaya Road, Phayathai,
Bangkok, Thailand

Pirochana Saikliang

Director, Deep Sea Fishery Technology Research
and Development Institute, Department of
Fisheries, Kaset Klang,
Chatuchak, Bangkok 10900, Thailand
Tel: (662) 940 6146 Fax: (662) 562 0533
E-mail: pirochas@hotmail.com

Pisit Wongsa-Ngasri (Dr.)

Department of Fisheries, Kaset Klang,
Chatuchak, Bangkok 10900, Thailand
Fax: (662) 940 6200
E-mail: fluke_w2001@yahoo.com

Pongpat Boonchuwong

Senior Expert on Fisheries Economics
Department of Fisheries, Kaset Klang, Chatuchak,
Bangkok 10900, Thailand
Tel: (662) 562 0551 Fax: (662) 562 0571
E-mail: boonchuwong@yahoo.com

Pradit Chonchuenchob

Fisheries Biologist
Department of Fisheries, Kaset Klang,
Chatuchak, Bangkok 10900, Thailand
Tel: (662) 940 6207 Fax: (662) 562 0571
E-mail: ccpradit@gmail.com

Pramuan Rugjai

Deputy Director
Fish Marketing Organization,
211 Chareon Krung 58, Yannawa,
Sathorn, Bangkok 10120, Thailand
Tel: (662) 211 6103 Fax: (662) 211 2833
E-mail: rugpra@hotmail.com

Praulai Nootmorn (Ms.)

Director, Marine Fisheries Research and
Technological Development Institute,
Department of Fisheries, Kaset Klang,
Chatuchak, Bangkok 10900, Thailand
Tel: (662) 940 6559 Fax: (662) 940 6559
E-mail: nootmorn@yahoo.com

Putth Songsangjinda (Dr.)

Director, Marine Shrimp Culture Research Institute,
Department of Fisheries, Kaset Klang, Chatuchak, Bangkok 10900, Thailand
Tel: (662) 579 3682 Fax: (662) 561 0786
E-mail: putthsj@yahoo.com

Ratana Munprasit (Ms.)

Fisheries Researcher
Eastern Marine Fisheries Research and Development Center, Ban-Phe, Muang District, Rayong 21160, Thailand
Tel: (663) 865 1764 Fax: (663) 865 1763
E-mail: m_ratana@yahoo.com

Renu Sirimongkolthavorn (Ms.)

Senior fisheries biologist
Udon Thani IFRDC, DoF, Thailand
595 Porniyom Rd. Muang Udonthani 41000 Thailand
Tel: (668) 178 59809 Fax: (664) 222 3233
E-mail: kohkaset@gmail.com

Renu Yashiro (Dr.)

Senior Expert on Coastal Aquaculture
Coastal Fisheries Research and Development Bureau, Department of Fisheries, Kaset Klang, Chatuchak, Bangkok 10900, Thailand
Tel: (662) 561 3997 Fax: (662) 561 3997
E-mail: renuyashiro@gmail.com

Ruamporn Ngamborriruk (Ms.)

Senior Policy and Plan Analyst
Department of Water Resources
180/3 Rama 6 Rd, Soi Phibul Watana Building, Phayathai, Bangkok 10400 Thailand
Tel: (662) 271 6165 Fax: (662) 271 6165
E-mail: nruamporn@yahoo.com

Sakchai McDonough

Asian Institute of Technology (AIT)
P.O. Box 4, Klong Luang, Pathumthani 12120, Thailand
Tel: (668) 511 80670
E-mail: sakchai.mcdonough@ait.ac.th

Samrit Potiwat

Fishery officer Senior Level
Department of Fisheries, Kaset Klang, Chatuchak, Bangkok 10900, Thailand
Tel: (662) 561 4689 Fax: (662) 561 4689
E-mail: spotiwat@gmail.com

Saowanee Taplieng (Ms.)

Department of Fisheries, Kaset Klang, Chatuchak, Bangkok 10900, Thailand

Sineenart Chuichulcherm (Ms.)

Senior Commercial Manager
Mars Thailand Inc.
123 19th Floor Suntower Building, Ladyao, Chatuchak, Bangkok 10900, Thailand
Tel: (668) 920 29054 Fax: (662) 617 6799
E-mail: sineenart.chuichulcherm@effem.com

Somsak Chullasorn

45 Wattananivet 4, Suttisarn Road, Samsen-nok, Huaykwang, Bangkok 10310, Thailand
Tel: (662) 277 5015 Fax: (662) 693 1828
E-mail: papasomsak@hotmail.com

Somsak Panitattayasai

President
Thai Shrimp Association

Somying Piumsombun (Dr.)

Director-General
Department of Fisheries, Kaset Klang, Chatuchak, Bangkok 10900, Thailand

Songsak Limsombatanant

President
The Thai Overseas Fisheries Association

Sontipan Pasugdee

Senior Fisheries Biologist
Department of Fisheries, Kaset Klang, Chatuchak, Bangkok 10900, Thailand
Tel: (668) 507 06574 Fax: (662) 940 6524

Suchart Inghamjit (Dr.)

Senior Professional Fisheries Biologist,
Department of Fisheries, Kaset Klang, Chatuchak, Bangkok 10900, Thailand
Tel: (668) 961 45435
E-mail: sucharting@gmail.com

Suchat Sangchang

Chumporn Marine Fisheries Research and Development Center
408 Mung, Chumporn 86120, Thailand
Tel: (667) 752 2006-7 Fax: (667) 752 2006-7
E-mail: sangchansu@gmail.com

Sujin Nukwan

Director, Aquatic plant and Ornamental Fish Research Institute,
Department of Fisheries, Kaset Klang, Chatuchak, Bangkok 10900, Thailand
Tel: (668) 133 09991 Fax: (662) 558 0172
E-mail: Sujinn@fisheries.go.th

Sulistiyani Dyah Pramitasari (Ms.)

Asian Institute of Technology (AIT)
P.O. Box 4, Klong Luang, Pathumthani
12120 Thailand
Fax: (668) 222 32688
E-mail: a_dinda@yahoo.com

Supon Tansuwan

Fisheries Biologist
Coastal Aquatic Feed Research Institute
41/14 Sukhumvit Rd., Bangphra, Sriracha,
Chonburi 20110, Thailand
Tel: (663) 832 6512 Fax: (663) 831 2532
E-mail: tsupon@gmail.com

Suttichai Rittitum

Director
Samutsakhon Coastal Fisheries Research and
Development Center, 127 moo 8 Tambon Khok
Kham Amphoe Mueang Samutsakhon Province
74000, Thailand
Tel: (663) 4857136 Fax: (663) 4857138
E-mail: rittitum@yahoo.com

Suttinee Limthammahisorn (Ms.)

Senior Fisheries Biologist
Coastal Fisheries Research and Development
Bureau (CFRDB), Department of Fisheries, Kaset
Klang, Chatuchak, Bangkok 10900, Thailand
Tel: (668) 699 05811 Fax: (662) 561 4759
E-mail: suttinel@gmail.com

Suwanchai Saengsukiam (Dr.)

Thai Chamber of Commerce

Tanes Poomtong

Phetchaburi Coastal Fisheries Research and
Development Center, 122 1, Tumbol Laem Phak
Bia, Amphur Ban Laem, 76100 Phetchaburi
Provinces, Thailand
Tel: (663) 277 0627 Fax: (663) 277 0627
E-mail: tpoomtong@yahoo.com

Tayathat Karnchanapipatkul

Department of ASEAN Affairs
Ministry of Foreign Affairs,
Sri Ayudhaya Road, Phayathai,
Bangkok, Thailand

Temdoung Somsiri (Dr.)

Director, Inland Aquatic Animal Health Research
Institute,
Department of Fisheries, Kaset Klang,
Chatuchak, Bangkok 10900, Thailand
Tel: (662) 579 4122 Fax: (662) 561 3993
E-mail: tsi_f@yahoo.com

Thavee Viputhanumas

Director, Inland Feed Research Institute,
Department of Fisheries, Kaset Klang,
Chatuchak, Bangkok 10900, Thailand
Tel: (668) 507 06496
E-mail: thavee@gmail.com

Thewan Thanamalarat

Plan and Policy Analyst
Department of Fisheries, Kaset Klang,
Chatuchak, Bangkok 10900, Thailand
Tel: (662) 561 4691 Fax: (662) 561 4684
E-mail: banchimplee@yahoo.com

Uthairat Nanakorn (Dr.)

Head, Genetics Laboratory
Aquaculture Department, Kasetsart University,
Bangkhane, Bangkok, Thailand
Tel: (662) 579 7831 Fax: (662) 561 3984
E-mail: ffishurn@ku.ac.th

Varatip Somboonyarithi (Ms.)

Director, Fishery Technological Development
Division, Department of Fisheries, Kaset Klang,
Chatuchak, Bangkok 10900, Thailand
Tel: (662) 940 6130-45 ext.4321
Fax: (662) 940 6200
E-mail: varatip98@gmail.com

Varin Tanasomwang (Dr.)

Director, Coastal Fisheries Research and
Development Bureau,
Department of Fisheries, Kaset Klang,
Chatuchak, Bangkok 10900, Thailand
Tel: (662) 561 4759 Fax: (662) 561 4759
E-mail: varin_tana@hotmail.com

Vilaiwan Popprasert (Ms.)

Director, Organization Management and
Development Department, Fish Marketing
Organization, 211 Chareon Krung 58 Yannawa,
Sathorn, Bangkok 10120
Thailand
Tel: (662) 211 0697 Fax: (662) 211 5899
E-mail: vilaiwan1@yahoo.com

Vitaya Wangcharoenporn

Fisheries Expert
Department of Fisheries, Kaset Klang,
Chatuchak, Bangkok 10900, Thailand
Tel: (668) 190 06800 Fax: (662) 940 5623
E-mail: vitaya.w@hotmail.com

Wanwipa Suwannarak (Ms.)

Department of Fisheries, Kaset Klang,
Chatuchak, Bangkok 10900, Thailand

Waraporn Prompoj (Dr.)

Senior Expert
Department of Fisheries, Kaset Klang, Chatuchak,
Bangkok 10900, Thailand
Tel: (668) 507 06477

Watthana Kongwatthanant

Secretary-General
Thai Fish Culture Farmers Association

Weera Pokapunt

Senior Expert on Marine Fisheries
Department of Fisheries, Kaset Klang,
Chatuchak, Bangkok 10900, Thailand
Tel: (662) 940 9525 Fax: (662) 562 0571
E-mail: weera_poka@hotmail.com

Wilson Thomas (Dr.)

Vice President
Thai Luxe Enterprises Public Co. Ltd.
62 moo 2, T. Nhongchumphol, Khaoyoi,
Petchaburi 76140, Thailand
Tel: (663) 444 7681
E-mail: thomas@thailuxe.com

Winai Juntubtim

32 Inland Aquaculture Research Institute,
Department of Fisheries, Kaset Klang,
Chatuchak, Bangkok 10900, Thailand

Wiset Sahathaya (Ms.)

Local Knowledge
Mekong-Lanna Natural Resources and Cultural
Conservation Network,
Chiang Khong, Chiang Rai, Thailand
Tel: (668) 790 77967 Fax: (665) 379 1622
E-mail: kungwises@hotmail.com

Wongpathom Kamonrat (Dr.)

Fishery Expert on Aquatic Biodiversity
Department of Fisheries, Kaset Klang, Chatuchak,
Bangkok 10900, Thailand
Tel: (662) 558 0170 Fax: (662) 558 0170
E-mail: wongpatk@gmail.com

Wudthichai Wungkhahart

Fishery Biologist
Andaman Sea Fisheries Research and
Development Center 77 Sakdidej Rd. Muang
District Phuket Province 83000, Thailand
Tel: (667) 939 1139 Fax: (667) 939 1140
E-mail: wungkahart@yahoo.com

You-ee Getpech (Ms.)

Fisheries Science Professional Level
Department of Fisheries, Kaset Klang,
Chatuchak, Bangkok 10900, Thailand
Tel: (668) 1755 0624 Fax: (662) 561 4689
E-mail: k_learth@yahoo.com

Youngyut Predalumpaburt

Fisheries biologist
1/135 kaosan soi 1, Muang,
Songkhla 90000, Thailand

United Kingdom

Holmes Lucy (Ms.)

Programme Officer
Prince's Charities ISU
Clarence House London SW1A 1BA
United Kingdom
E-mail: lucy.holmes@royal.gsx.gov.uk

United States of America

Cassandra Lopez (Ms.)

Fisheries Analyst, Navy
4251 Suitland Road Washington DC 20395-5720,
United States of America
Tel: 301 6694358
E-mail: clopez@nmic.navy.mil

Christopher Glass (Dr.)

Director, Northeast Consortium
Institute for the Study of Earth Oceans and Space,
University of New Hampshire, Morse Hall 8
College Road Durham, NH 03824, USA
Tel: (1) 60 3862 0122
E-mail: chris.glass@unh.edu

Kathleen Carroll (Ms.)

Fisheries Analyst, Navy
4251 Suitland Road Washington DC 20395-5720,
United States of America
Tel: 301 6694358
E-mail: kathleen.carroll@navy.mil

Harmony Patricia (Ms.)

Conservation Director
FISHBIO
599 Hi Tech Pkwy Oakdale, CA 95361
United States of America
E-mail: harmonypatricio@fishbio.com

Michael Zaic

Fisheries Analyst, Navy
4235 Suitland Road Washington DC 20395-5720,
United States of America
Tel: 301 6694358
E-mail: michael.zaic@navy.mil

Sebastian Troeng (Dr.)

Vice President, Marine Conservation
Conservation International
2011 Crystal Drive, Suite 500 Arlington VA
22202, United States of America

Vietnam

Chau Thi Tuyet Hanh

Deputy Director
SUDA Component of FSPS II Program
10, Nguyen Cong Hoan, Ba Dinh, Ha Noi,
Vietnam
Tel: (849) 127 02008 Fax: (844) 377 10143
E-mail: hanhchau08@yahoo.com

Chu Van Tuyen

Director, Quang Ninh Agriculture and Rural
Development Department
Hong Ha, Ha Long city,
Quang Ninh Province, Vietnam
Tel: (849) 132 52675 Fax: (843) 336 33811
E-mail: chuantuyen@quangninh.gov.vn

Dao Hong Duc

Ministry of Aquiculture & Rural Development,
10 Nguyen Cong Hoan Street,
Ba Binh District, Hanoi, Vietnam

Do Van Nam

Ministry of Aquiculture & Rural Development,
10 Nguyen Cong Hoan Street,
Ba Binh District, Hanoi, Vietnam

Duong Long Tri

Deputy Director,
STOFA Component of FSPS II Program
10, Nguyen Cong Hoan, Ba Dinh,
Ha Noi, Vietnam
Tel: (849) 133 02650
E-mail: tridl@mard.gov.vn

Ha Quyet Nghi

Director
Son La Agriculture and Rural Development
Department
182 - Nguyen Lanh Bang, Son La city
Vietnam
Tel: (849) 135 04957 Fax: (842) 238 56803
E-mail: hgiamdoc@yahoo.com.vn

Hoang Dinh Yen

Director
SCAFI Component of FSPS II Programme
Department of Capture Fisheries and Fisheries
Resources Protection
10, Nguyen Cong Hoan, Ba Dinh,
Ha Noi, Vietnam
Tel: (849) 132 95383 Fax: (844) 437 715312
E-mail: hoangdinhyen@yahoo.com.vn

Hoang Quang Tuan

Ministry of Aquiculture & Rural Development
10 Nguyen Cong Hoan Street,
Ba Binh District, Hanoi, Vietnam

Hoang Van Cuong

Deputy Director
FSPS II Programme
10 Nguyen Cong Hoan, Ba Dinh,
Ha Noi, Vietnam
Tel: (849) 861 45286 Fax: (844) 377 10209
E-mail: cuong_hoang73@yahoo.com

Le Tran Nguyen Hung

Ministry of Aquiculture & Rural Development
10 Nguyen Cong Hoan Street,
Ba Binh District, Hanoi, Vietnam

Le Xuan Sinh (Dr.)

Vice head of Department
College of Aquaculture & Fisheries, Cantho
University, 3/2 Street, Ninh Kieu District, Can Tho
City, Vietnam
Tel: (847) 103 831587 Fax: (847) 103 830323
E-mail: lxsinh@ctu.edu.vn

Le Tieu La (Prof.)

Director
Vietnam Institute of Fisheries Economics and
Planning,
Ministry of Aquiculture & Rural Development
10 Nguyen Cong Hoan street - Ba Binh District –
Hanoi, Vietnam
Tel: (849) 133 23186 Fax: (843) 834 5674
E-mail: letieulavifep@yahoo.com

Luu Van Huy

Ministry of Aquiculture & Rural Development
10 Nguyen Cong Hoan Street,
Ba Binh District, Hanoi, Vietnam

Ngo Tien Chuong

Vice Director
International Collaborating Centre for Aquaculture
and Fisheries Sustainability-ICAFIS
House A7, no. 10 Nguyen Cong Hoan, Ba Dinh
district, Hanoi, Vietnam
Tel: (849) 821 54648
E-mail: chuong.ngotien@icafis.org

Nguyen Sang

Deputy Director
Research Institute for Aquaculture No. 2
116 Nguyen Dinh Chieu Street, Dist. 1, Ho Chi
Minh City, Vietnam
Tel: (849) 093 39173 Fax: (848) 382 99592
E-mail: nguyenvansang1973@yahoo.com

Nguyen Cong Binh

Deputy Director, Fisheries Division
Binh Dinh Agriculture and Rural Development
Department
77 Lê Hong Phong, Quy Nhon,
Binh Dinh, Vietnam
Tel: (849) 142 18668 Fax: (845) 638 27777
E-mail: binhenn@gmail.com

Nguyen Minh Canh

Deputy Director
Ben Tre Agriculture and Rural Development
Department, Ben Tre city, Vietnam
Tel: (849) 182 03464 Fax: (847) 538 25601
E-mail: canhbentredofi@yahoo.com.vn

Nguyen Son Hai

Senior Officer
Directoriate of Fisheries, Vietnam
35-37 Chuong Duong Road, District no.1, Ho Chi
Minh city, Vietnam
Tel: (848) 382 13826 Fax: (848) 382 13826
E-mail: seahcm2003@yahoo.com

Nguyen Thi Hong Nhung (Ms.)

Expert
Department of Science, Technology and
International Cooperation,
Ministry of Aquiculture & Rural Development/
VN, 10 Nguyen Cong Hoan str., Ba Dinh district,
Hanoi, Vietnam

Nguyen Tu Cuong

Ministry of Aquiculture & Rural Development,
10 Nguyen Cong Hoan Street,
Ba Binh District, Hanoi, Vietnam

Nguyen Van Bang

Senior Officer
Vietnam National Mekong Committee
23 Hang Tre Street, Hoan Kiem District, Hanoi,
Vietnam
Tel: (844) 825 55 96 Fax: (844) 825 6929
E-mail: nguyenvanbang@yahoo.com

Nhu Van Can

Ministry of Aquiculture & Rural Development,
10 Nguyen Cong Hoan Street,
Ba Binh District, Hanoi, Vietnam

Pham Thi Hoa (Ms.)

Deputy Director
An Giang Agriculture and Rural Development
Department
04, Nguyen Du street, My Binh,
Long Xuyen, An Giang Province, Vietnam
Tel: (849) 192 71638 Fax: (847) 639 45274
E-mail: pthoacv@hcm.vnn.vn

Pham Thi Thanh Hai (Ms.)

Ministry of Aquiculture & Rural Development,
10 Nguyen Cong Hoan Street,
Ba Binh District, Hanoi, Vietnam

Son Vo Van

Director
Fisheries Sector Support Programme Phese II of
Directorate of Fisheries of Vietnam
#10 Nguyen Cong Hoan Street, Ba Dinh Dist,
Hanoi, Vietnam
Tel: (844) 221 43254 Fax: (844) 377 10209
E-mail: vovanson@mard.gov.vn

To Thi Thu Nga (Ms.)

FSPS II, 10, Nguyen Cong Hoan, Ba Æ inh, Ha
Noi, Vietnam
Tel: (849) 840 82925
E-mail: tothithunga@gmail.com

Tran Van Chuong

Director
Thua Thien Hue FSPP II Program
07 Dong Da TP Hue, Vietnam
Tel: (849) 050 61617 Fax: (845) 438 28804
E-mail: tvchuong.snnptnt@thuathienhue.gov.vn

Tran Nhu Long

Deputy Director
Nghe An FSPP II Program
129, Lê Hong Phong, Vinh, Nghe An, Vietnam
Tel: (849) 825 21719 Fax: (843) 835 69849
E-mail: Longnafi@gmail.com

Tran Thanh Duong

Ministry of Aquiculture & Rural Development/
VN,
10 Nguyen Cong Hoan Street,
Ba Binh District, Hanoi, Vietnam

Vu Van Äong

Director
DakLak FSPP II Program
47 Nguyen Tat Thanh, Buon Ma thuot, Dak Lak
Province, Vietnam
Tel: (849) 134 35130 Fax: (845) 439 55787
E-mail: vuvandongdaklak@yahoo.com.vn

THE EMBASSIES

Embassy of Brunei Darussalam

Zamiah Haliluddin (Ms.)

Second Secretary
Embassy of Brunei Darussalam,
Bangkok 10110, Thailand

Embassy of the Republic of Indonesia

Dozi Adeson

Third Secretary
Embassy of the Republic of Indonesia, Bangkok
10400, Thailand

Embassy of Japan

Masatoshi Sato

Counsellor and Deputy Permanent Representative to ESCAP/Japan

Tetsuya Murakami

First Secretary of Deputy Permanent Representative of Japan to ESCAP
Embassy of Japan in Thailand
177 Wittayu Road, Lumpini, Pathum Wan, Bangkok 10330, Thailand
Tel: (662) 696 3000 Fax: (662) 696 3017
E-mail: tetsuya.murakami-2@mofa.go.jp

Embassy of the Republic of Korea

Daesong Kang

First Secretary
Embassy of the Republic of Korea, Bangkok 10320, Thailand

Embassy of the Republic of the Philippines

Linglingay F. Lacanlale

Ambassador
Embassy of the Republic of the Philippines, Bangkok 10110, Thailand

Embassy of the Socialist Republic of Vietnam

Ngo Duc Thang (H.E.)

Ambassador
Embassy of the Socialist Republic of Vietnam, Bangkok 10330, Thailand

Vu Quoc Chinh

Counsellor
Embassy of the Socialist Republic of Vietnam, Bangkok 10330, Thailand

Nguyen Van Truc

Second Secretary
Embassy of the Socialist Republic of Vietnam, Bangkok 10330, Thailand

REGIONAL/INTERNATIONAL ORGANIZATIONS

ASEAN Foundation

Makarim Wibisono (Dr.)

Executive Director, ASEAN Foundation
2 Jl. Sam Ratulangi, Menteng, Jakarta 10350, Indonesia
Fax: (622) 131 926078

Nyla Grace Prieto (Ms.)

Program Officer, ASEAN Foundation,
2 Jl. Sam Ratulangi, Menteng, Jakarta 10350, Indonesia
E-mail: nyla@aseanfoundation.org

Renelle Ivy Adan (Ms.)

Head of Programs, ASEAN Foundation,
2 Jl. Sam Ratulangi, Menteng, Jakarta 10350 Indonesia
Email: renelle@aseanfoundation.org

Association of Southeast Asian Nations (ASEAN)

Anita Setyorini (Ms.)

Technical Officer, ASEAN Secretariat
70 A, JL. Sisingamangaraja, Jakarta 12110, Indonesia
Tel: (622) 172 62991
Fax: (622) 173 98234
Email: anita.setyorini@asean.org

Pouchamarn Wongsanga (Ms.)

Senior Officer, Agriculture and Natural Resources Division, ASEAN Secretariat
70 A, JL. Sisingamangaraja, Jakarta 12110, Indonesia
Tel: (622) 172 62991 Fax: (622) 173 98234
E-mail: pouchamarn.w@asean.org

Somsak Pipoppinyo (Dr.)

Director of Finance Industry and Infrastructure, ASEAN Secretariat
70 A, JL. Sisingamangaraja, Jakarta 12110, Indonesia
Tel: (622) 172 62991 Fax: (622) 173 98234
E-mail: somsak@asean.org

Suriyan Vichitlekarn

Head of Agriculture and Natural Resources Division, ASEAN Secretariat
70 A, JL. Sisingamangaraja, Jakarta 12110, Indonesia
Fax: (622) 173 98234
E-mail: suriyan@asean.org

Suzanne Young (Ms.)

Climate Change Specialist
ASEAN-US Technical Assistance and Training Facility, ASEAN Secretariat
Jl. Sisingamangaraja 70A, 2nd Floor Kebayoran Baru Jakarta 12110, Indonesia
Tel: (622) 172 65977 Fax: (622) 172 65576
E-mail: syoung@louisberger.com

Asian Institute of Technology (AIT)

Peter Edwards (Prof.)

Emeritus Professor,
Asian Institute of Technology (AIT)
593 Lat Prao Soi 64, Bangkok, Thailand
Tel: (662) 538 6551 Fax: (662) 995 3009
E-mail: pedwards1943@gmail.com

Wenresti Gallardo (Dr.)

Associate Professor
Asian Institute of Technology (AIT)
P.O. Box 4, Klong Luang,
Pathumthani 12120, Thailand
Tel: (662) 524 5452 Fax: (662) 524 6200
E-mail: gallardo@ait.asia

Amphorn Sakset

Asian Institute of Technology (AIT)
P.O. Box 4, Klong Luang,
Pathumthani 12120, Thailand
Fax: (668) 188 94829
E-mail: st104856@ait.ac.th

Bay of Bengal Program – Inter Governmental Organization (BOBP-IGO)

Yugraj Singh Yadava (Dr.)

Director, BOBP-IGO
91 St Mary's Road, Abhiramapuram,
Chennai, India
Tel: (914) 424 936188 Fax: (914) 424 936102
E-mail: yugraj.yadava@bobpigo.org

Food and Agriculture Organization of the United Nations (FAO)

Don Griffiths

Senior Technical Advisor
Regional Fisheries Livelihoods Programme (RFLP)
FAO Regional Office for Asia and the Pacific
39 Phra Athit Road, Bangkok 10200, Thailand
Tel: (662) 697 4259 Fax: (662) 697 4445
E-mail: don.griffiths@fao.org

Lahsen Ababouch (Prof.)

Chief,
Fish Products, trade and Marketing Service,
Viale delle Terme di Caracalla
00153, Rome, Italy
Tel: (390) 657 054157 Fax: (390) 657 055188
E-mail: Lahsen.Ababouch@fao.org

Miao Weimin

Aquaculture Officer
FAO Regional Office for Asia and the Pacific
39 Phra Athit Road, Bangkok 10200, Thailand
Tel: (662) 697 4119 Fax: (662) 697 4445
E-mail: Weimin.Miao@fao.org

Rolf Willmann (Dr.)

Senior Fishery Planning Officer
Viale delle Terme di Caracalla
00153 Rome, Italy
Tel: (390) 657 053408 Fax: (390) 657 056500
E-mail: rolf.willmann@fao.org

Rudolf Hermes (Dr.)

Chief Technical Advisor,
Bay of Bengal Large Marine Ecosystem Project (BOBLME) Project
77 Moo 7, Sakdidej Rd., Makham Bay, A. Muang,
Phuket 83000, Thailand
Tel: (667) 639 1861 Fax: (667) 639 1864
E-mail: rudolf.hermes@boblme.org

Simon Funge-Smith (Dr.)

Senior Fishery Officer
FAO Regional Office for Asia and the Pacific
39 Phra Athit Road, Bangkok 10200, Thailand
Tel: (662) 697 4149 Fax: (662) 697 4445
E-mail: simon.fungesmith@fao.org

Steve Needham

Information Officer
FAO Regional Office for Asia and the Pacific
39 Phra Athit Road, Bangkok 10200, Thailand
Tel: (662) 697 4183 Fax: (662) 697 4445
E-mail: steve.needham@fao.org

INFOFISH

Fatima Ferdouse (Ms.)

Chief, Trade Promotion Division
INFOFISH, Level 2, Menara Olympia, No 8 Jalan
Raja Chulan, 50200 Kuala Lumpur, Malaysia
Tel: (603) 207 83466 Fax: (603) 207 86804
E-mail: info@infofish.org

International Collective in Support of Fishworkers (ICSF)

Sebastian Mathew (Dr.)

Programme Advisor
ICSF, 27 College Road,
Chennai 600 006, India
Tel: (914) 428 275303 Fax: (914) 428 254457
E-mail: icsf@icsf.net, sebastian1957@gmail.com

International Labour Organization (ILO)

Nilim Baruah

Chief Technical Advisor
TRIANGLE Project, International Labour
Organization, United Nations Building,
10th Floor, Rajdamnern Nok Avenue,
P.O. Box 2-349, Bangkok 10200, Thailand
Tel: (662) 288 1762 Fax: (662) 288 3062
E-mail: baruah@ilo.org

**International Union for Conservation of Nature
(IUCN)**

Donald Macintosh (Prof.)

Coordinator
Mangroves for the Future Project, IUCN
63 Sukhumvit Soi 39, Bangkok, Thailand
Tel: (668) 981 19408
E-mail: donald.macintosh@iucn.org

**Japan International Cooperation Agency
(JICA)**

Manabe Motobumi

Expert
Ministry of Marine Affairs and Fisheries
Gdg.Mina Bahari 2 Lt.16
JI.Medan Merdeka Timur No.16
Jalarta Pusat 10110, Indonesia
Tel: (622) 135 00065 Fax: (622) 135 00065
E-mail: motobumi37@gmail.com

Takahashi Shingo

Fisheries Expert
Japan International Cooperation Agency
C/o JICA Myanmar Office No. 100
Natmauk Road, Yangon,
P.O. Box 841, Myanmar
Tel: (959) 512 6539
E-mail: irjtaka@gmail.com

Tatsuya Hatori

Expert, Fisheries Administration
No.186, Preah Norodom Blvd., Sangkat Tonle
Bassac, Khan Chamcarmon,
P.O.Box 582, Phnom Penh, Cambodia
Tel: (855) 122 22864 Fax: (855) 232 11340
E-mail: tatsuya_hatori@hotmail.com

Mekong River Commission (MRC)

Kent G. Hortle

Chief Technical Advisor
MRC Fisheries Programme
P.O. Box 623 Phnom Penh, Cambodia
Tel: (855) 234 25353 ext. 3053
E-mail: khortle@gmail.com

Phouthavong Kaviphone

Programme Officer
P.O. Box 623
576 National Road 2 Chak Angre Krom,
Meanchey, Phnom Penh, Cambodia
Tel: (855) 234 25353 ext. 3056
Fax: (855) 234 25363
E-mail: kaviphone@mrcmekong.org

Theerawat Samphawamana

Programme Officer
Mekong River Commission Secretariat
Phnom Penh, Cambodia
Tel: (855) 802 03009 Fax: (856) 802 03009
E-mail: theerawat@mrcmekong.org

Wolf D. Hartmann

Consultant
MRC Fisheries Programme
P.O. Box 7035, Vientiane, Lao PDR
Tel: (856) 207 7836109
E-mail: merops@laopdr.com

Xaypladeth Choulamany

MRC Fisheries Programme
P.O. Box 623, 573 National Road 2,
Chak Angre Krom, Meanchey Phnom Penh,
Kingdom of Cambodia
Tel: (855) 234 25353 Fax: (855) 234 25363
E-mail: xaypladeth@mrcmekong.org

**Network of Aquaculture Centres in Asia-Pacific
(NACA)**

Eduardo Leano (Dr.)

Coordinator,
Aquatic Animal Health Program, NACA
P. O. Box 1040, Kasetsart Post Office,
Bangkok 10903, Thailand
E-mail: eduardo@enaca.org

Mohan Chadag (Dr.)

R&D Manager, NACA
P. O. Box 1040, Kasetsart Post Office,
Bangkok 10903, Thailand
Tel: (662) 561 1728 Fax: (662) 561 1727
E-mail: mohan@enaca.org

Sena De Silva (Dr.)

Director-General, NACA
P.O. Box 1040 Kasetsart Post Office,
Bangkok 10903, Thailand
Tel: (662) 561 1728 Fax: (662) 561 1727
E-mail: sena.desilva@enaca.org

Yuan Derun

Programme Coordinator, NACA
P. O. Box 1040, Kasetsart Post Office,
Bangkok 10903, Thailand
Tel: (668)164 95361
E-mail: yuan@enaca.org

**Southeast Aisan Fisheries Development Center
(SEAFDEC)/Secretariat**

Akito Sato

Assistant Trust Fund Manager
SEAFDEC Secretariat
P.O. Box 1046, Kasetsart Post Office,
Bangkok 10903, Thailand
Tel: (662) 940 6326-29 Fax: (662) 940 6336
E-mail: sato@seafdec.org

Chumnarn Pongsri (Dr.)

Secretary-General
SEAFDEC Secretariat
P.O. Box 1046, Kasetsart Post Office,
Bangkok 10903, Thailand
Tel: (662) 940 6326-29 Fax: (662) 940 6336
E-mail: sg@seafdec.org

Kenji Matsumoto

Deputy Secretary-General
SEAFDEC Secretariat
P.O. Box 1046, Kasetsart Post Office,
Bangkok 10903, Thailand
Tel: (662) 940 6326-29 Fax: (662) 940 6336
E-mail: dsg@seafdec.org

Magnus Torell (Dr.)

Senior Advisor
SEAFDEC Secretariat
P.O. Box 1046, Kasetsart Post Office,
Bangkok 10903, Thailand
Tel: (662) 940 6326-29 Fax: (662) 940 6336
E-mail: magnus@seafdec.org

Nualanong Tongdee (Ms.)

Information Program Coordinator, *a.i.*
SEAFDEC Secretariat
P.O. Box 1046, Kasetsart Post Office,
Bangkok 10903, Thailand
Tel: (662) 940 6326-29 Fax: (662) 940 6336
E-mail: nual@seafdec.org

Pattaratjit Kaewnuratchadasorn (Ms.)

Program Manager
SEAFDEC Secretariat
P.O. Box 1046, Kasetsart Post Office,
Bangkok 10903, Thailand
Tel: (662) 940 6326-29 Fax: (662) 940 6336
E-mail: pattaratjit@seafdec.org

Saivason Klinsukhon (Ms.)

Information Officer
SEAFDEC Secretariat
P.O. Box 1046, Kasetsart Post Office,
Bangkok 10903, Thailand
Tel: (662) 940 6326-29 Fax: (662) 940 6336
E-mail: saivason@seafdec.org

Satomi Katoh (Ms.)

Assistant, SEAFDEC Secretariat
c/o Deputy Secretary-General
P. O. Box 1046, Kasetsart Post Office Bangkok
10903, Thailand
Tel: (609) 631 8191 Fax: (609) 617 4042
E-mail: skatoh@my.email.ne.jp

Sawitree Chamsai (Ms.)

Policy and Program Officer
SEAFDEC Secretariat
P.O. Box 1046, Kasetsart Post Office,
Bangkok 10903, Thailand
Tel: (662) 940 6326-29 Fax: (662) 940 6336
E-mail: sawitree@seafdec.org

Somboon Siriraksophon (Dr.)

Policy and Program Coordinator
SEAFDEC Secretariat
P.O. Box 1046, Kasetsart Post Office,
Bangkok 10903, Thailand
Tel: (662) 940 6326-29 Fax: (662) 940 6336
E-mail: somboon@seafdec.org

Somnuk Pornpatimakorn

Administration and Finance Coordinator
SEAFDEC Secretariat
P.O. Box 1046, Kasetsart Post Office,
Bangkok 10903, Thailand
Tel: (662) 940 6326-29 Fax: (662) 940 6336
E-mail: somnuk@seafdec.org

Tadahiro Kawata

Technical Coordinator for Trust Fund Program
SEAFDEC Secretariat
P.O. Box 1046, Kasetsart Post Office,
Bangkok 10903, Thailand
Tel: (662) 940 6326-29 Fax: (662) 940 6336
E-mail: kawata@seafdec.org

Virgilia T. Sulit (Ms.)

Fisheries Technical Officer
SEAFDEC Secretariat
P.O. Box 1046, Kasetsart Post Office,
Bangkok 10903, Thailand
Tel: (662) 940 6326-29 Fax: (662) 940 6336
E-mail: sulit@seafdec.org

**SEAFDEC/Regional Fisheries Policy Network
(RFPN)**

Ahmadi (Dr.)
RFPN Member for Indonesia
SEAFDEC Secretariat
P.O. Box 1046, Kasetsart Post Office,
Bangkok 10903, Thailand
Tel: (662) 940 6326-29
Fax: (662) 940 6336
E-mail: ahmadi@seafdec.org

Akhane Phomsouvanh

RFPN Member for Lao PDR
SEAFDEC Secretariat
P.O. Box 1046, Kasetsart Post Office,
Bangkok 10903, Thailand
Tel: (662) 940 6326-29 Fax: (662) 940 6336
E-mail: akhane@seafdec.org

Aung Naing Oo (Dr.)

RFPN Member for Myanmar
SEAFDEC Secretariat
P.O. Box 1046, Kasetsart Post Office,
Bangkok 10903, Thailand
Tel: (662) 940 6326-29 Fax: (662) 940 6336
E-mail: aung@seafdec.org

Halimah binti Mohamed (Ms.)

RFPN Member for Malaysia
SEAFDEC Secretariat
P.O. Box 1046, Kasetsart Post Office,
Bangkok 10903, Thailand
Tel: (662) 940 6326-29 Fax: (662) 940 6336
E-mail: halimah@seafdec.org

Hort Sitha

RFPN Member for Cambodia
SEAFDEC Secretariat
P.O. Box 1046, Kasetsart Post Office,
Bangkok 10903, Thailand
Tel: (662) 940 6326-29 Fax: (662) 940 6336
E-mail: sitha@seafdec.org,
hortsitha@yahoo.com

Nopparat Nasuchon (Ms.)

RFPN Member for Thailand
SEAFDEC Secretariat
P.O. Box 1046, Kasetsart Post Office,
Bangkok 10903, Thailand
Tel: (662) 940 6326-29 Fax: (662) 940 6336
E-mail: nopparat@seafdec.org

Ngo Thi Thanh Huong (Ms.)

RFPN Member for Vietnam
SEAFDEC Secretariat
P.O. Box 1046, Kasetsart Post Office,
Bangkok 10903, Thailand
Tel: (662) 940 6326-29 Fax: (662) 940 6336
E-mail: huong@seafdec.org

Pierre Easter L. Velasco

RFPN Member for the Philippines
SEAFDEC Secretariat
P.O. Box 1046, Kasetsart Post Office,
Bangkok 10903, Thailand
Tel: (662) 940 6326-29 Fax: (662) 940 6336
E-mail: pierrevelasco@gmail.com

SEAFDEC/Training Department (TD)

Bundit Chokesanguan

Information and Training Division Head
SEAFDEC/Training Department
P.O.Box 97, Phrasamutchedi,
Samut Prakan 10290, Thailand
Tel: (662) 425 6120 Fax: (662) 425 6110
E-mail: bundit@seafdec.org

Isara Chanrachkij

Fishing Technology Section Head
SEAFDEC/Training Department
P.O.Box 97, Phrasamutchedi,
Samut Prakan 10290, Thailand
Tel: (662) 425 6120 Fax: (662) 425 6110
E-mail: isara@seafdec.org

Jariya Sornkliang (Ms.)

Socio-Economics Scientist
SEAFDEC/Training Department
P.O.Box 97, Phrasamutchedi,
Samut Prakan 10290, Thailand
Tel: (662) 425 6120 Fax: (662) 425 6110
E-mail: jariya@seafdec.org

Khunthawat Manomayitthikan

Technology and Energy Engineer
SEAFDEC/Training Department
P.O.Box 97, Phrasamutchedi,
Samut Prakan 10290, Thailand
Tel: (662) 425 6120 Fax: (662) 425 6110
E-mail: phochan@seafdec.org

Kongpathai Saraphaivanich

Information and Communications Technology
Section Head
P.O.Box 97, Phrasamutchedi,
Samut Prakan 10290, Thailand
Tel: (662) 425 6120 Fax: (662) 425 6110
E-mail: kongpathai@seafdec.org

Namfon Imsamrarn (Ms.)

Information Technology Officer
SEAFDEC/Training Department
P.O.Box 97, Phrasamutchedi,
Samut Prakan 10290, Thailand
Tel: (662) 425 6120 Fax: (662) 425 6110
E-mail: namfon@seafdec.org

Nanthawat Phungsuk

Chief Engineer of M.V. SEAFDEC 2
SEAFDEC/Training Department
P.O.Box 97, Phrasamutchedi,
Samut Prakan 10290, Thailand
Tel: (662) 425 6120 Fax: (662) 425 6110
E-mail: nanthawat@seafdec.org

Natinee Sukramongkol (Dr.)

Fishery Oceanographer
SEAFDEC/Training Department
P.O.Box 97, Phrasamutchedi,
Samut Prakan 10290, Thailand
Tel: (662) 425 6120 Fax: (662) 425 6110
E-mail: natinee@seafdec.org

Nawinee Khumthong (Ms.)

Assistant Capture Fishery Technologist
SEAFDEC/Training Department
P.O.Box 97, Phrasamutchedi,
Samut Prakan 10290, Thailand
Tel: (662) 425 6120 Fax: (662) 425 6110
E-mail: nawinee@seafdec.org

Nopporn Manajit (Dr.)

Fisheries Resources Enhancement Scientist
SEAFDEC/Training Department
P.O.Box 97, Phrasamutchedi,
Samut Prakan 10290, Thailand
Tel: (662) 425 6120 Fax: (662) 425 6110
E-mail: nopporn@seafdec.org

Panitnard Taladon (Ms.)

Training and Extension Section Head
SEAFDEC/Training Department
P.O.Box 97, Phrasamutchedi,
Samut Prakan 10290, Thailand
Tel: (662) 425 6120 Fax: (662) 425 6110
E-mail: panitnard@seafdec.org

Penchan Laongmanee (Ms.)

Fishing Ground & Fishery Oceanography Section
Head
SEAFDEC/Training Department
P.O.Box 97, Phrasamutchedi,
Samut Prakan 10290, Thailand
Tel: (662) 425 6120 Fax: (662) 425 6110
E-mail: penchan@seafdec.org

Phattareeya Suanrattanacha (Dr.)

Fishery Governance & Management System
Section Head
SEAFDEC/Training Department
P.O.Box 97, Phrasamutchedi,
Samut Prakan 10290, Thailand
Tel: (662) 425 6120 Fax: (662) 425 6110
E-mail: phattareeya@seafdec.org

Rattana Tiaye (Ms.)

Fishery Governance & Management System
Scientist
SEAFDEC/Training Department
P.O.Box 97, Phrasamutchedi,
Samut Prakan 10290, Thailand
Tel: (662) 425 6120 Fax: (662) 425 6110
E-mail: rattana@seafdec.org

Ritthirong Prommas

Fishery Oceanographer
SEAFDEC/Training Department
P.O.Box 97, Phrasamutchedi,
Samut Prakan 10290, Thailand
Tel: (662) 425 6120 Fax: (662) 425 6110
E-mail: ritthirong@seafdec.org

Sayan Promjinda

Fishing Gear Technologist
SEAFDEC/Training Department
P.O.Box 97, Phrasamutchedi,
Samut Prakan 10290, Thailand
Tel: (662) 425 6120 Fax: (662) 425 6110
E-mail: sayan@seafdec.org

Sumitra Ruangsivakul (Ms.)

Socio-Economics Section Head
SEAFDEC/Training Department
P.O.Box 97, Phrasamutchedi,
Samut Prakan 10290, Thailand
Tel: (662) 425 6120 Fax: (662) 425 6110
E-mail: sumitra@seafdec.org

Suthipong Thanasansakorn

Fisheries Engineering Section Head
SEAFDEC/Training Department
P.O.Box 97, Phrasamutchedi,
Samut Prakan 10290, Thailand
Tel: (662) 425 6120 Fax: (662) 425 6110
E-mail: suthipong@seafdec.org

Sukchai Arnupaboon

Fishery Oceanographer
SEAFDEC/Training Department
P.O.Box 97, Phrasamutchedi,
Samut Prakan 10290, Thailand
Tel: (662) 425 6120 Fax: (662) 425 6110
E-mail: sukchai@seafdec.org

Suppachai Ananpongsuk

Administrative Division Head
SEAFDEC/Training Department
P.O.Box 97, Phrasamutchedi,
Samut Prakan 10290, Thailand
Tel: (662) 425 6120 Fax: (662) 425 6110
E-mail: suppachai@seafdec.org

Sutee Rajruchithong

Ship Division Head
SEAFDEC/Training Department
P.O.Box 97, Phrasamutchedi,
Samut Prakan 10290, Thailand
Tel: +66 2425 6120 Fax: +66 2425 6110
E-mail: sutee@seafdec.org

Suwanee Sayan (Ms.)

Assistant Database Developer
SEAFDEC/Training Department
P.O.Box 97, Phrasamutchedi,
Samut Prakan 10290, Thailand
Tel: (662) 425 6120 Fax: (662) 425 6110
E-mail: suwanees@seafdec.org

Tanapat sorragittayanmate

Fishing Ground Information Scientist
SEAFDEC/Training Department
P.O.Box 97, Phrasamutchedi,
Samut Prakan 10290, Thailand
Tel: (662) 425 6120 Fax: (662) 425 6110
E-mail: tanapat@seafdec.org

Taweekiet Amornpiyakrit (Dr.)

Fisheries Resources Enhancement Section Head
SEAFDEC/Training Department
P.O.Box 97, Phrasamutchedi,
Samut Prakan 10290, Thailand
Tel: (662) 425 6120 Fax: (662) 425 6110
E-mail: taweekiet@seafdec.org

Thanyalak Suasi (Ms.)

Socio-Economics Scientist
SEAFDEC/Training Department
P.O.Box 97, Phrasamutchedi,
Samut Prakan 10290, Thailand
Tel: (662) 425 6120 Fax: (662) 425 6110
E-mail: thanyalak@seafdec.org

Thaweesak Thimkrap

Fishery Engineer
SEAFDEC/Training Department
P.O.Box 97, Phrasamutchedi,
Samut Prakan 10290, Thailand
Tel: (662) 425 6120 Fax: (662) 425 6110
E-mail: thaweesak@seafdec.org

Tossaporn Sukhapindha

Captain, M.V. SEAFDEC 2
SEAFDEC/Training Department
P.O.Box 97, Phrasamutchedi,
Samut Prakan 10290, Thailand
Tel: (662) 425 6120 Fax: (662) 425 6110
E-mail: tossaporn@seafdec.org

Weerasak Yingyuad

Fisheries Resources Enhancement Scientist
SEAFDEC Training Department
P.O.Box 97, Phrasamutchedi,
Samut Prakan 10290, Thailand
Tel: (662) 425 6120 Fax: (662) 425 6110
E-mail: weerasak@seafdec.org

Woraluk Meesomwat (Ms.)

Fishing Ground Information Scientist
SEAFDEC/Training Department
P.O.Box 97, Phrasamutchedi,
Samut Prakan 10290, Thailand
Tel: (662) 425 6120 Fax: (662) 425 6110
E-mail: woraluk@seafdec.org

Worawit Wanchana (Dr.)

Capture Fishery Technology Division Head
SEAFDEC/Training Department
P.O.Box 97, Phrasamutchedi,
Samut Prakan 10290, Thailand
Tel: (662) 425 6120 Fax: (662) 425 6110
E-mail: worawit@seafdec.org

Yanida Suttipol (Ms.)

Information Officer
SEAFDEC/Training Department
P.O.Box 97, Phrasamutchedi,
Samut Prakan 10290, Thailand
Tel: (662) 425 6120 Fax: (662) 425 6110
E-mail: yanida@seafdec.org

Yuttana Theparoonrat (Dr.)

Coastal and Small-scale Fisheries Management
Division Head
SEAFDEC/Training Department
P.O.Box 97, Phrasamutchedi,
Samut Prakan 10290, Thailand
Tel: (662) 425 6120 Fax: (662) 425 6110
E-mail: yuttana@seafdec.org

**SEAFDEC/ Marine Fisheries Research
Department (MFRD)**

Goh Kian Heng

SEAFDEC/MFRD
2 Perahu Road, Off Lim Chu Kang Road,
718915 Singapore
Tel: (657) 907 973 Fax: (658) 613 196

Leonard G. Limpus

Consultant
L. G. Limpus and Associates,
1564 Charlton Rd Victoria BC
Canada V9E 2C8
Tel: 1-250-7442828
E-mail: lglimpus@gmail.com

Saw Huiyi (Ms.)

Scientist
2 Perahu Road, Off Lim Chu Kang Road,
718915 Singapore
Tel: (656) 790 7973 Fax: (656) 686 13196
E-mail: SAW_Huiyi@ava.gov.sg

Yeap Soon Eong

Chief and Assistant Director (Regional Programmes), SEAFDEC/MFRD
2 Perahu Road, Off Lim Chu Kang Road,
718915 Singapore
Tel: (656) 790 7973 Fax: (656) 861 3196
E-mail: yeap_soon_eong@ava.gov.sg

SEAFDEC/Aquaculture Department (AQD)

Anna Maria Ortiz (Ms.)

Administrative Assistant
SEAFDEC/Aquaculture Department
Manila Office, Tigbauan 5021,
Iloilo, Philippines
Tel: (632) 927 7825 Fax: (632) 927 7825
E-mail: aqzmanila@seafdec.org.ph

Belen O. Acosta (Ms.)

Special Departmental Coordinator
SEAFDEC/Aquaculture Department
Manila Office 102 (G/F) Philippine Social Science
Center (PSSC) Building Commonwealth Avenue,
Diliman 1101 Quezon City, Philippines
Tel: (632) 927 5542; (633) 351 19171
Fax: (632) 927 7825
E-mail: bacosta@seafdec.org.ph

Edgar Amar (Dr.)

Head, Fish Health Section
SEAFDEC/Aquaculture Department
Tigbauan 5021, Iloilo, Philippines
Tel: (633) 351 19170; 35119171
Fax: (633) 351 19070
E-mail: eamar@seafdec.org.ph

Evelyn Grace de Jesus-Ayson (Dr.)

Head, Research Division
SEAFDEC/Aquaculture Department
Tigbauan 5021, Iloilo, Philippines
Tel: (633) 351 19171 Fax: (633) 351 19070
E-mail: edjayson@seafdec.org.ph

Fe Dolores Estepa (Dr.)

Scientist
SEAFDEC/Aquaculture Department
Tigbauan 5021, Iloilo, Philippines
Tel: (633) 351 19170, 35119171
Fax: (633) 351 19070
E-mail: fpestepa@seafdec.org.ph

Felix Ayson (Dr.)

Scientist
SEAFDEC/Aquaculture Department
Tigbauan 5021, Iloilo, Philippines
Tel: (633) 351 19171 Fax: (633) 351 19070
E-mail: fgayson@seafdec.org.ph

Joebert D. Toledo (Dr.)

Chief
SEAFDEC/Aquaculture Department
Tigbauan 5021, Iloilo
Tel: (633) 351 19174, 35119171
Fax: (633) 351 19174
E-mail: jdtoledo@seafdec.org.ph

Kimberly Dianne Abroguena (Ms.)

Administrative Officer
SEAFDEC/Aquaculture Department
Tigbauan 5021, Iloilo, Philippines
Tel: (633) 351 19174, 3511-9171
Fax: (633) 351 19174
E-mail: kdcaumban@seafdec.org.ph

Ma. Junemie Hazel Lebata-Ramos (Dr.)

Head, Farming Systems and Ecology Section
Tigbauan 5021, Iloilo, Philippines
Tel: (633) 351 19171
E-mail: jlebata@seafdec.org.ph

Ma. Rovilla Luhan (Ms.)

SEAFDEC/Aquaculture Department
Tigbauan 5021, Iloilo, Philippines
Tel: (633) 333 51009, 33362965
E-mail: mrjluhan@seafdec.org.ph

Maria Rowena Romana Eguia (Dr.)

Head, Technology Verification and Demonstration
Division
SEAFDEC/Aquaculture Department
Tigbauan 5021, Iloilo, Philippines
Tel: (633) 333 51009, 33362965
Fax: (632) 289 3687
E-mail: mreguia@seafdec.org.ph

Milagros Castanos (Ms.)

Head, Development Communication Section
SEAFDEC/Aquaculture Department
Tigbauan 5021, Iloilo, Philippines
Tel: (633) 351 19070; 35119071; 35119172
Fax: (633) 351 18709
E-mail: milacasta@seafdec.org.ph

Nerissa D. Salayo (Dr.)

Associate Scientist
SEAFDEC/Aquaculture Department
Tigbauan 5021, Iloilo, Philippines
Tel: (633) 333 51009, 33362965
Fax: (632) 927 7825
E-mail: ndsalayo@seafdec.org.ph

Relicardo Coloso (Dr.)

Scientist
SEAFDEC/Aquaculture Department
Tigbauan 5021, Iloilo, Philippines
Tel: (633) 333 51009, 33362965
Fax: (633) 351 19070
E-mail: colorsor@seafdec.org.ph

Renato F. Agbayani

Head, Training and Information Division
SEAFDEC/Aquaculture Department
Tigbauan 5021, Iloilo, Philippines
Tel: (633) 351 19172 Fax: (633) 351 18709
E-mail: ragbayani@seafdec.org.ph

Stephen Alayon

Data Bank Senior Information Assistant
SEAFDEC/Aquaculture Department
Tigbauan 5021, Iloilo, Philippines
Tel: (633) 351 19170 Fax: (633) 351 19174
E-mail: sbalayon@seafdec.org.ph

Teruo Azuma (Dr.)

Deputy Chief
SEAFDEC/Aquaculture Department
Tigbauan 5021, Iloilo, Philippines
Tel: (633) 355 18878 Fax: (633) 355 18878
E-mail: azuma@seafdec.org.ph

**SEAFDEC/Marine Fishery Resources
Development and Management Department
(MFRDMD)**

Abd. Razak Latun

Head, Information and Training Section
SEAFDEC/MFRDMD
Fisheries Garden, Chendering 21080 Kuala
Terengganu
Tel: (609) 617 7867, 6175940
Fax: (609) 617 5136
E-mail: abdulrazaklatun@seafdec.org.my

Abu Talib Ahmad

Special Departmental Coordinator
SEAFDEC/MFRDMD
Fisheries Garden, Chendering 21080
Kuala Terengganu
Tel: (609) 617 7867, 6175940, 6175136
Fax: (609) 617 5136
E-mail: abutalib@seafdec.org.my

Ahmad Ali

Research Officer
SEAFDEC/MFRDMD
Fisheries Garden, Chendering 21080
Kuala Terengganu
Tel: (609) 617 7867 Fax: (609) 617 5136
E-mail: aaseafdec@seafdec.org.my

Mahyam Mohd Isa (Ms.)

Chief, SEAFDEC/MFRDMD
Fisheries Garden, Chendering 21080
Kuala Terengganu
Tel: (609) 617 5940 Fax: (609) 617 1543
E-mail: mahyam@seafdec.org.my

Masaya Katoh (Dr.)

Deputy Chief, SEAFDEC/MFRDMD
Fisheries Garden, Chendering 21080
Kuala Terengganu
Tel: (609) 617 5940 Fax: (609) 617 1543
E-mail: katoh@seafdec.org.my

Mazalina Ali (Ms.)

Research Officer, SEAFDEC/MFRDMD
Fisheries Garden, Chendering 21080
Kuala Terengganu
Tel: (609) 617 7867, 6175940
Fax: (609) 617 5136
E-mail: mazalina@seafdec.org.my

Raja Bidin Raja Hasan

Senior Researcher, SEAFDEC/MFRDMD
Fisheries Garden, Chendering 21080
Kuala Terengganu
Tel: (609) 617 5135 Fax: (609) 617 5136

Wahidah Mohd. Arshad (Ms.)

Research Officer, SEAFDEC/MFRDMD
Fisheries Garden, Chendering 21080
Kuala Terengganu
Tel: (609) 617 5135 Fax: (609) 617 5136
E-mail: wahidah@seafdec.org.my

World Wide Fund for Nature (WWF)

Gangaram Pursumal

Manager, Peninsular Malaysia Seas
WWF-Malaysia
49, Jalan SS23/15, Taman SEA, 47400 Petaling
Jaya, Selangor, Malaysia
Tel: (603) 780 33772 Fax: (603) 780 35157
E-mail: gpursumal@wwf.org.my

Jose Ingles (Dr.)

Tuna Strategy Leader
WWF Coral Triangle Program
65 Mindanao Avenue, Pagasa,
Quezon City 1103, Philippines
Tel: (632) 920 7923
E-mail: jingles@wwf.org.ph,
ingles.jose@gmail.com

Keith Symington

Bycatch Strategy Leader
WWF Coral Triangle Program
22/273 Au Co Hanoi, Vietnam
Tel: (849) 144 35348
E-mail: keithsymington@yahoo.ca

Tan Kai Yee

Programme Officer - Ecosystem Based
Management of Fisheries
WWF-Malaysia
49, Jalan SS23/15, Taman SEA, 47400 Petaling
Jaya, Selangor, Malaysia
Tel: (603) 780 33772
Fax: (603) 780 35157
E-mail: kytan@wwf.org.my

Victor Cowling (Dr.)

Landscape Manager
P.O. Box 7871, House No. 39, Unit 05, Saylom
Road, Vientiane, Lao PDR
Tel: (856) 207 7543760
E-mail: victor.cowling@wwfgreatermekong.org

The WorldFish Center

Anne Delaporte (Ms.)

Intern, The WorldFish Center
Jalan Batu Maung, Batu Maung,
11960 Bayan Lepas, Penang, Malaysia
Tel: (604) 6261606 Fax: (604) 6265530
E-mail: A.Delaporte@cgiar.org

Fiona Chandler (Ms.)

Director
Communications and Donor Relations
The WorldFish Center
Jalan Batu Maung, Batu Maung,
11960 Bayan Lepas, Penang, Malaysia

Fred Weirowski (Dr.)

Senior Expert
The WorldFish Center
Jalan Batu Maung, Batu Maung,
11960 Bayan Lepas, Penang, Malaysia
Tel: (601) 245 59402
E-mail: fred@weirowski.com

Maripaz Perez (Dr.)

Regional Director for Asia
The WorldFish Center
Jalan Batu Maung, Batu Maung,
11960 Bayan Lepas, Penang, Malaysia
Tel: (604) 626 1606 Fax: (604) 626 5530
E-mail: ma.perez@cgiar.org

Michael Phillips (Dr.)

Senior Scientist
The WorldFish Center
Jalan Batu Maung, Batu Maung,
11960 Bayan Lepas, Penang, Malaysia
Tel: (604) 620 2160
Fax: (604) 626 5530
E-mail: m.phillips@cgiar.org

Stephen J. Hall (Dr.)

Director-General
The WorldFish Center
Jalan Batu Maung, Batu Maung,
11960 Bayan Lepas, Penang, Malaysia
Tel: (604) 626 1606
Fax: (604) 626 5530
E-mail: s.hall@cgiar.org

**United Nations Environmental Program
(UNEP)**

Douglas Hykle

Co-ordinator/Senior CMS Advisor
IOSEA Marine Turtle MoU Secretariat
c/o UNEP Regional Office for Asia and the
Pacific, United Nations Building,
Rajdamnern Nok Avenue,
Bangkok 10200 Thailand
Tel: (662) 288 1471
Fax: (662) 288 3041
E-mail: iosea@un.org

INTRODUCTORY REMARKSby *Dr. Chumnarn Pongsri*

Secretary-General, Southeast Asian Fisheries Development Center

Inaugural Session**ASEAN-SEAFDEC Conference on Sustainable Fisheries for Food Security Towards 2020****“Fish for the People 2020: Adaptation to a Changing Environment”**

Your Excellency, Mr. Theera Wongsamut, Minister of Agriculture and Cooperatives of Thailand,
 Honorable Ambassadors of the ASEAN-SEAFDEC Member Countries,
 Honorable Council Directors and Head Delegates of the ASEAN-SEAFDEC Member Countries,
 Honorable Representative from the ASEAN Secretariat,
 Distinguished delegates from the ASEAN-SEAFDEC Member Countries,
 Representatives from partner organizations and international/regional organizations,
 Distinguished guests and participants,
 Ladies and Gentlemen, Good morning,

First of all on behalf of the Southeast Asian Fisheries Development Center, please allow me to welcome all of you to this ASEAN-SEAFDEC Conference on Sustainable Fisheries for Food Security Towards 2020 “Fish for the People 2020: Adaptation to a Changing Environment” which is co-organized by the ASEAN and SEAFDEC from today until Friday here in Bangkok, Thailand, with the warm hospitality of the Department of Fisheries of Thailand.

As all of you may be already aware of, fisheries is one of the important sectors providing substantial contribution to food security and poverty alleviation in the Southeast Asian region. From the latest fishery statistics of 2008, the total fisheries production of the region was reported to be about 27.3 million metric tons, comprising 13.8 million metric tons from marine capture fisheries, 2.4 million metric tons from inland capture fisheries, and 11.1 million metric tons from aquaculture. From such figures, it could be gleaned that the total contribution from Southeast Asian fisheries accounted for about 19 percent of the global fisheries production of 142.3 million metric tons in 2008. It should be noted however, that these figures could still be very much under-represented as the total fisheries production of the Southeast Asian countries could be more than those reflected in the records, because of the unique characteristic of fisheries in the region being multi-species, multi-gears, and mostly undertaken by small-scale fishers with very high seasonal variation. Therefore, these aspects should be taken into account by concerned parties in the formulation of policies, as well as in the development of planning and management activities that have linkage with fisheries, at the national, regional and global levels.

Since the establishment of SEAFDEC in 1967, the Center has been extending technical support to and facilitating the exchange of expertise with its Member Countries, which in 1967 originally comprised three countries, namely: Japan, Singapore and Thailand. Throughout the decades until recently, the Member Countries of SEAFDEC increased to 11 countries, which are the 10 ASEAN Member Countries plus Japan. It should be noted that throughout the different phases of development of the fisheries sector, it was not always a bed of roses for the ASEAN and SEAFDEC as well as the countries in the region, especially because various persisting issues continued to impede the sustainable development of fisheries in the region.

At the early stage of fisheries development, the requirements extensively focused on improving fishing technologies and practices in order to maximize production from marine capture fisheries. However, starting in the early 1990s, over-exploitation of the fishery resources had been reported in the major fishing areas of the world, with the associated deterioration of the resources that resulted in the continuous decline of production from marine capture fisheries. Thus, the development of fisheries had been shifted towards maximizing the utilization of catch, enhancing the contribution from the aquaculture sub-sector, and ensuring sustainable utilization of fishery resources.

Moreover, the increasing preference of consumers for fish and fishery products for health reasons also intensified the trade in fish and fishery products, which brought about improvements in the countries' economies especially in the Southeast Asian region. This development however, also came with it emerging requirements by major importing markets for improved quality and safety of fish and fishery products from production to marketing. In order to address those issues, several attempts were made at the global level to

ensure the sustainable utilization of fishery resources especially during the past decades. Among the important global fisheries instruments is the Code of Conduct for Responsible Fisheries that was adopted by the members of FAO in 1995 and served as a framework for the development of the fisheries sector at the global level, including the Southeast Asian region. With the adoption of the FAO Code of Conduct as a common framework for development of fisheries, and taking into consideration the relevant issues and requirements that emerged at the global and regional levels, it has become necessary for the countries in this region to closely cooperate with each other, to ensure that the sustainable development of fisheries is progressing in a coordinated manner.

To pave the way for enhancing the cooperation among the countries in the region, SEAFDEC established in 1998 a collaborative mechanism with the ASEAN which was formalized in 2008 with the establishment of the ASEAN-SEAFDEC Strategic Partnership. Under the said collaborative mechanism and with the objective of addressing the issues and challenges faced by the fisheries sector at that time, SEAFDEC and the ASEAN organized the ASEAN-SEAFDEC Conference on Sustainable Fisheries for Food Security in the New Millennium or "Fish for the People" Conference in November 2001. During the 2001 Conference, the ASEAN-SEAFDEC Ministers and Senior Officials adopted the Resolution and Plan of Action on Sustainable Fisheries for Food Security for the ASEAN Region. Since then, the 2001 Resolution and Plan of Action had served as policy framework and priority direction towards the development of fisheries in the Southeast Asian region.

Nonetheless, while considering that during the past decade more important issues and requirements have emerged, it has become imperative for the countries in the region to take a closer look and much attention on these emerging issues in order to formulate and implement policy frameworks that would aim to ensure the sustainable development of the region's fisheries sector. These emerging concerns include the impacts and the need to mitigate the impacts of climate change to fisheries and aquaculture; balancing the ecosystem, economic and human dimensions in fisheries development; the changing socio-economic factors such as increasing price of fuels and other inputs for fisheries and aquaculture activities; enhancing the contribution of fisheries to food security; and the more stringent requirements imposed by importing countries for quality and safety of fish and fishery products, which later on have been expanded recently to include sustainable resources utilization.

Since fisheries is not a standalone sector, but having linkage with other activities and development sectors, particularly for the inland and coastal fisheries, it is therefore necessary to enhance the awareness of policy makers and planners on the importance of the fisheries sector particularly for the socio-economic development of the countries in the region. Moreover, as it is expected that the ASEAN Community Building as targeted by the ASEAN will be achieved within the next three to four years, we should foresee that this development would result in tremendous changes for the countries in the region. As such, this would require tremendous amount of adjustment and adaptation by every sectors including fisheries in the region, particularly considering that some countries are still not very well developed with inadequate capacity to adapt to such changes and requirements.

The ASEAN and SEAFDEC therefore considered it timely to conduct this sequel conference in order to address such issues and challenges. Several technical preparatory works had been undertaken by SEAFDEC, the ASEAN and the Member Countries for this Conference, particularly in identifying the emerging fisheries-related issues and developing recommendations from the regional perspective to address such emerging issues and challenges. In the next two and a half days at the Technical Session of this Conference, some initiatives and experiences of relevant organizations and institutions within and outside the region would be presented and shared, and we hope that the Conference could muster lessons from such experiences and come up with more concrete insights and focused direction in addressing such issues and challenges.

Excellencies, Ladies and Gentlemen,

In addition to the Technical Session, this Conference also includes the Senior Officials and Ministerial Sessions, the attendance of which is by invitation only. The Senior Officials Meeting which would be participated in by the Senior Officials responsible for fisheries from the ASEAN-SEAFDEC Member Countries would review the proposed policy frameworks and priority directions for sustainable fisheries for food security at the policy level, while also taking into account the outputs of the Conference Technical Session.

The Ministerial Session that would follow the Senior Officials Meeting would be participated in by the Ministers responsible for fisheries from the ASEAN-SEAFDEC Member Countries. It is expected that the Draft Resolution as previously reviewed by the ASEAN-SEAFDEC Senior Officials would be presented for endorsement by the ASEAN-SEAFDEC Ministers. Upon endorsement, the Resolution and Plan of Action would serve as regional policy and priority directions that would provide the guiding principles for the sustainable development of ASEAN fisheries in the coming decade.

Finally Ladies and Gentlemen, once again on behalf of SEAFDEC as a co-organizer of the Conference, we hope that all of you would find this ASEAN-SEAFDEC Conference beneficial especially in developing the regional directions that could pave the way towards sustainable fisheries development and specifically in enhancing the contribution of fisheries to food security in the Southeast Asian region in the next decade and beyond.

Thank you very much and good day.

INTRODUCTORY REMARKSby *Mr. Suriyan Vichitlekarn*Assistant Director and Head of Agriculture Industries and Natural Resources Division,
on behalf of Secretary-General, ASEAN Secretariat**Inaugural Session****ASEAN-SEAFDEC Conference on Sustainable Fisheries for Food Security Towards 2020
“Fish for the People 2020: Adaptation to a Changing Environment”**

Your Excellency, the Minister of Agriculture and Cooperatives of Thailand,
Your Excellencies,
Distinguished Ministers,
Distinguished Delegates,
Ladies and Gentlemen, Good Morning!

Please allow me to reiterate at this inaugural ceremony the important reasons why we are all gathered at this Conference, which are the role of fisheries in development, and the issues and challenges facing the fisheries sector that need to be addressed. In addition, I would also link this Conference with the significance of fisheries development in the ASEAN Community building processes.

“In water there is fish, in paddy there is rice”, is a traditional saying in Thailand and other countries in Southeast Asia, signifying the richness of our natural resources and the importance of agriculture, particularly fisheries in the region over the past centuries. It also underscores how fish and fisheries have been the lifelines and part of jigsaw puzzle of societies and development processes in the region up to the present. It is widely recognized that fisheries have over the last five decades contributed to the socio-economic development of countries in Southeast Asia in view of the fast growing demand for fish and fishery products, and the advancement of technology. Its contribution in terms of livelihoods and food security, employment, foreign exchange earnings and related industrial development has been very much appreciated.

The above development comes with prices not only in terms of declining of and conflicts over utilization of natural resources but also concerns over its long-term contribution to local food security, livelihoods and the overall national socio-economic development. According to the World Bank, the world’s population will increase from 6.1 billion people in 2009 to 9 billion people in 2050. Coupled with new fast emerging markets such as China and India as well as changes in consumption patterns from starch-based food to more nutritious food, quality protein intake, and variety of processed food products, there will be a drastic increase in pressure to natural resource-base and higher demand for agri-food products, including fish and fishery products. More stringent requirements of their international trade, *i.e.* safety, quality and sustainability aspects, will add difficulties for the fisheries sector to cope with these challenges.

In addition, it is also very likely that concerns over spatial and temporal food insecurity situations would increase. The rural areas will be more vulnerable, particularly where staple food has already been the major concern. Therefore, access to resource use in fisheries, multiple water resource use conflicts, illegal and unsustainable practices, and extreme climate events need to be fully recognized and addressed to ensure that the sector will continue to provide livelihoods to the people and be able to support stable supply of fish and fishery products. This therefore, calls for the fisheries sector to revisit the sectoral policy and development as well as regional cooperation in order to identify the most appropriate strategies and approaches to be undertaken at local, national and regional levels to cope up with the fast changing situation and the development context.

The Association of Southeast Asian Nations or ASEAN was established in 1967 with ten Member States, namely: Brunei Darussalam, Cambodia, Indonesia, Lao PDR, Malaysia, Myanmar, Philippines, Singapore, Thailand, and Vietnam. Since its establishment, the ASEAN has been working towards maintaining and enhancing peace, security and stability for a caring, prosperous and competitive regional community through greater political, security, economic and socio-cultural cooperation. It recognizes the need for alleviating poverty and narrowing the development gap within the region, promoting sustainable development, and enhancing the well-being and livelihood of the peoples of ASEAN. This would be ensured through equitable access to opportunities for human development, social welfare and justice, as well as the promotion of a people-oriented ASEAN in which all sectors of society are encouraged to participate in, and benefit from, the process of ASEAN integration and community building.

In pursuing the above vision and aspirations, the Leaders of ASEAN Member States have endeavored to realize an ASEAN Community by 2015. In 2007, the ASEAN Leaders signed the ASEAN Charter, which transforms ASEAN from a loose association to a rule-based intergovernmental organization. The ASEAN Charter reaffirms the goal of working towards an ASEAN Community by 2015, comprising three pillars, namely ASEAN Security Community (ASC), ASEAN Economic Community (AEC), and ASEAN Socio-Cultural Community (ASCC). Each Community has a Blueprint, providing a strategic framework of measures, actions, scheduling of activities in realizing goals of the ASEAN Community.

During the 14th ASEAN Summit held in 2009, the Leaders signed the Cha-am Hua Hin Declaration on the Roadmap for the ASEAN Community (2009-2015), comprising three pillars: Political Security Community, Economic Community, and Socio Cultural Community. Each ASEAN Member State shall ensure its timely implementation. The Leaders also tasked the ASEAN Sectoral Ministerial Bodies, among others, the fisheries sector, and the Secretary General of ASEAN to explore ways and means as well as long term strategy to mobilize resources from Member States, Dialogue and Sectoral Dialogue Partners, and other external parties to implement the Declaration.

Noting from the above vision and aspirations, development of fisheries sector towards an ASEAN Community could be seen as a regional important stepping stone along the pathways of enhancing competitiveness, economic integration, sustainable development and achieving the Millennium Development Goals (MDGs). It is therefore important for the fisheries sector to set course of its future development to articulate various objectives, contributing to the ASEAN Community building process.

Considering the multi-dimensional role and importance of the fisheries sector cross-cutting through three pillars of an ASEAN Community, it is inevitable to involve relevant stakeholders, *e.g.* government, private sector along the value chains, fishers and civil society, in "Setting Course of Actions towards an ASEAN Community". It is also important for relevant stakeholders to understand the ASEAN's vision and goals, and identify how to ensure synergies and complementarities of efforts promoted by the ASEAN and various partners.

In so doing, the fisheries sector needs to base its policy and development on accurate and timely information and mobilization of scientific and indigenous knowledge where various stakeholders form part of decision-making process and contribute to collaborative efforts in areas of their comparative advantages. Good governance within the sector and in the context of multi-sectoral approaches to development will be the bedrock of the development set-up. Multi-dimensional aspects of fisheries development, namely economic, social and ecosystem should be well-balanced. Effective management framework for fisheries should be in place at the national level with support through regional cooperation where there are issues of common concerns and those of transboundary in nature.

In terms of market and trade of fish and fish products, efforts should be exerted in developing harmonized standards as well as quarantine and inspection procedures to facilitate cross-border trade for intra- and extra-ASEAN trade. Trade facilitation initiatives such as good agricultural practices (GAP) in the fisheries sector, recognition and certification systems and other branding initiatives should be supported. Competitiveness of the fisheries sector, particularly the micro, small and medium enterprises (MSMEs) by ways of improving productivity and meeting trade requirements, *i.e.* safety, quality and sustainability, should form integral part of economic development and integration. This should be coupled with active engagement in international and regional trade negotiations to safeguard the sectoral interests and uniqueness in the region.

Supporting the fisheries communities through enhanced community organization and empowerment will allow self-help and enhance their bargaining power and access to market as well as improve food security and livelihoods of their members and active engagement in decision making process, including management of natural resources. While addressing emerging issues such as the impacts of climate change, consideration should be made in understanding potential impacts on economic (yields and losses), social (fisher safety and livelihoods) and ecosystem (well-being and ecological services) aspects. Development and sharing of climate change adaptation and mitigation strategies in the fisheries sector should be encouraged.

Finally, let me reiterate that it is important to recognize that achieving sustainable development of fisheries could neither be ensured solely by certain stakeholders nor a country. Common understanding of among various stakeholders on issues and challenges faced by the sector, and cooperative development and management of the sector based on their comparative advantage will provide a firm ground for progressive development. Strategic cooperation and partnership with Dialogue Partners and international/regional

organizations, *e.g.* FAO, SEAFDEC, the Network of Aquaculture Centres in Asia-Pacific (NACA), the WorldFish Center, the Mekong River Commission, among others, should be pursued.

Lastly, please allow me to emphasize that the ASEAN-SEAFDEC Conference on Sustainable Fisheries for Food Security Towards 2020: “Fish for the People 2020” – Adaptation to A Changing Environment to be held on 13-17 June 2011 in Bangkok will provide this platform of partnership that sets joint vision and aspiration as well as defines concrete cooperative actions to achieve “Fish for the People”. The impacts could be the sector’s sustainable development as well as its contribution to attaining the MDGs through the ASEAN Community building process.

Thank you and good day!

WELCOME REMARKS

by *Dr. Somying Piomsombun*

Director-General of the Department of Fisheries of Thailand

Inaugural Session

ASEAN-SEAFDEC Conference on Sustainable Fisheries for Food Security Towards 2020

“Fish for the People 2020: Adaptation to a Changing Environment”

Your Excellency, the Minister of Agriculture and Cooperatives of Thailand,
Your Excellencies,
Distinguished Ministers,
Distinguished Delegates,
Ladies and Gentlemen, Good Morning!

It gives me very great pleasure to extend the warmest welcome to all of you to Thailand, the land of smiles. The Department of Fisheries of Thailand is most honored to host this meaningful conference because we are aware that the beneficial effect of this Conference will go far beyond this room to the people in even the farthest points of the Southeast Asian region and to their children.

With the emerging and challenging issues and pressures on the development of the ASEAN fisheries sector in all dimensions, we must review the status of this sector and then formulate the collective policy framework to ensure sustainable fisheries development for the next decade while giving highest priority the enhanced contribution of fisheries to food security of ASEAN people. This Conference therefore, allows us to fashion the building blocks of the future of regional fisheries and gives us the foundation for this and the future generations to continue the work. “Fish for the People” is no idle speculation but a pressing and vital necessity for the well-being of our food security. The road ahead will not be easy, but you have my assurance that Thailand will work hard to fulfill the imperatives of the coming Resolution and Plan of Action on Sustainable Fisheries for Food Security for the ASEAN Region.

We are indeed very much indebted to the far-sighted thinking of the ASEAN and the works of the Southeast Asian Fisheries Development Center for bringing about this meaningful dialogue. The magnificent support of the Government of Japan, the ASEAN Foundation and the US-AID as well as the support and expertise of the Food and Agriculture Organization of the United Nations and the many other bodies which expressed their willingness to contribute to the success of this Conference are also deeply appreciated. Without their support, this Conference could not have come about at all.

At this juncture, please allow me to extend my appreciation to the great efforts made by those who took part in the series of technical preparatory sessions organized during the past year. I would also like to acknowledge the steering committees, the technical consultations and most particularly the work that goes on in the back-rooms to facilitate arrangements and preparations for this Conference. Let us all recognize that all the people who contributed to this Conference have also contributed to the well-being of ASEAN Community.

Again, I wish to welcome you all to this Conference and to Bangkok. On behalf of the Department of Fisheries which hosts this Conference, I hope that your stay in Bangkok would be meaningful. If there is anything that you would need from us, please feel free to contact our staff.

Thank you and Good Day!

OPENING STATEMENT

by *H.E. Mr. Theera Wongsamut*
Minister of Agriculture and Cooperatives of Thailand

Inaugural Session

**ASEAN-SEAFDEC Conference on Sustainable Fisheries for Food Security Towards 2020
“Fish for the People 2020: Adaptation to a Changing Environment”**

The Honorable Ambassadors of the ASEAN-SEAFDEC Member Countries,
The SEAFDEC Council Directors and Head Delegates of the ASEAN and SEAFDEC Member Countries,
The Director-General of the Department of Fisheries, *Dr. Somying Piumsombun*,
The Secretary-General of the Southeast Asian Fisheries Development Center, *Dr. Chumnarn Pongsri*,
The representative of the ASEAN Secretariat on behalf of the Secretary-General, *Mr. Suriyan Vichitlekarn*,
Distinguished guests and participants,
Ladies and Gentlemen, A very Good Morning!

It is indeed a great pleasure for me to be here with you during the Inaugural Ceremony of the ASEAN-SEAFDEC Conference on Sustainable Fisheries for Food Security Towards 2020 or “Fish for the People 2020: Adaptation to a Changing Environment”, which is being organized from today until this coming Friday. It is also a great honor for the Government of Thailand especially for the Department of Fisheries, to host this Conference in Bangkok, Thailand.

After listening to the statements given earlier by the Secretary-General of SEAFDEC, the ASEAN representative and the Director-General of the Department of Fisheries of Thailand, I believe that all of us have become very much aware of the importance of fisheries to the countries in the Southeast Asian region. We have also noted the importance and the contribution of the fisheries sector to the development of national economies in our region which had been very obvious.

However, what is even more prominent is the contribution of fisheries to the other socio-economic aspects, particularly to food availability, food security and job opportunity in many areas of our region, where many people are still very much dependent on the availability of natural resources including fishery. Nevertheless, we are also aware that the role of fisheries is difficult to quantify and value. I therefore believe that this is the main reason why we are all here at this ASEAN-SEAFDEC Conference especially during the Technical Session to find the ways and means of addressing the issues, challenges, and problems faced by the fisheries sector to enable it to sustain its contribution to the socio-economic well-being of the peoples in our region. In this way, we can say that the sustainability of fisheries and its long-term availability to contribute to food security in this region could be ensured.

As I have been informed and has also observed by myself, this ASEAN-SEAFDEC Conference has gathered people who are knowledgeable on various aspects of fisheries not only from within our Southeast Asian region but from all over the world. I truly believe that through sharing of knowledge and experiences, this Conference will be able to come up with clearer directions that could steer the development of the fisheries sector in this region towards sustainability and food security as targeted in this Conference. Specifically, since the Technical Session of this Conference will come up with recommendations to be reported to the Senior Official and Ministerial Sessions which will be held right after the Technical Session, such recommendations could provide the technical basis for discussions during these two high-level sessions which are expected to consider and subsequently adopt the Resolution and Plan of Action.

The Resolution and Plan of Action will become our policy guideline for the formulation and implementation of programs and activities that would lead us towards the sustainable development of fisheries. Eventually, we could be assured that the contribution of fisheries to the socio-economic well-being of our peoples is enhanced.

In view of the significance of this Conference, I truly wish that all of you would exert your best efforts in actively taking part in the discussions during the next three days, and come up with the meaningful and fruitful results. On behalf of the Government of Thailand, I wish to reiterate our wishes to welcome all of you to Thailand.

By the way, in addition to attending in this Conference, we would also wish that would find time and opportunity to visit the many interesting places, either in Bangkok or in the other provinces, and enjoy the beautiful scenery and culture of our country. With that note Ladies and Gentlemen, I wish to declare the ASEAN-SEAFDEC Conference on Sustainable Fisheries for Food Security Towards 2020 open.

Thank you very much and have a good day.

KEYNOTE ADDRESS

Fisheries and ASEAN Community Building

by *Mr. Suriyan Vichitlekarn*

Assistant Director and Head of Agriculture Industries and Natural Resources Division,
ASEAN Secretariat

Plenary I

ASEAN-SEAFDEC Conference on Sustainable Fisheries for Food Security Towards 2020

“Fish for the People 2020: Adaptation to a Changing Environment”

Fisheries and Development

“In water there is fish, in paddy there is rice”, a traditional saying spoken in Thailand and other countries in Southeast Asia signifies the richness of natural resources and the importance of agriculture, particularly fisheries in the region over the past centuries. It underscored how fish and fisheries have been lifelines and part of puzzle of societies and development processes in the region up to the present.

Due to fast growing demand for fish and fish products and advancement of technology, fisheries have over the last five decades contributed to socio-economic development of countries in Southeast Asia. Its contribution in term of livelihoods and food security, employment, foreign earning and related industrial development has been well recognized.

Issue and Challenges Facing the Fisheries Sector

The above development comes with prices not only in terms of declining of and conflicts over utilization of natural resources but also concerns over its long-term contribution to local food security, livelihoods and the overall national socio-economic development.

According to the World Bank, the world’s population will increase from 6.1 billion people in 2009 to 9 billion people in 2050. Coupled with new fast emerging markets such as China and India as well as changes in consumption patterns from starch-based food to more nutritious food, quality protein intake, and variety of processed food products, there will be a drastic increase in pressure to natural resource based and higher demand for agri-food products, including fish and fish products. More stringent requirements of their international trade (i.e. safety, quality and sustainability aspects) will add complication to the fisheries sector in coping with these challenges.

In addition, concerns over spatial and temporal food insecurity situations will increase their likelihood. This will be more vulnerable in the rural areas, particularly where staple food has already been concerns. Access to resource use in fisheries, multiple water resource use conflicts, illegal and unsustainable practices and extreme climate events need to be fully recognized and addressed in ensuring that the sector will continue to provide livelihoods to the people and support stable supplies of fish and fish products to related industries.

This has called for the fisheries sector to revisit the sectoral policy and development as well as regional cooperation in order to identify strategies and approaches to be undertaken at local, national and regional levels to cope up with the fast changing situation and development context.

ASEAN Community Building

Established in 1967, the Association of Southeast Asian Nations (ASEAN) has ten Member States, namely Brunei Darussalam, Cambodia, Indonesia, Lao PDR, Malaysia, Myanmar, Philippines, Singapore, Thailand and Vietnam. Since the establishment, ASEAN has been working towards maintaining and enhancing peace, security and stability for a caring, prosperous and competitive regional community through greater political, security, economic and socio-cultural cooperation. It recognizes the need for alleviating poverty and narrowing the development gap within the region, promoting sustainable development, and enhancing the well-being and livelihood of the peoples of ASEAN. This would be ensured through equitable access to opportunities for human development, social welfare and justice; promoting a people-oriented ASEAN in which all sectors of

society are encouraged to participate in, and benefit from, the process of ASEAN integration and community building.

In pursuing the above vision and inspiration, the Leaders of ASEAN Member States have endeavored to realize an ASEAN Community by 2015. In 2007, ASEAN Leaders signed the ASEAN Charter, which transforms ASEAN from a loose association to a rule-based intergovernmental organization. The ASEAN Charter reaffirms the goal of working towards an ASEAN Community by 2015, comprising three pillars, namely: ASEAN Security Community (ASC), ASEAN Economic Community (AEC), and ASEAN Socio-Cultural Community (ASCC). Each Community has a Blueprint, providing a strategic framework of measures, actions, scheduling of activities in realizing goals of the ASEAN Community.

During the 14th ASEAN Summit held in 2009, the Leaders signed the Cha-am Hua Hin Declaration on the Roadmap for the ASEAN Community (2009-2015), comprising three pillars: Political Security Community, Economic Community, and Socio Cultural Community. Each ASEAN Member State shall ensure its timely implementation. The Leaders also tasked the ASEAN Sectoral Ministerial Bodies, among others, the fisheries sector, and the Secretary General of ASEAN to explore ways and means as well as long term strategy to mobilize resources from Member States, Dialogue and Sectoral Dialogue Partners, and other external parties to implement the Declaration.

Noting from the above ASEAN's vision and inspiration, development of fisheries sector towards an ASEAN Community could be seen as a regional important stepping stone along the pathways of enhancing competitiveness, economic integration, sustainable development and achieving the Millennium Development Goals (MDGs).

It is therefore important for the fisheries sector to set course of future development to articulate various objectives, contributing to ASEAN Community building process.

Contribution of Fisheries Sector in the Realization of an ASEAN Community

Considering the multi-dimensional role and importance of the fisheries sector cutting cross three pillars of an ASEAN Community, it is inevitable to involve relevant stakeholders (i.e. government, private sector along the value chains, fishers and civil society) in "Setting Course of Actions towards an ASEAN Community". It is important for relevant stakeholders to understand ASEAN's vision and goals and identify how to ensure synergies and complementarities of efforts promoted by the ASEAN and various partners.

In so doing, the fisheries sector needs to base its policy and development on accurate and timely information and mobilization of scientific and indigenous knowledge where various stakeholders form part of decision-making process and contribute to collaborative efforts in areas of their comparative advantages. Good governance within the sector and in the context of multi-sectoral approaches to development will be the bedrock of the development set-up. Multi-dimensional aspects of fisheries development, namely economic, social and ecosystem should be well-balanced. Effective management framework for fisheries should be in place at the national level with support through regional cooperation where there are issues of common concerns and those of transboundary in nature.

In term of market and trade of fish and fish products, efforts should be exerted in developing harmonized standards as well as quarantine and inspection procedures so as to facilitate cross-border trade for intra- and extra-ASEAN trade. Trade facilitation initiatives such as good agricultural practices (GAP) in the fisheries sector, recognition and certification systems and other branding initiatives should be supported.

Competitiveness of the fisheries sector, particularly the micro, small and medium enterprises (MSMEs) by ways of improving productivity and meeting trade requirements (i.e. safety, quality and sustainability) should form integral part of economic development and integration. This should be coupled with active engagement in international and regional trade negotiations to safeguard the sectoral interests and uniqueness in the region.

In supporting the fisheries communities through enhanced community organization and empowerment will allow self-help and enhance their bargaining power and access to market as well as improve food security and livelihoods of their members and active engagement in decision making process, including management of natural resources.

In addressing emerging issues such as impacts of climate change, consideration should be made in understanding potential impacts on economic (yields and losses), social (fisher safety and livelihoods) and

ecosystem (well-being and ecological services) aspects. Development and sharing of climate change adaptation and mitigation strategies in the fisheries sector should be encouraged.

Concluding Notes

It is important to recognize that achieving sustainable development of fisheries could neither be ensured solely by certain stakeholders nor a country. Common understanding of among various stakeholders on issues and challenges faced by the sector and cooperative development and management of the sector based on their comparative advantage will provide a firm ground for progressive development. Strategic cooperation and partnership with Dialogue Partners and international/regional organizations (i.e. FAO, SEAFDEC, the Network of Aquaculture Centres in Asia-Pacific (NACA), the WorldFish Center, the Mekong River Commission, etc.) should continued to be pursued.

The ASEAN-SEAFDEC Conference on Sustainable Fisheries for Food Security Towards 2020: “Fish for the People 2020” – Adaptation to A Changing Environment to be held on 13-17 June 2011 in Bangkok will provide this platform of partnership that sets joint vision and aspiration as well as defines concrete cooperative actions to achieve “Fish for the People”. The impacts could be the sector’s sustainable development as well as its contribution to attaining the MDGs through the ASEAN Community building process.

KEYNOTE ADDRESS

Fisheries for Poverty alleviation and Socio-economic Well-being of Fishers

by *Dr. Somying Piumsombun*

Director-General of the Department of Fisheries of Thailand

Plenary I

ASEAN-SEAFDEC Conference on Sustainable Fisheries for Food Security Towards 2020

“Fish for the People 2020: Adaptation to a Changing Environment”

Excellencies,
Honorable Guests,
Distinguished Participants,
Ladies and Gentlemen, Good Morning once again!

As many of us may be well aware of, fisheries play an important role in the national social and economic development in terms of food fish supply, employment, and especially on poverty alleviation. The recent figures from FAO’s SOFIA 2010 indicated that the world fisheries both capture and aquaculture, contributes about 142 million metric tons of food fish supply as well as to the socio-economic well-being of fishers. In fact, fisheries itself can provide the source of income for over 100 million people and thus, help in alleviating poverty, and providing employment as well as fish protein for human consumption. While mentioning employment in fishing, we are also aware that most fishers are employed in small-scale fisheries especially in the developing countries. In fact, records have shown that about 90% of the world’s fishers are in Asia and Africa where poverty among coastal and rural communities is often particularly high. In many developing countries therefore, fisheries and poverty are synonymous, for although many fishers are poor, looking at the one angle, fisheries is also capable of generating great wealth. In order to enhance the contribution of fisheries towards poverty alleviation, distribution of such wealth should be addressed.

From another angle however, it is also the fishers’ increased craving for more wealth that put too much pressure on the fishery resources, leading to the overexploitation of fish stocks and threatening the role of fisheries in poverty alleviation. In fact, it has been reported that one-quarter of all fish stocks are exploited beyond sustainable levels, while one-half of all stocks are fully exploited, with no potential increases in production. This scenario has been drawn international concern regarding the state of fisheries overexploitation. Special attention was then made at the World Summit on Sustainable Development in 2002 calling to reverse the impacts of overfishing.

We all recognize that the impacts of overfishing can be several folds. For one, it can reduce the amount of fish available to fishers leading to loss of jobs as well as increase the cost of fishing, which in turn also reduce significant revenues that stream to developing countries. When fisheries collapse due to overfishing, it is the poor who are most vulnerable and least able to cope with the loss of livelihoods and source of protein, as they may have only few options available to them. In order for fisheries to continue providing benefits to the poor particularly in developing countries, fisheries should be properly managed so that exploitation is well maintained within sustainable limits.

Excellencies, ladies and gentlemen,

Poverty alleviation in fisheries encompasses two key aspects. First, is by enhancing the contribution that the fisheries sector can make to poverty alleviation; and the second is by reducing poverty in fishing communities. **Enhancing the contribution of fisheries to poverty alleviation** could be achieved in a number of ways such as effective management for sustainability, coherent policy objectives, governance and capacity building, and fair distribution of benefits. Effective management for sustainability is necessary to address overexploitation and other threats to fisheries such as habitat destruction, which have negative impacts on their productivity and sustainability. When a fishery is overexploited, its productivity is reduced and there is a greater likelihood of it collapsing. Reducing fishing effort to rebuild fish stocks involves a short-term cost, but is essential to be able to maximize the potential wealth that can be generated from fisheries in the longer term.

While social and economic benefits from fisheries may take the top priority for decision-makers, without biological sustainability of the fish stock, those benefits could not be realized. Fisheries management therefore,

needs to address the issue of sustainability of the fishery resource to enable it to continue providing the much needed benefits. Fisheries often require multiple management objectives to meet economic, social and biological goals. However, there is a need to develop coherent policy objectives especially where there are conflicting goals, for instance maximizing export revenue versus increasing fishery's contribution to domestic protein supply, there is a risk of neither being achieved. The trade-offs must therefore be recognized, and coherent policies must be developed recognizing the ways in which fisheries can contribute to poverty reduction, and then maximize such contribution.

We know that strong institutions are prerequisites for good governance and capacity building in fisheries. Appropriate governance structures for fisheries could however vary depending on the type of fishery, the scale at which it operates and the stakeholders involved. For example, a small-scale localized fishery differs from a fishery which aims for highly migratory fish stocks straddling in various territorial waters. There are also increasing moves towards greater participation of resource users in management, and decentralization of decision-making. This implies a change of roles for fisheries management authorities, although capacity building is necessary to enable them to fulfill these new roles.

As to who receives the benefits from fisheries, is fundamental to the functions that fisheries play in alleviating poverty. Distribution of benefits should therefore consider the fact that while industrial fisheries provide revenue to the state they can still contribute to poverty alleviation if the distribution of such revenue promotes pro-poor growth. For example, revenues could be reinvested in the economy to promote general economic growth or in services and infrastructure for the poor. In the case of small-scale fisheries, the allocation of use-rights or access rights is fundamental in controlling fishing efforts and in determining who benefits from fisheries. Rights can be allocated specifically to the poor, and to those dependent on fisheries, to avoid 'capture' of use-rights by influential individuals.

In terms of **reducing poverty in fishing communities**, we are aware that many fishing communities are poor and lack access to basic services and infrastructure, which is often exacerbated by their remote locations. However, this also provides an opportunity for tackling poverty through targeted interventions for fishing communities. The Code of Conduct for Responsible Fisheries recognizes the important contributions of the small-scale fisheries sector to employment, income and food security. However, it also recognizes their potential vulnerability, arguing that they should receive special assistance and protection in order to achieve "a secure and just livelihood". Although such interventions may or may not be directly linked with fisheries resources, actions that tackle the sustainability of fish resources and their effective management are essential for maintaining the benefits derived from fisheries and for reducing poverty.

Oftentimes, poverty in fishing communities has non-fisheries causes. In some cases, poverty is usually more linked to institutional factors than to the fish resource itself. Interventions therefore need to take a holistic approach in identifying the causes of poverty and the possible routes of getting out of it. The factors that contribute to poverty of the fisheries stakeholders could include lack of information, skills and education; poor status of fisheries resources; lack of credit, poor organization and political representation; unexpected losses of human or other capital assets; lack of alternative employment; and lack of infrastructure and access to markets.

Cross-sectoral initiatives that tackle the root causes of poverty, while maintaining and increasing the benefits that fisheries can contribute, provide the most promising means of effectively reducing poverty in fishing for future work. In considering future works with regards to fisheries and poverty alleviation, further support is needed in the number of areas, which could include firstly, research on the links and underlying causal factors between fisheries and poverty, and development of strategies to maximize the benefits derived from fisheries and reduce poverty and vulnerability of fishers. Secondly, appropriate governance structures should be established and fisheries institutions dealing with management should be strengthened especially their ability to manage fisheries sustainably. Thirdly, awareness of the importance and contribution of fisheries to poverty reduction, and promoting their inclusion in national development plans and poverty alleviation strategies should be advocated, particularly through better communication of research messages to policy makers. Lastly, support is most needed in the delivery of better services to poor and marginalized fishing communities.

Ladies and Gentlemen,

In my capacity as a government official of the Royal Thai Government, and directly responsible for the management of fisheries, I have expressed some aspects that require the fisheries society as a whole to consider. The deliberations gearing to the expected outcome and resolutions at the end of this Conference have been planned in such a way that many sectors many sectors would be involved especially in looking at sustainable fisheries management and food security. We are sure that this ASEAN-SEAFDEC Conference is

one of the most relevant fora that allow such ideas to be shared among scientists, administrators, planners, policy makers and the academe.

Lastly, I wish to thank all distinguished participants and guests for being here in this important forum. I hope your participation in this Conference during this week would be fruitful and hope you enjoy your stay in Bangkok.

Thank you very much.

KEYNOTE ADDRESS

Emerging Issues in World Fisheries and Aquaculture

by *Dr. Lahsen Ababouch*

Chief, Fish Products, Trade and Marketing Service,
Department of Fisheries and Aquaculture, FAO, Rome, Italy

Plenary I

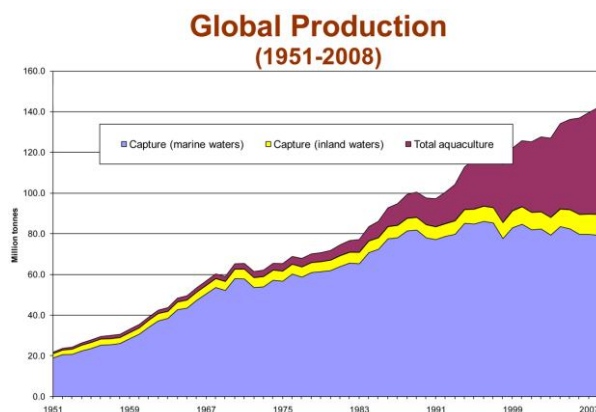
ASEAN-SEAFDEC Conference on Sustainable Fisheries for Food Security Towards 2020 “Fish for the People 2020: Adaptation to a Changing Environment”

Excellencies,
Distinguished Guests and Participants,
Ladies and Gentlemen,

It is my great pleasure and honor to welcome you to this Conference, and convey best wishes of Mr. Jacques Diouf, Director-General of the Food and Agriculture Organizations of the United Nations (FAO) for a successful Conference.

Ten years ago, only few months after I joined FAO, I was requested by our Assistance Director-General, Mr. Ichiro Nomura, to attend the previous Conference to learn about ASEAN countries and issues facing fisheries and aquaculture in this region. Today, I would like to say that I am very about that decision, because it allows me and many other colleagues to make excellent contacts to develop and expanding an insight about the issue, and those contacts and insights proved to be very successful every time we need to deal with one or the other country, whether its was during the tsunami, or during our various activities in this region. I look forward to this Conference to expand those contacts, to learn more about the issues so that we can share this with our colleagues here in Bangkok, in the different regional offices and back in Rome.

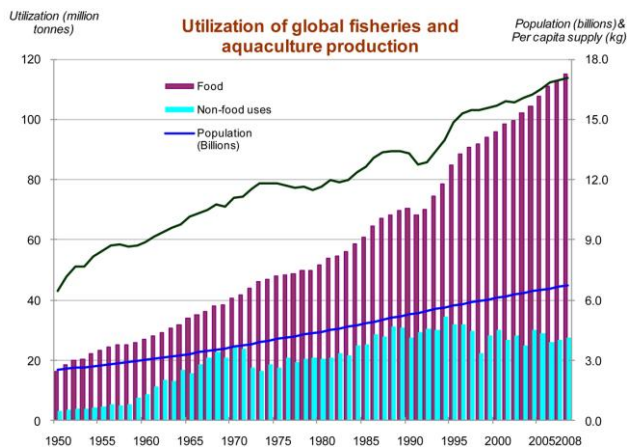
This presentation I will make should be considered as Part 1 of FAO presentation, and my colleague Simon Funge-Smith will this afternoon address the Second Part to compliment what FAO think are the major emerging issues in world fisheries and aquaculture; and what are the main challenges facing us in the next ten years. This presentation will provide facts about the current situation of global fisheries and aquaculture, address some of the most important issues; however, my expertise would be on market access and trade issues, while Simon will further address issue relevant to governance and management, etc.



I think you are all very familiar with this from the State of Fisheries and Aquaculture (SOFIA). I would like to highlight that regardless of the different problems we have faced over the years, fish production has kept increasing for the last 6 years, at an average of 10% increase – to go from average of 20 million tons in the 1950s to 142 million tons in 2008. But as been highlighted before, there has been an increase in production up to the early 1990s from capture fisheries, whether its marine or inland; and then stagnation and sometimes decreases from capture fisheries and aquaculture picked up, and produced the fish to meat the increasing demand.

The same trend has been observed in the ASEAN countries and I think the Minister of Agriculture and Cooperatives highlighted the importance of fisheries and aquaculture. But I would like to emphasize that both globally and in ASEAN countries, this increase in fish production brought from capture and aquaculture over the time is really high in some underlined changes that are very important for resources sustainability – that is we have over-fishing of high-trophic species, and increase in production mainly comes from lower-trophic species; and some of the high-trophic species have been overfished, and we still have a big problem of over-capacity. It is important to highlight also for this region the increasing importance and contribution from freshwater fish and from inland fisheries.

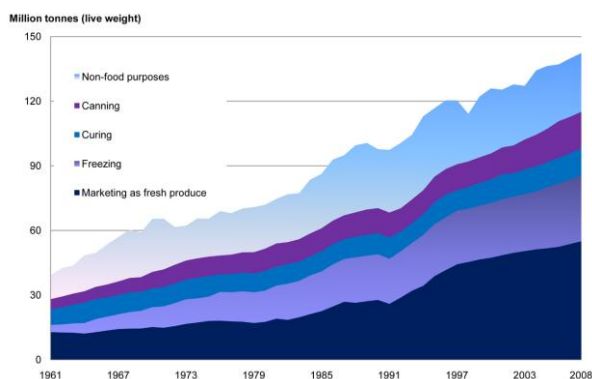
For aquaculture, five of the top aquaculture producing countries are from ASEAN, they contribute almost 20% of aquaculture production worldwide. In terms of utilization, fish consumption by human has kept increasing for the last 30-40 years for the rate of 3% which is almost twice the growth rate of the population, which has enable the sector to double almost its contribution to fisheries for human consumption, from 9.9 kg. in 1970s to 17.2 kg. in 2008. But can this trend continue? Because we all know that the demand is out there keeps increasing. And how we can meet that demand in sustainable and responsible manner both from capture fisheries and aquaculture.



I think it is important to highlight for this region, and especially the poor communities of fishermen and aquaculture farmers how important aquaculture is in terms of nutrition. Its in many parts a major source of protein, especially the major sauce of animal protein. Around 19-20% protein of animal origin in Asia and in Africa comes from fish, and it's around that same percentage for the low-income food deficit countries. Therefore it is very important to maintain that supply for low-income communities for food security. And here we can see that often there are diverging interests between producing fish for food security and producing fish for export. And these diverging interests need to be

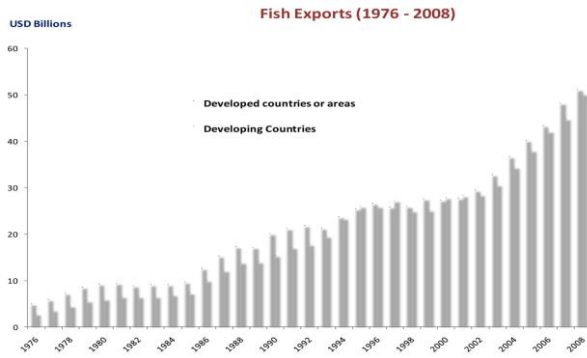
reconciled through proper policies. But more importantly, during the last ten years, many parts of the world tended to forget the importance of fish and seafood for health benefits. I would like to highlight that the world still have millions that are suffered deficiency iodine, zinc, etc.; and the large of the deficiency can be eliminated or reduced to great extent by consumption of low-value, high-nutritional fish. Unfortunately, because of lack of interests to invest in proper preservation of low-value fish, some of its has lost through the post-harvest or is turned into feed. It is important to act on this.

Not only this kind of problem in efficiencies in developing countries, but also fish and seafood are targeted by many developed countries in their campaign to address some of the biggest issues of human nutrition, obesity, disease, depression, etc. The FAO with various partners have organized the Conferences on seafood and health during the last 6 years to address these issues; and in 2012, FAO and WHO will organize the World Food Nutrition Conference .We hope fisheries and aquaculture will receive the interest it deserves in this regard.

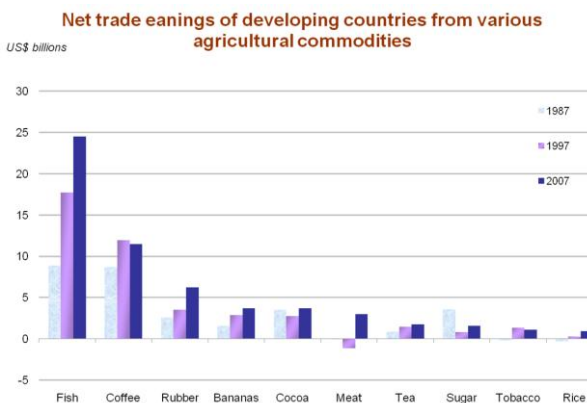


Fish utilization for human consumption has improved over the decades. We have seen an important increased of the fish that is consumed as fresh (about 25% in crease), or frozen because of technology development in the cold chain, the freight and the distribution. Curing and other preservation has remained stable mainly because of the demand for these types of products – more and more fish is in higher demand as fresh or frozen fish (freshness is very important).

Fisheries are also very important for employment. About 45 million people around the world, many in this region, are employed directly and indirectly in fisheries. It is estimated that around 180 million people benefited from fisheries and aquaculture, and about 540 million people are supported from incomes from fisheries and aquaculture worldwide.



countries is enormous important hard currency earning commodities. In fact, it is estimated to be 27.5 billion USD in 2008, and it is higher than the hard currency earned by developing countries from many of the other food commodities all combined. But how do we consider promoting fish for export and for local and household food security, especially in countries that culturally and in many ways rely on fish for their sources of animal protein and nutritional elements.



Obviously, we have seen also a very important and significant development in fish export over the years -- from less than 9 billion USD in 1970s; the fish export value is around 102 billion, USD and fish import value about 107 billion in 2008. But the importance in this is that developing countries and developed countries pay equivalent role in supply in international markets, because the value about 50% of the fish comes from developing countries. And for developing countries, it is important, at least, the policy of IMF and World Bank to increase hard currency earnings because fish for developing

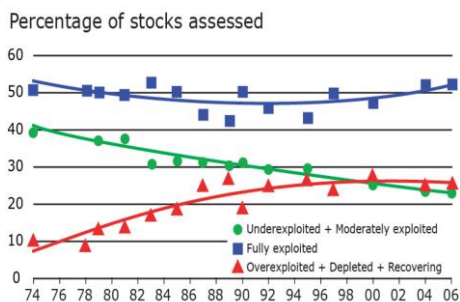
I think it is very important to highlight the value chain in fisheries and aquaculture. While it is estimated that the value first sale of fish and aquaculture is around hundred billion dollars worldwide, there is a wealth four times that is extracted from the fish through primary processing, secondary processing and distribution. And some of the work that we started in FAO and other institution including in the region is looking at the value chain in specific fish food commodities, and see how, through policy and investment promotion encouraged in many countries, extracting more of the wealth from fisheries and aquaculture.

On fish trade, fish trade is global. There are about 97 countries that reported to FAO their export of fish and fisheries products; and 50% of the exports come from developing countries. However, 70% of the import goes through three main markets, which are the European Union, the US and Japan. And these countries have very stringent market access requirements, which also make the roles of exporting countries very difficult to meet these requirements and especially to adapt to them.

For the emerging issues in fisheries and aquaculture – sustainability, sustainability of aquaculture development – with different issues to deal with: while capture fisheries is a very extraction of food and wealth from the natural resources; aquaculture is the food production system, where operators can control inputs and design what the outputs are out there based on the basis of the market demand. So the issues are really different and keep developing in different direction both for aquaculture and capture fisheries. Globalization and increasing demand instrumental action I have eluded to this if you allow me, I will come back later into the demand and consumer protection issue. The importance of post-harvest, valorization is very important not only as opportunities for return on investment for investors in processing and distribution; but I think we need to look at post-harvest as also an area that contributes and can contribute better to sustainability of the resources. The market is demanding this; we have to adapt our policies and strategies to deal with that.

Protection of livelihood and equitable distribution of benefits – I think it's very important, often in terms of improving practices. We asked a lot from fishermen, from the farmers, including the small-scale ones; but are they really getting the right benefits from the wealth that extracted along the value chain.

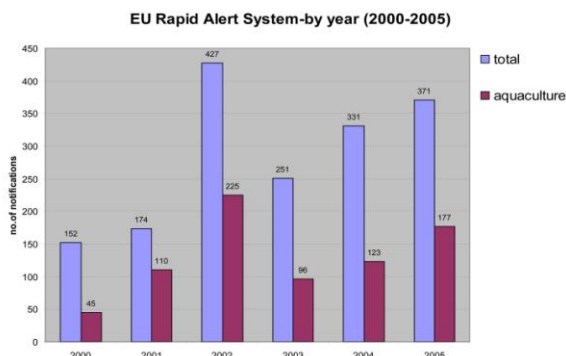
Climate change and natural disaster – it has been eluded too. We have special session that deals with this; and they look forward to the debate on how we can assess the risks and the mitigation strategies for this.



For capture fisheries and its sustainability – unfortunately the situation is not looking the better. The fully exploited stocks are still around 50-52%; the over-exploited and depleted are slightly increasing; and the under-exploited and moderately exploited stocks percentage is decreasing. We are doing not well in improving our management; and I hope that the Conference will address specific issues for ASEAN on this.

The sustainability in fisheries, improved management, combating Illegal Unreported and Unregulated (IUU) Fishing, eco-labeling, aquaculture development with the issue on environmental protection, socio-economic development, and human health, and where is the fish supply going to come to sustain the growth of aquaculture, and post-harvest losses.

I think in terms of the demand for fish, there are many experts discussing the three possible scenarios. One of them is consumption for the next ten years will be maintained at 17.2 kg. per capita per year. Second one is we will have the same growth rate in consumption we have experiences for the last 30 years, for around 3% on average. Both scenarios will require an additional 22-38 million tons to be produced by 2020 to meet the demand. But recent study by the OECD and the World Bank tended to suggest that the demand would be even higher because of the shift of middle class population mainly from Europe, Northern America to this region. It is estimated that 28% of the 525 million people in Asia-Pacific are middle class. This percentage will increase to 44% and 62-66% in 2020 and 2030. These people consumed a lot of fish, culturally in many ways, they almost an average twice as an average consumption worldwide. So of the demand in this scenarios are realistic and prove to be true will be even much higher; and where is the fish is going to come from.



Consumer protection and safety has been and will remain a major issue if not the number of issue for market access, because unfortunately every month, every year we expand experience new threats, new food crisis, including the *E. coli*. in Europe and Germany, etc. From the data collected over the period of 6 years of alerts of fish and fisheries products crossing the border of Europe. We are about to finalize the study from 2005-2010, but the number of issues is still high there. In fact, the number of alerts due to fish and fisheries products is the highest of all alerts due to food and food products. And it keeps form changing

from pathogens to residue from aquaculture and other issues. It is very important when discussing during this Conference to remind use of the major issue of communication, especially that has been highlighted during the last 6-7 years in Northern Europe and especially in the US. And it is about how in our communication, we can highlight the importance of fish and seafood for nutrition, for health protection; but trying to minimize the risk or communication of the risk because of the residue and other issues.

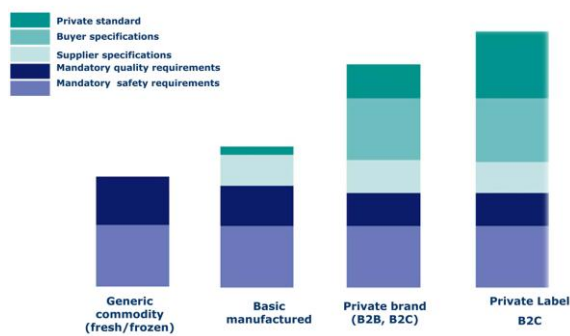
There are international instruments and strategies – the Code of Conduct for Responsible Fisheries (CCRF) is now highly recognized by nations, NGOs, industries, etc. as the benchmark, which will help us if implemented properly to deal with all issues of sustainability. The International Plan of Actions, the Strategies, the Guidelines, all these instruments are in place. But are we doing it right in this region? And if not, why? And who are doing it are still now having problem of over capacity, of over-fishing and IUU. So something needs to be thought in this issue.

I will finish by highlighting the fact that in many parts of the world, especially for the industry; the industry thinks they have to step in to improve governance actions. Some think that government has failed to take the responsibility in fisheries management, combating IUU and reducing over-fishing. And one response was certification and labels, not only for food safety and quality, which has been around for ages, but for other issues like sustainability of the resources, environment protection during aquaculture production, socio-economic aspects. And the main problem we need to discuss here is how the market instruments can complement and improve government actions and not duplicate them; because at the end, it's the fishermen and the fish farmers especially the small-scale ones that pay the price and the cost of these certifications. These instruments are becoming more and more important and FAO do think that this will become increasingly

important because of the increasing importance of retailers, the increasing importance of food services as the main buyers in the international trade. The NGOs have already investigated that for many years, they have been retailers and buyers with campaigns like name and shape, with various tools to force the retailers to take actions so that they can protect their reputation. And certification and labeling is the issues and the tools that being used.

As I said, the industry has taken responsibility by developing codes for social responsibility strategy to deal through market instruments about the legality of fish, the development of scientific criteria for sustainability, traceability, and socio-economic aspects. Now, I think it is very important to highlight the fact that market instruments and government actions, international organizations, etc. are very important; but they need to work in synergy and to compliment each other. Some of the expert, and one of the Conferences this week held between FAO and OECD looking at eco-labeling and sustainability, two years ago, highlighted the fact that eco-labeling for sustainability of marine capture fisheries is important. But right now, when you look around what are the fisheries that had been labeled, they set in the fisheries that are well-known to be well-managed. So, is the eco-labelling adding value? I think we have raised this issue years ago, and many of the eco-labeling schemes have responded by developing. We should look at ways and how to do this during this Conference -- to really take care through market instruments of fisheries that need help from the market to support government strategies, and those are called transitional fisheries. These need really market instruments, and one of the certification schemes has introduced what is called ‘pre-assessment’ to look at the real problems from the market perspective on sustainability and options on how to improve that situation.

Schematic representation of standards as a market access requirement



I think one of the main issues that have been raised especially for aquaculture but also capture fisheries is multiplicity of the certification schemes. It is a business opportunity, whether for NGO or private sector opportunity private certification bodies; but again I would like to highlight that we need to reflect on how to make these market instruments useful, how to make them compliment not duplicate government activities, and how to make them harmonization most. This will probably help reducing the cost, and one of the suggestions (that FAO is working on this at the FAO Sub-committee on Fish Trade) is how to develop benchmarking methodology to reduce duplication between them.

So, before I fishing, I would like to just highlight the fact that I hope I have identified some of the some of the issues. We are talking about but sustainability of the resource, how to improve governance to reduce over-capacity, to reduce over-fishing; but at the same time we need to realize that other strategies and other initiatives are developing, e.g. Marine Protected Areas, Ecosystem Approach to Fisheries, etc. How can we reconcile all these approaches to come up with a synergy of the strategy that can promote synergy and promote partnership between public and private sectors, between market instruments and national policies and strategies to improve fisheries and aquaculture.

Thank you very much.

ASEAN FISHERIES: STATUS AND TRENDSby *Dató Ahmad Sabki Bin Mahmood*

Director-General, Department of Fisheries Malaysia and Chairperson of the SEAFDEC Council (2011-2012)

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Viewing the physical world, the influences of the seas and oceans that cover three fourths of the global surface can give us a better idea about our lives far over and above fisheries. Like food, which is one aspect of our lives, fishing is also a small part of the seas and the world. The Earth ecosystem is so complex that all living and non-living things are interconnected through myriad routes of energy transfer. In illustrating the impacts on humans, the recent concept of “ecological footprint”—the brainchild of Professor William Rees and Mathis Wackernagel at University of British Columbia, Vancouver, Canada, gives a clearer concept of the impacts of human dominance.

On the physical side, land, coasts, seas, minerals, oil, water, gas, wind and air make up the abiotic components that interact with each other through physical and chemical interactions. The transformation of coastal configuration through severe erosion, ocean chemistry changes through acidification, and climate change manifested by frequent violent storms has intensified partly owing to human actions. Our exploitation of the natural resources comes in many forms that have affected land, water, air, energy, plants, animals, and even microbes. As part of the Earth ecosystem, humans too are affected from all these interactions and changes. The key message is that “sustainable fisheries and food security” is important. However, it makes only a small part of our lives. As part of the Earth ecosystem, we must be aware of other influencing factors that fishery scientists often take as a large chunk of assumption.

Sustainable fisheries, as fishing enterprise that exploits fish stocks profitable as a long-term operation, are not only dependent of the state of the fish resources and their capacity to regenerate, but also on how the human side can agree with one another on how to apply the optimum fishing pressure on the fish stocks. Assessing the state and trends of the fish stocks is one way to gauge how well fisheries have performed at the human-fish stock interface. Nevertheless, the ecosystem influences on the fish stocks, and the interaction among all fisheries stakeholders are the more important sides that should not be left out as an assumption. They are far too big and too important to be overlooked.

As the Food and Agriculture Organization of the United Nations (FAO) has been doing a superb job in collecting, analyzing, and compiling the world fishing and aquaculture statistics, we can conveniently rely on their work as an important reference in discussing this matter. This paper will attempt to deal also with the human factors relevant to fisheries governance since the socio-economic and political aspects of fisheries are considered an important input for the discussion at this Conference.

Sustainable Fisheries

The sustainability of fisheries depends on natural and human drivers. Marine ecosystem is very complex, while the interdependence of the fish stocks on biotic and abiotic actors through intricate food web must be taken into consideration. The abiotic influences are known to exert some control over the biosphere. This bigger picture must be kept in mind when delving into a sectoral intervention such as fisheries. Dr. Gabriella Bianchi of FAO summed this up at the first workshop on the assessment of fishery stocks status in South and Southeast Asia in Bangkok in June 2009 as “the poor state of the world fishery resources has a number of causes, including free and open access, inadequacy of enforcement systems and weakness of decision-making, poor transparency and communication with stakeholders in decision-making and fisheries as the last resort to alleviate poverty” (FAO, 2009).

Fisheries development challenges

Fishery science has dominated research in fisheries and management for many decades. The great variety of marine fishes and other organisms make it too complicated to deal with fisheries from the biological perspective exclusively. During the past decades, ecology has gained greater entry into fisheries as a more promising tool for explaining the past fisheries management failures, and to produce a more promising tool to manage the intricate marine ecosystem and fisheries.

(1) *Is trophic level an effective indicator for fishery management?*

The popular idea is that global fisheries have been managed by fishing that target high trophic level species, as evidenced by declining mean trophic level of catch since 1950. What is termed “fishing down the food web” explains this pattern showing that stocks high in trophic levels have been serially depleted through industrialized fishing (Pauly *et al.*, 1998). Essington *et al.* (2006) proposed instead that “fishing down the food web” occurs by serially expanding into lower trophic levels in order to maximize the volume of catch. Although the consequences of declining mean trophic level of catch are not fully understood, fishing—as it has been practiced—can lead to large ecosystem changes including trophic cascades (Baum and Worm, 2009; Daskalov, 2002) or productivity shifts (Forgaty and Murawski, 1998).

Thus, mean trophic level of catch has been adopted as an indicator for the ecological impacts of fishing (Pauly and Watson, 2005). Sethi *et al.* (2010) proposed that, successful fisheries management means moving beyond the symptoms of fishing and taking into account drivers of harvest pressure that result in potentially significant ecosystem change. One step in this direction is to incorporate leading indicators for current and future impacts of fishing into management. Using global data on catch, ex-vessel price, and life history characteristics, Sethi *et al.* (2010) examined whether high trophic level organisms are more economically valuable. Here are their findings:

- Trophic level has little correlation with economic opportunity or patterns of commercial fishery development since 1950. However, the progression of fishing development demonstrates a clear pattern of profit-driven harvest, highlighting the importance of the species attributes related to economic forces as leading indicators of fishing activity.
- No support to the hypothesis that globally “fishing down” or “fishing through” occurs because the fish species higher in food webs are more economically valuable. No statistically significant relationship exists between trophic level and indices of ex-vessel price or annual gross revenues (referred to as “revenues”).
- The lowest trophic level assemblage contained shellfish and invertebrates (*e.g.* shrimps and abalone) of highest mean price index. Their economic value is 25% higher than the catch containing top predators, and 45% higher than an intermediate group containing pelagic species.
- In revenues, the lowest trophic level catch brings average annual income 39% higher than the top trophic level fishes, and 99% higher than the intermediate group.
- No connection between the catch at certain trophic level and their economic value. It was evidenced that at any given trophic level, a wide range of prices and revenues exist.

In testing the economic theory adopted by Brown (2000) and Clark (1976) that says “producers make decisions based on profit”, the global catch records were analyzed to find a relationship between a species caught in relation to costs of fishing and revenues from the species. The findings include:

- Fishing patterns are consistent with profit-driven fishery development. Fish species of higher potential profit are targeted first, followed by progressively less economically attractive alternatives.
- Using the fish habitats as proxy for the fishing costs, the results show greater preference for fishing for species that costs the lowest first, then moving to increasingly costlier species.
- In the analysis of per-unit profitability, the preference for larger size species is influenced by anticipated processing costs. Higher processing costs for smaller species make them less desirable in the market that bears the consequence on fishing targeting.

(2) *Influences of climate change*

Impacts of climate change are already evident, with warmer water species moving towards the poles, changes in coastal conditions that may affect habitat, impacts both positive and negative on productivity at all levels, and the effects of ocean acidification (Garcia and Rosenberg, 2010). Climate change impacts will likely be as varied as the changes themselves and will be felt through changes in fishing opportunities (resources available and entitlements), operational costs (in production and marketing) and sales prices, with increased risks of damage or loss of infrastructures and housing. Fishery dependent communities may also face increased vulnerability in terms of less stable livelihoods and loss of already insecure entitlements. Not all changes negatively impact human life as some changes may also be positive, opening new opportunities as new species become accessible. So far, most fishery sector literature concerns potential negative impacts and positive options which are not well defined. A community’s ability to limit losses and benefit from other opportunities

will depend on its adaptive capacity, but such adaptive and enabling capacity must be built at the individual and community levels under the overall sustainable development efforts.

(3) Legal instruments for the exploitation of the sea

The modern world is governed by large and elaborate set of international treaties, which determine jurisdiction over coastal waters and the seabed, and where fishing fleet may legally operate. However, the extraction of mineral resources from the ocean floor and climate change emerged as new challenge for the international law of the sea: it is difficult to find a balance the sensitivity between the intensive use of the ocean and the protection of the marine environment. The United Nations Convention on the Law of the Sea (UNCLOS) adopted in 1982 provides comprehensive provisions for legal governance of the seas, and the popularity it has gained over the past few decades now makes it a powerful body of law. However, panacea may only exist in an abstract world, thus the UNCLOS has now been found short of provisions to address some emerging issues. Although the seas have been a main source on which humans depend for food since time immemorial, from the mid-20th century, the seas have been focused as rich source of oil and gas. Extension of the national jurisdiction over ever-larger areas of the sea and the seabed made it necessary for most coastal nations to proclaim the 200 nm Exclusive Economic Zone (EEZ). However, further extension of jurisdiction into the farther maritime frontier has never ceased. The discovery of large deep seabed deposits of manganese nodules in the eastern and central Pacific Ocean in the 1960s had sparked new ambitions among the industrial countries to go further. At present, the prospect of rich oil deposit in the deep seabed, now covered under the Arctic ice, has been a matter of great attention of the major oil producing countries as a result of the impacts of global warming and the Arctic ice has begun to melt at an accelerating rate.

The various legal zones divided by UNCLOS are governed by the principle of decreasing state's sovereignty with increasing distance from the coast. Every state has the right to territorial sea that covers the area within 12 nm in addition to its internal waters. The area outside the territorial sea is covered by the contiguous zone, which may not extend beyond 24 nm from the relevant baselines, and the coastal state may merely exercise rights of control, for example to prevent infringement of its customs regulations. In the EEZ, which extends to as far as 200 nm, comes with the coastal state's sovereign rights for the purpose of exploring and exploiting the natural resources. One hot issue that links UNCLOS to the new form of exploitation of the seas is the carbon sink. This issue is about the carbon credits—the emission allowances of CO₂, a climate gas, in specific amount. Where an enterprise has not used the full amount of its credits, the remaining credit can be traded. The issue recently arose from the novel idea of iron fertilization of the ocean to stimulate plankton bloom, the process of which consumes an enormous volume of CO₂. Being taken as a type of “geo-engineering,” a question arose as to whether this type of intervention is permissible.

The idea of iron fertilization actually is not new. In the 1930s English biologist Joseph Hart speculated that the ocean's large “desolate zones” might simply be iron deficient. It took until the 1980s when oceanographer John Martin did marine water nutrient analyses and found a scarcity of iron micronutrients that limit phytoplankton growth in these desolate regions, which he later called “High Nutrient, Low Chlorophyll (HNLC) zones (Wikipedia/iron_fertilization). As part of the marine ecosystem, a greater algal growth would certainly impact fish stocks as the anthropogenic action such as the geo-engineering would bring it about. This is an example that fisheries are not alone at sea, and the concept of sustainable fisheries should not be pondered in isolation.

(4) Exploitation of marine resources and services

The seas provide not only fish that humans have enjoyed as a rich source for nutritious food, many other marine organisms have given much hope as a new source for miraculous medicines and some sort of DNAs. The increasing demand for energy, stimulated by the population increase and modern lifestyle, has now focused on the sea as some rich deposits have been found. While exploration for fossil oil and gas has been known for decades, expansion of ocean mining into deep-sea waters is a recent phenomenon. The major focus is on manganese nodules, gas hydrates, cobalt crusts, as well as sulphides. The manganese nodules are composed primarily of manganese and iron, and more valuable minerals such as cobalt, copper and nickel at around 3% by weight. In addition, there are traces of other significant elements such as platinum or tellurium that are in great demand for the production of various high-tech products. According to Benningfield (2009), manganese nodules may be strewn across half or more of the Pacific, especially in its broad, flat plains. These also common in the Indian Ocean, with some deposits in the other oceans as well, which in all, could probably add up to billions of tons. Like mining for fossil oil and gas, the impact on marine ecosystem may come in forms of detrimental effects on benthic fauna, the primary food source for fish and other marine organisms. In most cases, monitoring by the International Seabed Authority (ISA) is not possible where these minerals are located within the territorial waters of various countries.

Methane hydrates, chemical compounds known recently, are a potential energy source that also poses a considerable climate risk. These compounds are white, ice-like solids that consist of methane and water. Methane gas is known to be formed primarily by plankton or microorganisms that sank to the ocean floor. The compounds are only stable under pressures in excess of 35 bar and at low temperatures normally found on sea floor >350 meters in depth. According to Mims (2009) these energy compounds are trapped in molecular cages resembling ice, at the bottom of the ocean and in terrestrial permafrost all over the world. By conservative estimates, its supply is equivalent to twice the amount of energy contained in all other fossil fuels remaining in the Earth's crust.

Xinhua News Agency published on March 7, 2010 a report prepared by Wang Aihua and Miao Xiaojuan saying that major deposits of "combustible ice" were found in China's western Qinghai Province. This natural gas hydrate is mainly found in deep seas and atop plateaus. On the amount of energy it contains, one cubic meter of combustible ice yields as much energy as 164 m³ of natural gas. It is estimated that 1,000 to 5,000 gigatons of methane hydrates, about 100-500 times more carbon than is released annually into the atmosphere by the burning of fossil fuels, are buried in sediment deposits along the continental slopes. They remain stable at low temperatures, but can break down if the water and sea floor become warmer, the methane hydrates can impact a climate change as they rise from the ocean floor in the form of CO₂. While the carbon dioxide from the ocean floor is rising, its consumption of oxygen at the surface layers of the ocean could directly impact all marine living organisms. The energy hungry world has also been pondering at the oceans for a possible harness of wind, wave, tidal and ocean current energy. Possibilities are also in the areas of energy generated from the temperature differences at various ocean depths, and energy derived from the different salt content of freshwater and saltwater (osmotic power).

(5) *Maritime transportation*

Globalization and global trade have influenced the dramatic increase of maritime traffic in the recent decades. Tankers, bulk carriers and container ships that ply the major routes generate considerable quantity of carbon dioxide and the level of noises that are recently known to disturb cetaceans to the extent that they could change behavior. Shipping is known to interfere with marine ecosystem and biodiversity in many ways: significant collisions with marine mammals and turtles (Panigada *et al.*, 2008) as well as discharges of oil and exhaust emissions as hydrocarbon wastes (Galdies, 2008).

Carbon dioxide emissions from shipping is currently estimated at 4-5% of the global total, and estimated by the International Maritime Organization (IMO) to rise by up to 72% by 2020 if no action is taken. Shipping has been blamed for transporting alien species that subsequently disturb the balance of other ecosystems. Marine habitats along the principal transport routes are likely to suffer than most. The vulnerability of the marine transport to piracy has recently accelerated where fishing vessels have been involved in the process—sometimes as prey and the other as disguised pirate ships—making fishing, particularly for the distant fleets, highly unpredictable.

(6) *Marine ecosystem and threats to fisheries*

Climate change will most certainly impact marine life. Although the ecosystem change subjects on many drivers, the increasing levels of carbon dioxide in the atmosphere and global warming are now playing critical roles. Marine life forms are generally versatile, they endure natural variations in environmental conditions and tolerate extreme situation at least for a short period of time. Climate changes has so far been driving certain marine organisms to their upper limits. Among these myriad marine species, it is very difficult to take account what species are suffering, and what species have already been extinct. Many stressors are now impacting marine life. Acidification of seawater inhibits the calcification process, sending organisms like corals, mollusks and crustaceans up an unimaginable level of stress and physiological disturbance. Seawater warming causes more pronounced thermal stratification of the water column; it also causes metabolic rates among all cold-blooded organisms to rise. Warmer seas also affect solubility of certain soluble substances such as gases or carbonates. Fluctuation in salinity in marginal seas, as a result of unusual precipitation caused by severe storms, can drive certain organisms off their usual habitats in response to the changing osmotic pressure, and the ion budgets of living cells. Excessive land-based effluents that come with rich nutrients and certain kinds of chemicals inevitably pollute water, making it inhabitable in some cases. Heavier sedimentation along the coast is caused by all kinds of earth-moving activities and heavy precipitation. Alien species brought to their new habitats by the heavy global transportation are causing dramatic ecosystem change as they are more successful as predators and often drive out or decimate the weaker indigenous predators. Global warming has also spurred

a massive migration of tropical fish and shellfish toward poles, wiping out or causing disturbance to their host and higher latitude organisms in the process.

Disruption in plankton cycle is likely to be dramatic as it can push established biological systems off balance. The major role of phytoplankton in converting abiotic substances into living cells through the process of photosynthesis, and is in turn fed by all other herbivorous organisms. Climate change can trigger off not only the change in plankton volume, but also replacement of species. The occasional occurrence of harmful algal bloom (HAB) is a good example of this transition. All these changes in marine ecosystem directly or indirectly impact the fish stocks. With reduced resilience, their endurance to fishing pressure is drastically low and stock collapse can occur easily.

(7) The popular face of capture fisheries

A general consensus about the world fisheries is that the 4-fold increase in marine capture landings from the 1950s to the 1990s was made possible by the novel technology that helped increase fishing efficiencies to satisfy the growing demand for food fish. Most coastal governments crafted and implemented their fisheries development plans featuring strong support and subsidies to build and maintain large fishing fleets, particularly the industrial fishing, to exploit the seemingly inexhaustible marine fish stocks. Most recent fishing vessels have been motorized and equipped with efficient fishing gear and fish finding devices. As a result, the annual landing of 20 million tons in the 1950s was increased to 80 million tons in the 1990s. With most fish stocks being fished to their upper limits or beyond their regenerating capacity, the annual landings after the 1990s began to level off as a result. With even greater fishing efforts to chase fewer fish, the slight increase in some fishing areas was only in weight not in value terms. As most valued species at the top trophic levels have been depleted (or fished out in certain fishing areas), leaving a greater opportunity for fish and shellfish at lower trophic levels to regenerate, and fill the empty niche. It has been well known that low-value fish have made up a much greater composition in the catch in recent years.

(8) Commercial fisheries management and its scientific support

The past fisheries management was born out of the fishery science—the scientific discipline that focus mainly on biology and the response of fish stocks to fishing. The archetypal fisheries management models employ the concept of fishing rights and as the practical delimitation of maritime boundaries is difficult, the concepts of Total Allowable Catch (TAC) and Individual Transferable Quota (ITQ) have been introduced as management tools. Scientific studies, focusing primarily on the dynamics of the fish stocks in relation to the natural and fishing drivers, have been used to formulate the annual TAC. The concept of Maximum Sustainable Yield (MSY) was introduced to reflect the size and state of health of the target fish stocks, to facilitate the TAC recommendation. This important mandate has been met with enthusiastic responses—numerous scientific institutions established, sending the career of biological and fishery scientists into the limelight and fisheries literature abound. Yet, the fishery scientists felt some pressure as from fishermen associations and other stakeholder groups as they often express disagreements, doubts, and even outright rejection to the scientific findings and the TAC advice, especially from fisheries administrators to accept without politico-economic adjustment before submitting it to the higher policy making level to turn it to binding regulations and law.

At the national level, political influences from various sectors tend to sway the TAC advice to suit their interest, political and economic gains. At the regional level, the regional leaders found themselves between the national interest and the spirit of international cooperation and the resultant benefits.

(9) The complexity of fisheries management

Fisheries management has been described as a “wicked problem” (Jentoft and Chuenpagdee, 2009; Rittel and Webber, 1973), because interactions within and among the social, economic, and ecological systems are highly complex, nonlinear, and—to a large degree—unknown. Wicked problems have no technical solution and are never solved once and for all (Rittel and Webber, 1973). They require governing interactions that are participatory, communicative, and adaptive (Jentoft and Chuenpagdee, 2009; Ludwig, 2001).

Despite the fact that scientific advices have partly turned into fisheries management regulations or law, most fisheries management authorities found themselves in difficult positions to put the policies into practice. This is a way to apply technical solution to solve the wicked problem of fisheries management. A popular excuse has been known as they simply resorted to accepting their mandate as being shaped by the “scientific advice”. Fisheries are not exclusive in the real world where competition for limited resources from other sectors is pertinent in all spheres—development, economic, social, and politic. What we normally hear about fisheries

management is, therefore, about the resultant phenomena—the ups and downs of the annual catch, the impending collapse of certain fish stocks, the illegal fishing here and there, among others. All these are more than enough to fill the front pages of popular media and to sway the public attention from what have been encountered by in the fisheries management—can the prescribed policies be put into practice? And if not, why?

In some countries where the greater political authorities are vested in prominent leaders, such scientific advice is not normally needed. As to how and why the fishing quotas of some forms are derived and adopted, the political interests that are disguised in the form of socio-economic consideration are the main drivers. In all these cases, the mismatch between the size and state of the fish stocks, and the science- or political-based fishing quotas is normally generated. Where the latter has outweighed the former, the symptom of overfishing would manifest.

Fisheries are, in fact, more about human interactions, although the fishery resource may still play a passive role. The major players are not limited to fishers or fishing industry, many other upstream and downstream players are also driven into the scene by their socio-economic interests. The fish-human interface, popularly known as “fishing,” is no different from what appears on the stage of a show. In fact, many more parties have pushed it to manifest that way. This situation appears to infer that fisheries management is hardly an exclusive disciplinary undertaking, the nature of multidiscipline—mainly in economic and political intervention—is always there.

(10) The the EU fisheries management example

The European Union (EU) fisheries management in the North Sea has demonstrated how difficult and complex fisheries management can succeed. Under the Common Fisheries Policy (CFP) adopted by the EU, the stated objective is to help conserve fish stocks and to contribute to an economically viable and competitive fisheries and aquaculture industry. The important sign of the failure of CFP has been the dramatic decline in fish stocks in some cases, as well as a significant reduction in profits experienced by fishing industry.

(i) Political influence on the key legal measures

One primary cause for the failure was identified as the Total Allowable Catch (TAC) that the European Commission recommends to the Council of Ministers on a yearly basis. The TAC recommendation was formulated based on scientific evidence. The Council of Ministers often disregards these recommendations, owing to their stronger commitment to protect jobs in the short term, and not to resource sustainability. As a consequence, the TAC quota agreed to by the Council of Ministers is excessively higher than the scientists' recommended figure.

(ii) Non-compliance with the rules

The CFP management measures include a great variety of regulations apart from TAC. Restrictions on the permissible number of fishing days, fleet reductions, and limits on the size and engine power of fishing vessels are imposed. Numerous other regulations are also prescribed relating to fishing technology, such as minimum mesh sizes, closure of fishing grounds, monitoring of fishing operation and sanctions. However, some EU members found it difficult to implement effectively all these fisheries management measures, where very little incentive is there for a Member State to impose stringent controls on their fishing fleets if their neighboring States are known to have failed. At the operational level, by-catch is neither recorded nor sanctioned—fishermen are known to practice “high grading” fishing by discarding the small and low value fish and dump them overboard. The practice of discarding is in fact highly damaging as fish are caught dead before being dumped overboard—it already accounted for as fishing mortality.

(iii) Weak credibility in science

Despite the efforts of the Community Fisheries Control Agency (CFCA) in organizing operation and coordination of fisheries control and inspection activities by Member States to enhance compliance with the CRP rules, the lack of reliable catch data, fishing violation and illegal fishing has weakened the reliability of the scientific assessment of the fish stocks. This weakness has increased the uncertainty, and hence the credibility of the scientific stock assessment that has already employed the Virtual Population Analysis (VPA).

(iv) Misplacing incentives

Between 2000 and 2006, some 4 x 10¹² Euros were paid out in subsidies for *inter alia*, fleet modernization and fish processing industry. These subsidies showed the public encouragement for increasing fishing capacity and processing greater volume of landings—contrary to the efforts that are aimed at reducing fishing pressure in order to allow longer time for the rebuilding of the depleted fish stocks.

(v) Impractical regulations

The EU fisheries are apparently over-regulated: a total of 2,000 rules and regulations have been issued by the European Union—many of them are difficult to understand and some cases even contradictory. From a legal perspective, this added to the failure of the CFP owing to the lack of transparency in the management measures being used.

(vi) Lack of political consensus

The Council of Ministers is known to suffer from lack of consensus among the national ministers responsible for fisheries who decide the annual TACs. The different election schedules in the various Member States and different interests and priorities tend to drive the Council's consensus toward the lowest common denominator.

Fisheries Management in the ASEAN Region***Fisheries governance***

According to Garcia and Rosenberg (2010), the most crucial aspects of fisheries governance relate *inter alia* to: (i) connecting the fishery policy framework within a supporting national policy framework; (ii) the capability of fishery administrations; (iii) the nature of entitlements to resource access, including possible co-management systems; (iv) the level of participation of stakeholders, non-governmental organizations (NGOs) and civil society groups; (v) the availability and enforcement of deterrence measures; (vi) the level and extent of inter-ministerial coordination; and (vii) the quality of international collaboration.

Policy and legal framework

At the global level, the central international law and policy framework which is the 1982 United Nations Convention on the Law of the Sea (UNCLOS) came into force only in November 1994. In the wake of the UNCED (UN Convention on Environment and Development), the implementation of the framework of UNCLOS has started to improve in a number of directions, with the adoption of the 1993 FAO Compliance Agreement, the 1995 United Nations Fish Stock Agreement, and the 1995 FAO Code of Conduct for Responsible Fisheries (CCRF). The Precautionary Approach to Fisheries (PAF) and the Ecosystem Approach to Fisheries (EAF) were adopted in 1995 and 2001, respectively. The Sustainable Livelihood Approach to Fisheries has also been successively tested, particularly on small-scale fisheries (Allison and Horemans, 2006). Gracia and Rosenberg (2010) provided information about new instruments that have been developed to combat marine capture fisheries IUU fishing, such as the 2001 FAO International Plan of Action to Prevent, Deter and Eliminate Illegal, Unreported and Unregulated Fishing (IPOA-IUU), and very recently, the legally binding 2009 Agreement on Port State Measures to Prevent, Deter and Eliminate Illegal, Unreported and Unregulated (IUU) Fishing.

Zoning of fishing areas under national management framework

All countries in Asia and the Pacific have zoned their EEZ, although variation can be observed from one country to another. For the ASEAN countries, the fishing regulations based on different zones are summarized in Table 1.

Moreover, management measures also come in different forms. In the most common types, Table 2 below lists out the current practices that have been used in selected ASEAN countries.

Closed area is the management measure that comes in different forms. Efforts of the ASEAN countries towards establishing enforcement procedures on marine protected areas (MPAs) are well-known and most common. The details for selected ASEAN countries are shown in Table 3.

Table 1: Regulations over different fishing zones in ASEAN countries

Country	Fishing Zone 1	Fishing Zone 2	Fishing Zone 3	Fishing Zone 4
Brunei Darussalam	From shoreline to 3 nm	From 3 nm to 20 nm	From 20 nm to 45 nm	From 45 nm to EEZ limit
Cambodia	From shoreline out to 20 m depth	From 20 m depth to EEZ limit		
Indonesia	From shoreline out to 4 nm	From the outer limit of fishing zone 1 to 12 nm from shore	From the outer limit of fishing zone 1 to EEZ limit	More than 12 nm from shore
Malaysia	From shoreline to 5 nm	From 5 nm to 12 nm	From 12 nm to 30 nm	From 30 nm to EEZ limit
Myanmar	From shoreline to 5 nm in the northern area; 10 nm in the southern area	From outer limit of fishing zone 1 to EEZ limit		
Philippines	From shoreline to 15 km	From 15 km to EEZ limit		
Singapore	From shoreline to within port limits	From 12 nm to EEZ limit		
Thailand	From shoreline to 12 nm	From 12 nm to EEZ limit		
Vietnam	From shoreline to 30 m depth in Northern and Southern areas; to 50 m depth in the Central area	From 30 to 50 m depth to the EEZ limit		

Source: SEAFDEC (2008)

Table 2: Fisheries management measures in ASEAN countries

Area	Closed area	Closed season	Size limits (biological)	Gear restriction	Licensing	Quotas
Indonesia (FMA 711)				All zones	All zones	
Malaysia (Peninsular east coast, Sarawak, Sabah)	Zone 1			All zones	All zones	
Philippines		Zone 1		All zones	All zones	
Thailand (East coast)	Zone 1	Zone 1		All zones		
Vietnam	Exist	No closed season				National TAC

Source: Lymer *et al.* (2010)

Table 3: Spatial management of fisheries in selected ASEAN countries

	Indonesia (FMA 711)	Malaysia (Peninsular east coast, Sabah, Sarawak)	Philippines	Thailand (East coast)	Vietnam
Marine protected areas (number) km ²	3,411**	(41 MPAs + 6 MPAs)	(~600)	(5) 1,271	(22) 2,577
No. fishing zones		47			
Oil exploration areas				21,479 km ²	
Seasonal closed areas (number) km ²			(3)	(8)	

** Indonesia's current area covered by MPAs is 66,000 km²

Source: Lymer *et al.* (2010)

Lymer *et al.* (2010) noted that at the regional level, the information currently available is inadequate for monitoring fishery management at the ecosystem level. A more comprehensive inventory of different types of area which are protected or managed on a seasonal or year-round basis would be an important ecosystem level indicator.

Fish production

Increase in capture fishery production in ASEAN countries has been strong in the past four decades, with marine capture production increasing almost linearly during this period. The total capture production in 2008 was 16.1 million tons, where the main species groups are pelagic marine fish and marine fish nei. In terms of total capture fisheries production of all ten ASEAN countries, the volume of 12.15 million tons in 1998 increased steadily at an average of 3.24% per year to 16.18 million tons in 2007. In terms of annual increase, Cambodia took the lead with the rate of 18.04% per year, following in order by Brunei Darussalam, Myanmar, Vietnam, Lao PDR, Philippines, Indonesia, and Malaysia. Singapore kept the last position with a negative rate of increase of 8.37% per year followed by Thailand at -1.89%.

Table 4: ASEAN annual capture fisheries production for 1998-2007 and 2007 aquaculture production

Country	1998-2007 capture fisheries		Aquaculture in 2007		Total fish production 2007	
	Metric Tons	% of ASEAN	Metric Tons	% of ASEAN	Metric Tons	% of ASEAN
Brunei Darussalam	45,671	0.03	622	0.01	22,863	0.10
Cambodia	3,512,480	2.47	34,200	0.52	514,200	2.26
Indonesia	44,409,481	31.25	1,392,904	21.27	6,329,533	27.85
Lao PDR	283,283	0.20	78,000	1.19	104,925	0.46
Malaysia	12,724,089	8.95	178,239	2.72	1,563,942	6.88
Myanmar	14,221,160	10.01	604,660	9.23	2,840,240	12.50
Philippines	21,043,429	14.81	709,715	10.84	3,209,338	14.12
Singapore	38,507	0.03	4,503	0.07	8,025	0.04
Thailand	28,227,406	19.87	1,390,031	21.22	3,858,815	16.98
Vietnam	17,588,415	12.38	2,156,500	32.93	4,277,900	18.82
ASEAN	142,093,921	100.00	6,549,374	100.00	22,729,781	100.00

In terms of the average volume of fish production during this decade, Indonesia took the lead with a share of 31.51%, followed by Thailand at 19.13% and Philippines, Vietnam, Myanmar, Malaysia, and Cambodia at 15.28%, 11.92%, 10.17%, 9.00%, 1.81%, respectively. The remaining countries (Lao PDR, Brunei Darussalam and Singapore) each took <1.00% share. Comparing the capture fisheries production with China, the whole ASEAN production was at 79.28% in 1998, and was catching up with the Chinese annual production surpassing it in 2003 with 14.5 million tons against China's 14.3 million tons, with ASEAN countries' production gain continuing. In 2007, the ASEAN capture fisheries production stood at 16.2 million tons or 110.4% of China's production, and 21.5% of the rest of the world.

The trends of marine capture fisheries in the ASEAN region in the decade beginning 1998 generally show consistent increases annually. With the exception of Singapore, Thailand was the only country that incurred negative increase in annual fish production in the last three years (2005-2007). These trends are in contrast with the global trends that feature decline in production owing to overfishing and fish stock collapse in many important fishing grounds. The increased production in the ASEAN region could perhaps be attributed to a number of drivers: fishing down the food chain, expansion of fishing to new areas and transshipment of species between fishing areas. Shown by another set of data, the marine and inland capture landings are characterized by:

- The production of marine fish nei keeps growing strongly (an average of 4.3% since 2006). Southeast Asia dominates the overall production growth for this group of non-identified species.
- Pelagic and demersal marine fish production has increased 5% since 2006.
- Production of crustaceans and mollusks has also increased since 2006.
- Production of freshwater and diadromous fishes has increased at 10% since 2006.
- Production of "aquatic plants" has decreased more than 80% since 2006.

Total catch and estimated maximum sustainable yield (MSY)

According to the FAO Glossary, maximum sustainable yield (MSY) is the highest theoretical equilibrium yield that can be continuously taken (on average) from a stock under existing (average) environmental conditions without affecting significantly the reproduction process. Also referred to sometimes as potential yield, MSY is also defined by Ricker (1975) as the largest average catch or yield that can continuously be taken from a stock under existing environmental conditions. For species with fluctuating recruitment, the maximum might be obtained by taking fewer fish in some years than in others. The MSY is also known as maximum equilibrium catch (MEC), maximum sustained yield or sustainable catch. The MSY is estimated from surplus production models (e.g. Schaefer model) and other methods. In practice, however, MSY and the level of effort needed to reach it are difficult to assess. Referred to in UNCLOS, as an essential fisheries management benchmark, MSY

is also the only possible management reference points, considered also as an international minimum standard for stock rebuilding strategies (*i.e.* stocks should be rebuilt to a level of biomass which could produce at least the MSY). From the foregoing glossary, it should be noted that capture fisheries in the ASEAN region are multi-species/multi-gear type. As the MSY assessment of a single species stock is already difficult (or even unreliable), the MSY assessment given as a result in the ASEAN countries may only be used for the purpose of making comparisons.

Food Security

Food security is not only about assuring adequate supply of food and of the means to acquire that food, it is also about development and people, about empowerment, gender equity and protection of the environment. It is about choices that the governments must make (Abgrall, 2003). The World Food Summit of 1996 defined food security as existing "when all people at all times have access to sufficient, safe, nutritious food to maintain a healthy and active life". Commonly, the concept of food security is defined as including both physical and economic access to food that meets people's dietary needs as well as their food preferences. In many countries, health problems related to dietary excess are an ever increasing threat. In fact, malnutrition and food-borne diarrhea are become double burden. Another definition given in FSN Forum (2007) indicated that "food security is achieved when all people, at all times, have physical, social and economic access to sufficient, safe and nutritious food to meet their dietary needs and food preferences for an active and healthy life". Access to food refers to the ability of individuals, communities, and countries to purchase sufficient quantities and qualities of food. Over the last 30 years, falling real prices for food and rising real incomes have led to substantial improvements in access to food in many developing countries. Increased purchasing power has allowed a growing number of people to purchase not only more food but also more nutritious food with more protein, micronutrients, and vitamins (Schmidhuber and Tubiello, 2007).

How to improve food security among the poor

In a world where trade is possible at reasonably low cost, the crucial issue for food security is not whether food is "available" but whether the monetary and nonmonetary resources at the disposal of the population are sufficient to allow everyone to access adequate quantities of food (Schmidhuber and Tubiello, 2007). This issue on economic access to food, is an aspect that is equally important than the overall supply of food commodities as it addresses the food availability at the individual and household level. Career in primary production, such as farming and fishing, is not only a way to produce food for farmers, fishers and their families, it should also serve as a source of income to gain access to other kinds of food, and perhaps other commodities essential in life.

Impacts of climate change on food security

Climate change may potentially act across four interconnected dimensions of food security: availability, stability, access, and utilization of food supplies (Garcia and Rosenberg, 2010). For fishers and the fishing system, vulnerability to climate change depends on their exposure to a specific change, their sensitivity to that change, and their ability to respond to impacts or take advantage of opportunities. Coastal communities in low-lying areas and small island states will be at high risk of floods and extreme weather conditions, requiring protective infrastructures, early warning systems, education and perhaps relocation. In these circumstances, priority assistance including disaster relief would have to be given to poor coastal fishing communities, which have been so often neglected and disenfranchised. The capacity to change is a real issue, particularly in highly vulnerable geographical areas and in nature of fisheries. With *status quo* not being an option, adapting to climate change is a necessity, requiring preparation and means. If the change were slow, adaptation would be easier. Thus, if the rate of change was lower than the rate of depreciation of investments, the industry would adapt much more easily than if not the case, when high costs and economic collapse would be more likely, and special funds might be required for emergency intervention. The most imperative adaptations might be required in means and infrastructures (*e.g.* roads, electricity networks, early warning systems and other general infrastructures) that are beyond the capacity of the fishery system itself but would influence its capacity to adapt (Garcia and Rosenberg, 2010). Essentially all fingers point to the adverse effect of climate change on food security. Countries that depend on food import are likely to experience shortage in food supply and access to food, especially by the poorer segment of the society. While impacts of climate change on biophysical terms are clear, the manifestation of socio-economic symptoms may lead to a short-term mitigation without addressing the root causes.

(i) Impacts on food productions

Climate change affects directly all primary producers: farmers, fishers, and herders. Changes in agro-ecological conditions directly affect agriculture and food production, and indirectly affecting growth and distribution of incomes, and thus the demand for farm and fishery produce (Schmidhuber and Tubiello, 2007).

(ii) Impacts on stability of food supply

Frequency and severity of weather conditions such as typhoons, floods, droughts often make headline news. Information and statistics can by no means describe enough the human sufferings as uncertainty brought to them by these manifestations of climate change in form of sudden shortage of food supplies, drinking water, shelters, and other essentials for life. More important than headline news and sympathy for the sufferers is development and preventive measure such as investments in irrigation, better storage facilities are planned and implemented. In addition, a policy environment that fosters freer trade and promotes investments in transportation, communications, and irrigation infrastructure can help address these challenges early on (Schmidhuber and Tubiello, 2007).

(iii) Impacts on food utilization

Climate change will also affect the ability of individuals to use food effectively by altering the conditions for food safety and changing the disease pressure from vector, water, and food-borne diseases. Various forms of diseases, including vector-borne diseases such as malaria, are likely to spread or recede with climate change (Schmidhuber and Tubiello, 2007). A vicious circle where infectious disease causes or compounds hunger, which, in turn, makes the affected population more susceptible to infectious disease can also be initiated by climate change. A substantial consequence from this vicious circle comes in forms of decline of labor productivity, increase in poverty and even mortality. All manifestations of climate change (drought, heat waves, heavy rainfall, severe cyclone and storms) impacts on humans through disease pressure, and the associated vicious circle affecting food safety and food security. Particularly important in tropical countries is increase in daily temperatures that directly render food to be spoiled easily. At the food production level, shellfish poisoning often makes headline news. The effects of temperature on common forms of food poisoning, such as *salmonellosis*, *diarrhea* are often reported. An approximately linear increase in reported cases strongly correlates with each degree increase in weekly temperature (Schmidhuber and Tubiello, 2007).

The role of fisheries in food security

Gracia and Rosenberg (2010) wrote that fishes have always been an important component of human food, particularly in communities around lakes, rivers, deltas, floodplains and coastal areas, and particularly on small islands. This importance has spread globally with the development of trade. Fisheries may contribute to food security in two ways: (i) directly as a source of essential nutrients; (ii) indirectly as a source of income to buy food. In view of their contribution to total global output, and to the numbers of people involved in fishing, marine capture fisheries play a substantial role in these respects. In many countries, small-scale fisheries will be at the heart of the food security strategy. Yet industrial fisheries will often provide much needed foreign currency. Therefore, governments will have to maintain a balance between the two sectors (Abgrall, 2003). Fish and rice are staple foods in most Asian countries. In Thailand, for example, per capita fish consumption in 2000 was 32.7 kg on average, outweighing by far other animal protein sources. Based on the 1998-2001 consumption survey, the per capita fish consumption of people residing in inland provinces was 28.8 kg whereas people in coastal provinces consume 45.21 kg. In terms of quantity, urban consumers consume less fish than consumers in rural areas (Piumsombun, 2003).

Global fish trade and food security

In global fish trade, large volumes of fish are exported from poorer countries to richer countries. This trade can affect food security in different ways for different parties, depending on the particular local circumstances. In assessing the impacts of fisheries trade on food security, it is important to distinguish the impacts among the fish workers and their communities, on the general population, and on the poor, who are the most vulnerable to malnutrition (Kent, 2003). As an example, capture fisheries and aquaculture in Vietnam in the late 1990s, have grown rapidly, fuelled mainly by increasing demand from foreign markets, although domestic fish consumption is also growing, partly owing to the improved fishery product standards as a result from the competition for fish export. In 2002, the fisheries export of Vietnam ranked third (11.0% of national export earning) with total export revenue of US\$ 2,014 million—a 13.31% increase over 2001 (Dung, 2003).

According to Piumsombun (2003), the people of Thailand have been enjoying a high per capita fish consumption rate despite Thailand has been a leading fish exporting country for years. At the policy level, fisheries sector is important to the economy as a source of income, employment, foreign exchange earnings, and supply of cheap animal protein food. In 2000, the average per capita fish consumption was 32.7 kg, far outweighed other animal protein sources. Variations existed, however, between the consumption of coastal people and those who live in upland provinces; the former consumed 45.21 kg/person/year while the latter 28.80 kg. Although Thailand has never experienced shortage of fish supply, some potential problems that are looming are seen as overfishing in the Gulf of Thailand, environmental degradation around intensive shrimp farming establishments, ghost fishing, poor post-harvest handling, international trade barriers, and inequitable

income distribution. It should be noted that this analysis was made for the national level food security and did not delve deep enough into the last issue, the individual and household food insecurity could hardly be detected.

The situation of Africa, according to Abila (2003), is somewhat different. The communities around Lake Victoria, Africa fished for local consumption until 1980. The situation here was similar to what have happened in many parts of the world—commercial fishing was introduced along with fish processing plants, gearing toward fish and fish product export to developed countries, enhancing local consumption, and production of fishmeal. The large demand for fish led to overfishing and fish stock decline. However, owing to the large investment already made in fishing and fish processing enterprises, heavy fishing continued even if the catch was steadily declining. Lake Victoria today is no different from many other bodies of water where too many fishers are going after fewer fish, with very little reward. The fish processing plants, because of their heavy investment, continue to generate demand for fish at the expense of the subsistence fishers who have to struggle both for fish and for employment. The situation of food insecurity has been created for the lack of economic access to food owing to their own failures and those of commercial fishing. As a recovery measure, recommendations were made in four broad directions: 1) policy intervention; 2) interventions in fisheries management; 3) steps to enhance fish supply, and 4) refocusing the fish marketing strategies.

Vision and Challenges

Multiple uses of maritime services

Apart from extracting marine life for food and drugs, man has made many other uses of the sea. Attention paid to these activities and businesses help remind fishing enterprises and fishers that the utility of the seas comes in many faces and are by no means exclusive to them. Abiotic component of global ecosystem plays the role in supporting and regulating the biotic component on planet Earth. The complex framework of Earth's climate system has been perceived in some culture as part of heaven as it wields such an unimaginable power. Violent storms that are sometimes associated with torrential downpour or heavy precipitation have been known to wreck havoc resulting in great human sufferings from loss of life and properties. Only recently, science provided us sufficient knowledge to trace the causes of these natural threats, and we found that humans have played a significant part of it. Disturbing the global ecosystem by pushing it off balance is a general layman's conclusion, yet it embodies all essential elements as a bottom line. As some groups of humans continue to upset the global ecosystem, more looming catastrophes shall never cease. Not only the dangers are coming from the atmosphere, the great oceans that cover three fourths of the Earth's surface is in fact the root cause of it. We have now gained enough knowledge to understand how the great ocean currents are playing a part of the changing climate.

Anthropogenic causes of global warming can further accelerate erratic and severe weather around the world as changes also occur in ocean current strength and pattern. Weaker ocean current is the primary cause of slower heat exchange and heat trapping, its direct consequence is violent weather. The global warming and faster glacier melting directly contribute to sea-level rise, and as a consequence loss of land and cultural treasures is unavoidable. Rapid changes in coastal configuration are not only induced by violent weather. Sedimentation, earth moving by human activities, coastal city growth and impact on the Earth's crust by sedimentation are also important causes. Living in coastal areas can be filled with great uncertainties, but the extent as to how bad it can be is a million dollar question. One worse human impact on the global ecosystem is pollution. Organic wastes unavoidably enrich the sea as all rivers wash off the watersheds and dump water into this large water bowl. Unless humans find a better way to reduce the organic contents in their wastes, fertilization of the ocean will persist, and with a grave consequence. Polyfluorinated compounds (PFCs) are another worse pollutant in oceans and seas.

The public has been well educated about the danger of nuclear radiation leak since the Chernobyl and now Japan, although sparked off by different causes. Litter has also imposed a big problem, particularly to marine ecosystem. Micro-plastic pool in the Pacific Ocean is known to impact severely on marine life. Abandoned fishing gear continues to ghot-fish the already severely depleted fish stock, and the catch benefits no humans. Oil and gas drilling in the seas is much larger than on land. The world woke up to the great danger from oil spill since the Exxon Valdez and recently in the Gulf of Mexico.

(i) Impacts on ecosystem biota

Marine life is at a great turning point as biological systems are under stress. Animals with great mobility are able to move away, the sessile organisms continue to endure the changes that tend to be too much and too soon. Changing abiotic conditions inevitably alter the ecosystem's biotic component, starting from microorganisms and planktons. Different species occur or disappear in a massive scale, sending drastic changes to upper trophic

level as a result. Faltering plankton growth makes fishing and other uses of the sea highly unpredictable. Thus, activities in connection with the sea, such as fishing and tourism, may find it difficult to plan and to adapt. Frequent occurrence of harmful algal blooms not only makes the marine environment unpleasant, biotoxins that filter up the food chain easily end up in food fish and eventually on our plates. A massive swarm of jellyfish and certain soft corals that suddenly appear may be met with great delight by fishers and onlookers here in Asia, unaware that they are in fact a sad symptom of drastic ecosystem disturbances.

Alien species have been reported more frequently as the world's transportation system is becoming sprawling these days. The impacts of these new coming organisms are not only on the biodiversity and threats to indigenous species, as they also cost a considerable economic loss. The complex issues of biodiversity often puzzle most of non-scientists as to why they are so important. The role each species plays in the niche helps blend their energy interchanges, an absence of one such species from whatever cause tends to create more disturbance in energy exchange within the ecosystem. A simple food chain scenario can illustrate this: the disappearance or depletion of herbivorous species would make it hard for predatory species, such as shark or barracuda to survive on plankton.

(ii) Fisheries

The popular consensus about the state and trend of world fisheries is already a familiar issue. The massive scale exploitation has little to do with the fish stocks, but under the influence of economic, social, and political drivers. Fishery science has served our purpose with the knowledge of the health of target fish stocks that are known to be depleted, but the process of fish stock assessment is a difficult task. As long as the economic driver that stemmed from the growing world population and modern consumerism lifestyle persists, reduction of fishing efforts is a difficult if not an impossible task. Fishery scientists and administrators are by and large, less adept in the economic and political arenas—something that makes fisheries management succeed for having been functioning as an exclusive component. The frequent questions have been asked as to how overfishing can be avoided—if it is possible to reduce catches by restricting fishing effort, or will rights-based fishing system work—but workable answers are yet to be found. Industrial and commercial fisheries are big and influential players who link their economic aim to political as well as sociological and biological drivers, yet they continue to be largely unknown and have been left out as a usual assumption.

The classic fisheries management measures seem not to work although only few selected measures have been adopted in ASEAN countries, while countries in North America and Europe had been active in applying them to their fisheries, strongly and persistently insisting to the rest of the world to adopt these measures, including the concept of MSY, to guide and manage their fisheries. The “input control” measures deal with controlling fishing licenses and capacity restrictions (granting of fisheries licenses, restrictions on fish production, technical restrictions (criteria to increase selectivity, bans on certain fishing practices)); subsidies/taxation of inputs (fuel subsidies, support for modernization programs); and limits on the number of fishing days (number of days at sea, compliance with closed periods). On the “output control” measures, fisheries management deals with total allowable catch (TAC) that establishes the maximum level the target species can be caught, landing fees (introduces payments per ton of landed fish), individual (tradable) quotas (allocates shares of the TAC to individual fishers/fishery enterprises), and selectivity criteria (age/sex, and established minimum size criteria). Most, if not all of these management measures were introduced and applied to fisheries in North America and Europe, but rarely in the ASEAN region.

(iii) Ocean floor mining and fossil fuel extraction

As the demand for energy is growing, busier exploration of fossil fuel from deep seabed will be seen. Some 147 billion tons of oil have been pumped from reserves since industrial oil extraction began in the mid-19th century. In 2007 alone, some 3.9 billion tons of oil were extracted (WOR, 2010). Oil peak is expected in the next 10 years. A new focus is now at the glacier melting Arctic region where both fossil fuel and other mineral ores are being eyed by several neighboring countries. Offshore gas also offers a greater prospect at sea. In Asia, gas field off the coasts of India and Bangladesh, and Indonesia and Malaysia have been identified as potential sources. Efforts to expand ocean mining into deep-sea waters have recently begun. Manganese nodules, gas hydrates, cobalt crusts as well as massive sulphides and sulphide muds have been focused by most explorers.

Such interest in seafloor mining had been made known in the early 1980s, led to the International Seabed Authority (ISA) being established, and UNCLOS being signed in 1982. After entering into force in 1994, UNCLOS has become the key legal measure in dealing with these resource extractions. While the technology required to extract and handle these new potential energy sources are being developed, it has already been known that the oceans are teeming with other sources of energy ready to be reaped: wind, wave, tidal and ocean current energies have been on the drawing board for a long time and much works have been done to develop the necessary technologies to harness these energy sources. The possibility to obtain energy derived from

temperature gaps at various ocean depths and from different salt contents of freshwater and saltwater is also likely.

(iv) Maritime transportation

Maritime transportation takes an increasing share in their use of the sea. In July 2009, some 53,000 vessels of almost 1,200 million ton capacity was reported, almost doubled the capacity in 1980. Although confined to their shipping lanes, geographical restrictions of narrow passages, *e.g.* of certain straits, concentrate cargo ships and impacts of their operations in terms of gas emission, noise disturbance, pollution, littering, antifouling, carrying of alien species all of which can impact on fisheries. Piracy, although aiming at cargo and recreational vessels as their primary target, is known to attack fishing vessels as prey or using them in disguise to attack cargo ships. For security reasons, protective operations by the navy have been called for, making additional use of the services from the sea inevitable.

Management of fisheries

It cannot be frequent enough to remind that fisheries management is not about the investigation and assessment of fish stocks and their well-being, the other influential drivers in political, administrative, social, and economic spheres can hardly be held as an assumption. As fisheries management has come to being today from the initial interest in aquatic life, assuming they have been there to serve mankind, the main focus of most fisheries management regimes has been on the fishers-fish stock interface.

Food security

The many faces of food security need prior clarification before discussing the issue. Its three aspects as defined by the 1996 World Summit on Food Security include food supply, access and utility. At the national scale, especially for food deficit countries, stability of food supply is usually considered as an additional aspect that provides security. Food security has been an important issue for the ASEAN especially in political and economic terms. The matter of food production and food supply was brought up by the ASEAN for regional discussions since 1968, one year after its establishment. The Agreement on the ASEAN Food Security Reserve signed in 1979, and the Ministerial Understanding signed in 1993, identified seven priority areas to ensure food security. During the 2008 ASEAN Summit, the ASEAN Integrated Food Security (AIFS) Framework and Strategic Plan of Action of Food Security in the ASEAN Region for 2009-2013 were endorsed.

Food security in the ASEAN commands a preponderant attention on rice, the staple food of the region. Singapore and Brunei Darussalam are the only ASEAN countries that produce less food than their demands, but both countries are secure as their access to food supply depends mainly on their proximity to food producing countries and their purchasing power. Malaysia, Thailand, Philippines, and Indonesia are major food producing ASEAN members where their agriculture has contributed declining share in GDP, employment and international trade. For these countries, including Vietnam, food habit changes toward non-rice food which had been dramatic in recent years. The remaining ASEAN members—Cambodia, Lao PDR and Myanmar—are economies in transition that require special attention.

Fish have been held as another staple food along with rice for most ASEAN countries. Like rice, fish is relatively a cheap commodity, and it is almost always assumed at the national level that economic access to fish should be less of a problem amidst the normally ample supply. The protest by fishing industry during an abrupt fuel shortage or unusually rough weather only gave the fish consumers a short-term attention to the news headlines. In fact, fish have found a variety of ways into the ASEAN food—through snacks, relish and condiments. The protein deficiency and malnutrition in the ASEAN contributes insignificantly to population characteristics. Nevertheless, poverty is only a symptom of disease, ignorance, dishonesty, apathy and dependency that constitute to “human quality” (Bartle, 2007). Deprivation is a sad aspect in life—something philanthropy does not tolerate. However, it is clear that the issue of food security at the individual and household levels that bear on the aspects of access to food and food utility commands a much broader attention than fisheries, into a multi-disciplinary development as normally found under the umbrella of “sustainable development”.

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ASEAN FISHERIES TOWARDS 2020: CHALLENGES AND VISION

by *Dr. Simon Funge-Smith*

Secretary of the Asia-Pacific Fisheries Commission (APFIC)
and Senior Fisheries Officer, FAO Regional Office for Asia and the Pacific (FAO/RAP)

Plenary I

**ASEAN-SEAFDEC Conference on Sustainable Fisheries for Food Security Towards 2020
“Fish for the People 2020: Adaptation to a Changing Environment”**

Distinguished Guests, Participants,
Ladies and Gentlemen,

On behalf of FAO of the United Nations and in my capacity as the Secretary of the Asia-Pacific Fisheries Commission, I would like to thank SEAFDEC, ASEAN and the Department of Fisheries Thailand for this opportunity to make plenary presentation today.

As the previous presentation has focused on the status and challenges of fisheries, I have tried to focus forward and frame my presentation in a form of vision statements and some of the supporting information or facts relating to that, and hopefully that will contribute to setting of the scene to the technical presentations which will be going over the next two days of the Conference; and ultimately we hope that these will be reflected in the Resolution that will be adopted by the ASEAN and SEAFDEC countries.

ASEAN recognized that she has challenges. We have a rapidly changing in environment, the issues on climate change, and the globalization of change and of trade. There is also recognized growing demand for fish, and ASEAN ability to supply this sustainably. We also recognize the need to minimize impacts caused by increasing pressures on fisheries particularly to the coastal resources, increasing conflict of resource users, degradation of habitats both on land and in the sea, increasing IUU fishing. Particularly for this region, we need to also catch the opportunity of aquaculture development, as there is a need to reduce the negative impacts of aquaculture. All of these challenges combined will present ASEAN with the considerable hill to climb in order to ensure food security of the region, and sustaining the livelihood of their populations and people of ASEAN. And this is particularly important for the poor and disadvantage of this very diverse region. So we have a series of vision, and I'm trying to go through them using ecosystem approach, in terms of ecology, resources, human and economic dimensions, as well as some governance aspects.

The demographic challenges to fisheries – part of the human dimension are that economies are changing very rapidly in this region. We have industrialization, various rapid rule of transformation now, with agriculture intensification and rural communication networks and increasing mobility of labor. At the same time, we see big demand for fish are increasing in this region as well as from overseas markets, partly driven by the increase of population and the need to earn income from exports. This is pushing demands on fish and on aquaculture production. A vision that we would like to see for this region is that fish consumption sustains with contribution to dietary quality.

We see a changing picture of consumption – although we see more fish, we also see a change in the way we eat it in this region. It has been projected that in the next twenty year, the non-communicable disease may be more important, and this is a dietary-related problem. This is something that can be offset that fish will play a major role in the future in making sure we eat better, that we live better, and that these dietary-related problems do not confront the region and do not contribute to ill health. The fish component is the major dietary source for this region, to provide not only protein fats, but also micronutrients, and this is very important for the poorest part of our populations. It is well known that 60% of the human brain is made of lipids, and a lot of them can be derived efficiently from seafood or fishery products; and these are very important in certain period of life stage, particularly for pregnancy and young children development. We don't get this if we don't get this or we start changing our diets to fast foods and other forms of hi-carb diet based diets. We could have consequent effects on health and we could be looking at some very intangible, but nevertheless important influences of fat on brain development, reduced health, etc.

We would like to secure sustain contribution of fisheries to Southeast Asian employment. We heard today that there are high employments in fisheries. It is a very challenging area to get good data on, but we can say approximately 12 million people are directly employed by fisheries and aquaculture. There are multiplies

related to this, so if we are talking about influence of the sector of employment, we have to add on service sectors, and the related market chain as part of this, and this could be 140 million people in the region. Figures for capture fisheries; we have more than 6.9 million people employed, of which some of 2 million are part-time. Inland fisheries, we don't really have information on at all, and this is a major challenge for us to value and look at these fisheries as they contribute a role in income and employment. We have a figure of may be a million, but in fact there are a lot of part-time fishers engaged in inland fisheries but we have problem getting figures of these. We don't actually have good figures of aquaculture, which is surprising for this region. But it seems that we can get better data through census from agriculture censuses. So these pictures are beginning to merge. Generally speaking, we can say that these figures are under estimated and fisheries are contributing to far more employment than this.

Another vision for ASEAN is to improve the governance of the migration of labor. This is increasing importance for the region, as we are open up our border as a hope of more developed economy in the region, drawing labor from neighboring country. We see rural drift, not only from within the countryside into towns, but also across borders, and particularly we see a movement of people out of fisheries, in some cases, in to cities as the livelihood of fishing becomes increasingly unattractive. These are grand movements of people, and one thing that we do see is the pull of people across the border into particularly processing and production sector, as an economic opportunity and return their incomes back to their home countries/provinces. People that migrate are generally economically vulnerable. They often lie outside the social security nets, they are often not even covered comprehensively by legal systems, and therefore they are vulnerable to low wages and poor standards for safety. When people migrate, they often do not come alone, but bring their families, wife and children, etc. The children may not be able to access schooling and health care and some of other benefits that may be available to nationals, but not available for non-nationals. All of these things we have seen in some recent climate change reveal some migration are likely to get worse as climate effect starts to create problems, particularly where we have unpredictable weather effects on coastal areas or disasters such as storm or cyclone, or inland areas with drought and flooding. These lead to migrations and movements of people, and not necessary to the subsequent movement back to their homes. One thing is if you can't get the governance of migration right, and people are perceived as being abused or not being treated equitably or within a common standard framework is that this will have a negative impact to the marketability of products from this region. But for the region that focuses quite heavily on exports income from many of its fisheries products, this is some thing that we need to take very seriously. And this has already been reflected in the certain news articles about labor conditions in fisheries and in processing. So we need to look harder how we deal with and take up these challenges -- probably it is something that has not been comfortable talking about in the past or not have been aware off; but it's now getting out in the open. With the increasing world of communication, transmission of information; it means these things are no longer hidden away, but increasingly being a subject of global scrutiny.

We need to address declining environmental quality on coastal fisheries, and do more on this in terms of fishery resources but in terms of environmental quality with challenges greatly in this region with population pressure and clearing of coastal lands – due to policy of coastal development that leads to degradation and transformation of coastal lands, but do not favor for the sustainability use of fishery resources. We see in the inland areas drainage and urbanization and also competition on water and consequent impacts also from transformation or intensification of agricultural and aquaculture activities on receiving waters. In the shallow waters and associated ecosystems, which are actually very common in this region around the South China Sea area, we see quite a lot of impacts on habitats. Introduction of intensive fishing methods has led to rapid destruction and degradation of benthic habitats, as well as other habitats in the coastal areas. This is coupled to increasing discharges from urban and industrial areas. Lot of this is put straight in to rivers or coastal seas very quickly without a great deal of pre-treatment. The is something that we got away with in the past, but it is becoming worse now as we start to see detectable levels of persistent chemicals and high nutrient loading from agricultural runoffs, heavy metals from industry. These kinds of things are now being picked up in the ecosystems that concentrated out. They are detectable in the environment. So this is something that we need to start being more realistic on the way that we look at and address the issue.

We look more now at special management. One of the things that we have to push much more in the region is the effective zoning or management measure, coupled to habitat improvement, particularly coastal or integrated management in inland areas. We need to look more at integrated management frameworks that link to other sectors, as there are other impacts that also affect our sector. If we don't engage with those areas, then we're going have a large trouble trying to bring the communicate out of issues into those sector and decision making framework of those sectors; and Ecosystem Approach to Fisheries has been mentioned as one of the ways that we can start to balance these methods of balancing the habitats and coastal management in to fisheries. A lot of countries in the region have special management measures in place already. In some zoning of fisheries in the

EEZ, we see the tendency to establish some closed areas and protected areas. The functionality of these is perhaps questionable and they are not always based on science directly. Often the driver of these are conflict with action or even tourism provision or some other underlying of behind the scene interests; but the results is that we are seeing a general trends of increasing in trends toward this kind of special management. They are probably good things, but some science needs to be brought into this in order to contribute positive towards fishery resources. Similarly gear restriction and licensing is another challenges due to the nature of multi-species, multi-gears of fisheries, so it is difficult to come up with a single gear size specification, and single season that can use them. These kinds of challenges have been raised up time and time on why the traditional single-gear, single-species types of management modules are ineffective for this region. I think this is a fair comment, but we still need to reflect on the fact that there are still ways to manage, that use not only seasonal restriction, but also gears restriction; and enforcement of these will contribute positively to fisheries management in the future.

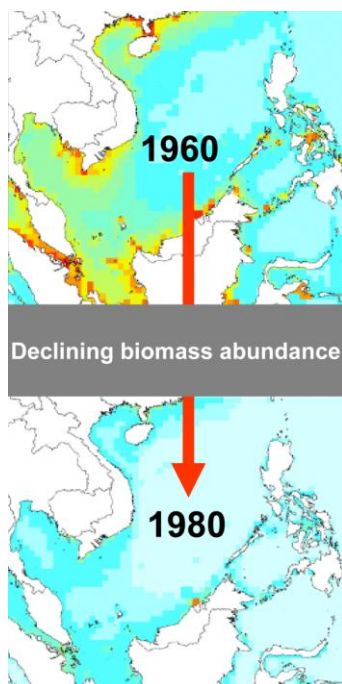
Moving to inland areas, inland fisheries and aquaculture have to be integrated more effectively into water management. The freshwater regimes of this region are increasingly under stress and under competition, and this is having effects to fisheries as well as to aquaculture. We are loosing habitats for fisheries; we are loosing the environmental quality in the rivers, in water supplies, and largely due to water management measures that have been introduced in the region. A lot of this has been coupled to the green revolution of Southeast Asia. We have proud of food security in this region, and the fact that we have highly intensive/productive rice agriculture and irrigated agriculture; but it has come with a cost, and one of the costs is that our river fisheries, our flood plains, and recruitment of fish in to those. At the same time there are a lot of permanent wetlands and spawn lands that have increasingly been drained to increase area for agriculture and recent biofuels production.

And again! Another area that we need to be a little bit observant about and try to act to at least get the fisheries dimension into the dialogue about this as soon as we can – the hydropower debates. When we did quiet about it about a decade ago, there was a basically reasonably low fuel cost energy, the Asian economic crisis in the late 90s led to a lot of downscaling of projections about energy demand. This all led to low in the interest about hydropower. With big spike in fuel prices about few years ago turn that on its head. There was a massive awakening of interest for hydropower. All of the old dam projects were brought out of the cupboard and dusted off. And the economic projections were reworked, and it seems very attractive again. So, we are now having a lot of dam and hydropower projects. This is important to the inland fisheries, because when we start to construct these things, they do have affect on rivers and floodplains. Invariably, we are not mitigating the impacts of these structures or playing down the impacts. One of the common complaint that we hear is the ineffective or week of environmental impact assessment, and the fact that fisheries are generally very poorly addressed when the dam projects are proposed and set. It also has an effect to freshwater aquaculture, perhaps less so, but it's still a challenge. And aquaculture will have to fight increasingly on its corner of the freshwater share.

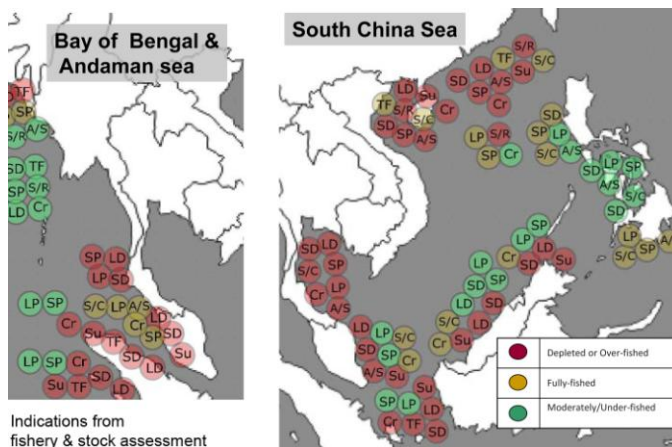
Climate change – it seems that you can't go out anywhere without having to deal with. We reviewed very recently some of the climate change impacts to fisheries and aquaculture for the region, and the vision is that this region will be prepared for it, because it seems that the fisheries and the aquaculture sectors are not. Some of the figures that have come up from the assessment and prediction, many of which are not that accurate or downscaled to point that we could really come up with a very good projection; but very roughly, we can expect more coastal cyclones, more tropical storms, which will also be more intense and will have knock on impacts to storm surge, as well. This is perhaps most varying in those areas where these things started to occurs where have not previously been a very common events. And the lack of preparedness and unexpectedness of cyclones causes the most damage; while where you are prepared, generally speaking, these things can be lived with.

And extreme wet season is also expected to be increasing in this region. But they will come in a more periodic or less regular pattern, and they will also come with associated flooding in inland areas. There is also projection of the effect of climate change on shallower waters, such as coral bleaching. There will be some drying in the region, although it is very difficult to show where at the moment with the projections available. But generally in this region, we will see more water but less regularly, and in less predictable ways. So what we are looking for is the more strategic approach of adaptation and preparedness to climate change. We need to recognize the impacts on our sector, that there are going to be problems in coastal areas with the vulnerability, the storms that we're going to need to invest in protection, that we're going to lose fishing days and lose opportunity of incomes, and that they would be shift in ecosystem or species; and that will leads to migration and movement of people, or fishing fleets to chase things. Some there will be general changes in the ecosystems effect and productivity. In aquaculture, there are some opportunities, but these need to be captured. However, there are also plenty of stresses particularly vulnerability to flooding, unpredictable water availability and droughts, which can leads to serious problems if you have long grow-out seasons. What we found in the region is that

sectoral planning of fisheries and aquaculture for climate change is very weak, and national adaptation plans do not cover the sector at all in most cases. So we wish to encourage all countries to go back and revisit these sector and how climate is likely to affect and get this into the national climate change plans, because if we do not plan for it, we will not get the resources allocation and the attention paid to it.



We move on to fishery resources. We take two regions here – First, the vision of the Gulf of Thailand and the South China Sea. There were changes in resources and environmental density in 1960s and in 1980s. There were very clear ecosystem affect in this region through over-fishing; we have fishing down the food chain – the loss of high-value demersal and pelagic, and the shift towards the lower-trophic species and the lower-value species. This is a trend that has not been addressed. It has now going on for a 50-year trend, and the reason behind is that a fishery is still make money, and that we are becoming increasingly clever about how to use the fish that we catch. Another things is that there generally national policy to maximize employment in fisheries rather than take harder decision to let the employment goes and start moving towards curbing carrying capacity and limiting efforts in fisheries. Without taking a move on that in the region, it is likely that our fisheries will continue to decline in quality, particularly in the South China Sea and Gulf of Thailand region. But we are seeing a heavy trend on more efficient utilization of resources in the areas.



On the Andaman and Bay of Bengal side, these fisheries are in better shape. They are not as productive as the shallow seas on the eastern side, and there are a lot more pelagic fishery resources, but they are also subject to over-fishing and depletion. In the past we have seen very steady increase of catch from this region; but there are some signed that this is tailing off, and we could also say that we are reaching the limit of fisheries in this area as well.

When we get into the population of the species themselves, we can say that large demersals and small demersals are overfished in majority of the areas; and large and small pelagic species are now fully fished in the majority areas. When we go down to the fast growing species, anchovy and sardines are fully fished. There are huge trash fish catches throughout the region, particularly the South China Sea region. Those surimi species as we have got more interest in utilization are now more moderately fished, and these are the targets for the greater exploitation. Similarly crustaceans, squids, and cuttlefish, they are also in the area of fully or moderately fished. What we can say is that we are critically lack of resource assessment for most species group in the region. We don't invest enough in the information to make any kind of decision for management of the species.

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For the issue on trash fish – this is a major issue for our region. We have very significant quantities of low-value or trash fish generated, particularly from trawl fisheries. A lot of this is generated and directed straight into aquaculture or for fishmeal, and its' partly because it's still profitable to do this. The on-shore demand and prices are still good enough to keep fishing in this way, particularly with the fuel subsidies or taxes subsidies that enable fishers to keep fishing in the sea. So as a government, if you don't generate income from your fisheries, directly from the quality of the fish; then you tend to move towards volume rather than towards any kind of value and quality. And this is a serious thing to reconsider at this stage – can we start to rectify the balance to incentivize quality fish. The reason is we have some of very strange policy on subsidy in the region that tends to allow this problem to be remained unaddressed. We also have got a very big incentive to promote

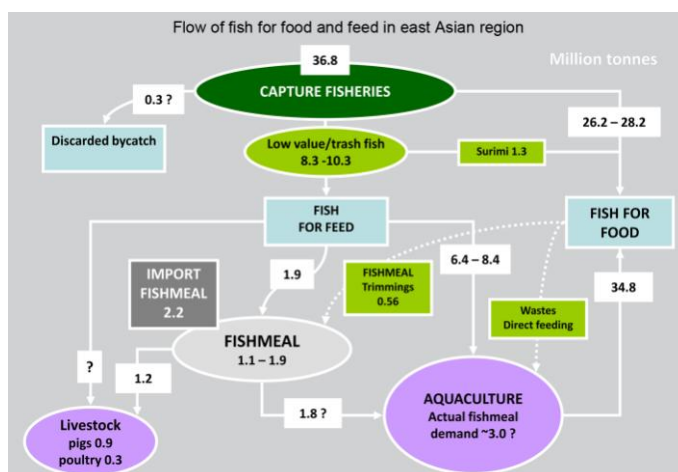
export from aquaculture, which is a huge driver for feed, and while that has been driven for export income, the consequent effect is the increasing demand for feed and fishmeal. We also see some extent of fuel subsidies when there are spikes in fuel prices, and this doesn't really help, and we will never see the real value of trash fish. If we did, its very likely that fishing fleets will have actually decline in number, rather than drift up in numbers and efforts as we have seen over the past twenty years.

The other thing we are seeing now is the interest in standardized products, which is somewhere aquaculture can win over fisheries. So for some a nice standard size and quality, aquaculture products are much easier for supermarket and urban trade to deal with, and it can be supplied in a more regular basis and more stable, and therefore they are focusing both for domestic food production as well as for export. So we need to recognize the linkages between fisheries impacts and feed, and take some sort of actions on that. The first thing is to look on the impacts on subsidies and all the policies that we have in place.

Link to this story is the very urgent need in this region to improve the traceability of fishmeal. At the moment, a lot of this is derived from the low-value fish catches, although some are targeted pelagic fisheries. The reason why this is important is because if you want to sell certified your aquaculture products, you need to feed them with feed that can be certified. And if that feed is to be certified, fishmeal that it based on also need to come from certified fisheries. It's a kind of step-by-step process, but this is the future that we looking towards, and this is certain area that we have to get away from mystery fishmeal which proliferate in this region.

One of the good new aspects is that if we do a calculation on the fishmeal we have and the mouth of fishmeal we produced, it appears that at least about half of fishmeal of the region is generated from processing wastes and waste streams. This is great news for us; if we are clear on the fact that about half of our fishmeal is derived from processing waste straight away, it is becoming an objection of criticism arise from trash fishery. This is an opportunity for the region to take on, but does require some systematic efforts to engage fishmeal producers and feed producing industry to come clean and discuss this in a more open manner and improve the image of fishmeal produced by this region.

As I mentioned that we have been more clever about utilization, and one of the big success story of the region is the development and massive expansion of surimi production. We are producing about 320,00 tons, which comes from something like 1.34 million tons of fresh fish. We have to factor out whether these fish should be use for surimi, or if better manage could generate high quality fish and high-value fish. But again, we are in the situation that production of standardized, massive produced products that can be shipped or traded in very easy quantity and easy product forms. Thus, this is perhaps the character that trade in globalization is driving us. But it worth to recognize that this surimi industry is increasingly exploited; and that the traceability of the fish that used to produce this is quite questionable as there are lots of transshipment and shipping around. So we need to improve our traceability of surimi and monitoring of the production because it is one of the drivers for fishing and fisheries in the region.



This shows the complex ways that fish has been moved through various channels and end up in either feed or fishmeal in aquaculture, or fish for food. But very simply, in term of direct feeding, aquaculture is now providing more than half of the food fish that we eat in the region, and that is a very significant outcome.

For the management of fisheries, and the problems of IUU and offshore fishing development, we have massive issue of over-capacity. So the vision of ASEAN is managing capacity and developing vessel inventories and record. We think there are about 1.94 million vessels in this region, it's a

colossal number; and this ranges from 2-3 meters long up to super purse seiners. So we need to get a grip on which vessels we have where. We still have a massive of artisanal fisheries; a lot of those numbers are simply small-scale vessels. But even in the small-scale, we can break it into motorized, decked, more than 12-meters, capability in trawling and non-destructive gears, etc. But what we can say is that most of the catch comes from smaller percentage number of vessels – mostly the industrial, or commercial small-scale fishery. And this is a very difficult sector to deal with; they are politically powerful, very resistant to have their investment changed,

they have been able to lobby successfully to be given a free-hand, they not going to be yield to be controlled very greatly. So we now need the national commitment to tackling the issue of over-capacity in most of our country, and this can start with getting information and the structure of our fleets, and look into prioritize which part of the sector that need be addressed and actions need to be taken as we cannot do all of it at the same time.

IUU fishing is very predominant in the region, and a vision for ASEAN is "strengthen collaboration among the members to tackle and combat IUU fishing". Its' pervasive in the region – not because of the more international perspective, huge vessels trawling across the high seas and selling their fish across international boundary or across region – but a lot of IUU is much smaller-scale. It is either within our countries or crossing our neighboring boundaries. The fact is that it exists and very widespread. It also affects our ability to manage and particularly affects the small-scale sector in a very disproportionate ways. We have now big problem with transshipping, and these have also been picked up increasingly with international trade and course of traceability. But we are also linked to it now because of the regulations that are coming in. We are hearing and seeing increasing in falsification of catch certificates and other traceability documentation. So what we need is greater national policy commitment on IUU. And the starting point for this in terms of a national strategy is to try to develop the National Plan of Action. These documents themselves may not actually be powerful documents, but the process of their development enables the countries to start to develop a strategy. But we must get tougher on transboundary controls, and start to improve our inter-departmental coordination to try and hook up Customs, Fisheries Management, Border Control, Port and Maritime Departments, etc. And the Port-state Measure Agreement, which now one or two countries in this region has signed while other several members are in the process of ratifying it, is heading us in the direction. So we need to take action nationally to prepare ourselves to respond to that.

All countries in the region, except Lao PDR which does not have a maritime area, have a commitment or interest to develop or expand fully into their EEZ or even beyond; so they have stated policies to develop or increase their fishing away from the shore. This is interesting because there are some resources out there, although the expectation is generally too high. We can say very crudely that we have 10% of the resources off shore than we have in coastal areas – it's much thinner, it's much harder to fined, you've got to be much more specialized to fish it economically and effectively. That means that when we move offshore particularly with subsidies and with promotion measures, our ability to control those vessels is very weak, they are along way from us, straying in our water, start fishing with gears and methods that they are not authorized to do. And if they can't make money, it is very common that they will come back in the near shore zone that they are more familiarized with fishing methods and techniques. This then end up with increasing fishing capacity and pressure in our near shore zone, and in increasing conflicts. So we need to have clearer prospect of offshore fisheries and how to do it efficiently and sustainably with minimize these threats.

If we move to inland fisheries, this is another major contribution to the livelihoods, health, welfare and economy of this region. So vision for us is "there is sustainable contribution of dietary quality many rural areas". Basically, fish from inland fisheries is almost fully utilized. It's not traded very widely, some of this gets into urban areas, but majority of this is consumed in local areas. Therefore we can say that inland fisheries are major contributor to rural food security. A few figures that we have, again the information is not very good, show that about 60% of the population of Cambodia is quite heavily rely on inland fishery resources. And this produces about 30/kg/capita in the Lower Mekong Delta – not just Cambodia, but also Lao PDR, northeastern of Thailand.

The other thing is that this is provided more or less for free, there is no need to have a health promotion program; the diets are already good if you live on this stuff. It's when people stop accessing it, and transfer over to other form of food, particularly to move towards high carbohydrate energy diets, or fat diets that we start to see problems. The statistics we have on inland fisheries are really very poor. In most cases, they are simply estimate it and approximate it, with very little direct measurement. We see the production in this region is increasing rapidly, and has been consistently over time. But from an FAO perspective, a great deal of this is simply driven by countries' estimating, and assessing their fisheries more accurately that they has done previously. So we are not necessarily seeing more fish being generated; we just getting better at estimating of what we were catching before. And in many cases, some of these fisheries are in decline; and we need to be cautious about optimistic projection about how much more fish we can get from inland fisheries, because there are other transformation of floodplains, rivers, connectivity, road constructions, damming, etc.; and these are all declining and impacting the quality of the inland fisheries.

In other countries, we have some contribution from enhancement, and there are a lot of faith laid in the quality, and the impacts of these enhancements. But again, I urge you to be careful with this as it is optimistic outlook; and in many cases, these enhancement measures have not been assessed very effectively. So, we need to

re-evaluate the contribution of inland fisheries of food security, nutritional quality; and recognize inland fisheries as hidden asset. And as they are hidden from us, we need to try to track them down and recognize them where they exist. Don't ignore as there could be an area that doesn't look like there is any fisheries – a rice field is fishery and there are plenty of people that spend a lot of time out there fishing or foraging.

Aquaculture is boom in this region – it's a massive supply of fish. 52% of the fisheries in the region come from aquaculture so our vision for it is to sustain its contribution to the region within environmental limits. However, we need to work much harder at the economic viability of our production systems – we're getting pushed from the global markets to keep prices down, while our feed and resources input prices are going up. All of these linked them to decreasing access to fishmeal, and increasing competition globally to fishmeal has made use struggling to create economically effective feed and run our systems competitively. This is certainly going to affect marine and carnivorous species quicker than others, but most of our big commodity species are also influenced to some extent. Although for this region, we are extremely innovative, only this region can produce *Pangasius* at the price we do it, and this are from innovative from feed and feeding methods.

One of the downside of this is that we have been fairly lacks on environmental control and regulation of aquaculture – and this has consequent negative impacts to the perception of the sector. But in some system, there is also increasing problems with disease and an over reliance of chemical to adjust that, so we need to get serious about this if we would like to sustain the image and the safety of product we produce from aquaculture. At the same time we are getting challenge on the water and the land we need, we need to respond to the demand for improving environmental impacts in terms of effluents. We need to improve vaguely the genetic improvement and the pathogen freeness or the health of seed stock. We are very good at it on the whole in this region, but there is still plenty parts of the sector that could be benefit from more efforts. But private sector is very innovative, very effective: where it's, working it's working well; but it tends to move outside of controls, and when that happen like when disease gets in, it's very difficult for us to resolve it. We are still very relying on trash fish and low-value fish as feed in the region, and this is going to create impact to the image and sustainability of the system. We also expect that aquaculture is going to be suffer as a result of extreme climate; and this is not much we can do about this other than to try be forward thinking about what system or what precaution we could take to minimize those impacts. Insurance is mentioned as one thing that this region might be benefit from. Right now, we are seeing a new shrimp disease (e.g. IMNV, etc.) emerging very rapidly in the region. It's now impacting ten thousands of hectares of farm. This is very good example of something that we've not been tracking, we didn't know about it, its got away from us, its now causing a lot of losses in the farms, millions of dollar of crop losses are occurring right now, and we are not very organized in addressing or responding the transboundary disease event. And this is an area where we need to cooperate more.

So to sustain aquaculture development, we basically need to deal with four key areas: 1) we need to push more on certification and recognition programs that rely on better management and good aquaculture practices or even third party certification, or national program of recognition – this give the sector a chance to demonstrate that we're doing the job well, and is the way to separate out poor operations from good operations; 2) we need to move very quickly towards risk-based management for disease and animal movements – animal movements in aquatic animal sector are relatively unregulated – they don't really come under the normal laws for livestock, so it's relatively easy to move aquatic animals around the region. This means that very good at moving disease in the region; 3) zoning is something that has not really been taking up as general approach in the development of aquaculture. This is something that is increasingly important when we try to tackle competition to water and the problems of disease and poor water quality in terms of water intakes to farm. So we need to start getting a little bit more creative in the way that we zone and manage aquaculture operations, with consideration to the carrying capacity and types of management system; and 4) food safety and quality requirements – the general ability to access products which are not acceptable for use in livestock production systems or aquatic animal production systems (e.g. chloramphenicol, etc.) are really causing a lot of headache of perception, and is even resulting in rejection. This is due to the fact that we are not really addressing the problem and we are not getting our message to the private sector that some of these products are really cannot be used in aquaculture and they will result in rejection.

My last topic is related to governance. The first aspect of this is the vision that we need to strengthen local governance so that it is capable of managing fisheries and aquaculture. This has been driven by the decentralization programs undertaken in the region over the past twenty years, where we've seen the transfer of management of national resources to local government. But that was done without any kind of capacity building effort, so we didn't really see that people who responsible for resources management been given any kind of tools or training to enable them to undertake this. They are also generally unable to deal with high-level problems, such as IUU fishing and illegal activities of more influential local power people. Local governments have not generally prioritize the natural resources sector for management, focusing much more on rent

extraction for tourism or income from port; and they not really take on more difficult issue on environmental management. So a major step forward or the key need for the region is to invest more on capacity building of local government, give them the tools they need, help them to invest more in natural resource management and management of the sector. Finally, the national governments, by the same token, with this change in roles and functions with decentralization, has left some of the national government agencies with an unclear role. They wish to see a the tendency to try and act as a national agency, operating locally – this causes a lot of difficulties because, in many cases, the authority is not there to do it, but there are also some governance issues with that, and one of these is the conflict between conservation and development. And this is somewhere where national agency can really come in on the side of the sector to try to advocate for the sector, and make sure that there is a balancing effect of the two forces; and this has also been help down into local levels where you have conflicts, e.g. between tourism and fisheries, or between fisheries and aquaculture, etc.

The trade and safety systems of the national level are also very important and need significant upgrading an investment in, particularly food safety and traceability to increase the ability to export products or to move the products within the region. And this is somewhere else where the national level needs to help out a lot more. There probably been a revisioning within national agencies to try and see where the comparative advantages of the national agency to support the sector lies, and where they need to move into more of capacity building role to support local government, or local agents. And as FAO, we would look forwards to this, and this is the area that we would certainly like to support in the future.

With that Mr. Chair, I hope I give you a flavor of what you would be looking forward to over the next two days in your respective thematic sessions. I hope I have picked up one of those visions that you might be taken up in your thematic group.

Thank you Mr. Chair.

INTRODUCTORY STATEMENTby *Dr. Chumnarn Pongsri*

Secretary-General, Southeast Asian Fisheries Development Center

Plenary II**ASEAN-SEAFDEC Conference on Sustainable Fisheries for Food Security Towards 2020****“Fish for the People 2020: Adaptation to a Changing Environment”**

There are two most basic factors that could lead to food insecurity in the future. These are the rapidly growing population and the shifting paradigm in food consumption pattern. The fisheries sector had been playing the major role in improving the food security situation especially in the ASEAN region. This could be seen from the point of view of the region's fisheries production which in 2008 accounted for 16% of the world's total fish production. Looking at the scenario in 2008 and taking into consideration the ideal fish consumption of 18.6 kg/capita/year, the ASEAN region with a population of 586 million in 2008 required 11.1 million metric tons of fish, and with fish production of 26.8 million metric tons in 2008, about 15.7 million metric tons of fish was made available for the international fish trade, either in fresh or in processed form notwithstanding the volumes that went into feeds for livestock and aquaculture. This situation clearly indicates that the fisheries sector had been contributing to the economies of many countries in the region especially generating foreign exchange for the countries. As a domino effect, the sector also improved the socio-economic condition of the fishing communities through generation of livelihood opportunities and subsequently alleviating poverty.

There is no question that the demand for fish would surely intensify in the years to come. Socially and due to health reasons, developed countries are now consuming more fish protein than animal protein due to the nutritive advantages of the former. This paradigm shift in food consumption is to continue implying the need for more supply of fish to meet the increasing demand. The escalating demand for fish and the enhanced status of fish as high value food commodity for health reasons coupled with the persistent attitude of fishers to chase after the dwindling fishery resources put more pressure to the resources leading to continued depletion up to the point of no recovery.

Therefore, the question that is put in front of us is can we sustain if not increase the contribution of fisheries to food security in the ASEAN region, given the status of our resources? In addition, can fisheries continue to fulfill its crucial role in contributing to the attainment of food security in the region? Past experience had shown that uncontrolled fishing capacity added pressure to the fishery resources. Therefore, it is only with improved governance in fisheries management that the fisheries sector in the region would be able to enhance its contribution to food security in the region. With more emerging issues such as climate change and the stringent trade requirements by importing countries, there could be a general livelihood crisis in the fishing communities if these important concerns are not properly dealt with.

We have come to this Conference to provide views and insights on how these concerns could be addressed, and we have shared our experiences that served as lessons for all of us to avoid committing mistakes. Through our deliberations, we came up with technical recommendations under each important issue. However, we also need to be assured that our recommendations at this Conference would not be in vain, by way of mainstreaming our recommendations in fisheries policies on sustainable development for food security and poverty alleviation. Therefore, our aspirations would be fulfilled through the Resolution and Plan of Action that would be adopted by the Ministers at this Conference. The development of these two instruments had considered the outputs of the series of preparatory processes that include regional and national consultations, as well as the outputs from the Technical Sessions of this Conference, the details of which would be presented by the SEAFDEC officers in charge of the themes that we discussed during the past two days. We have also requested some renowned experts to confirm and strengthen our recommendations in order that these could provide the necessary justifications for formulation of the Resolution and Plan of Action.

**SUMMARY OUTPUTS OF PANEL DISCUSSION
ON SUSTAINABLE AQUACULTURE DEVELOPMENT**

by *Dr. Joebert D. Toledo*
Chief, Aquaculture Department
Southeast Asian Fisheries Development Center

Plenary II

**ASEAN-SEAFDEC Conference on Sustainable Fisheries for Food Security Towards 2020
“Fish for the People 2020: Adaptation to a Changing Environment”**

Challenges and Issues

- Meeting social and economic challenges in aquaculture
- Producing and distributing good quality seeds
- Producing safe aquaculture products with the least environmental impacts
- Maintaining environmental integrity and adapting to climate change impacts

Meeting social and economic challenges in aquaculture

- Assess the role of aquaculture in poverty alleviation to provide basis for policy formulation
- Craft enabling policies and formulate mechanisms (e.g. cluster approach) to facilitate adoption of better management practices (BMPs) for sustainable aquaculture
- Develop and implement strategic investments and financing programs for aquaculture operations and capital structures
- Address emerging issues on impacts of climate change and global trade on aquaculture with emphasis on small-holder farmers
- Enhance multi-agency collaboration among important players (MCs, SEAFDEC and regional/international organizations)

Producing and distributing good quality seeds

- Continue research on existing genetic resources and improve these for use in aquaculture
- Promote the production and distribution of quality seeds through:
 - establishment of certified government/private hatcheries as sources of quality seeds;
 - dissemination of new breeding technologies and techniques for effective distribution and maintenance of improved strains; and
 - implementation of sound policies that will promote better management practices (BMPs)
- Implement mechanisms for control of translocation of stocks

Producing safe aquaculture products with the least environmental impacts

- *Nutrition and effective feed management to promote healthy farmed aquatic animals*
 - Improve the efficient use of aquatic feeds by: (i) strictly regulating the quality of manufactured feed and feed ingredients and (ii) supporting research for developing suitable alternative protein sources.
 - Encourage the culture of species requiring no or low fish meal content in their feed
 - Apply effective feeding management practices and widely promote these to all levels of fish farmers (small, medium and large-scale operators)
- *Disease diagnosis, control, monitoring and surveillance*
 - Widespread use of standardized diagnostic tests
 - Governments to provide support training and information dissemination to facilitate the use of affordable, field friendly method of detection and screening of diseases
 - Conduct large-scale field trials or evaluation surveys to scientifically assess the efficacy of probiotics and immunostimulants
 - Apply widely the concept of biosecurity (through Good Aquaculture Practices; compliance to Codes of Conduct)
 - Government to engage in development of high health and diseases resistant broodstock to facilitate access of small-scale hatchery operators
 - Enhance collaboration among agencies to prevent and control serious disease outbreaks; Member countries to support coordinated regional initiatives to handle new and emerging diseases

- Extend surveillance of diseases to wild population of aquatic animals
- *Environmental integrity, certification and food safety*
 - Create and enforce regulations to avoid conflict in use of common resources and at the same time promote farming of healthy and wholesome aquaculture products (BMPs)
 - Develop and implement ASEAN guidelines for environment-friendly and responsible aquaculture and good aquaculture practices.
 - Encourage good practices in aquaculture such as the FAO Technical Guidelines on Aquaculture Certification.

Maintaining environmental integrity and adapting to climate change impacts

- **Protecting the environment**
 - Implement strategies to (i) strictly monitor and regulate aquaculture operations and (ii) prevent over development by adopting the concept of environmental carrying capacity to prevent aquatic pollution
 - Intensify information dissemination on feeding management schemes
 - Adopt precautionary approach to safeguard the environment from the acceleration of offshore aquaculture.
- **Adapting to climate change**
 - ***Mitigating emissions of greenhouse gases from aquaculture***
 - Review energy consumption in aquaculture and greenhouse gas emissions
 - Define and implement strategies for mitigating gas emissions from aquaculture

Adaptation techniques

- Conduct mapping of aquaculture sites that are vulnerable to climate change
- Identify aquaculture species, strains, farming systems, techniques that will adapt better to climate change
- Assess and improve infrastructures/habitat to ensure safety of coastal farming communities
- Enhance awareness on the importance of aquaculture in climate change initiatives
- Increase resilience and overall capacity of various stakeholder groups through training and knowledge transfer
- Improve cooperation within the aquaculture sector and with other sectors.

**SUMMARY OUTPUTS OF PANEL DISCUSSION
ON MARINE FISHERIES MANAGEMENT**

by *Ms. Mahyam Mohd Isa*

Chief, Marine Fishery Resources Development and Management Department
Southeast Asian Fisheries Development Center

Plenary II

**ASEAN-SEAFDEC Conference on Sustainable Fisheries for Food Security Towards 2020
“Fish for the People 2020: Adaptation to a Changing Environment”**

In order to strengthen the capacity of Member Countries to achieve sustainable fisheries over the next decade, it will be necessary for ASEAN Member Countries to strengthen their fisheries governance mechanisms that ensure comparability and compatibility between practices and operation of fisheries in the countries.

Issues and Recommendations

National Fisheries Framework

- Develop national legislation provisions and applicable ways to suit regional/ national situation
- Promote awareness and understanding of international and regional instruments and agreements
- Regularly review, update and strengthen national fisheries policy, legal and institutional frameworks through consultation with stakeholders
- Encourage relevant fisheries-related agencies to coordinate their activities at all levels in the implementation of national fisheries policy and legislation
- Prevent unauthorized fishing and eliminate the use of illegal, destructive, harmful fishing and aquaculture practices by building awareness of adverse impacts, developing and promoting responsible fishing and aquaculture practices, enforcing regulations and encouraging supplementary/alternative means of livelihoods

Co-management

- Promote co-management by enhancing participation of local communities and mobilizing local ecological knowledge and appropriate indicators in decision-making process
- Strengthen capacity of local fisheries communities for achieving sustainable development of aquatic resources / environment and respond to a changing environment

Management of Fishing Capacity:

- Manage fishing capacity by implementing right-based fisheries.
- Regulate fishing capacity to avoid excessive use of natural resources including creation and adoption of supplementary and alternative means of livelihood

Conflict Resolution:

- Mitigate conflicts between small-scale and commercial fisheries through co-management and implementation and enforcement of right-based fisheries
- Enhance capacity of local government authorities and communities to resolve conflicts within fisheries and other stakeholders
- Enhance participation of the fisheries sector in multiple land and water use planning and management to reduce and prevent conflicts between fisheries and different users of aquatic environment

**SUMMARY OUTPUTS OF PANEL DISCUSSION
ON POST-HARVEST AND SAFETY OF FISH AND FISHERY PRODUCTS**

by *Mr. Leonard G. Limpus*

Marine Fisheries Research Department
Southeast Asian Fisheries Development Center

Plenary II

**ASEAN-SEAFDEC Conference on Sustainable Fisheries for Food Security Towards 2020
“Fish for the People 2020: Adaptation to a Changing Environment”**

Fish Handling Processing and Preservation

- Improve human resources and expertise in fishery post-harvest technology, by developing training programs for value chain, and standard training requirements for issuance of permits for fish vessel crews, and guidelines for specialized handling activities
- Improve infrastructure, by encouraging governments, developing guidelines for small-scale fisheries landing areas, and developing guidelines for fish vessel design.
- Improve handling, processing, distribution and marketing, by developing guidelines for handling live fish; developing value-added products, particularly for low-value fish; conducting studies on distribution and marketing of fish, and distribution of benefits along the supply chain; conducting studies on economic returns of low-value fish; conducting baseline studies on post-harvest losses; conducting research on energy efficient ways to preserve fish; and conducting research on appropriate on-board handling.
- Increase utilization of underutilized species, by-products, and recovery of processing waste by conducting research on above.
- Improve the use of incentives/credit to promote the industry and alleviate poverty, by promoting greater access to credit, and investigation incentives to foster a demand for higher economic returns and more fish for human consumption.

Improving Traditional Products – Quality, Marketing and Trade

- Improve raw materials supply and quality, by conducting work on diversification and use of different raw materials to create new or improved products; and enhance community cooperation in producing endemic ingredients.
- Improve processing and preservation technologies and facilities, by developing training programs; conducting work on reduction of insect infestation and use of additives/preservatives; developing traditional and/or value-added products; and improving efficiencies of processing equipment and facilities.
- Improve packaging, by conducting research on traditional materials and modern technology; and investigating the use of government established fish processing centers.
- Improve marketing practices, by investigation marketing strategies for urban communities; means for better market access, FOVOP and its marketing strategies; developing a joint platform to improve international trade competitiveness; and harmonize data collection and reporting systems
- Improve the use of incentives/credit to promote the industry and alleviate poverty.

Quality, Safety and Control Systems for Fish Products

- Implement GMP/SSOP in SME's, by developing training materials and training the industry; and investigation means whereby industry could obtain funds to incorporate GMP/SSOP.
- Improve traceability methodology and capacity to deal with new emerging export requirements, by investigation current systems, emerging issues, and develop a harmonization mechanism.
- Improve harmonization between inspection systems and standards in ASEAN, by investigating issues relating to Halal and organic foods; continuing laboratory accreditation; assisting ASEAN food harmonization activities; building capacity in risk assessment; providing a platform for the sharing of information among ASEAN Member Countries on the implementation of harmonization activates within the fisheries sector; and investigation how private certification schemes could be incorporated into certification management mechanisms.
- Improve internal regulatory control and technical manpower.
- Investigate the quality and safety of freshwater fish

**SUMMARY OUTPUTS OF PANEL DISCUSSION
ON PLANNING AND INFORMATION, REGIONAL AND INTERNATIONAL
POLICY FORMULATION**

by *Mr. Bundit Chokesanguan*
Head, Information and Training Division
Training Department, Southeast Asian Fisheries Development Center

Plenary II

**ASEAN-SEAFDEC Conference on Sustainable Fisheries for Food Security Towards 2020
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Planning and Information

- Integrate the planning of capture fisheries, aquaculture and post-harvest for sustainable development to encompass conservation-based management and livelihood improvement, and develop the framework for ecosystem approach to fisheries.
- Strengthen national statistical mechanisms for fisheries and aquaculture and promote the exchange of statistical data and related information
- Enhance regional fishery information systems and mechanism to facilitate sharing, exchange and compilation of statistical and information that are required in the region
- Develop online data repository that could be accessed by resource management policy makers, and other stakeholders.

Regional and International Policy Formulation

- Establish regional technical working comprising agency representatives through networking – for example IFCOME network
- Develop formal process of collaboration and communication for fisheries agencies within countries and the region
- Increase participation and involvement of Member Countries in international fora and technical committee

**SUMMARY OUTPUTS OF PANEL DISCUSSION
ON EMERGING REQUIREMENTS FOR TRADE OF FISH & FISHERY PRODUCTS**

by *Dr. Somboon Siriraksophon*
Policy and Program Coordinator
Secretariat, Southeast Asian Fisheries Development Center

Plenary II

**ASEAN-SEAFDEC Conference on Sustainable Fisheries for Food Security Towards 2020
“Fish for the People 2020: Adaptation to a Changing Environment”**

Requirements for Trade of Fish and Fishery Products in the ASEAN Region

- Increasing emerging issues
 - Globalization of trade
 - Requirements of sustainability of fisheries and aquaculture productions
 - Effects of Climate Change
- Compliance to the quality and safety standards and requirements
- In ASEAN, such standards and requirements should be harmonized > equivalence, application of tariffs
- Sustain the competitive position of ASEAN fish and fishery products in the world markets

International Requirements

- Establish harmonized ASEAN production standards technical regulations and conformity assessment procedures applicable to fishery and aquaculture products that are in line with international requirements for environment-friendly products, and are applicable to the region, Such standards, regulations and assessment procedures should serve as inputs for the establishment of the ASEAN Policy Guidelines on Standards and Conformance to increase the competitiveness of ASEAN fishery products in regional and international markets.
- Strengthen cooperation and regional mechanisms among ASEAN Member Countries for developing common positions that would be reflected in international fish trade related fora include the trade in endangered species regulated by CITES.
- Ensure the implementation of appropriate international binding standards such as Sanitary and Phyto-Sanitary (SPS) measures, and raise awareness on fish trade related issues through appropriate information dissemination systems, especially in the least developed countries of the region.
- Enhance the active participation of the private sector (e.g. ASEAN Seafood Federation) in addressing trade related issues such as Technical Barriers to Trade (TBT) and in collaborative efforts to promote regional and international trade.

Emerging Issues, Trade facilitation and supply chains

- Enhance the capacity of ASEAN Countries, including functions that support regional and sub-regional cooperation, to effectively meet port state measures and flag state responsibilities with respect to the certifications of fish and fisheries products for export.
- Develop traceability system for fish and fisheries products for export that certify and validate the origin and food safety information, for the entire supply chain and establish regulations and enforcement schemes in line with international standards.
- Promote regional standards for eco-friendly and organic fish and fishery products.
- Provide platform for sharing of info among ASEAN Member Countries on implementation of traceability
- Promote implementation of traceability systems in the ASEAN region.
- Supply chain is part of stakeholders. Partnership with them should be built, but the poorest of these suppliers are very vulnerable and are left out.

**SUMMARY OUTPUTS OF PANEL DISCUSSION
ON INLAND FISHERIES MANAGEMENT**

by *Mr. Xaypladeth Choulamany*

Fisheries Programme Coordinator, Mekong River Commission (MRC) Secretariat

Plenary II

**ASEAN-SEAFDEC Conference on Sustainable Fisheries for Food Security Towards 2020
“Fish for the People 2020: Adaptation to a Changing Environment”**

Inland capture fisheries play a significant role in food security both in urban and rural areas of ASEAN countries and these resources are likely to come under increasing pressure in future as trade between ASEAN and non-ASEAN countries will become liberalize. Inland fisheries therefore should be paid more attention in view of local food security in sectoral development plans in the countries as well as at sub-regional levels.

Issues and Recommendations

- Enhance the role of inland fisheries contribution to food security through development of appropriate strategies that are coordinated with the National Poverty Alleviation Strategies
- Promote alternative livelihoods during off-season and safeguard food supply at such times by developing post-harvest and processing techniques to maintain food quality and safety of stored fish and fish products
- Encourage inclusion of fisheries management programs in the overall planning and management of inland water-bodies and enhance dialogue between fisheries sector and other inland water use sectors to ensure continued ecosystem health and maintain the inter connectivity of the habitats
- Optimize the use of inland water-bodies through resource enhancement and restocking programs with due consideration to the potential adverse environmental impacts
- Develop and maintain freshwater fisheries through inter-agency coordination of multiple-uses of water resources, sustainable wetlands/ floodplains and trans-boundary inland fisheries management; and rehabilitating and restoring habitats for migratory freshwater fishes
- Develop and promote the use of practical and simple indicators for inland fisheries to facilitate timely local level fisheries management decisions
- Use non-routine data and information such as fish consumption surveys and indigenous knowledge to improve the evaluation and management of inland fisheries

**STATEMENT OF FUTURE COOPERATION FOR SUSTAINABLE FISHERIES
IN THE ASEAN REGION: THE GOVERNMENT OF JAPAN**

by *Mr. Ichiro Nomura*

Advisor to the President of Tokyo University of Marine Science and Technology, Japan

Plenary III

**ASEAN-SEAFDEC Conference on Sustainable Fisheries for Food Security Towards 2020
“Fish for the People 2020: Adaptation to a Changing Environment”**

Good morning,

Today I will be talking about two issues, which are completely independent from each other. The first issue although is not relevant to the theme of this Conference, however, I think this might be of interest of all of you. As all of you have known, one of the biggest tsunami stroked Japan on March 2011, and created vast devastation to Japan, particularly to the fisheries sector. Japan marine capture fisheries production is about 4 million tons. In addition there are also 1.2 million tons from aquaculture including seaweed. The share of Tohoku and Hokkaido Districts, which was hardly hit by tsunami and the earthquake, accounted for about 54.7% of marine capture fisheries, and of 40% of aquaculture product. These districts are therefore considered very important fisheries district of Japan; with important species, such as salmon, Wakame seaweed, scallops, Japanese saury, squids, etc. For the concrete damaged caused to infrastructure and fishing devices for marine capture fisheries, the Tohoku district had about 50,000 fishing vessels, and out of that 20,000 or 40% were totally destroyed. Particularly in the Iwate and Miyaki prefectures (in north of Honshu Island), their fishing vessels were totally destroyed; while 230 fishing ports (more than 40%); all adjacent fish markets were destroyed; and 30% of processing facilities were also severely damaged or totally destroyed

Aquaculture activities also more geographically suffered than marine capture fisheries. The Miyaki and Iwate prefectures had production from Wakame seaweed and oyster culture account for substantial percentage of total production (80% for wakame and 30% for Oyster of total country's production) and the affect was very serious.

For the government assistance program to recover the damage, the first thing we have to do is to make fishing operation to be conducted as quickly as possible. Fishing boats, which were damaged, will have to be restored. What the government is trying to do is to make fishing vessel available not for individual, but for joint operation by fishers; thereby the restoration program will become smoother. Then, the landing sites and fishing ports will have to also be restored. For restoration of some fishing ports, the restoration may not be easy as the land had merged for about one meter and will have to be raised, so the restoration is neither simple nor easy tasks. After that, we can think about the more concrete measures for restoration of fishing operation to a more stable basis before full-scale construction takes place.

To make it more concrete term, the restoration would comprise two steps. The first step, which is emergency measure, includes the supply of food and short-term opportunity for employment for those who do not have any job, including employment of fish workers and processors for cleaning of bricks and wastes which was washed into the sea in order to restore the fishing grounds. The second step is the temporary recovery, which include securing funds for fishing operations, producing fishing boats, reconstruction of fishing markets, in order for Japan to further think about full-scale recovery of the fisheries sector, and that is to be implemented by extra-budgetary system of the country.

With regards to the affect of the accident to the Fukushima Nuclear Power Station, the monitoring of radioactive substances was conducted to inspect on various fish samples, of which the data and information are available in the website of the Japanese Fishery Agency. There are few samples, which the radioactive substance is exceeding the regulatory value, such as drifting juvenile marine fish or some freshwater species; however there is no any migratory species that the radioactive value exceed the regulatory value. So far, I can say with confidence that all fish available in Japan market as well as for export are completely safe and some import restriction or prohibition imposed by certain countries are therefore not scientifically unsounded.

We appreciate assistance from ASEAN countries not only on the material wise, but also for the spiritual encouragement extended to Japan during the suffering period.

The second subject of my presentation is on the cooperation between Japan and SEAFDEC. In terms of financial supports the accumulated assistance are very significant. However, in addition to that, there are also the establishment of network and cooperation, including the assistance to research community and scientific community of the ASEAN countries. Although most of the Japanese assistance was provided through SEAFDEC by way of the Japanese Trust Fund; however, there are also other assistance, which was not tied to the government.

The typical theme of the Japanese Trust Fund is to promote food security from responsible fisheries in the ASEAN countries, and that is clearly linked to the Regionalization of the Code of Conduct for Responsible Fisheries. In addition, it is considered that aquaculture is very important for the region and the activities not only focus on the technical feasible, but also on the environmental-friendly, economic viability, and socially equitable etc.

In addition, there are also separate and independent cooperation between SEAFDEC and Japanese research institutes including those that being partner of this Conference. We are very proud that each and every institute that collaborates in the conduct of this Conference has sent their representatives to attend at the Conference. Also there is also assistance through Japan International Cooperation Agency.

Thus, Japan is very proud that we have contributed to the development of ASEAN sustainable fisheries, which is very important for global fisheries sustainability development; and I'm sure that Japan will continue to strengthen the cooperation in the future.

Thank you very much.

**STATEMENT OF FUTURE COOPERATION FOR SUSTAINABLE FISHERIES
IN THE ASEAN REGION: ASEAN FOUNDATION**

by *Dr. Makarim Wibisono*
Executive Director, ASEAN Foundation

**Plenary III
ASEAN-SEAFDEC Conference on Sustainable Fisheries for Food Security Towards 2020
“Fish for the People 2020: Adaptation to a Changing Environment”**

Distinguished Delegates,
Ladies and Gentlemen,

On behalf of the ASEAN Foundation, I'm pleased to join you in this Regional Conference on Sustainable Fisheries for Food Security for the ASEAN Region Towards 2020. The Conference Theme of “Fish for the People 2020: Adaptation to the Changing Environment” is fitting in this crucial time of declining state of fishery resources, and emerging food security issues where multi-Sectoral ever are certainly needed to address and find appropriate ways to improve food security and better livelihood opportunity in the Southeast Asian region.

The ASEAN Foundation has always been a partner and supporter of the initiative of the Southeast Asian Fisheries Development Center or SEAFDEC as it addresses the Foundation mission and mandate. The ASEAN Foundation was established by ASEAN Leaders in the year 1997, primarily to raise greater awareness of ASEAN, promote interaction among various stakeholders, build capacity of the people of ASEAN through human resources development, and address socio-economic disparity across the Southeast Asian region. Article 15 of the ASEAN Charter has further mandated the ASEAN Foundation to support ASEAN Community Building by promoting greater awareness of the ASEAN identity, people to people interaction, and closer collaboration between the business sector, civil society, academia and other stakeholders of the ASEAN.

One important mandate of the ASEAN Foundation is to contribute to the evolution of the development cooperation strategy that promote mutual assistance, equitable economic development, and alleviation of poverty. Accordingly, many of the projects the Foundation supports deal with improving productivity in agriculture and fisheries. Building capacity in this sector will help improve livelihoods since many of ASEAN under the community live in the rural areas, in farms, and coastal villages. Our projects aimed to increase income, provide basic services, and create better opportunity for growth. There also seeks to help agency provide extension services or to implement alternative livelihood project for rural groups especially the poor and disadvantages. ASEAN Foundation attached great important on the issued of sustainable fisheries for food security because fish is an important source of protein in Southeast Asia, and fisheries play a vital role in economic development, and as means of livelihood for people in Southeast Asia.

Past decade therefor ASEAN Foundation have funded various initiative of SEAFDEC. The ASEAN Foundation supported the ASEAN-SEAFDEC Millennium Conference where the Resolution and Plan of Action on Sustainable Fisheries for Food Security for the ASEAN Region in the year 2001 was adopted, and serve as a framework for formulating and implementing policies, programs, and activities that aim at promoting sustainable fisheries development of fisheries in the ASEAN Region. Consequently, succeeding capacity building projects were implemented in line with the said Resolution and Plan of Action. However, our support for the agriculture and fisheries sector goes beyond the projects of SEAFDEC. Since the ASEAN Foundation was established, we have supported 24 projects, and agriculture including fisheries, aquaculture and agro-forestry, amounting to more than 3.8 million US Dollar, through the Japan-ASEAN Solidarity Fund. Seven of these projects were implemented by SEAFDEC.

Our support and collaboration with various organizations demonstrate the commitment of the ASEAN Foundation to help raise awareness and address food security issues in Southeast Asian region. To attain the vision of caring and sharing of ASEAN Community, it is essential that agricultural workers, fisherfolks and other stakeholders in agricultural and fishery sectors are provided with the means to participate actively in saving the future of the ASEAN Region.

Furthermore, the productivity of these key sectors is important to the growth of the ASEAN Member States' growth of economy, thereby contributing to poverty alleviation. We hope that this week-long Conference has

enable the participations who are policy makers, fisheries exporters and NGO workers to share relevant knowledge and ideas on how to work together and equip the region's various stakeholders with relevant skills and opportunities to attain sustainable fisheries development. The ASEAN Foundation also look forward to the draft regional policy, decade Resolution and Plan of Action on Sustainable Fisheries for Food Security for the ASEAN Region Towards 2020, that we trust that this will provide direction and appropriate solution to achieving food security in ASEAN in the next decade. Thank you very much.

**STATEMENT OF FUTURE COOPERATION FOR SUSTAINABLE FISHERIES
IN THE ASEAN REGION:
FOOD AND AGRICULTURE ORGANIZATION OF THE UNITED NATIONS (FAO)**

by *Dr. Simon Funge-Smith*
Secretary of the Asia-Pacific Fisheries Commission (APFIC)
and Senior Fisheries Officer, FAO Regional Office for Asia and the Pacific (FAO/RAP)

**Plenary III
ASEAN-SEAFDEC Conference on Sustainable Fisheries for Food Security Towards 2020
“Fish for the People 2020: Adaptation to a Changing Environment”**

Mr. Suriyan Vichitlekarn, ASEAN representative,
Dr. Chumnarn Pongsri, Secretary-General of SEAFDEC
Senior officers and representative of ASEAN-SEAFDEC Member Countries
Honourable representatives of regional organizations
Ladies and Gentlemen

On behalf of the Director-General of the Food and Agriculture Organization (FAO) of the United Nations, I would like to thank ASEAN-SEAFDEC for the invitation to make a statement to this plenary session on regional cooperation between FAO and SEAFDEC and ASEAN. FAO recognizes SEAFDEC's importance as regional capacity building body in the fishery and aquaculture sectors in SouthEast Asia, and the important role SEAFDEC plays as a regional advisory body to ASEAN. Strengthening this important advisory and policy role is a challenge to any institution which was founded primarily to promote technical development, and FAO is pleased to see SEAFDEC increasingly taking up this role through its organization of the Conference on Sustainable Fisheries for Food Security towards 2020 and its input to the ASEAN resolution and plan of action.

FAO appreciates the interest and support shown by SEAFDEC and her Member Countries to FAO's global initiatives addressing the fisheries and aquaculture sector, and FAO recognizes that SEAFDEC is well placed to act as a regional mechanism for capacity building and regional coordination on issues of regional interest in fisheries and aquaculture amongst Member Countries. In this respect, FAO would like to seek continued cooperation with SEAFDEC to advocate the FAO Code of Conduct for Responsible Fisheries and support Member Countries efforts to implement its guidance. Within the region, FAO has worked closely with the SEAFDEC and most ASEAN Member Countries and FAO encourage both SEAFDEC and her members to continue their constructive engagement with FAO in regional activities. In particular important areas of cooperation include: FAO cooperation with the ASEAN Working Group on fisheries and its related activities; FAO-SEAFDEC cooperation in the area of improving the reporting of status and trends in fisheries, to support regional understanding and decisions making as well as contributing to the FAO global knowledge base on fisheries; the work of the Asia-Pacific Fishery Commission and the Bay of Bengal Large Marine Ecosystem project.

Looking forward to future areas of regional cooperation, FAO would like to highlight some key areas where SEAFDEC programme where FAO foresees possibilities to collaborate closely with SEAFDEC in support of our members needs for both capacity building and technical cooperation. These areas include the forthcoming “Strategies for trawl fisheries by-catch management (REBYC-II CTI); improving fishery management in marine ecosystems, through regional cooperation in the South China Sea and capacity building in the Ecosystem Approach to Fisheries/Aquaculture, in particular, developing regional consensus on major fishery resources and fishing impacts. Other ongoing areas for of cooperation include the challenge of managing fishing capacity and combating IUU fishing in the region, coupled to strengthening member country ability to implement Port state Measures.

Mr Chairman,

The FAO Committee on Fisheries has prioritized several new areas of work as emerging global challenges. These include the development of the Global Record of fishing vessels; capacity building related to climate change adaptation; the global process for development of an instrument in support of small-scale fisheries; the need to continue to develop aquaculture as a sustainable supplier of fish for food; facilitating access capabilities of Members to international fish market and the improved management of inland fisheries. As a key regional partner, FAO seeks cooperation with SEAFDEC in addressing these emerging priorities.

In concluding my statement,

I would once again like to thank ASEAN-SEAFDEC and our hosts for this opportunity to address the ASEAN-SEAFDEC Conference on Sustainable Fisheries for Food Security Towards 2020 and look forward to further productive cooperation between FAO and ASEAN-SEAFDEC in the future. Thank you Mr. Chairman.

**STATEMENT OF FUTURE COOPERATION FOR SUSTAINABLE FISHERIES
IN THE ASEAN REGION: WORLDFISH CENTER**

by *Dr. Stephen Hall*
Director-General, WorldFish Center

**Plenary III
ASEAN-SEAFDEC Conference on Sustainable Fisheries for Food Security Towards 2020
“Fish for the People 2020: Adaptation to a Changing Environment”**

Mr. Chairman,
Distinguished Guests,

First, I would like to say how much WorldFish appreciate the opportunity that this Conference has provided to interact, to learn, and to really get to know and re-acquaint with the existing friends, and also making new ones. In particular, I would also like to take this opportunity, on behalf of both WorldFish and Conservation International, to thank you for the opportunity to present the Blue Frontier Report which look in the global environmental impact of Aquaculture

We covered the broad range of topics over the last few days. Many of them are relevant to the mission of the WorldFish Center, which as you know is the part of consultative group for international agriculture research. Our role and mission in that is to reduce poverty and hunger by improving fisheries and aquaculture. And underneath that, we have two really big development challenges. The first is to really work through how one can improve the livelihoods of the poor and the vulnerable in those places where fisheries and aquaculture has a real possibility of making a difference. And we would characterize those places as aquatic agricultural system, which broadly engaged not only fisheries but also many other aspects to improve livelihood. And ASEAN region is a replete with locations, places and people for who those benefits are applicable.

The second big challenge is to achieve or help to achieve large-scale environmentally sustainable increases in supply and access to fish at affordable prices for poor consumers. And I think you all agree that those two challenges are very substantial. And within that, there are several areas that have been touched upon very prominently over the last few days in this Conference; and several in which I look forward to further developing collaboration with ASEAN colleagues.

Clearly the opportunity to build upon the Blue Frontier Report we just released, the foreside efforts to look what supply and demand is going to do over the next 10-15 years, and what does that means for food security from the development of aquaculture industry for this region. That seems to be important areas of collaboration with national governments and with ASEAN colleagues more generally.

The whole issue of climate change and how one builds resilience and takes theory of resilience to come up with concrete idea to convince the Minister on the idea of resilience and how to cope with what climate change is going to bring. The issue of inland fisheries, gender and livelihood improvement are clearly are opportunity for collaboration; and in all those areas, the challenges are enormous and extraordinary complex. I'm very pleased to tell you that the changes that have been very substantial have been going on within CGIR system over the last two or three years, which I think offer new opportunities to build a partnership and approaches; and arrive with priorities that could really move the dial and make the difference. We are increasingly developing and engage in larger collaborative program across the whole of the CGIR that brings together the interest and opportunities for researches on rice, researches for maize and staple, research on fish, research on livelihood and livestock; and policies bringing those together in key places to say how can we help by working with our partners to make a difference.

And I think those opportunities particularly in the context of this aquatic agricultural system that ASEAN nation delta, the coast and islands where aquatic products are such important part of people lives. I really do look forward to the opportunity to work with you in moving initiatives forward in those areas, and in particularly recognizing our priority for immediate future, which are in various local hubs in the Philippines, the Mekong region and in Cambodia. And in those areas in particular, building the partnership to show how research can make a difference on the ground within the development context rather than for the development context is a real challenge that I look forward to working with you.

I conclude I conclude by saying that we got a real solid foundation with SEAFDEC and ASEAN to build on. Our headquarters is in an ASEAN country. We have officers in Cambodia and the Philippines. And I think the opportunity to build on the opportunity we already have, and expand them further particularly with the private sector, with the non-governmental development agency, with the ministry and the line ministry is going to be increasingly important over time. And bring together the complementary skills is certainly a challenge that we are facing and looking forward to meeting.

And I look forward to the future dialogues and to taking some of the themes that have been identified for this Conference toward specific area for cooperation with WorldFish for the coming year. Thank you.

**STATEMENT OF FUTURE COOPERATION FOR SUSTAINABLE FISHERIES
IN THE ASEAN REGION:
MEKONG RIVER COMMISSION (MRC)**

by *Mr. Xaypladeth Choulamany*
Fisheries Programme Coordinator, MRC Secretariat

Plenary III

**ASEAN-SEAFDEC Conference on Sustainable Fisheries for Food Security Towards 2020
“Fish for the People 2020: Adaptation to a Changing Environment”**

Good morning Mr. Chairman,
Distinguished guests,
Ladies and Gentlemen,

First of all, let me take this opportunity to express my sincere thanks to ASEAN and SEAFDEC for inviting MRC Fisheries Programme to deliver short statement on cooperation in the ASEAN region. As you know MRC was established in 1995 to promote sustainable development and cooperation among countries of the Lower Mekong Basin – Cambodia, Lao PDR, Thailand and Vietnam. The Mekong River Basin is the largest in Southeast Asia, and has similarity with other large river basin in the region. The landscape is dominated by wet-season rice farming, which in many aspects has been integrated with wild capture fisheries. Rapid development in the region as well as in ASEAN is causing many changes in the environment and fisheries, which present us with many challenges and opportunities.

The MRC Fisheries Program has been active in promoting fisheries research and development in the Mekong Basin since the mid 1990s. The Fisheries Program has hosted or participated in many regional conferences and workshops to promote cooperation between the Lower Mekong Basin countries and the various agencies that have an interest in fisheries in the region. The objectives and activities of the Fisheries Programme have been complementary to those of the national governments as and other agencies in the region.

The MRC Fisheries Program in particular has fulfilled gaps by documenting the size and value of the Mekong Basin capture fisheries, by supporting aquaculture of indigenous Mekong species, promoting co-management of inland fisheries, in understanding the particular roles and importance of women in fisheries, and in addressing awareness and the need to understand and mitigate the impacts of water resources development. The outputs of these developments are relevant to all countries in the region, which faced similar issues regarding inland fisheries.

In the current phase of the MRC Fisheries Programme 2011-2015, we will re-focus our efforts in particular on how to increase the dissemination of the key messages regarding fisheries in the Lower Mekong Basin. These messages are relevant to inland fisheries throughout the region. Inland fisheries are much larger and more valuable than indicated by former statistics. They are extremely important for nutrition and livelihood, particularly for rural people. Inland fisheries will be affected in many ways by development and we need to work on integrating with other sectors to take advantage of opportunities and reduce negative impacts. We need to work at large scales, whole catchment, and across borders, requiring mechanism and networks for international cooperation. ASEAN and SEAFDEC also have long history in promoting sustainable development of fisheries in the Asian region. It would be fair to say that SEAFDEC main emphasis have been within the fisheries sector in marine fisheries and in aquaculture. And in this respect, the activities have been largely complimentary with those of the MRC Fisheries Programme.

As mentioned, we have tended to focus more on capture fisheries, as well as trying to engage outside the sector because inland fisheries are so heavily affected by the water resources development. Mekong Basin, also along with Southeast Asia, generally is developed rapidly. Population, economic growth, infrastructure development, climate change and other emerging issues mean that it is really timely to reassess the lesson learnt from our works, our directions and to promote the dialogue with others and how to address the future challenges for fisheries.

We look forward to look in partnership with ASEAN-SEAFDEC and other regional agencies, as well have much to learn from each other, and should plan our activities together to support fisheries research development and management in the region. We are keen to share information and work together in many areas

such as fisheries management, conservation and development of capture fisheries, integration with the major land use in particular agriculture, mitigation of the impacts of large infrastructure development, promotion of small-scale aquaculture for poverty alleviation, promotion of aquaculture of indigenous species and others. There are many opportunities for us to learn from and work with each other and I look forward to many more years of productive dialogue and supporting each other with fisheries research and development.

Thank you.

**STATEMENT OF FUTURE COOPERATION FOR SUSTAINABLE FISHERIES
IN THE ASEAN REGION:
BAY OF BENGAL LARGE MARINE ECOSYSTEM (BOBLME) PROJECT**

by *Dr. Rudolf Hermes*
Chief Technical Advisor, BOBLME Project

**Plenary III
ASEAN-SEAFDEC Conference on Sustainable Fisheries for Food Security Towards 2020
“Fish for the People 2020: Adaptation to a Changing Environment”**

Distinguished delegates and participants,

I am very grateful for the opportunity to be able to present to you an example of fisheries and environment cooperation in the region and even beyond the ASEAN region. It's a project which forge into a category of Large Marine Ecosystem Project – the Bay of Bengal Large Marine Ecosystem (LME) is a 5-year project, of volume of 31 million US Dollar, and the collaboration involving four ASEAN countries, namely Indonesia, Malaysia, Myanmar and Thailand; and four countries of the South Asian Association for Regional Cooperation (SAARC), namely Bangladesh, India, Sri Lanka and Maldives. These eight countries are working together to develop a coordinated program of action, designed to improve the lives of the coastal population through improved regional management of the Bay of Bengal environment and its fisheries. The major implementation partners are the fisheries and environment department of each country. The BOBLME is funded principle by the Global Environmental Facility (GEF), Norway, Sweden and the Food and Agriculture Organization of the United Nations (FAO), World Bank and also the National Oceanic and Atmospheric of the USA. FAO is the executing agency of the project. At the moment the project officers are located in Phuket, Thailand, hosted by the Department of Fisheries of Thailand.

The BOBLME Project has two major expected outputs: the first is the Transboundary Diagnostic Analysis or TDA. This TDA identify and prioritize water-related environmental transboundary issues. Its prioritization is used, and also their root causes according to the severity of the environmental and/or socio-economic impacts. This TDA provides scientific basis for the development of the Strategic Action Program (SAP) that will formulate nationally and regionally coordinated activities to address these issues and their causes. The SAP is a pre-requisite for the second phase of the Project beyond 2014 towards 2020, which will then be tasked to implement the SAP. If you need more detailed information on the project, this can be found in the website in www.boblme.org.

Let me briefly tell you what we have done in the past two years since the project become operational. The BOBLME has initiated a comprehensive program of studies, reviews, workshops and trainings that have established baseline information on the project theme areas of fisheries, pollution and critical habitats. The project will assist the countries to implement an Ecosystem Approach to Fisheries Management for the transboundary, shared fisheries stocks of Hilsa, Shad, Indian Mackerel and strengthen their natural resources management and policy development capability in general.

The BOBLME also contributed to regional knowledge on the project focus species (Hilsa, Shad, Indian Mackerel and Sharks), and also the large-scale processes that affecting the Large Marine Ecosystem ecology and the likely affects of climate change. To date, the project has completed several major reviews that identify the priority water-related issues affecting the Bay of Bengal and their causes in the TDA. Also an ICM-based practices, synergy and gaps in resources management policies in the BOBLME countries, and the status of its marine protected areas and fisheries *refugia*. Just also undertake was the major assessment of the status and management of small pelagic fisheries. BOBLEM also played a role in reaching an agreement for the formation of a joint Myanmar and Thailand body to management the Myik Archipelago as part of the Andaman Sea, and formed working groups to assist in the areas of ecosystem health indicators, oceanography and pollution.

In 2011, the project has ambitious program of work in seeking collaboration with SEAFDEC, its departments and its Member Countries, and also the ASWGF_i in coastal and marine environment. At te same time, BOBLME also seeking to expand cooperation with other regional partners such as World Fish Center, Mangrove for the Future (MFF) of IUCN, and the Bay of Bengal Program -- Inter-Government Organization (BOBP-IGO), among other regional and sub-regional initiatives. Possible areas of collaboration now we focus on SEAFDEC includes ecosystem surveys, improving fishery statistics through provision of training,

understanding the implications of climate change, analysis of available historical data on small pelagic fisheries, sharks, the national plan of action towards regional plan of action, and supporting further sub-regional collaboration for instance for the Andaman Sea areas, and implementing the framework for Ecosystem Approach to Fisheries. I would like to thank SEAFDEC, ASEAN and its collaboration partners in hosting this conference and for this opportunity to participate and inform the conference on the BOBLME project, and look forward to continue and expand the productive collaboration with the Member Countries and other regional partners. Thank you.

**STATEMENT OF FUTURE COOPERATION FOR SUSTAINABLE FISHERIES
IN THE ASEAN REGION:
ASIAN INSTITUTE OF TECHNOLOGY (AIT)**

by *Dr. Wenresti Gallardo*
Coordinator, Aquaculture and Aquatic Resources Management
Asian Institute of Technology

**Plenary III
ASEAN-SEAFDEC Conference on Sustainable Fisheries for Food Security Towards 2020
“Fish for the People 2020: Adaptation to a Changing Environment”**

Mr. Chairman,
Distinguished Guests,
Ladies and Gentlemen,

One of the major outputs of this Conference is having several important recommendations to achieve sustainable fisheries for food security towards 2020; but the question is how can we achieve this. One way is to develop human resources in fisheries and aquaculture in this region. During the first Plenary Session the Secretary-General of SEAFDEC, Dr. Chumnarn, said there is human resources deficiency. So, what is the role of the Asian Institute of Technology (AIT).

The Asian Institute of Technology was established in 1959 in Bangkok as international post-graduate institution that promotes technological change and development in Asia-Pacific region through higher education, research and outreach. We are thankful for the Thai Government for hosting AIT. However, AIT is not national university, but an international institution having more than 2,300 students, Master and Ph.D. from more than 40 countries, and 130 faculty members from more than 20 countries. There are three schools at AIT, and also AIT extensions that offer non-degree training programs, and we have campuses in Vietnam and Indonesia.

The Mission of AIT is to develop highly qualified and committed professionals to play leading role in sustainable development of the Asian region, and its integration to the global economy. And I believe that AIT has achieved this mission in a significant way by produce a lot of prominent alumni in many countries such as Thailand, Cambodia, Lao PDR, Vietnam, as well as various organizations such as SEAFDEC, MRC, OXFAM, Wetland Alliance, etc.

Areas of cooperation with AIT would be in the areas of education, research and outreach. In education, in the part, there were several scholarships from international donors, but recently this number has been decreasing due to changing priority of donors. However, national governments are now providing scholarships; some of the AIT alumni are also trying to help applicants who are qualified to study at AIT by providing scholarships or fellowships to applicants. The plan is to continue the program, by updating and revising the curriculum every three years to address the needs of fisheries and aquaculture sector. Some national universities are collaborating with AIT in the form of joint or double degree programs. AIT also collaborates with partners such as MFF in offering post-graduate certificates, and integrated coastal management. AIT is also planning to have undergraduate program in collaboration with national universities offering undergraduate program in fisheries and aquaculture.

In research, AIT is working with international and regional organization, and national fisheries agencies like Department of Fisheries, several NGOs, as well as private sectors for conducting researches and experiments.

In terms of outreach, AIT is one of the partners of the Wetland Alliance -- composed of World Fish, WWF, CORIN, and four countries, particularly Cambodia, Lao PDR, Thailand and Vietnam -- for poverty alleviation and management, and sustainable local development. There are around 30 local partners in these countries.

For our students we also work with organizations like FAO, SEAFDEC or national universities to send master students for internship. We also accept short-term trainees and groups for study tour. We have also been helping several national universities in developing their Masters in Fisheries curriculum. Recently we have the National University of Lao to develop their M.Cs in Fisheries and we are also providing consultancy services to government and private sectors.

AIT is willing to collaborate on education, research and outreach with other institutions to develop human resources in fisheries and aquaculture in Asia and beyond. Thank you for your attention.

CLOSING STATEMENT FOR THE TECHNICAL SESSIONby *Dr. Chumnarn Pongsri*

Secretary-General, Southeast Asian Fisheries Development Center

Plenary III**ASEAN-SEAFDEC Conference on Sustainable Fisheries for Food Security Towards 2020****“Fish for the People 2020: Adaptation to a Changing Environment”**

The Director-General of the Department of Fisheries of Thailand, Dr. Somying Piumsombun,
The Head of Agriculture Industries and Natural Resources Division of the ASEAN Secretariat, Mr. Suriyan Vichitlekarn,

Honorable delegates from the ASEAN-SEAFDEC Member Countries,
Representatives from partner organizations, international and regional organizations,
Distinguished guests, participants, Ladies and Gentlemen, Good morning,

It is indeed a very great pleasure for me to be here once again after the Technical Session of the ASEAN-SEAFDEC Conference on Sustainable Fisheries for Food Security Towards 2020. During the last three days of presentations, deliberations and discussions, I have gathered the views and insights of the presenters, panelists, other knowledgeable resource persons as well as participants from both within and outside the region on the issues and aspects that should be taken into consideration in ensuring the sustainable development of fisheries in the ASEAN region.

The challenges and visions of sustainable fisheries for food security in the ASEAN region had been broached to us during the Plenary I of the Conference. Taking into consideration those challenges and keeping sight on the visions over the next decade, we conducted the Technical Panel Sessions comprising eight thematic areas and came up with recommendations for the governments of the ASEAN countries to undertake. These general recommendations include: (1) Strengthen governance in fisheries management to enhance the capacity of the countries in achieving sustainable fisheries; (2) Develop enabling policies for aquaculture operations especially those by the small-holder farmers to adopt better aquaculture practices; (3) Undertake fisheries related activities in a more environmental sensitive manner that minimizes the undesirable environmental consequences of fishing practices through the ecosystem approach to fisheries management; (4) Invest in the development of appropriate infrastructure as well as safe and wholesome fish and fisheries production based on the application of effective control and production procedures at all levels along the chain of production from catch to the consumer; (5) Address the emerging issues that affect international fish trade such as globalization of trade with focus on consumer protection, and requirements of sustainability of fisheries and aquaculture production as well as promote compliance to the quality and safety standards and requirements with consistency; (6) Incorporate fisheries-related aspects in national action plans related to climate change and build up adaptive capacity of people dependent and involved in fisheries-related activities to cope with changing environment including effects causes by climate change; (7) Integrate policy for livelihood improvement with overall water resource planning strategy and development programs, and support directions for diversification of community-based livelihoods in fishing communities while maintaining sustainable use of resources; and (8) Identify appropriate management strategies for inland fisheries development and align these with national poverty alleviation approaches, and promote rights-based approach in inland fisheries and develop strategies for sustaining peoples' basic entitlements such as enough food, decent work, freedom from oppression, and the right to a dignified life.

On behalf of the organizers of this Conference, I wish to take this opportunity to express our gratitude to the resources persons and participants for your inputs and contribution to this Conference. As the preparation of this Conference took us nearly two years since 2009, going through several regional and national technical consultations and processes, I therefore wish to express our appreciation to everyone who had been involved during these processes. Your valuable efforts have indeed greatly contributed to the success of this Conference.

As you have already been aware of, working towards the sustainable development of fisheries in the region could not be done by SEAFDEC alone single-handedly. Thus, in the preparation and the conduct of this Conference, we have cooperated and we received technical support and contributions from various partners and collaborating organizations. We are aware that this Conference would have not been possible without the collaboration and inputs from these organizations. I therefore wish to take this opportunity to once again acknowledge with deepest gratitude the support extended to us by these organizations which we needed very

much. On behalf of SEAFDEC, I truly wish that the collaborative spirit among the concerned organizations and partners would be expanded and strengthened in the future.

Last but not least, I wish to express my appreciation to the Government of Japan for its continued support to our regional activities that usher towards the sustainable development of the region through the ASEAN-SEAFDEC collaborative platform. Over the past decades, Japan has always been providing SEAFDEC with technical support especially during the preparation and the conduct of this Conference. I would also wish to express our gratitude to the ASEAN Foundation for providing financial support which enabled several participants from the ASEAN countries to attend this Conference. We are also thankful to the USAID through the ASEAN-US Technical Assistance and Training Facility for facilitating the collection of inputs to this Conference, and particularly for boosting the participation of the private sector in this Conference.

Lastly, Ladies and Gentlemen, on behalf of the Conference organizers, I wish to declare the Technical Session of the ASEAN-SEAFDEC Conference on Sustainable Fisheries for Food Security Towards 2020 "Fish for the People 2020: Adaptation to a Changing Environment" closed.

Thank you very much and Good Day.

**LIST OF PARTICIPANTS OF THE SENIOR OFFICIAL SESSION
OF THE ASEAN-SEAFDEC CONFERENCE**
(16 June 2011, afternoon)

Senior Officials Session

**ASEAN-SEAFDEC Conference on Sustainable Fisheries for Food Security Towards 2020
“Fish for the People 2020: Adaptation to a Changing Environment”**

Brunei Darussalam

Dayang Hajah Normah Suria Hayati binti Pehin Jawatan Dalam Seri Maharaja Dato Seri Utama (Dr.) Haji Awang Mohd Jamil Al-Sufri
Deputy Permanent Secretary
Ministry of Industry and Primary Resources
Jalan Menteri Besar
Bandar Seri Begawan BB 3910
Brunei Darussalam
Tel: +673 2382844 Fax: +673 2382845
Email: normah.iamil@industry.gov.bn

Hajah Hasnah Ibrhim (Ms.)

Director-General
Fisheries Department
Ministry of Industry and Primary Resources
Jalan Menteri Besar,
Bandar Seri Begawan BB 3910
Brunei Darussalam
Tel: +673 2383412 Fax: +673 2382069
E-mail: hasnah.ibrahim@fisheries.gov.bn

Munah Haji Lampoh (Ms.)

Senior Fisheries Officer
Fisheries Department
Ministry of Industry and Primary Resources
Jalan Menteri Besar
Bandar Seri Begawan BB 3910
Brunei Darussalam
Tel: +673 2383412 Fax: +673 2382069
E-mail: alif2701@yahoo.com

Hajah Noor Izrina Abdullah (Ms.)

Special Duties Officer
Ministry of Industry and Primary Resources
Jalan Menteri Besar
Bandar Seri Begawan BB 3910
Brunei Darussalam
Tel: +673 2381882 Fax: +673 2381206
E-mail: noorizrina.abdullah@industry.gov.bn

Indonesia

Endhay Kusnendar (Dr.)

Director-General
Marine and Fisheries Research and Development
Agency
JL. Pasir Puth 1, Ancol Timor
Jakarta, Indonesia, 14430
Tel: +622 164711583 Fax: +622 164711583
Email: endhay.kusnendar@gmail.com,
endhay_kontara@yahoo.co.id

Ketut Sugama (Dr.)

Director-General of Aquaculture
Ministry of Marine Affairs and Fisheries
GD.B, Deptan Lt.4 Jalan Harsono RM No.3
Ragunan Jakarta Selatan, Indonesia
Tel: +6221 7806131 ext.3425/3424
Fax: +6221 7806131
Email: sugama@indosat.net.id,
ksp.djpb@gmail.com

Syahrin Abdurachman

Director-General
Surveillance for Marine and Fisheries Resources
Ministry of Marine Affairs and Fisheries
Jalan Medan Merdeka Timur
No.16, Jakarta 10110, Indonesia
Tel: +6221 3500087 Fax: +6221 3515484
Email: g_psdkp@yahoo.com

Achmad Poernomo (Dr.)

Executive Secretary
Marine and Fisheries Research and Development
Agency
JL. Pasir Puth 1, Ancol Timor
Jakarta 14430, Indonesia
Tel: +622 164711583 Fax: +622 164711583
Email: achpoer@yahoo.com

Andi Soesmono

Deputy Director of Multilateral Cooperation
Center of Analysis for International Cooperation
Ministry of Marine Affairs and Fisheries
Jalan Medan Merdeka Timur
No.16, Jakarta 10110, Indonesia
Tel: +6221 3509070 ext.7113
Fax: +6221 3864293
Email: ansoes_69@yahoo.co.id

Ida Kusuma Wardhaningsih (Ms.)

Executive Secretary for Directorate General of Surveillance for Marine and Fisheries Resources
Ministry of Marine Affairs and Fisheries
Jalan Medan Merdeka Timur
No.16, Jakarta 10110
Tel: +6221 3500087 Fax: +6221 3515484
Email: idakusumaw@gmail.com
ida-k@centrin.net.id

Trian Yunanda

Head of Programme Cooperation Sub Division
Directorate General of Capture Fisheries
Ministry of Marine Affairs and Fisheries
Jalan Medan Merdeka Timur, No.16
Jakarta 10110
Phone: +6221 3519113 ext.1216
Fax: +6221 3519113
Email: tryand_fish@yahoo.com

Ary Aprianto

Assistant Deputy Director
Directorate General of ASEAN Cooperation
Ministry of Foreign Affairs
Taman Pejambon No.6, Jakarta, Indonesia
Tel: +856-21-3509057 Fax: +856-21-3509057
E-mail: aryaprianto@yahoo.com

Japan

Akira Inoue

Director-General
Resource Management Department
Fisheries Agency
Ministry of Agriculture, Forestry and Fisheries
1-2-1, Kasumigaseki, Chiyoda-ku
Tokyo 100-8907, Japan
Tel: +81-(0)3-6744-2367
Fax: +81-(0)3-3502-0571

Kazuo Hiraishi

Director
Overseas Fisheries Cooperation Office
International Affairs Division
Fisheries Agency
Ministry of Agriculture, Forestry and Fisheries
1-2-1, Kasumigaseki, Chiyoda-ku
Tokyo 100-8907, Japan
Tel: +81-(0)3-6744-2367
Fax: +81-(0)3-3502-0571
E-mail: hiraisi@nm.maff.go.jp

Takeshi Miwa

Assistant Director, International Affairs Division
Fisheries Agency
Ministry of Agriculture, Forestry and Fisheries
1-2-1, Kasumigaseki, Chiyoda-ku
Tokyo 100-8907, Japan
Tel: +81-(0)3-6744-2367
Fax: +81-(0)3-3502-0571
E-mail: takeshi_miwa@nm.maff.go.jp

Midori Kuwahara (Ms.)

Technical Official, International Affairs Division
Fisheries Agency
Ministry of Agriculture, Forestry and Fisheries
1-2-1, Kasumigaseki, Chiyoda-ku
Tokyo 100-8907, Japan
Tel: +81-(0)3-6744-2367
Fax: +81-(0)3-3502-0571
E-mail: midori_shinzawa@nm.maff.go.jp

Teruo Kitade

Technical Official, International Affairs Division
Fisheries Agency
Ministry of Agriculture, Forestry and Fisheries
1-2-1, Kasumigaseki, Chiyoda-ku
Tokyo 100-8907, Japan
Tel: +81-(0)3-6744-2367
Fax: +81-(0)3-3502-0571

Wataru Arie

Secretary
Ministry of Agriculture, Forestry and Fisheries
1-2-1, Kasumigaseki, Chiyoda-ku
Tokyo 100-8907, Japan
Tel: +81-(0) 3-6744-2367
Fax: +81-(0)3-3502-0571
E-mail: wataru_arie@nm.maff.go.jp

Yoko Yamakage (Ms.)

Interpreter
Fisheries Agency
Ministry of Agriculture, Forestry and Fisheries
1-2-1, Kasumigaseki, Chiyoda-ku
Tokyo 100-8907, Japan
Tel: +81-(0)3-6744-2367
Fax: +81-(0)3-3502-0571
E-mail: yoyo_yama@ybb.ne.jp

Kaoru Kawamoto (Ms.)

Interpreter
Fisheries Agency
Ministry of Agriculture, Forestry and Fisheries
Fisheries Agency
1-2-1, Kasumigaseki, Chiyoda-ku
Tokyo 100-8907, Japan
Tel: +81-(0)3-6744-2367
Fax: +81-(0)3-3502-0571

Lao PDR

Bounkhouang Khambounheuang (Dr.)

Director-General
Department of Livestock and Fisheries
P.O. Box 6644, Vientiane LAO PDR
Tel: +856-21-215243 Fax: +856-21-215141
E-mail: lao_dlfmaf@yahoo.com

Bounthong Saphakdy

Director of Fisheries Division
Department of Livestock and Fisheries
P.O. Box 6644, Vientiane LAO PDR
Tel: +856-21-215243 Fax: +856-21-215141
E-mail: saphakdy@yahoo.com

Akhane Phomsouvanh

Deputy Director, Fisheries Division
Department of Livestock and Fisheries
P.O. Box 6644, Vientiane LAO PDR
Tel: +856-21-215243 Fax: +856-21-215141
E-mail: akhane@live.com

Malaysia

Shamsul Akbar Sulaiman

Principal Assistant Secretary
Ministry of Agriculture & Agro-Based Industry
Wisma Tani, No.28, Persiaran Perdana,
Presint 4, 62624 Putrajaya, Malaysia
Tel: +60388701213
Fax: +60388888548
Email: shamsul@moa.gov.my

Raihan Bih Sharif

Deputy Secretary General
Ministry of Agriculture & Agro-Based Industry
Wisma Tani, No.28, Persiaran Perdana,
Presint 4, 62624, Putrajaya, Malaysia
Tel: +60388701000
Fax: +60388888171
Email: raihan@moa.gov.my

Azini Mohd Shahid

Under Secretary
Ministry of Agriculture & Agro-Based Industry
Wisma Tani, No.28, Persiaran Perdana,
Presint 4, 62624 Putrajaya, Malaysia
Tel: +60388701763
Fax: +6038870 1792
Email: azini@moa.gov.my

Mohammad Safie Bin Asnan, Dató

Senior Officer of Minister's Office
Ministry of Agriculture & Agro-Based Industry
Wisma Tani, No.28, Persiaran Perdana,
Presint 4, 62624 Putrajaya, Malaysia
Tel: +60388701763
Fax: +6038870 1792
Email: safie@moa.gov.my

Ahamad Sabki Bin Mahmood, Dató

Director-General of Fisheries Malaysia
Department of Fisheries Malaysia
Level 2, Tower Block 4G2, Wisma Tani, Presinct
4, Federal Government Administration Centre,
62628 Putrajaya, Malaysia
Tel: 6-03-88704008
Fax: 6-03-88892460
Email: ahamadsabki@dof.gov.m

Muez Bin Abdul Aziz, Dató

Under Secretary
Ministry of Agriculture & Agro-Based Industry
Wisma Tani, No.28, Persiaran Perdana, Presint 4,
62624
Putrajaya, Malaysia
Tel: +6038870 1763
Fax: +6038870 1792
Address: muez@moa.gov.my

Myanmar

Win Myint Maung

Director
Fish Inspection and Quality Control Division
Department of Fisheries
Ministry of Livestock and Fisheries
West Gyo Gone, Insein Township
Yangon, Myanmar
Tel: +95 860 2471 Fax: +95 1 647519
E-mail: dpfish@myanmar.com.mm

Khin Maung Soe

Deputy Director
Department of Fisheries
West Gyogone, Bayinnaung Road
Insein Township, Yangon, Myanmar
Tel: +95 1 647536 Fax: +95 1 647519
E-mail: aquadof10@gmail.com

Tint Swe

Deputy Director
Department of Fisheries
West Gyogone, Bayinnaung Road
Insein Township, Yangon, Myanmar
Tel: +95 1 647536 Fax: +95 1 647519
E-mail: dof.tintswe@gmail.com

Myint Pe

Assistant Director
Department of Fisheries
West Gyogone, Bayinnaung Road
Insein Township, Yangon, Myanmar
Tel: +95 1 647536 Fax: +95 1 647519
E-mail: myintpe@myanmar.com.mm

Philippines

Atty. Asis G. Perez

Director
Bureau of Fisheries & Aquatic Resources
PCA Building, Elliptical Road
Diliman Quezon City, Philippines
Tel: +63 2 929 9597 Fax: +63 2 929 8074
E-mail: aperez@bfar.da.gov.ph

Benjamin Tabios, Jr. (Atty.)

Assistant Director for Administrative Services
Bureau of Fisheries & Aquatic Resources
PCA Building, Elliptical Road
Diliman Quezon City, Philippines
Tel: +63 2 929 8390 Fax: +63 2 929 8390
E-mail: btabios@bfar.da.gov.ph

Singapore

Tan Poh Hong (Ms.)

Chief Executive Officer
Agri-Food & Veterinary Authority of Singapore
5 Maxwell Road, #04-00, Tower Block
MND Complex, Singapore 069110
Tel: +65 6325 7530 Fax: +65 6220 6068
E-mail: Tan_Poh_Hong@ava.gov.sg

Tan-Low Lai Kim (Ms.)

Director of Food Supply Resilience
Agri-Food & Veterinary Authority of Singapore
5 Maxwell Road, #04-00, Tower Block, MND
Complex, Singapore 069110
Tel: +65 6325 7604 Fax: +65 6220 6068
E-mail: Tan-Law_Lai_Kim@ava.gov.sg

Melvin Chow Wing Chung

Deputy Director
Planning & Management (Food Supply)
Agri-Food & Veterinary Authority of Singapore
5 Maxwell Road, #04-00, Tower Block
MND Complex, Singapore 069110
Tel: +65 6325 7635 Fax: +65 6220 6068
E-mail: Melvin_Chow@ava.gov.sg

Thailand

Jirawan Yamprayoon (Dr.)

Inspector-General
Ministry of Agriculture and Cooperatives
3 Ratchadamnoen Nok Road
Bangkok 10200, Thailand
Tel: +66 2 2823548 Fax: +66 2 2813741
E-mail: jirawan@moac.go.th

Nanthiya Unprasert (Dr.)

Deputy Director-General
Department of Fisheries
Kasetsart Klang, Chatuchak
Bangkok 10900, Thailand
Tel: +66 2 5620526 Fax: +66 2 5798094
E-mail: nanthiyau@gmail.com

Waraporn Prompoj (Dr.)

Senior Expert on International Fisheries Affairs
Department of Fisheries
Kasetsart Klang, Chatuchak
Bangkok 10900, Thailand
Tel: +66 2 5620540 Fax: +66 2 5620571
E-mail: wprompoj@yahoo.com

Varin Tanasomwang (Dr.)

Director
Coastal Fisheries Research and Development
Bureau
Department of Fisheries
Kasetsart Klang, Chatuchak
Bangkok 10900, Thailand
Tel: +66 2 5614759 Fax: +66 2 5792422
E-mail: varin_tana@hotmail.com

Manoch Roongtratri

Director
Marine Fisheries Research and Development
Bureau
Department of Fisheries
Kasetsart Klang, Chatuchak
Bangkok 10900, Thailand
Tel: +66 2 5620542 Fax: +66 2 5620543

Malinee Smithrithee (Ms.)

Director
Fisheries Foreign Affairs Division
Department of Fisheries
Kasetsart Klang, Chatuchak
Bangkok 10900, Thailand
Tel: +66 2 5798215 Fax: +66 2 5798215
E-mail: malinee_pom@hotmail.com

Krissana Sukhumparnich (Ms.)

Senior Food Technologist
Fish Inspection and Quality Control Division
Department of Fisheries
Kasetsart Klang, Chatuchak
Bangkok 10900, Thailand
Tel: +66 2 5580150 Fax: +66 2 5580136
E-mail: krissana_s@yahoo.com

Chuanpid Chantarawarathit (Ms.)

Senior Fisheries Biologist
Fisheries Foreign Affairs Division
Department of Fisheries
Kasetsart Klang, Chatuchak
Bangkok 10900, Thailand
Tel: +66 2 5798214 Fax: +66 2 5797939
E-mail: ch_chuanpid@yahoo.com

Preyanat Thiabratana (Ms.)

Policy and Plan Analyst
Bureau of Foreign Agricultural Affairs
Ministry of Agriculture and Cooperatives
3 Ratchadamnoen Nok Road,
Bangkok 10200, Thailand
Tel: +66 2 2823548 Fax: +66 2 2813741
E-mail: preyanatpu@yahoo.com

Vietnam

Chu Tien Vinh

Deputy Director-General
Fisheries Administration
Ministry of Agriculture and Rural Development
10 Nguyen Cong Hoan, Ba Dinh
Hanoi, Vietnam
Tel: +84 437245374 Fax: +84 43724374

Nguyen Viet Manh

Director
International Cooperation Department
Fisheries Administration
Ministry of Agriculture and Rural Development
10 Nguyen Cong Hoan, Ba Dinh, Hanoi, Vietnam
Tel: +84 437245374 Fax: +84 43724374
E-mail: manhnv.htqt@mard.gov.vn

Nguyen Thi Trang Nhung (Ms.)

Deputy-Director
International Cooperation Department
Fisheries Administration
Ministry of Agriculture and Rural Development
10 Nguyen Cong Hoan, Ba Dinh, Hanoi, Vietnam
Tel: +84 437245374 Fax: +84 43724374
E-mail: trangnhung73@yahoo.com

Nguyen Thi Hong Nhung (Ms.)

Deputy-Head
Global Integration Division
Fisheries Administration
Ministry of Agriculture and Rural Development
10 Nguyen Cong Hoan, Ba Dinh, Hanoi, Vietnam
Tel: +84 437245374 Fax: +84 43724374
E-mail: nhung.doa@gmail.com

Dinh Thi Thanh Huyen (Ms.)

Deputy-Head
Global Integration Division
International Cooperation Department
Ministry of Agriculture and Rural Development
10 Nguyen Cong Hoan, Ba Dinh, Hanoi, Vietnam
Tel: +84 437347082 Fax: +84 437330752
E-mail: huyendtt@mard.gov.vn

ASEAN Secretariat

Sundram Pushapanathan

Deputy Secretary General
ASEAN Economic Community Department
The ASEAN Secretariat
70A Jalan Sisingamangaraja
Jakarta 12110, Indonesia
Tel: +62 21 726 2991 Ext. 249
Fax: +62 21 739 8234
E-mail: nathan@asean.org

Somsak Pipoppinyo (Dr.)

Director
Finance Industries and Infrastructure
Directorate
ASEAN Economic Community Department
The ASEAN Secretariat
70A Jalan Sisingamangaraja
Jakarta 12110, Indonesia
Tel: +62-21-726-2991 ext. 396
Fax: +62-21-739-8234
E-mail: somsak@aseansec.org

Suriyan Vichitlekarn

Assistant Director and Head
Agriculture Industries & Natural Resources
ASEAN Economic Community Department
The ASEAN Secretariat
70A Jalan Sisingamangaraja
Jakarta 12110, Indonesia
Tel: +62 (21) 7243372, 7262991 Ext. 367
Fax: +62 (21) 7398234, 7243504
E-mail: suriyan@asean.org

Pouchamarn Wongsanga (Ms.)

Senior Officer
Agriculture Industries & Natural Resources
ASEAN Economic Community Department
The ASEAN Secretariat
70A Jalan Sisingamangaraja
Jakarta 12110, Indonesia
Tel: +62 21 726 2991 Ext. 484
Fax: +62 21 739 8234
E-mail: pouchamarn.w@asean.org

Anita Setyorini (Ms.)

Technical Officer
Agriculture Industries & Natural Resources
ASEAN Economic Community Department
The ASEAN Secretariat
70A Jalan Sisingamangaraja
Jakarta 12110, Indonesia
Tel: +62 (21) 7262991 ext 802
Fax: +62 (21) 7398234/7243504
E-mail: anita.setyorini@asean.org

SEAFDEC

Chumnarn Pongsri (Dr.)

Secretary-General
SEAFDEC Secretariat
P.O. Box 1046, Kasetsart Post Office
Bangkok 10903, Thailand
Tel: +66 2 9406326 Fax: +66 2 9406336
E-mail: sg@seafdec.org

Kenji Matsumoto

Deputy Secretary-General
SEAFDEC Secretariat
P.O. Box 1046, Kasetsart Post Office
Bangkok 10903, Thailand
Tel: +66 2 9406326 Fax: +66 2 9406336
E-mail: dsg@seafdec.org

Magnus Torell (Dr.)

Senior Advisor
SEAFDEC Secretariat
P.O. Box 1046, Kasetsart Post Office
Bangkok 10903, Thailand
Tel: +66 2 9406326 Fax: +66 2 9406336
E-mail: magnus@seafdec.org

Somboon Siriraksophon (Dr.)

Policy and Program Coordinator
SEAFDEC Secretariat
P.O. Box 1046, Kasetsart Post Office
Bangkok 10903, Thailand
Tel: +66 2 9406326 Fax: +66 2 9406336
E-mail: somboon@seafdec.org

Somnuk Pornpatimakorn

Administration and Finance Coordinator
SEAFDEC Secretariat
P.O. Box 1046, Kasetsart Post Office
Bangkok 10903, Thailand
Tel: +66 2 9406326 Fax: +66 2 9406336
E-mail: somnuk@seafdec.org

Nualanong Tongdee (Ms.)

Information Program Coordinator, *a.i.*
SEAFDEC Secretariat
P.O. Box 1046, Kasetsart Post Office
Bangkok 10903, Thailand
Tel: +66 2 9406326 Fax: +66 2 9406336
E-mail: nual@seafdec.org

Tadahiro Kawata

Technical Coordinator
SEAFDEC Secretariat
P.O. Box 1046, Kasetsart Post Office
Bangkok 10903, Thailand
Tel: +66 2 9406326 Fax: +66 2 9406336
E-mail: kawata@seafdec.org

Akito Sato

Assistant Trust Fund Manager
SEAFDEC Secretariat
P.O. Box 1046, Kasetsart Post Office
Bangkok 10903, Thailand
Tel: +66 2 9406326 Fax: +66 2 9406336
E-mail: sato@seafdec.org

**SUMMARY RECORD OF THE SENIOR OFFICIALS MEETING (FSOM) PLUS THREE
FOR THE ASEAN-SEAFDEC CONFERENCE**

**Senior Officials Meeting (FSOM) Plus Three
ASEAN-SEAFDEC Conference on Sustainable Fisheries for Food Security Towards 2020
“Fish for the People 2020: Adaptation to a Changing Environment”**

INTRODUCTION

1. The Senior Officials Meeting (FSOM) Plus Three for the ASEAN-SEAFDEC Conference on Sustainable Fisheries for Food Security Towards 2020 “Fish for the People 2020: Adaptation to a Changing Environment” was held on 16 June 2011 in Bangkok, Thailand.

2. The Meeting was attended by Hajah Normah S.H. Jamil, Deputy Permanent Secretary, Ministry of Industry and Primary Resources, Brunei Darussalam; Dr. Endhay Kusnendar, Director-General of Marine and Fisheries Research and Development Agency, Indonesia; Dr. Bounkhouang Khambounheuang, Director-General, Department of Livestock and Fisheries, Lao PDR; Mr. Raihan Bih Sharif, Deputy Secretary General, Ministry of Agriculture and Agro-Based Industry, Malaysia; Mr. Win Myint Maung, Director of Fish Inspection and Quality Control Division, Department of Fisheries, Ministry of Livestock and Fisheries, Myanmar; Atty. Asis G. Perez, Director, Bureau of Fisheries & Aquatic Resources, Philippines; Ms. Tan Poh Hong, Chief Executive Officer, Agri-Food&Veterinary Authority, Singapore; Dr. Jirawan Yamprayoon, Inspector General of Ministry of Agriculture and Cooperatives, Thailand; Mr. Chu Tien Vinh, Deputy Director-General, Fisheries Administration Ministry of Agriculture and Rural Development, Vietnam; Mr. Akira Inoue, Director-General, Resource Management Department, Fisheries Agency of Japan, Ministry of Agriculture, Forestry and Fisheries, Japan; and Dr. Somsak Pipoppinyo, Director, Finance, Industry and Infrastructure Directorate, ASEAN Economic Community (AEC) Department, the ASEAN Secretariat and their respective delegations. Dr. Chumnarn Pongsri, Secretary-General of SEAFDEC and their representatives were also attended.

Agenda Item 1: OPENING OF THE MEETING

3. Dr. Jirawan Yamprayoon, Inspector General of Ministry of Agriculture and Cooperatives, Thailand, in her capacity of the host country of the Meeting delivered the Opening Statement. She welcomed the Senior Officials from the ASEAN-SEAFDEC Member States and their delegations to the Meeting and reiterated the objectives and importance of the Meeting as a forum for policy and cooperation dialogue among ASEAN and the Plus Three Countries (China, Japan and Republic of Korea).

4. Dr. Jirawan Yamprayoon, Inspector General of Ministry of Agriculture and Cooperatives, Thailand; and Dr. Endhay Kusnendar, Director-General of Marine and Fisheries Research and Development Agency, Indonesia were unanimously elected as Chairman and Vice-Chairman of the FSOM Plus Three for the “ASEAN-SEAFDEC Conference on Sustainable Fisheries for Food Security Towards 2020: Fish for the People 2020: Adaptation to a Changing Environment”, respectively.

Agenda Item 2: ADOPTION OF THE AGENDA AND BUSINESS ARRANGEMENTS

5. The Meeting adopted the agenda.

Agenda Item 3: ASEAN PLUS THREE COOPERATION IN FISHERIES: OVERVIEW AND PROSPECTS

1. ASEAN PLUS THREE COOPERATION IN FISHERIES: OVERVIEW AND PROSPECTS

6. The Meeting took note of the summary outcomes of the Conference Technical Session that was presented by SEAFDEC Secretariat.

7. The ASEAN Secretariat introduced the Overview and Prospects of the ASEAN Plus Three Cooperation in Fisheries to the Meeting. The ASEAN Plus Three (APT) Cooperation began in December 1997.

The ASEAN Plus Three cooperation on food, agriculture and forestry was formalised at the 1st AMAF Plus Three Meeting on 5 October 2001 in Medan, Indonesia. The aim of the cooperation is to strengthen policy dialogues, coordination and collaboration on food, agriculture and forestry issues of common interest.

8. The ASEAN Plus Three Cooperation Strategy (APTCS) on Food, Agriculture and Forestry endorsed at the 10th AMAF Plus Three that was held on 24 October 2010 in Phnom Penh. The APTCS covers the period of 2011-2015 in order to provide a cooperation framework as a basis for medium-term project identification, formulation, implementation and evaluation. The goal of the APTCS is to ensure long-term food security and to improve the livelihoods of farmers in the ASEAN and Plus Three Countries.

9. Fisheries as an important sector of the ASEAN Member States, China, Japan and Republic of Korea in economic, social and ecological dimension, has been included as part of national development agenda and regional cooperation to ensure sustainable development and safeguarding the sector's interests and uniqueness in international negotiation. The ASEAN Plus Three Cooperation in Fisheries will enhance the overall ASEAN Plus Three relations as well as bring the profiles of the sector into a whole new level as part of the efforts in promoting Asia's economic integration and cooperation ensuring sustainable development and attaining the Millennium Development Goals (MDGs).

10. The Meeting was informed that the SOM-10th AMAF Plus Three held on 22 October 2010 in Phnom Penh commended and supported the initiatives proposed by ASEAN and SEAFDEC in conducting the Conference on "Sustainable Fisheries for Food Security Towards 2020" to be held in June 2011 and its preparatory process. The Conference is viewed as a strategic opportunity to facilitate policy and cooperation dialogue between the ASEAN Member States and the Plus Three Countries to support long-term cooperation and partnership of AMAF Plus Three cooperation in fisheries.

11. The Meeting took note on propose potential areas for fisheries cooperation and mechanism under the ASEAN Plus Three Cooperation Framework in support the promotion of sustainable fisheries for food security.

12. With regard to potential areas of cooperation with ASEAN on sustainable fisheries for food security, the Meeting took note on the remarks by Japan, which stressed the importance of fisheries in Southeast Asia and the important role of the ASEAN Countries in fisheries at international level. Japan also highlighted its cooperation with ASEAN in fisheries through the Southeast Asian Fisheries Development Center (SEAFDEC). In the concluding remarks, Japan expressed its intention of continuously cooperation with ASEAN in fisheries through SEAFDEC to ensure sustainable development of fisheries for food security in the ASEAN Region. Japan also showed its willingness to jointly cooperate with the ASEAN Countries, China and Republic of Korea (ROK) in international/regional organizations such as FAO, RFMOs and CITES to encourage the international discussion for achieving sustainable utilization of the marine products which are important food resources.

Agenda Item 4: CONCLUSION AND RECOMMENDATIONS ON FUTURE COOPERATION

13. Based on views and suggestions expressed by the by ASEAN Member States and the Plus Three Countries, the Chairman summarised key conclusion and recommendations on future cooperation of ASEAN and the Plus Three Countries on sustainable fisheries for food security. The Meeting agreed to support the implementation of the "Resolution and Plan of Action on Sustainable Fisheries for Food Security for the ASEAN Region Towards 2020." In reference to APTCS and the Resolution and Plan of Action, the ASEAN Plus Three Countries could identify priority areas of cooperation, which include:

- Fisheries planning and information – improvement and exchange of fisheries information;
- Fisheries management – strengthening and sharing of national fisheries policy and regulatory frameworks, adoption of eco-system based management and co-management approaches, strengthening fisheries communities and supporting initiatives;
- Marine fisheries – combating Illegal, Unreported and Unregulated (IUU) fishing through strengthening of monitoring, control and surveillance (MCS), minimizing by-catch and reducing discards in fishing;
- Inland fisheries – promoting multiple water resource use planning and management;
- Aquaculture – development of good aquaculture practices, prudent use of veterinary drugs and chemical in aquaculture, environmentally friendly farming, broodstock and seed development, aquatic disease diagnostic and control, development of SME aqua-farms, technological development for productivity and product safety;
- Optimal utilization of fish and fishery products – reduction of post-harvest losses, quality and safety assurance systems in fish and fish products;

- Fish trade – promoting public-private partnership in fisheries; and
- Regional and international policy formulation - development of joint approaches in fisheries related issues discussed in relevant international fora.

14. The Meeting took note the suggestion that the views expressed by ASEAN Member States and the Plus Three Countries during the Meeting be considered as initial starting points for closer partnership of ASEAN Plus Three Cooperation in Fisheries. Furthermore, necessary follow-up actions could be made during future meetings of SOM-AMAF Plus Three.

15. To close the Meeting, the Chairman on behalf of the Ministry of Agriculture and Cooperative extended the grateful appreciation to all distinguished delegates, especially the delegates from the ASEAN Plus Three for their cooperation. She hope that ASEAN and Plus Three Countries could further strengthen cooperation in fisheries to ensure the well being of our fishers and people, as well as contributing to achieve sustainable fisheries for food security of ASEAN and Plus Three countries.

REPORT OF THE OUTPUTS FROM THE CONFERENCE TECHNICAL SESSION

by *Dr. Chumnarn Pongsri*

Secretary-General, Southeast Asian Fisheries Development Center

**Senior Officials Meeting (FSOM) Plus Three
ASEAN-SEAFDEC Conference on Sustainable Fisheries for Food Security Towards 2020
“Fish for the People 2020: Adaptation to a Changing Environment”**

Your Excellencies

The Representative from the ASEAN Secretariat, Dr. Somsak Pipoppinyo, on behalf of the Secretary-General of the ASEAN Secretariat,

Distinguished senior officials and delegates from the ASEAN Plus Three countries,

Ladies and Gentlemen, Good afternoon!

As the Secretary-General of the Southeast Asian Fisheries Development Center, and the Chair of the Technical Session of the ASEAN-SEAFDEC Conference on Sustainable Fisheries for Food Security Towards 2020 “Fish for the People 2020: Adaptation to a Changing Environment”, I have the honour to present the report of the outputs of the Technical Sessions held as a part of the Conference from 13 to 16 June 2011.

Your Excellencies,

Please allow me also to inform you that the Technical Sessions were organized with the objective of reviewing the fisheries situation and emerging issues that could impede sustainable fisheries development and tend to hinder the contribution of fisheries to food security and affect the well-being of people in the Southeast Asian region as well as identifying the key conclusions and recommendations that could address those issues and concerns. More than 530 participants and resource persons including those from international, regional organizations, institutions, government agencies, and stakeholders from 23 countries around the world attended to the Technical Sessions. With sustainability of fisheries for food security in the ASEAN region as the main focus of the discussions and deliberations, the outputs of the technical sessions which could be grouped into 8 thematic areas, are summarized as follows:

1) ENHANCING GOVERNANCE IN FISHERY MANAGEMENT

In order to strengthen the capacity of ASEAN countries to achieve sustainable fisheries over the next decade it has become necessary for the countries to strengthen their fisheries governance by evaluating the current constraints and accommodating international concerns. Governments should therefore address the priority issues in fisheries governance such as over-capacity and effective governance arrangement that support the coexistence of small-scale and large-scale fisheries taking into consideration the fact that governance of these two types of fisheries should be approached from the holistic point of view and going beyond management of fisheries but other livelihood opportunities and calling for a broad framework like integrated coastal.

Co-management is necessary as the common focus of management to ensure wider participation and increase the potential ability of the resource utilization, where the development of new institutional and organizational arrangements for co-management is necessary. The movement of the ASEAN towards a building single ASEAN community further necessitates the strengthening of governance mechanisms within the fisheries sector in the ASEAN countries. Thus, governments should move away from directive-based management to consultative management leading to a more open, accountable, transparent and autonomous management process.

2) SUSTAINABLE AQUACULTURE DEVELOPMENT

Aquaculture production has grown progressively over the last two decades while at the same time capture fisheries production has declined or stagnated, but the inter-dependence of these two fisheries sectors is further illustrated by the growing demand for fish meal and fish oil in the production of aquafeeds. This demand issue could be addressed by implementing efficient feed management to reduce feed cost by as much as 50% and consequently reduce environmental impact.

Thus, there is the need for enabling policies for aquaculture operations especially those by the small-holder farmers to adopt better aquaculture practices. Governments should also be engaged in the development of high health and diseases resistant broodstock to facilitate access of good quality seeds by small-scale farmers. The countries should also support the coordinated regional initiatives that will continuously monitor new and emerging diseases in order to prevent and control serious disease outbreaks.

3) ECOSYSTEM APPROACH TO FISHERIES

There has been a growing awareness of the need for fisheries related activities to be undertaken in a more environmental sensitive manner that minimizes the undesirable environmental consequences of fishing practices. Ecosystem approach to fisheries management has been seen as means to minimize habitat damage, changes in food chains in natural ecosystems, and loss of biological diversity. Governments should therefore integrate ecosystem approach in the management of the fisheries sector, promote networking and develop plans of action on the reduction of impacts of fishing on the environment, and develop and establish inter-agency collaboration (fisheries, environment, tourism) as well as within fisheries agency cooperation to promote the concept of ecosystem approach to fisheries in the ASEAN region. Recognize the value of "local commons" to work towards improving habitat and fish production where "front of sea is one's own garden under one's responsibility, and fish is one's own property to be conserved for next generation".

4) POST-HARVEST AND SAFETY OF FISH AND FISHERIES PRODUCTS

To ensure the optimal utilization of fish catch and the safety of fish and fisheries products for consumers and for export, all countries would have to invest in the development of appropriate infrastructure as well as safe and wholesome fish and fisheries production based on the application of effective control and production procedures at all levels along the chain of production from catch to the consumer. This would involve cooperation among all relevant government authorities and working with producers at all levels from small-scale fishers to large-scale commercial enterprises.

5) EMERGING REQUIREMENTS FOR TRADE OF FISH AND FISHERY PRODUCTS

The emerging issues that affect international fish trade had been increasing. These include globalization of trade with focus on consumer protection considering the much greater movement of goods and services both within the region and globally, requirements of sustainability of fisheries and aquaculture production considering the adverse environmental impacts of fisheries related activities and the quality of food and food products derived from the fisheries sector, and effects of climate change. Compliance to the quality and safety standards and requirements with consistency becomes an obligation to be able continue trading fish and fish products. For the ASEAN region, such standards and requirements should be harmonized considering equivalence, including equal application of tariffs to all ASEAN countries in order that the countries in the ASEAN region could continue providing huge quantity of fish and fisheries products in the world market as well as sustain the competitive position of ASEAN fish and fishery products in the world markets.

6) ADAPTATION TO CLIMATE CHANGE

Considerable international attention has focused on the potential impacts of climate change and the need for countries to adapt to changing climates in the future. Despite such attention the scientific ability to predict future changes in weather, climate and ocean circulation is limited and the nature of potential impacts on fish stocks and the ecosystems upon which they depend is thus even more difficult to foresee. Governments should therefore address the need to ensure that fisheries aspects are incorporated in the national action plans on response to climate change and integrate climate change into fisheries policy and habitat management program framework, and build up adaptive capacity of people dependent and involved in fisheries-related activities to cope with changing environment, including effects caused by climate change.

7) LIVELIHOOD AMONG FISHING COMMUNITIES AND PROSPECTS OF EMPLOYMENT IN FISHERIES RELATED ACTIVITIES

The decreasing trends of catch in many small-scale fisheries and overcapacity of the fishing fleet, would oblige the ASEAN governments to integrate policy for livelihood improvement at the local (households) to national levels with overall water resource planning strategy and development programs, and support

directions for diversification of community-based livelihoods in fishing communities within (fish processing) and outside fisheries (textile/batik, local business, microfinance) while maintaining sustainable use of resources. Governments should also recognize and improve the social aspect of fishery modernization (choice of technology, labor access to capital and credit access to fishing ground), and promote equity including gender equity, sustainability of human well-being, respect for human rights, welfare those who are dependent on fisheries. Thus, the regional guidelines on decent work in fisheries sector as well as on labor standards and practices should be formulated to manage both national and migrant workers working onboard vessels. There is also the need to promote and ensure that safety at sea aspects are addressed by governments and incorporated in policies while monitoring and control of the status and use of small-scale fishing vessels should be improved.

8) SUSTAINING FOOD SUPPLY FROM INLAND FISHERIES

Inland capture fisheries play a significant role in food security both in urban and rural areas of ASEAN countries and these resources are likely to come under increasing pressure in the future due to the increasing population in the region. Inland fisheries should therefore be given more attention to ensure local food security in the rural areas. Governments should therefore identify appropriate management strategies for inland fisheries development and align these with national poverty alleviation approaches, strengthen collaboration among concerned agencies to maintain the ecological health of water bodies and the connectivity of the habitats, and promote alternative livelihood especially during seasonal flooding/drought. Promote, in policy development as well as in practice, the rights-based approach in fisheries that goes beyond mere access limits, basing development strategies on peoples' claims to their basic entitlements, such as enough food, decent work, freedom from oppression and the right to a dignified life

Your Excellencies, Ladies and Gentlemen,

SEAFDEC would like to assure that the key recommendations covering eight thematic areas as mentioned earlier are very useful towards the sustainable development of fisheries for food security in the next decade. On behalf of SEAFDEC, I therefore would like to thank to ASEAN-SEAFDEC Member Countries for their active contribution during the deliberations at the Technical Sessions. Recognizing that the Resolution and the Plan of Action are important instruments providing policy and direction in channeling the future undertakings of fisheries development in the ASEAN region, SEAFDEC believed that the outputs from the Technical Sessions would be useful for the discussion of the "Resolution and Plan of Action on Sustainable Fisheries for Food Security for the ASEAN Region Towards 2020", and specifically for the subsequent endorsement of these instruments. Thank you very much.

REMARKS

By *Mr. Akira Inoue*

Head Delegate of Japan

Director-General, Resource Management Department, Fisheries Agency, Japan

**Senior Officials Meeting (FSOM) Plus Three
ASEAN-SEAFDEC Conference on Sustainable Fisheries for Food Security Towards 2020
“Fish for the People 2020: Adaptation to a Changing Environment”**

I am very pleased to attend this important meeting regarding the fishery development of Southeast Asia and have an opportunity to exchange opinions with the representatives of the ASEAN Member Countries, China and the South Korea.

The fishery production of the Southeast Asian region shares almost 20% of that of the whole world and the level of consumption of marine products in the region is high where many people make their living in activities closely related to fishery. Consequently, the ASEAN countries are major players in the world fishery and it is extremely important to keep on developing the fishery of this region according to the international rules.

Japan has been conducting various cooperation activities for the development of fishery in Southeast Asia, such as the multilateral cooperation through SEAFDEC and the bilateral technical cooperation by JICA, as well as the joint study and research between the fishery related organizations in the region and research institutes of our country. I am sure that these long-term cooperation of Japan has been contributing to the present development of sustainable fishery of the Southeast region and we are very much pleased with it.

Japan considers it important to sustainably utilize the fishery resources based on the scientific data and we would like to continuously cooperate with SEAFDEC and the ASEAN countries under this understanding.

We would also like to jointly work and cooperate with the ASEAN countries, China and South Korea as well as with international organizations such as FAO, RFMO and CITES to encourage international discussions about the approaches for the realization of appropriate and adequate utilization of fisheries products as food.

Taking this opportunity, please allow me to talk about the Eastern Japan Earthquake which hit our country on March 11th. After the earthquake, the ASEAN countries extended to us warm words of encouragement and gave assistance for the affected populace. I would like to extend our deepest gratitude to the ASEAN countries for such gestures and support.

The Government of Japan has acquired the necessary budget for the ongoing recovery works in the devastated areas and is struggling towards the reconstruction of the quake-hit areas with utmost effort.

As for the accident of Fukushima No.1 Nuclear Power Plant, our country is doing its best to strictly secure the safety of the food products.

Presently, we are conducting wide range monitoring of the level of radioactive materials contained in the targeted fisheries products in the eastern part of Japan. The result of the monitoring shows that the fisheries products whose radioactive material level is beyond the regulatory value are very limited to those which are caught around the crippled nuclear plant. Once the level of the radioactive materials surpasses the regulatory value, relevant measures are being undertaken such as the suspension of the relevant fishing operations, which can be resumed only when the result of monitoring in three consecutive weeks shows level that under the regulatory value.

Also, we are securing the safety of our export products and we appreciate for the non-emotional reaction from the countries concerned.

During this meeting, we are distributing the papers about the safety of Japanese marine products in the Exhibition Booth of Japan, so please do stop by and pick up the brochure for your reference. Thank you very much to you all.

ASEAN PLUS THREE COOPERATION IN FISHERIES: OVERVIEW AND PROSPECTS

Senior Officials Meeting (FSOM) Plus Three ASEAN-SEAFDEC Conference on Sustainable Fisheries for Food Security Towards 2020 “Fish for the People 2020: Adaptation to a Changing Environment”

Introduction

1. The ASEAN Plus Three (APT) cooperation began in December 1997. After having been institutionalized in 1999, the APT Leaders expressed greater resolve and confidence in further strengthening and deepening East Asia cooperation, particularly in economic, social, political, and other issues of common concern, including food, agriculture (crops, fisheries and livestock) and forestry.
2. The ASEAN Plus Three cooperation on food, agriculture and forestry was formalised at the 1st AMAF Plus Three Meeting on 5 October 2001 in Medan, Indonesia. AMAF Plus Three cooperation aims at strengthening policy dialogue, coordination and collaboration on food, agriculture and forestry issues of common interest.
3. After ten years of cooperation, the 10th AMAF Plus Three held on 24 October 2010 in Phnom Penh endorsed the ASEAN Plus Three Cooperation Strategy on Food, Agriculture and Forestry, covering the period of 2011-2015 in order to provide a cooperation framework as a basis for medium-term project identification, formulation, implementation and evaluation. The goal of the APTCS is to ensure long-term food security and to improve the livelihoods of farmers in the ASEAN and Plus Three Countries.
4. It should be firstly noted that fisheries is an important sector of the ASEAN Member States, China, Japan and Republic of Korea in terms of economic, social and ecological dimension.
5. Over the past ten years, fisheries related initiatives have been conducted under the AMAF Plus Three Cooperation. With the endorsement of the AMAF Plus Three, the APTCS could form an umbrella for identifying relevant fisheries initiatives of common interests.
6. The SOM-10th AMAF Plus Three held on 22 October 2010 in Phnom Penh commended and supported the initiatives proposed by ASEAN and SEAFDEC in conducting a “Conference on Sustainable Fisheries for Food Security towards 2020” to be held in June 2011 and its preparatory process. The Conference is viewed as a strategic opportunity to facilitate policy and cooperation dialogue between the ASEAN Member States and the Plus Three Countries to support long term cooperation and partnership of AMAF Plus Three cooperation in fisheries.

I. Conclusion and Recommendations

7. In view of promoting closer cooperation in fisheries under the AMAF Plus Three, SOM-AMAF Plus Three agreed to the following conclusion and recommendations:
 - To support the implementation of the “Resolution and Plan of Action on Sustainable Fisheries for Food Security for the ASEAN Region Towards 2020.” By making reference to both APTCS and the Resolution and Plan of Action, ASEAN Plus Three Countries could identify priority areas of cooperation;
 - Initial areas of cooperation could include the following:
 - Fisheries planning and information – improvement and exchange of fisheries information;
 - Fisheries management – strengthening and sharing of national fisheries policy and regulatory frameworks, adoption of eco-system based management and co-management approaches, strengthening fisheries communities and supporting initiatives;
 - Marine fisheries – combating Illegal, Unreported and Unregulated (IUU) fishing through strengthening of monitoring, control and surveillance (MCS), minimizing by-catch and reducing discards in fishing;
 - Inland fisheries – promoting multiple water resource use planning and management;
 - Aquaculture – development of good aquaculture practices, prudent use of veterinary drugs and chemical in aquaculture, environmentally friendly farming, broodstock and seed

- development, aquatic disease diagnostic and control, development of SME aqua-farms, technological development for productivity and product safety;
- Optimal utilization of fish and fishery products – reduction of post-harvest losses, quality and safety assurance systems in fish and fish products;
- Fish trade – promoting public-private partnership in fisheries; and
- Regional and international policy formulation - development of joint approaches in fisheries related issues discussed in relevant international fora;
- Follow-up actions to the above conclusion and recommendations would be made during future meetings of SOM-AMAF Plus Three.

REMARKS

By *Dr. Nanthiya Unprasert*
Deputy Director-General
Department of Fisheries, Thailand

**Senior Officials Meeting (FSOM) Plus Three
ASEAN-SEAFDEC Conference on Sustainable Fisheries for Food Security Towards 2020
“Fish for the People 2020: Adaptation to a Changing Environment”**

Thailand would like to congratulate the successful conduct of the Technical Session of the ASEAN-SEAFDEC Conference on sustainable Fisheries for Food Security Towards 2020. Thailand would also like to share the grief that Japan suffers due to the disaster, which occurred on 11 March in Japan, and we hope that Japan as a resilient country would recover fast from such incidence.

Thailand would also like to emphasize on the cooperation with the Plus Three Countries especially in the following three areas:

1. Artificial Reefs and Food Security in the ASEAN Region

The decreasing fishery resources caused by the long-term exploitation of fishing operations had affected the livelihoods of the population in the region. Artificial reefs installation is one of the best approaches to rehabilitate the marine resources and subsequently secure the food security in our region. It is necessary to improve our knowledge on artificial reefs construction, installation, and management system from countries like Japan and the Republic of Korea, with their long experiences on artificial reefs management. Therefore, we would like to propose that the cooperation with Japan and the Republic of Korea could be focused on artificial reefs design, construction, installation as well as management system.

2. Climate Change

Climate change is becoming global emerging threats, which could occur regionally but impact globally. The potential impacts include rising sea surface temperature, floods drought, unusual storm surge, sea level rise, with adverse impacts to the fisheries and aquaculture sector, and have implications for food security, economic development and poverty of the ASEAN region. However, our understanding on the effects of climate change remains very limited, partly due to the lack of the overall information, uncontrollable human diversity activities, limited knowledge of the foreseen impacts, and limitation of capacity building in this area of concern. The region is seeking for an international collaboration in terms of fact-finding researches, proactive activities, capacity building for adaptation and mitigation of the impacts of the climate change to fisheries and aquaculture. We would like China, Japan and the Republic of Korea to give more attention on this concern by supporting us in our activities.

3. Offshore Aquaculture

Demand of high quality seafood and other marine products is increasing due to the escalating world population, recognition of healthy foods and marine products, and increase in the per capita fish consumption. Capture fishery is however fully trapped, and natural stocks are depleted. Aquaculture has been playing vital roles in feeding humanity, contributing significantly to the countries' economies, and helping in alleviation of poverty. The needs for innovative methods that help increase or sustain fish resources are getting more important. One of the methods is offshore aquaculture, of which technology is prevalent and professionally developed in China, the Republic of Korea and Japan. Therefore technical cooperation with China, Republic of Korea and Japan, and the ASEAN Member States in terms of exchange of knowledge and experiences in offshore aquaculture will be very useful to take optimal advantage of the promising potentials in offshore aquaculture development in our region.

**SUMMARY RECORD OF THE SENIOR OFFICIALS MEETING (FSOM)
FOR THE ASEAN-SEAFDEC CONFERENCE**

**Senior Officials Meeting (FSOM)
ASEAN-SEAFDEC Conference on Sustainable Fisheries for Food Security Towards 2020
“Fish for the People 2020: Adaptation to a Changing Environment”**

INTRODUCTION

1. The Senior Officials Meeting (FSOM) for the ASEAN-SEAFDEC Conference on Sustainable Fisheries for Food Security Towards 2020 “Fish for the People 2020: Adaptation to a Changing Environment” was held on 16 June 2011 in Bangkok, Thailand.

2. The Meeting was attended by Hajah Normah S.H. Jamil, Deputy Permanent Secretary, Ministry of Industry and Primary Resources, Brunei Darussalam; Dr. Endhay Kusnendar, Director-General of Marine and Fisheries Research and Development Agency, Indonesia; Mr. Akira Inoue, Director-General, Resource Management Department, Fisheries Agency of Japan, Ministry of Agriculture, Forestry and Fisheries, Japan; Dr. Bounkhouang Khambounheuang, Director-General, Department of Livestock and Fisheries, Lao PDR; Mr. Raihan Bih Sharif, Deputy Secretary General, Ministry of Agriculture and Agro-Based Industry, Malaysia; Mr. Win Myint Maung, Director of Fish Inspection and Quality Control Division, Department of Fisheries, Ministry of Livestock and Fisheries, Myanmar; Atty. Asis G. Perez, Director, Bureau of Fisheries & Aquatic Resources, Philippines; Ms. Tan Poh Hong, Chief Executive Officer, Agri-Food & Veterinary Authority, Singapore; Dr. Jirawan Yamprayoon, Inspector General of Ministry of Agriculture and Cooperatives, Thailand; Mr. Chu Tien Vinh, Deputy Director-General, Fisheries Administration Ministry of Agriculture and Rural Development, Vietnam; and Dr. Somsak Pipoppinyo, Director, Finance, Industry and Infrastructure Directorate, ASEAN Economic Community (AEC) Department, the ASEAN Secretariat and their respective delegations. Dr. Chumnarn Pongsri, Secretary-General of SEAFDEC and their representatives were also attended.

Agenda Item 1: OPENING OF THE MEETING

3. Dr. Jirawan Yamprayoon, Inspector General of Ministry of Agriculture and Cooperatives, Thailand, in her capacity of the host country of the Meeting delivered the Opening Remarks. She extended warmest welcome to the Senior Officials from ASEAN and SEAFDEC Member States and their delegations to the Meeting. She reiterated the importance of the Meeting in considering importance documents i.e. the Draft Resolution and Plan of Action on Sustainable Fisheries for Food Security for the ASEAN Region Towards 2020, and the Draft Joint Press Statement before submission for consideration and endorsement by the Ministers at the Ministerial Session.

Agenda Item 2: ELECTION OF CHAIRMAN AND VICE-CHAIRMAN

4. Dr. Jirawan Yamprayoon, Inspector General of Ministry of Agriculture and Cooperatives, Thailand; and Dr. Endhay Kusnendar, Director-General of Marine and Fisheries Research and Development Agency, Indonesia were unanimously elected as Chairman and Vice-Chairman of the FSOM for the “ASEAN-SEAFDEC Conference on Sustainable Fisheries for Food Security Towards 2020: Fish for the People 2020: Adaptation to a Changing Environment”, respectively.

Agenda Item 3: ADOPTION OF THE AGENDA

5. The Meeting adopted the agenda.

Agenda Item 4: BUSINESS ARRANGEMENTS

6. The Meeting was held in plenary.

Agenda Item 5: ADOPTION OF THE 'PLAN OF ACTION ON SUSTAINABLE FISHERIES FOR FOOD SECURITY FOR THE ASEAN REGION TOWARDS 2020'

7. The Meeting took note of the summary outcomes of the Conference Technical Session that was presented by SEAFDEC Secretariat.

8. The ASEAN Secretariat introduced the draft 'Plan of Action on Sustainable Fisheries for Food Security for the ASEAN Region Towards 2020' that is aimed to support the implementation of the 'Resolution' to be adopted by the ASEAN-SEAFDEC Ministers during the Conference Ministerial Session. The Meeting considered and adopted the 'Plan of Action' by taking into consideration the outcomes from the preparatory process and the Conference Technical Session.

9. The Meeting also took noted of the 'ASEAN Programme Concept Note on Sustainable Fisheries for Food Security Towards 2020' that was introduced by the ASEAN Secretariat.

Agenda Item 6: CONSIDERATION AND PREPARATION FOR THE MINISTERIAL SESSION

6.1 Draft Provisional Agenda of the Ministerial Session

10. The Meeting considered the Agenda and Programme for the Ministerial Session that was presented by Thailand as the host country of the Conference and its related meetings.

6.2 Draft Chairman Report of the Senior Officials Meeting for the ASEAN-SEAFDEC Conference on Sustainable Fisheries for Food Security Towards 2020

11. The ASEAN Secretariat introduced the draft Chairman Report of the Senior Officials Meeting for the ASEAN-SEAFDEC Conference on Sustainable Fisheries for Food Security Towards 2020. The Meeting considered and endorsed the draft for further submission to the Ministers for endorsement.

6.3 Draft 'Resolution on Sustainable Fisheries for Food Security in the ASEAN Region'

12. The draft 'Resolution on Sustainable Fisheries for Food Security in the ASEAN Region Towards 2020' was introduced by the ASEAN Secretariat to the Meeting. The Meeting considered the draft and agreed for further submission to the Ministers for endorsement.

6.4 Draft Joint Press Statement

13. The Meeting considered the draft Joint Press Statement for the Ministerial Session, which presented by the ASEAN Secretariat. The Meeting agreed with the draft Joint Press Statement for further submission to the Ministers for endorsement and for jointly announced by the Ministers during the Ministerial Open Session.

Agenda Item 7: CLOSING OF THE MEETING

14. The Meeting is closed through the delivery of closing remarks of the Chairman. She expressed her appreciation to all delegates for the cooperation to enable the successful of the Meeting. She also extended the gratitude to the ASEAN Secretariat, and SEAFDEC for their support to the meeting. Finally, she thanks the Department of Fisheries, Thailand for their efforts in making all arrangement for the Meeting.

15. The delegations of Brunei Darussalam, Indonesia, Japan, Lao PDR, Malaysia, Myanmar, Philippines, Singapore, Vietnam, the ASEAN Secretariat and SEAFDEC expressed their appreciation to the Government and People of Thailand for the warm hospitality accorded to them and the excellent arrangements made for the Meeting.

**PLAN OF ACTION ON SUSTAINABLE FISHERIES FOR FOOD SECURITY
FOR THE ASEAN REGION TOWARDS 2020**

(Adopted by the ASEAN-SEAFDEC Senior Officials on 16 June 2011)

Senior Officials Meeting (FSOM)

**ASEAN-SEAFDEC Conference on Sustainable Fisheries for Food Security Towards 2020
“Fish for the People 2020: Adaptation to a Changing Environment”**

On the occasion of the *ASEAN-SEAFDEC Conference on Sustainable Fisheries for Food Security Towards 2020: Fish for the People 2020 “Adaptation to a Changing Environment”*, the Senior Officials of ASEAN-SEAFDEC Member Countries met in Bangkok, Thailand on 16 June 2011.

Guided by the Resolution on Sustainable Fisheries for Food Security for the ASEAN Region Towards 2020, and the need to enhance collaboration among government agencies that have responsibility for fisheries and fisheries-related issues in order to harmonize policies, plans and activities that support sustainable fisheries, food security and safety at the national and regional levels, the Senior Officials adopted the following Plan of Action on Sustainable Fisheries for Food Security for the ASEAN Region Towards 2020 to be used as a guideline to develop programs, projects and activities for the implementation of the Resolution.

A. PLANNING AND INFORMATION

1. Integrate the planning of marine capture fisheries, inland capture fisheries and the aquaculture subsectors to promote the sustainable development of the fisheries sector, including harvesting and post-harvest in both capture fisheries and aquaculture.
2. Strengthen the capacity to plan for sustainable fisheries in the context of changing socio-economic and ecological environments through the mobilization of the most up-to-date data and information and the provision of appropriate policy summaries for decision makers.
3. Strengthen national statistical mechanisms for fisheries and aquaculture and the exchange of statistical data and related information. Include other non-routine data and information such as fish consumption surveys as well as mobilizing local and indigenous knowledge with the aim of improving the valuation of fisheries and monitoring their performance, to address the needs of the ecosystem approach to fisheries and adaptation to climate change.
4. Enhance regional fishery information systems and mechanisms to facilitate sharing, exchange and compilation of statistics and information that are required at the sub-regional and regional level and apply, where appropriate, regionally standardized definitions and classifications for statistical data to facilitate regional compilation, analysis and data exchange.
5. Coordinate, decentralize and enhance the sharing of relevant statistics and information of fisheries related statistical data and information between the national fisheries and other authorities including those responsible for food security, environment, trade, aquaculture, water resources, agriculture/forestry, wetlands, migration/employment and rural development.
6. Further develop simple and practical indicators in support of planning and monitoring of sustainable fisheries.

B. FISHERIES MANAGEMENT

7. Regularly review, update and strengthen national fisheries policy, legal and institutional frameworks through consultation and engagement of government agencies, the private sector, fishers, civil society and other relevant stakeholders.
8. Accelerate the development of fisheries management plans based on an ecosystem approach, as a basis for fisheries conservation and management.

9. Take measures to prevent unauthorized fishing and eliminate the use of illegal fishing practices by building awareness of their adverse impacts, strengthening law enforcement, developing and promoting responsible and selective fishing gears and practices, enforcing regulations and encouraging alternative means of livelihoods.
10. Establish and implement comprehensive policies for an ecosystem approach to fisheries management through effective systems (i) to provide licenses to fish (boats, gear and people), (ii) for community fishing rights/rights-based fisheries, (iii) that provide for the development of supporting legal and institutional frameworks, (iv) encourage and institutional cooperation, and (v) that aid in streamlining co-management.
11. Adopt co-management at all levels and with all relevant stakeholders in the process of planning and policy formulation for management, conservation and rehabilitation of habitats and protective geographical features, as well as policy formulation on the use and management of natural and human resources to ensure that climate change responses are integrated into fisheries policy frameworks.
12. Strengthen the capacity of fisheries communities and the capability of fisheries related organizations, NGOs and the private sector to better implement necessary actions towards enabling the communities and local organizations to increase resilience, improve livelihoods, alleviate poverty, adopt alternative livelihoods adapt to climate change in support of achieving sustainable development, and encourage the participation of women and youth groups in the process.
13. Enhance and promote the participation of local communities, fisheries associations and other stakeholders in fisheries management and co-management. In addition, communities should take part in fisheries and stock assessments by providing data, local ecological knowledge, and status of the stocks.
14. Raise awareness of the need to develop financial incentives, especially for small-scale stakeholders and cooperatives, e.g. micro-credit, with national and regional institutional assistance for the responsible development of fisheries enterprises and developmental activities that will optimize socio-economic returns and food security.
15. Increase the efficient use of the alternative energy sources and reduce the use of carbon fossil energy by using appropriate fishing gear and fishing boats designs in fishing operations.
16. Encourage good and appropriate employment practices in accordance with domestic laws and regulations.
17. Develop guidelines and enhance the capacity of relevant authorities and communities to collaboratively resolve conflict with other stakeholders and with other competing users of resources.
18. Investigate the potential of under-utilized fisheries resources and promote their exploitation in a precautionary manner based upon analysis of the best available scientific information.
19. Enhance joint ASEAN programmes to better protect the livelihoods of small-scale producers and for a more equitable distributions of benefits gained from both intra and extra regional trade of fish and fishery products.
20. Adjust existing programs to take into consideration the effects of climate change, focusing on the programs for (i) managing fisheries and habitats, (ii) reducing fishing capacity and combating illegal, unreported and unregulated (IUU) fishing, (iii) strengthening local organizations, and (iv) promoting safety at sea and other priority areas. Develop indicators and reporting measures to assess how actions of the programs build resilience to climate change.

MARINE FISHERIES

21. Strengthen regional and national policy and legislation to implement measures and activities to combat IUU fishing, including the development and implementation of national plans of action to combat IUU fishing, and promote the awareness and understanding of international and regional instruments and agreements through information dissemination campaigns.

22. Establish and strengthen regional and sub-regional coordination on fisheries management and efforts to combat IUU fishing including the development of regional/sub-regional Monitoring, Control and Surveillance (MCS) networks.
23. Facilitate consultative dialogue among fisheries legal officers to share, at the sub-regional/regional level, perspectives of the respective legal and regulatory framework in terms of developing MCS-networks and to implement efforts to combating IUU fishing.
24. Build up capacity among Member Countries, including functions for regional and sub-regional cooperation, to effectively meet the requirements of port state measures and flag state responsibilities.
25. Conduct research on the impacts of various gear types and methods, including light fishing, trawls and push nets, on ecosystems and populations of aquatic animals and also the effects of fishing vessel discharges and waste disposal on marine ecosystems, to promote the use of selective fishing gears and sustainable devices.
26. Take reference from the FAO International Guidelines on Managing By-catch and Reducing Discards, where applicable, to identify and find solutions to ASEAN by-catch problems, including the excessive catch of juvenile fish.
27. Optimize the use of inshore waters through resource enhancement programs such as promoting the installation of artificial reefs and structures, encouraging coordinated and effective planning for coastal fisheries management programs, undertaking environmental impact assessment studies, restocking of commercially important fish species, as appropriate, and give priority to human resources development for the implementation of such programs.
28. Ensure the inclusion of fisheries objectives in the management plans of future Marine Protected Areas (MPAs) and promote the adoption and use of the refugia concept in line with the ASEAN/SEAFDEC Regional Guideline on the use of Fisheries Refugia in Capture Fisheries Management, where appropriate.
29. Recognizing the different management approaches that are required, sustainably manage major critical coastal habitats, such as mangroves, coral reefs and sea grass; and develop and disseminate information and guidance on appropriate tools and interventions.
30. Strengthen efforts to address safety at sea, including considerations of working conditions and socio-economic development, and ensure that these considerations are addressed by all concerned authorities while improving monitoring and control of the status of conditions, especially on small fishing boats.
31. Assess the possible impact of government subsidies on fisheries, particularly the impact on the special requirements and the needs of small-scale fisheries in the region.

INLAND FISHERIES

32. Establish and implement comprehensive policies and supporting legal and institutional frameworks for an ecosystem approach to inland fisheries management by integrating fisheries and habitat management that devolves co-management to the local authority and stakeholders, and at the same time strengthens the rights of communities and develops rights-based fisheries.
33. Undertake campaigns to promote awareness of the importance of freshwater fisheries for local food security, and the importance of rehabilitating and restoring habitats for migratory freshwater fish, restocking indigenous fish species to enhance productivity and encouraging culture-based freshwater fisheries, where appropriate.
34. Develop inter-agency coordination (national/sub-regional) on multiple-use water resources of the wetlands/flood-plains to sustain freshwater fisheries, mitigate conflicts between users and also encourage better coordination to address trans-boundary inland fisheries management issues.
35. Ensure the sustainability of inland fisheries by maintaining ecological health of the ecosystem, particularly the inter-connectivity of habitats and the specific management needs during the dry season. Develop mitigating measures for the adverse impacts on inland fisheries that may be caused by the construction of water infrastructure and alteration of water ways.

36. Encourage coordinated planning on the use of inland rivers, water-bodies and flood plains through (i) resource enhancement programs, (ii) inland wetlands and fisheries management programs, (iii) environmental impact assessment studies with regards to structures that might impact on aquatic resources, (iv) the consideration of restocking of locally and/or commercially important inland fish species, and (v) giving priority to human resources development for the implementation of such programs.

37. Formulate guidelines to promote the use of practical and simple indicators for inland/flood-plain fisheries within the national inland fisheries management framework, to facilitate (i) timely local level fisheries management decisions with due respect to the large number of people/farmers that take part in fishing (ii) dialogue to ensure that the inter-connectivity of fish migration path is kept as a tool for management/conservation measures, and (iii) adaptation to the effects of climate change within catchments.

38. Monitor the impact of the structures that might affect migration and spawning of fish through a consultative process that involves collaboration with the regional organizations.

C. AQUACULTURE

39. Ensure that national programs and policies on aquaculture address social, economic and environmental aspects of sustainable aquaculture to improve food security, livelihoods, employment and poverty alleviation by (i) providing the mechanisms and enabling environment for good aquaculture practices, efficient markets and fair trade, (ii) strengthening the capacity of small-holder farmers, and (iii) promoting inter-agency collaborations.

40. Develop and implement ASEAN guidelines for environment-friendly and responsible aquaculture and good aquaculture practices that cover (i) the integration of quality and safety management systems for products with significant trade potential, (ii) the harmonization for chemical use and food safety in aquaculture, (iii) the development of product traceability systems from farm to market, and (iv) harmonization of the quarantine and inspection/sampling procedure and Sanitary and Phytosanitary (SPS) measures for aquaculture products to secure food safety.

41. Integrate aquaculture into rural development activities within the context of multiple-use of land and water resources through inter-agency coordination in policy formulation, project planning and implementation, stakeholder consultation, extension services and technology transfer; participate in and provide support to regional initiatives that will assess the role of aquaculture in poverty alleviation for better policy formulation.

42. Implement measures or strategies at national and local level to (i) monitor and regulate aquaculture operations, (ii) prevent over development, and (iii) ensure that activities are carried out in an environment-friendly manner. This also includes effectively enforcing regulations to avoid conflict in the use of common resources and adopting the concept of environmental capacity as a strategy to prevent aquatic pollution brought about by intensification of aquaculture activities.

43. Provide government support for research and development (R&D) on (i) improving existing genetic resources, (ii) assessing the impact of climate change on broodstock management, and (iii) the feeding and disease management of broodstock.

44. Promote the production and distribution of specific pathogen-free (SPF) and quality seed through the (i) establishment of certified government or private hatcheries as sources of quality seed, (ii) dissemination of new breeding technologies and techniques for the effective distribution and maintenance of genetically improved strains, and (iii) implementation of sound policies that will promote better hatchery management practices, including the responsible collection and use of wild broodstock and seed.

45. Apply the concept of aquatic biosecurity by providing support to (i) research for development of domesticated, genetically improved, specific pathogen-free (SPF) cultured species, and (ii) the small-scale hatchery operators and farmers so as to enhance their access to healthy broodstock and improve their ability to adopt, at the farm level, the established techniques for aquatic animal health care.

46. Formulate and implement complementary and supportive policies that will (i) build the capacity of small-scale farmers and hatchery operators in adopting simple broodstock and hatchery technologies and innovations, (ii) enhance small-scale farmers and hatchery operators' access to quality broodstock and SPF seeds produced through farmer-friendly broodstock management methods, and (iii) foster strong cooperation between the public and private sectors engaged in development and dissemination of quality broodstock and seed stock.

47. Encourage good and appropriate employment practices in accordance with domestic laws and regulation.
48. Raise awareness of the need to develop financial incentives and micro-credit, with national and regional institutional assistance, for the responsible development of aquaculture enterprises and developmental activities that will optimize socio-economic returns and food security.
49. Reduce the risk of negative environmental impacts, loss of biodiversity, and disease transmission by regulating the introduction and transfer of aquatic organisms in accordance with the Regional Guidelines on the Responsible Movement of Live Aquatic Animals and Plants.
50. Continue the national efforts to control serious disease outbreaks by providing government support to (i) R&D to improve the ability to handle new and emerging diseases and surveillance of transmission of diseases to wild populations and (ii) regional initiatives on harmonization of regional disease control standards, disease reporting and implementation of contingency plans to handle new and emerging diseases.
51. Further enhance the capabilities in the diagnosis and control of fish diseases within the region through (i) continued support in development of technology and techniques for disease identification, (ii) promotion of the widespread use of affordable, field-friendly, rapid and standardized diagnostic tests, and (iii) the establishment of regional and inter-regional referral systems, including the designation of reference laboratories and timely access to disease control experts within the region.
52. Develop regional warning systems on aquatic animal health and diseases to inform other Member Countries of relevant epidemiological events and to raise awareness of new diseases that may pose risks. Build emergency preparedness capacity through rapid and timely responses to reduce potential catastrophic consequences of diseases.
53. Improve the efficient use of aquatic feeds by strictly regulating the quality of manufactured feed and feed ingredients and support continued research for developing suitable alternative protein sources that will reduce the dependence on fish meal and other fish-based products. This effort will include the consideration of ingredients not derived from wild caught fish, encouraging the culture of species requiring no or low fish meal content in their feed and applying effective feeding management practices, taking into account the need for cultural and social acceptance of alternative feed ingredients.
54. Improve human resource capabilities for responsible aquaculture through (i) closer public and private sector collaboration in R&D, paying particular attention to the need for advanced skills in biotechnology and assessment of the efficacy and economics of the use of probiotics and immunostimulants; and (ii) effectively implementing aquaculture education and extension services.
55. Formulate and implement national policies and strategies that will enable the aquaculture sector to mitigate and/or adapt better to the impacts of climate change. These strategies should include providing support to R&D on climate change, increasing resilience, and strengthening the overall capacity of various stakeholder groups and fostering cooperation within the aquaculture sector and with other sectors.
56. Where applicable, encourage good practices in aquaculture such as the FAO Technical Guidelines on Aquaculture Certification.
57. Encourage Member Countries to take a precautionary approach to safeguard the environment from the acceleration of offshore aquaculture, and to consider developing regional guidelines on responsible marine (inshore to offshore) aquaculture.

D. OPTIMAL UTILIZATION OF FISH AND FISHERY PRODUCTS

58. Introduce and provide support for the development and application of technologies that optimize the utilization of catch, reduce post-harvest losses, wastes and discards in commercial and small-scale fisheries and processing operations, through improved processing, facilities and infrastructure development, on-board and on-shore handling, storage, distribution and marketing of fish and fishery products.

59. Promote the production of and preserve the diversity of traditional fish products by assisting producers to secure stable supplies of quality raw materials, meet food safety requirements and to improve product identity, nutritive value and marketing. In the process, promote One Village One Fisheries Product (FOVOP) and other initiatives to promote local fishery products.
60. Develop traceability systems, with mechanisms as needed to certify or validate the information, for the whole supply chain, and establish regulations and enforcement schemes in line with international standards. Align Member Countries' inspection systems and incorporate strengthened port inspections in the process as a means to improve inspection systems.
61. Strengthen fish quality and safety management systems that support the competitive position of ASEAN fish products on world markets, including moving towards ISO/IEC 17025 accreditation of national fish inspection laboratories, strengthening capacity and acknowledging the recognized national laboratories, risk analysis and equivalence agreement such as the Mutual Recognition Agreement (MRA) and promote the implementation of the quality and safety management systems among small and medium enterprises in the ASEAN region.
62. Encourage relevant control agencies at all levels in applying appropriate legislation and coordinated activities regarding the handling, processing, distribution, storage, marketing, quality and safety of fish and fishery products.
63. Promote and conduct training programs and develop training materials to upgrade the technical skills and competencies of personnel in the public and private sectors on fisheries post-harvest technology and food safety management system.
64. Raise awareness of the need to develop financial incentives and micro-credit, with national and regional institutional assistance for the responsible development of fisheries and aquaculture enterprises and developmental activities that will optimize socio-economic returns and food security.
65. Encourage good and appropriate employment practices in accordance with domestic laws and regulations.
66. Develop standards and guidelines for aquaculture products handling and transportation, hygienic vessel design and construction, and include training of fish handling as part of the requirement for issuance of permits at all levels for fish vessel crews, and encourage new workers to enter the industry where needed.

E. FISH TRADE

67. Strengthen cooperation among Member Countries to implement international standards with regards to trade on fish and fishery products within the ASEAN region.
68. Establish regional/ASEAN standards applicable for fishery and aquaculture products that are in line with international requirements and applicable to the region. Harmonise standards, technical regulations and conformity assessment procedures as inputs for the establishment of the ASEAN Policy Guidelines on Standards and Conformance, to increase the competitiveness of fishery products on regional and international markets.
69. Strengthen cooperation and mechanisms among Member Countries to work towards common positions that could be reflected in international fish trade related fora, such as World Trade Organisation (WTO), Food and Agriculture Organisation of the United Nations (FAO), Office International des Epizooties (OIE), Codex Alimentarius Commission, and the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES).
70. Engage the private sector (e.g. ASEAN Seafood Federation) in addressing trade related issues, and in collaborative efforts to promote and sustain regional and international trade.
71. Assist small-scale producers to comply with standards on safety and quality of fish and fishery products by providing support programs including training.

72. Assist small-scale producers from both capture fishery and aquaculture in securing and maintaining access to markets at the national, regional and international levels, and in the process, develop marketing systems that are not capital intensive and accessible for local producers.

73. Encourage and provide guidance to develop/improve branding of fish and fishery products that demonstrate the eco-friendly and socially acceptable nature of ASEAN fish products (e.g. one community one fishery product), including organic standards and coordination of Halal requirements.

74. Encourage the implementation of appropriate international standards and strengthen programs relevant to Sanitary and Phyto-Sanitary (SPS) measures, Technical Barriers to Trade (TBT) measures, R&D, as well as capacity building and awareness raising on fish trade related issues, and information dissemination recognizing the different status of development in Member Countries.

75. Strengthen risk assessment and R&D related to the use of Genetically Modified Organism (GMO) products in fisheries and aquaculture, including food safety issues.

F. REGIONAL AND INTERNATIONAL POLICY FORMULATION

76. Increase participation and involvement of Member Countries in international fora and technical committees such as the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES); Codex Alimentarius Commission; Food and Agriculture Organization of the United Nations (FAO); Office International des Epizooties (OIE); Regional Fisheries Bodies (RFBs); and World Trade Organization (WTO); and promote ASEAN interest, recognizing that fisheries policies of relevance to the ASEAN region are increasingly discussed and agreed upon at the global level

**CONCEPT NOTE: ASEAN PROGRAMME ON SUSTAINABLE FISHERIES
FOR FOOD SECURITY (2011-2015)**

(Adopted by the ASEAN-SEAFDEC Senior Officials on 16 June 2011)

Senior Officials Meeting (FSOM)

**ASEAN-SEAFDEC Conference on Sustainable Fisheries for Food Security Towards 2020
“Fish for the People 2020: Adaptation to a Changing Environment”**

BACKGROUND AND RATIONALE

As a follow-up to the adoption of the Resolution and Plan of Action on Sustainable Fisheries for Food Security for the ASEAN Region Towards 2020 at the ASEAN-SEAFDEC Conference on Sustainable Fisheries for Food Security Towards 2020 “Fish for the People: Adaptation to a Changing Environment”, this Programme Concept Note describes the supporting platform to implement the Resolution and Plan of Action. The programme will be developed in two phases to cover the decade of implementation:

- Phase 1: Supporting the contribution of the fisheries sector to food security through the realisation of ASEAN Community Building (2011-2015); and
- Phase 2: Enhancing the contribution of the fisheries sector post 2015.

The supporting programme will provide a platform of cooperation and partnership among ASEAN Member States, Dialogue Partners and Development Partners to ensure their synergy and complementarity.

Programme Phase 1 (2011-2015): Supporting the Contribution of Fisheries Sector to Food Security through the Realisation of ASEAN Community Building (2011-2015)

During the 14th ASEAN Summit, the ASEAN Heads of Government signed the Cha-am Hua Hin Declaration on the Roadmap for the ASEAN Community (2009-2015), comprising three pillars -Political Security Community, Economic Community, and Socio Cultural Community.

The Leaders agreed that the blueprints for these three pillars and the Initiative for ASEAN Integration (IAI) Workplan 2 (2009-2015) shall constitute the Roadmap for an ASEAN Community (2009-2015), with each ASEAN Member State ensuring timely implementation of the Roadmap. It was also agreed that the Roadmap for an ASEAN Community (2009-2015) shall replace the Vientiane Action Programme (VAP). The Leaders tasked the ASEAN Sectoral Ministerial Bodies and the Secretary General of ASEAN to develop long-term strategies and explore ways and means to mobilize resources from Member States, Dialogue and Sectoral Development Partners, and other external parties to implement the Declaration.

Fisheries is an important sector within ASEAN, and contributes across the three pillars of the ASEAN Communities, as well as to national development and regional cooperation. Fisheries also have the potential to contribute significantly to ASEAN Community Building now and in the future. Therefore, fisheries development must enhance the contribution of the sector to the ASEAN Community Building, ensure the sustainable development of the sector, and promote better livelihoods of people involved in fisheries. There are a number of challenges that need to be considered, as guided by the Resolution and Plan of Action on Sustainable Fisheries for Food Security for the ASEAN Region Towards 2020.

OBJECTIVES

The overall objectives of the programme are:

1. To provide supporting initiatives for the ASEAN Member States to pursue the relevant ASEAN Community Blueprints;
2. To provide a platform of technical cooperation and partnership that could enhance the capacity of the ASEAN Member States in developing sustainable fisheries for food security; and
3. To support dialogue and cooperation on fisheries related issues both within and outside of the ASEAN context.

PROGRAMME COMPONENTS

To achieve and ensure the contribution of fisheries to food security, better livelihoods and sustainable development, as well as the realization of an integrated ASEAN Community by 2015, the priority issues and areas under Phase 1 that need to be addressed include the following:

- Safety management systems that ensure food safety and food quality standards of fish and fishery products through fish quality assurance;
- Food security and climate change impact on fisheries and aquaculture;
- Illegal fishing in marine and inland fisheries;
- Contribution of inland fisheries to food security and sustainable livelihoods;
- Effective management of fisheries through the implementation of an ecosystem approach to fisheries, especially better management of fishing capacity and use of responsible fishing technologies and practices;
- Aquaculture Development – with emphasis on
 - Contribution to food security and sustainable livelihoods
 - Mitigation of potential impacts on the environment and biodiversity including the spread of aquatic animal diseases; and
 - Development of better feeds;
- Promotion of joint ASEAN approaches and positions in international trade in fish and fishery products of the region by harmonising standards, criteria and guidelines;
- Optimum utilisation of catch from water to market by reducing post-harvest losses and waste;
- Fair and appropriate employment practices; and
- Minimising the contribution of the fisheries sector to green-house gas emissions, with emphasis on promoting energy efficiency and use of alternative energy sources.

Three cross-cutting themes will be emphasized throughout the implementation of the Programme - research and development (R & D), information management (collection, sharing and maximising its usage), and capacity building.

IMPLEMENTATION ARRANGEMENT

1. Phase 1 of the Programme covers the 5-year period from 2011-2015, and will be implemented by AMSs with support from the ASEAN Secretariat in consultation with relevant ASEAN stakeholders (e.g. Private Sector, Civil Society Organizations (CSO), and Academic Institutions) in cooperation and partnership with Dialogue Partners (e.g. Australia, ASEAN Plus Three, United States of America (USA), European Union (EU)); and Development Partners (e.g. Southeast Asia Fisheries Development Centres (SEAFDEC), Food and Agriculture of the United Nations (FAO), Mekong River Commission (MRC), the WorldFish Centre, Network of Aquaculture Centres in Asia-Pacific (NACA), Islamic Development Bank (IDB), Asian Development Bank (ADB) and the World Bank).
2. The ASEAN Secretariat will assist in facilitating technical cooperation, seeking funding support and cooperation for the implementation of Programme. Upon the approval of the Programme concept note, a full Programme proposal indicating substantial partners and cooperation arrangements will be developed for consideration and approval.
3. A review will be conducted after phase 1 in 2015 to evaluate achievements as a basis for developing Phase 2 of the Programme.

REPORT OF THE CHAIRMAN OF THE SENIOR OFFICIALS MEETING
(Endorsed by the ASEAN-SEAFDEC Senior Officials on 16 June 2011)

Senior Officials Meeting (FSOM)
ASEAN-SEAFDEC Conference on Sustainable Fisheries for Food Security Towards 2020
“Fish for the People 2020: Adaptation to a Changing Environment”

I. Introduction

1. The Senior Officials Meeting for the ASEAN-SEAFDEC Conference on Sustainable Fisheries for Food Security Towards 2020: “Fish for the People 2020 – Adaptation to A Changing Environment (FFP 2020 Conference)” was held on 16 June 2011 in Bangkok. Senior Officials responsible for fisheries of ASEAN-SEAFDEC Member States attended the Meeting. Representatives from ASEAN Secretariat and SEAFDEC were also in attendance.

2. The preparatory activities and organization of the FFP 2020 Conference was endorsed at the 31st Meeting of ASEAN Ministers on Agriculture and Forestry (AMAF) held on 10 November 2009 in Bandar Seri Begawan. The Conference was initiated based on continued collaboration between ASEAN and SEAFDEC since 1998. The collaboration was further enhanced through formalisation of a Letter of Understanding for ASEAN-SEAFDEC Strategic Partnership during the 29th Meeting of AMAF held in 2007 in Bangkok.

3. The FFP 2020 Conference was initiated in 2008, almost ten years after the successful conduct of a similar event in 2001 in Bangkok. The 2001 Conference concluded the Resolution and Plan of Action on Sustainable Fisheries for Food Security, which has been used as a regional policy and action framework for promoting regional cooperation by the Member States as well as international/regional organization.

4. Building upon past experience and achievements, the FFP 2020 Conference was thus viewed as an important regional platform in addressing emerging challenges faced by the fisheries sector as well as contribution of the fisheries sector in the ASEAN Community building. The Conference is also expected to support the ASEAN Member States in the implementation of the ASEAN Integrated Food Security (AIFS) Framework and the Strategic Plan of Action on Food Security in the ASEAN Region (SPA-FS) as adopted by the ASEAN Leaders at the 14th Summit in 2009.

II. Overview of Preparatory Activities and Conduct of the FFP 2020 Conference

5. ASEAN and SEAFDEC began the preparatory activities of the FFP 2020 Conference in 2008 in collaboration with FAO, ASEAN Foundation, USAID and other international/regional organizations and development agencies. A series of more than twenty regional technical consultations among government agencies and between government and other stakeholders were conducted over the past two years. The regional process had been well supported by national seminars, consultation and events (i.e. drawing contests) conducted by respective ASEAN-SEAFDEC Member States.

6. The Technical Session before the Ministerial Meeting with over 530 participants was held from 13-15 June 2011 in Bangkok. It covered issues of regional concerns and identified measures and recommendations to ensure sustainable development of fisheries for food security. The Technical Session comprised the following:

- Inaugural Session and Keynote Speeches
- Technical Session Plenary 1 – ASEAN Fisheries: Status and Trends as well as Vision and Challenges Towards 2020
- Simultaneous Technical Panels:
 - Theme 1: Enhancing Governance in Fishery Management
 - Theme 2: Sustainable Aquaculture Development
 - Theme 3: Ecosystem Approach to Fisheries
 - Theme 4: Post-harvest and Safety of Fish and Fisheries Products
 - Theme 5: Emerging Requirements for Trade in Fish and Fisheries Products
 - Theme 6: Climate Change Adaptation and Mitigation towards Food Security
 - Theme 7: Livelihood among Fishing Communities and Prospects of Employment in Fisheries-related Activities
 - Theme 8: Sustaining Food Supply from Inland Fisheries

- Technical Session Plenary 2 – Overview of Sustainable Fisheries for Food Security Towards 2020
- Technical Session Plenary 3 – Fisheries Cooperation in the ASEAN Region: Vision of Cooperation in the Region Towards 2020
- Several side events that were conducted by a number of organizations, namely;
 - International Cooperation on Sustainable Fisheries for Food Security - a practical value chain approach by Marine Institute of the Memorial University of Newfoundland (MI), Canada;
 - Area Capability Approach for Harmonizing Ecosystem Health and Rural Development Tokai University, Japan;
 - European Union Research Funding Opportunities in Fisheries and Aquaculture;
 - Private Sector Roles on Sustainable Fisheries for Food Security by ASEAN-United States Technical Assistance and Training Facility (AU-TATF) II;
 - Small-scale Fisheries Guidelines Development Process by FAO, Italy; and
 - Future Collaboration with Hokkaido University by Hokkaido University, Japan

7. Subsequently, Senior Officials Plus Three Meeting and Senior Officials Meeting for the FFP 2020 was held on 16 June 2011 in Bangkok. The former aimed at exploring and supporting fisheries cooperation under the AMAF Plus Three Framework while the latter was to review and finalise matters required attention and endorsement by the Ministers.

II. Outcomes and Recommendations of the FFP 2020

8. The Ministers may wish to take note on the successful outcomes of a series of preparatory activities, side events and outcomes of the Technical Session. These outcomes will provide an important regional basis and reference for ASEAN Member States in collaboration with SEAFDEC and other international/regional organizations in the promotion of sustainable fisheries for food security in the region, particularly in the implementation of the regional policy and actions, which will be given by the Ministers.

9. The Ministers may also wish to take note and support a "Plan of Action on Sustainable Fisheries for Food Security for the ASEAN Region Towards 2020", which had been reviewed and endorsed by the Senior Officials Meeting (FSOM). An ASEAN Programme Concept Note on Sustainable Fisheries for Food Security Towards 2020 to support future implementation of the Plan of Action had also been reviewed and supported by the SOM.

10. The Ministers may wish to further note and encourage the support, which was also given by the ASEAN Plus Three Countries through SOM Plus Three in support of the Plan of Action, including potential areas for cooperation under AMAF Plus Three.

11. With the view to promote the implementation of the Plan of Action and subsequent initiatives, the draft "***Resolution on Sustainable Fisheries for Food Security in the ASEAN Region***" is proposed for Ministers consideration and endorsement. The Resolution will provide a common regional policy framework, which will support national policy and actions as well as foster regional cooperation in ensuring sustainable fisheries for food security in the region.

12. The FFP 2020 Conference and its preparatory activities could not be successfully achieved without continued support and dedication from SEAFDEC, ASEAN Secretariat, ASEAN Foundation, FAO, USAID and other international/regional organizations. The Ministers may wish to recognise cooperative efforts and partnership on fisheries among ASEAN and Dialogue Partners and international/regional organisations.

13. Views and guidance from the Ministers is sought to formalize the outcome of the FFP 2020 Conference in order to pursue the collaborative efforts in future development of the fisheries sector in the region.

**SUMMARY RECORD OF THE MINISTERIAL MEETING
FOR THE ASEAN-SEAFDEC CONFERENCE**

Ministerial Session

**ASEAN-SEAFDEC Conference on Sustainable Fisheries for Food Security Towards 2020
“Fish for the People 2020: Adaptation to a Changing Environment”**

INTRODUCTION

1. The Ministerial Session for the ASEAN-SEAFDEC Conference on Sustainable Fisheries for Food Security Towards 2020: Fish for the People “Adaptation to a Changing Environment” was held on 17 June 2011 in Bangkok, Thailand.

2. The Meeting was attended by H.E. Pehin Dato Yahya Bakar, Minister of Industry and Primary Resources, Brunei Darussalam; H.E. Dr. Fadel Muhammad, Minister of Marine Affairs and Fisheries, Indonesia; H.E. Mr. Seiji Kojima, Ambassador of Extraordinary and Plenipotentiary of Japan to the Kingdom of Thailand; H.E. Dr. Ty Phommasack, Vice Minister of Agriculture and Forestry, Lao PDR; H.E. Noh Bin Omar, Minister of Agriculture and Agro-Based Industry, Malaysia; H.E. Mr. Khin Maung Aye, Deputy Minister of Livestocks and Fisheries, Myanmar; H.E. Ms. Linglingay F. Lacanlale, Ambassador of Republic of Philippines to the Kingdom of Thailand; H.E. Dr. Mohamad Maliki Bin Osman, Senior Parliamentary Secretary for National Development, Singapore; H.E. Mr. Theera Wongsamut, Minister of Agriculture and Cooperatives, Thailand; H.E. Dr. Chu Tien Vinh, Deputy Director-General of Fisheries Administration, Ministry of Agriculture and Rural Development, Vietnam and H.E. Mr. S. Pushpanathan, Deputy Secretary-General of ASEAN for ASEAN Economic Community. Representatives from the ASEAN Secretariat and SEAFDEC Secretariat were also in attendance.

OPEN SESSION

Inauguration Session

3. H.E. Mr. Theera Wongsamut, Minister of Agriculture and Cooperatives, Thailand delivered the Welcome Remarks. He expressed his warmest welcome to all the Ministers of the ASEAN-SEAFDEC Member States to the Ministerial Session for the ASEAN-SEAFDEC Conference on Sustainable Fisheries for Food Security Towards 2020. He also stressed on the great honor to have His Excellency, the Deputy Prime Minister of Thailand, Dr. Trairong Suwannakhiri to preside over the Inauguration of this important event. He further highlighted the importance of this gathering to consider and endorse the next decade Resolution and Plan of Action on Sustainable Fisheries for Food Security for the ASEAN Region Towards 2020 to be used as the regional policy framework and priority actions in achieving sustainable fisheries for food security in the coming decade. He finally expressed appreciation for the great efforts made by those who took part in the Technical Sessions in exchanging their experiences, as well as acknowledging the efforts of the organising committee for all preparatory activities in order to make this Conference a great success.

4. His Excellency Dr. Trairong Suwannakhiri, the Deputy Prime Minister of Thailand welcome the ASEAN-SEAFDEC Ministers to Thailand and the Ministerial Session for the ASEAN-SEAFDEC Conference on Sustainable Fisheries for Food Security Towards 2020 “Fish for the People: Adaptation to a Changing Environment”. On behalf of H.E. Mr. Abhisith Vejajevah the Prime Minister of Thailand, he expressed deeply honored to be here today to deliver the opening address for the Ministerial Session of the ASEAN-SEAFDEC Conference on Sustainable Fisheries for Food Security Towards 2020. He emphasized that this special occasion was an opportunity to publicly applaud the organization of this Conference, and especially the Meeting of Ministers who are responsible for fisheries in the ASEAN and SEAFDEC Member Countries. He also stressed on the most heartening to witness the commitment of all Excellencies Ministers of the ASEAN-SEAFDEC Member States to meet the challenges of developing a common regional policy on fisheries. He finally concluded that fishery is increasingly important for achieving food security in the ASEAN Member States, the Conference was therefore an expression of regional solidarity and unity, which earns the respect especially to the countries in the region for working together for the development of policies at the regional level to safeguard our interests.

CLOSED SESSION

Agenda Item 1: ELECTION OF CHAIRMAN AND VICE-CHAIRMAN

5. The Meeting unanimously elected H.E. Dr. Theera Wongsamut, Minister of Agriculture and Cooperatives of Thailand and H.E. Dr. Fadel Mohammad, Minister of Marine Affairs and Fisheries of Indonesia as Chairman and Vice-Chairman of the Ministerial Session for the ASEAN-SEAFDEC Conference on Sustainable Fisheries for Food Security Towards 2020 "Fish for the People 2020: Adaptation to a Changing Environment", respectively.

Agenda Item 2: ADOPTION OF THE AGENDA.

6. The Meeting adopted the agenda.

Agenda Item 3: BUSINESS ARRANGEMENTS

7. The Meeting was held in plenary.

Agenda Item 4: CONSIDERATION OF THE REPORT AND RECOMMENDATIONS OF THE CHAIRMAN OF THE SENIOR OFFICIALS MEETING

8. The Chairman of the Senior Officials Meeting introduced the draft Chairman Report and recommendations of the Senior Officials Meeting, which was conducted on 16 June 2011. The Meeting took note on the Remarks of the ASEAN-SEAFDEC Member States, namely Brunei Darussalam appears, Lao PDR, Indonesia, Japan, Malaysia, Myanmar, Philippines, Singapore, and Thailand on policy and cooperation on sustainable fisheries for food security towards 2020 for the ASEAN region. These included the support in principle to Indonesia in hosting the Meeting to combat IUU Fishing at the end of 2011; and the proposal on hosting the regional center for inland fisheries development as a part of SEAFDEC.

9. The Meeting considered and endorsed the report and recommendations of the Chairman of the Senior Officials Meeting. These include adoption of the Resolution on Sustainable Fisheries for Food Security for the ASEAN Region towards 2020; and take note on the adopted Plan of Action on Sustainable Fisheries for Food Security for the ASEAN Region Towards 2020, and the ASEAN Programme Concept Note on Sustainable Fisheries for Food Security (2011-2015).

Agenda Item 5: ADOPTION OF JOINT PRESS STATEMENT

10. The Meeting adopted the Joint Press Statement.

OPEN SESSION

Agenda Item 6: JOINT PRESS STATEMENT FOR THE ASEAN-SEAFDEC MINISTERIAL SESSION

11. On behalf of the Chairman of the Ministerial Session H.E. Mr. Theera Wongsamut, Minister of Agriculture and Cooperatives, Thailand and the ASEAN-SEAFDEC Ministers, the adopted Joint Press Statement was delivered to the Meeting by H.E. Mr. S. Pushpanathan, Deputy Secretary-General of ASEAN for ASEAN Economic Community.

Agenda Item 7: STATEMENT BY STAKEHOLDERS

12. The Meeting took note on the support and cooperation from stakeholders in the promotion of sustainable fisheries for food security. These included the statement from Dr. Chumnarn Pongsri, the Secretary-General of SEAFDEC; Mr. Hiroyuki Konuma, Assistant Director-General of the Food and Agriculture Organisation of the United Nations (FAO), the Regional Office for Asia and the Pacific; Prof. Dr. Nguyen Huu Dung, the Vice President of Vietnam Association of Seafood Exporters and Producers (VASEP) in his capacity as the Chairman of ASEAN Seafood Federation (ASF); and Mr. Arsenio Tanchuling, the Executive Director of Tambuyog Development in his capacity as the Coordinator of SEAFish for Justice.

**LIST OF PARTICIPANTS OF THE MINISTERIAL MEETING
OF THE ASEAN-SEAFDEC CONFERENCE
(17 June 2011)**

Ministerial Session

**ASEAN-SEAFDEC Conference on Sustainable Fisheries for Food Security Towards 2020
“Fish for the People 2020: Adaptation to a Changing Environment”**

Brunei Darussalam

H.E. Pehin Dato Yahya Bakar

Minister
Ministry of Industry and Primary Resources
Jalan Menteri Besar, Bandar Seri Begawan
BB 3910 Brunei Darussalam
Tel: +673 2382119 Fax: +673 2381206
E-mail: yahya.bakar@industry.gov.bn

**Dayang Hajah Normah Suria Hayati binti
Pehin Jawatan Dalam Seri Maharaja Dato Seri
Utama (Dr.) Haji Awang Mohd Jamil Al-Sufri
(Mrs.)**

Deputy Permanent Secretary
Ministry of Industry and Primary Resources
Jalan Menteri Besar, Bandar Seri Begawan
BB 3910 Brunei Darussalam
Tel: +673 2382844 Fax: +673 2382845
E-mail: normarh.iamil@industry.gov.bn

Hajah Hasnah Ibrhim (Mrs.)

Director
Fisheries Department
Ministry of Industry and Primary Resources
Jalan Menteri Besar, Bandar Seri Begawan
BB 3910 Brunei Darussalam
Tel: +673 2383412 Fax: +673 2382069
E-mail: hasnah.ibrahim@fisheries.gov.bn

Munah Haji Lampoh (Mrs.)

Senior Fisheries Officer
Fisheries Department
Ministry of Industry and Primary Resources
Jalan Menteri Besar, Bandar Seri Begawan
BB 3910 Brunei Darussalam
Tel: +673 2383412 Fax: +673 2382069
E-mail: alif2701@yahoo.com

Hajah Noor Izrina Abdullah (Mrs.)

Special Duties Officer
Ministry of Industry and Primary Resources
Jalan Menteri Besar, Bandar Seri Begawan
BB 3910 Brunei Darussalam
Tel: +673 2381882 Fax: +673 2381206
E-mail: noorizrina.abdullah@industry.gov.bn

Indonesia

H.E. Fadel Muhammad (Dr.)

Minister
Ministry of Marine Affairs and Fisheries
Jalan Medan Merdeka Timur, No.16
Jakarta 10110
Tel: +622 13869293 Fax: +622 13869293

Endhay Kusnendar (Dr.)

Director-General
Marine and Fisheries Research and Development
Agency
JL. Pasir Putih 1, Ancol Timor
Jakarta, Indonesia, 14430
Tel: +622 164711583
Fax: +622 164711583
Email: endhay.kusnendar@gmail.com,
endhay_kontara@yahoo.co.id

Ketut Sugama (Dr.)

Director-General of Aquaculture
Ministry of Marine Affairs and Fisheries
GD.B Deptan Lt.4 Jalan Harsono RM No.3
Ragunan Jakarta Selatan, Indonesia
Tel: +6221 7806131 ext.3425/3424
Fax: +6221 7806131
Email: sugama@indosat.net.id,
ksp.djpb@gmail.com

Syahrin Abdurachman

Director-General
Surveillance for Marine and Fisheries Resources
Ministry of Marine Affairs and Fisheries
Jalan Medan Merdeka Timur, No.16
Jakarta 10110, Indonesia
Tel: +6221 3500087 Fax: +6221 3515484
Email: g_psdkp@yahoo.com

Primanto Hendrasmoro

Deputy Chief of Mission
Embassy of the Republic of Indonesia
600-602 Petchburi Road, Phayathai, Ratchatewi
Bangkok, Thailand 10400
Email: phendrasmoro@kemlu.go.id

Achmad Poernomo (Dr.)

Executive Secretary
Marine and Fisheries Research and Development
Agency
JL. Pasir Putih 1, Ancol Timor,
Jakarta 14430, Indonesia
Tel: +622 164711583 Fax: +622 164711583
Email: achpoer@yahoo.com

Ida Kusuma Wardhaningsih (Ms.)

Executive Secretary
Directorate General of Surveillance for Marine and
Fisheries Resources
Ministry of Marine Affairs and Fisheries
Jalan Medan Merdeka Timur, No.16
Jakarta 10110, Indonesia
Tel: +6221 3500087 Fax: +6221 3515484
Email: idakusumaw@gmail.com,
ida-k@centrin.net.id

Andi Soesmono

Deputy Director
Multilateral Cooperation
Center of Analysis for International Cooperation
Ministry of Marine Affairs and Fisheries
Jalan Medan Merdeka Timur, No.16,
Jakarta 10110, Indonesia
Tel: +6221 3509070 ext.7113
Fax: +6221 3864293
Email: ansoes_69@yahoo.co.id

Ary Aprianto

Assistant Deputy Director
Directorate General of ASEAN Cooperation
Ministry of Foreign Affairs
Taman Pejambon No.6, Jakarta, Indonesia
Tel: +856-21-3509057 Fax: +856-21-3509057
E-mail: aryaprianto@yahoo.com

Dozi Adezon

Third Secretary for Economic Affairs
Embassy of the Republic of Indonesia
600-602 Petchburi Road, Phayathai, Ratchatewi
Bangkok, Thailand 10400
Email: dozi.adezon@gmail.com

Japan

H.E. Seiji Kojima

Ambassador Extraordinary and Plenipotentiary of
Japan to the Kingdom of Thailand
Embassy of Japan
177 Witthayu Road, Lumpini, Pathum Wan
Bangkok 10330 Thailand
Tel: +66 2 6963000 Fax: +66 2 6963017

Akira Inoue

Director-General
Resource Management Department
Fisheries Agency
Ministry of Agriculture, Forestry and Fisheries
1-2-1, Kasumigaseki, Chiyoda-ku
Tokyo 100-8907, Japan
Tel: +81-(0) 3-6744-2367
Fax: +81-(0)3-3502-0571

Kazuo Hiraishi

Director
Overseas Fisheries Cooperation Office
International Affairs Division
Fisheries Agency
Ministry of Agriculture, Forestry and Fisheries
1-2-1, Kasumigaseki, Chiyoda-ku
Tokyo 100-8907, Japan
Tel: +81-(0) 3-6744-2367
Fax: +81-(0) 3-3502-0571
E-mail: hiraisi@nm.maff.go.jp

Takeshi Miwa

Assistant Director
International Affairs Division
Fisheries Agency of Japan
Ministry of Agriculture, Forestry and Fisheries
Kasumigaseki, Chiyoda-ku
Tokyo 100-8907, Japan
Tel: +81-(0) 3-6744-2367
Fax: +81-(0) 3-3502-0571
E-mail: takeshi_miwa@nm.maff.go.jp

Midori Kuwahara (Mrs.)

Technical Official
International Affairs Division
Fisheries Agency
Ministry of Agriculture, Forestry and Fisheries
1-2-1, Kasumigaseki, Chiyoda-ku
Tokyo 100-8907, Japan
Tel: +81-(0) 3-6744-2367
Fax: +81-(0) 3-3502-0571
E-mail: midori_shinzawa@nm.maff.go.jp

Teruo Kitade

Technical Official
International Affairs Division
Fisheries Agency
Ministry of Agriculture, Forestry and Fisheries
1-2-1, Kasumigaseki, Chiyoda-ku
Tokyo 100-8907, Japan
Tel: +81-(0) 3-6744-2367
Fax: +81-(0) 3-3502-0571

Wataru Arie

Secretary
Ministry of Agriculture, Forestry and Fisheries
1-2-1, Kasumigaseki, Chiyoda-ku,
Tokyo 100-8907, Japan
Tel: +81-(0) 3-6744-2367
Fax: +81-(0) 3-3502-0571
E-mail: wataru_arie@nm.maff.go.jp

Yoko Yamakage (Mrs.)

Interpreter
Fisheries Agency
Ministry of Agriculture, Forestry and Fisheries
1-2-1, Kasumigaseki, Chiyoda-ku
Tokyo 100-8907, Japan
Tel: +81-(0) 3-6744-2367
Fax: +81-(0) 3-3502-0571
E-mail: yoyo_yama@ybb.ne.jp

Kaoru Kawamoto (Mrs.)

Interpreter
Fisheries Agency
Ministry of Agriculture, Forestry and Fisheries
1-2-1, Kasumigaseki, Chiyoda-ku
Tokyo 100-8907, Japan
Tel: +81-(0) 3-6744-2367
Fax: +81-(0) 3-3502-0571

Lao PDR

H.E. Ty Phommasack (Dr.)

Vice Minister
Ministry of Agriculture and Forestry
P.O. Box 6644, Vientiane LAO PDR
Tel: +865-21-415367 Fax: +865-21-412344
E-mail: dr.typhommasack@gmail.com

Bounkhouang Khambounheuang (Dr.)

Director-General
Department of Livestock and Fisheries
P.O. Box 6644, Vientiane, Lao PDR
Tel: +856-21-215243 Fax: +856-21-215141
E-mail: lao_dlfmaf@yahoo.com

Bounthong Saphakdy

Director
Fisheries Division
Department of Livestock and Fisheries
P.O. Box 6644, Vientiane, Lao PDR
Tel: +856-21-215243 Fax: +856-21-215141
E-mail: saphakdy@yahoo.com

Akhane Phomsouvanh

Deputy Director
Fisheries Division
Department of Livestock and Fisheries
P.O. Box 6644, Vientiane, Lao PDR
Tel: +856-21-215243 Fax: +856-21-215141
E-mail: akhane@live.com

Inthadom Akkharath

Deputy Director
International Cooperation Division
Department of Planning
P.O. Box 811, Vientiane, Lao PDR
Tel: +856-21-415358 Fax: +856-21-412343
E-mail: iakkharath@yahoo.com

Malaysia

Y.B. Datuk Seri Noh Bin Omar

Minister
Ministry of Agriculture & Agro-Based Industry
Wisma Tani, No.28, Persiaran Perdana,
Presint 4, 62624 Putrajaya, Malaysia
Tel: +60388701000
Fax: +60388888171
Email: nohomar@moa.gov.my

Shamsul Akbar Sulaiman

Principal Assistant Secretary
Ministry of Agriculture & Agro-Based Industry
Wisma Tani, No.28, Persiaran Perdana,
Presint 4, 62624 Putrajaya, Malaysia
Tel: +60388701213
Fax: +60388888548
Email: shamsul@moa.gov.my

Raihan Bih Sharif

Deputy Secretary General
Ministry of Agriculture & Agro-Based Industry
Wisma Tani, No.28, Persiaran Perdana,
Presint 4, 62624, Putrajaya, Malaysia
Tel: +60388701000
Fax: +60388888171
Email: raihan@moa.gov.my

Azini Mohd Shahid

Under Secretary
Ministry of Agriculture & Agro-Based Industry
Wisma Tani, No.28, Persiaran Perdana,
Presint 4, 62624 Putrajaya, Malaysia
Tel: +60388701763
Fax: +6038870 1792
Email: azini@moa.gov.my

Mohammad Safie Bin Asnan, Dató

Senior Officer of Minister's Office
Ministry of Agriculture & Agro-Based Industry
Wisma Tani, No.28, Persiaran Perdana,
Presint 4, 62624 Putrajaya, Malaysia
Tel: +60388701763
Fax: +6038870 1792
Email: safie@moa.gov.my

Ahamad Sabki Bin Mahmood, Dató

Director-General of Fisheries Malaysia
Department of Fisheries Malaysia
Level 2, Tower Block 4G2, Wisma Tani, Presinct
4, Federal Government Administration Centre,
62628 Putrajaya, Malaysia
Tel: 6-03-88704008
Fax: 6-03-88892460
Email: ahamadsabki@dof.gov.m

Muez Bin Abdul Aziz, Dató

Under Secretary
Ministry of Agriculture & Agro-Based Industry
Wisma Tani, No.28, Persiaran Perdana, Presint 4,
62624
Putrajaya, Malaysia
Tel: +6038870 1763
Fax: +6038870 1792
Address: muez@moa.gov.my

Myanmar

H.E. Khin Maung Aye

Deputy Minister
Ministry of Livestock and Fisheries
Myanmar
Tel: +95 1 647536 Fax: +95 1 647519

Win Myint Maung

Director
Fish Inspection and Quality Control Division
Department of Fisheries
Ministry of Livestock and Fisheries
West Gyo Gone, Insein Township
Yangon, Myanmar
Tel: +95 860 2471

Khin Maung Soe

Deputy Director
Department of Fisheries
West Gyogone, Bayinnaung Road,
Insein Township, Yangon, Myanmar
Tel: +95 1 647536 Fax: +95 1 647519
E-mail: aquadof10@gmail.com

Tint Swe

Deputy Director
Department of Fisheries
West Gyogone, Bayinnaung Road,
Insein Township, Yangon, Myanmar
Tel: +95 1 647536 Fax: +95 1 647519
E-mail: dof.tintswe@gmail.com

Myint Pe

Assistant Director
Department of Fisheries
West Gyogone, Bayinnaung Road,
Insein Township, Yangon, Myanmar
Tel: +95 1 647536 Fax: +95 1 647519
E-mail: myintpe@myanmar.com.mm

Philippines

H.E. Linglingay F. Lacanlale (Ms.)

Ambassador Extraordinary and Plenipotentiary of
the Philippines to the Kingdom of Thailand
Embassy of the Philippines
700 Sukhumvit Road Soi 30/1
Bangkok, Thailand
Tel: +66 2 2590139 Fax: +66 2 597373
E-mail: bangkok.pe@dfa.gov.ph

Asis G. Perez (Atty.)

Director
Bureau of Fisheries & Aquatic Resources
PCA Building, Elliptical Road,
Diliman, Quezon City, Philippines
Tel: +63 2 929 9597 Fax: +63 2 929 8074
E-mail: aperez@bfar.da.gov.ph

Pierre L. Velasco

Aquaculturist
Bureau of Fisheries & Aquatic Resources
PCA Building, Elliptical Road
Diliman, Quezon City, Philippines
Tel: +63 2 929 6668 Fax: +63 2 929 6668
E-mail: pierrevelasco@gmail.com

Singapore

H.E. Mohamad Maliki Bin Osman (Dr.)

Senior Parliamentary Secretary
Ministry of National Development
5 Maxwell Road, #21-00, Tower Block, MND
Complex, Singapore 069110
Tel: +65 31067115 Fax: +65 63257254
E-mail: maliki_osman@mnd.gov.sg

Tan Poh Hong (Ms.)

Chief Executive Officer
Agri-Food & Veterinary Authority of Singapore
5 Maxwell Road, #04-00, Tower Block, MND
Complex, Singapore 069110
Tel: +65 6325 7530 Fax: +65 6220 6068
E-mail: Tan_Poh_Hong@ava.gov.sg

Tan-Low Lai Kim (Ms.)

Director
Food Supply Resilience
Agri-Food & Veterinary Authority of Singapore
5 Maxwell Road, #04-00, Tower Block
MND Complex, Singapore 069110
Tel: +65 6325 7604 Fax: +65 6220 6068
E-mail: Tan-Law_Lai_Kim@ava.gov.sg

Melvin Chow Wing Chung

Deputy Director
Planning & Management (Food Supply)
Agri-Food & Veterinary Authority of Singapore
5 Maxwell Road, #04-00, Tower Block
MND Complex, Singapore 069110
Tel: +65 6325 7635 Fax: +65 6220 6068
E-mail: Melvin_Chow@ava.gov.sg

Tan Ming Hui (Ms.)

Ministry of National Development
5 Maxwell Road, #21-00, Tower Block
MND Complex, Singapore 069110
Tel: +65 31067115 Fax: +65 63257254

Thailand

H.E. Theera Wongsamut

Minister
Ministry of Agriculture and Cooperatives
3 Ratchadamnoen Nok Road, Bangkok 10200
Tel: +66 2 2819030 Fax: +66 2 2824266
E-mail: theera@moac.go.th

Jirawan Yamprayoon (Dr.)

Inspector-General
Ministry of Agriculture and Cooperatives
3 Ratchadamnoen Nok Road, Bangkok 10200
Tel: +66 2 2823548 Fax: +66 2 2813741
E-mail: jirawan@moac.go.th

Somying Piumsombun (Dr.)

Director-General
Department of Fisheries
Kaset Klang, Chatuchak
Bangkok 10900, Thailand
Tel: +66 2 5620523 Fax: +66 2 5620564
E-mail: somyingp@fishries.go.th

Nanthiya Unprasert (Dr.)

Deputy Director
Department of Fisheries
Kaset Klang, Chatuchak
Bangkok 10900, Thailand
Tel: +66 2 5620526 Fax: +66 2 5798094
E-mail: nanthiyau@gmail.com

Waraporn Prompoj (Dr.)

Senior Expert
International Fisheries Affairs
Department of Fisheries
Kaset Klang, Chatuchak
Bangkok 10900, Thailand
Tel: +66 2 5620540 Fax: +66 2 5620571
E-mail: wprompoj@yahoo.com

Apichart Termwittachakorn (Dr.)

Senior Expert
Fish Taxonomy
Department of Fisheries
Kaset Klang, Chatuchak
Bangkok 10900, Thailand
Tel: +66 2 5620600 ext. 5210
Fax: +66 2 5796439
E-mail: inland_larvae@yahoo.com

Varin Tanasomwang (Dr.)

Director
Coastal Fisheries Research and Development
Bureau
Department of Fisheries
Kaset Klang, Chatuchak
Bangkok 10900, Thailand
Tel: +66 2 5614759 Fax: +66 2 5792422
E-mail: varin_tana@hotmail.com

Manoch Roongtratri

Director
Marine Fisheries Research and Development
Bureau
Department of Fisheries
Kaset Klang, Chatuchak
Bangkok 10900, Thailand
Tel: +66 2 5620542 Fax: +66 2 5620543
E-mail: marine@dof.in.th

Malinee Smithrithee (Ms.)

Director
Fisheries Foreign Affairs Division
Department of Fisheries
Kaset Klang, Chatuchak
Bangkok 10900, Thailand
Tel: +66 2 5798215 Fax: +66 2 5798215
E-mail: malinee_pom@hotmail.com

Krissana Sukhumparnich (Ms.)

Senior Food Technologist
Fish Inspection and Quality Control Division
Department of Fisheries
Kaset Klang, Chatuchak
Bangkok 10900, Thailand
Tel: +66 2 5580150 Fax: +66 2 5580136
E-mail: krissana_s@yahoo.com

Preyanat Thiabratana (Ms.)

Policy and Plan Analyst
Bureau of Foreign Agricultural Affairs
Ministry of Agriculture and Cooperatives
3 Ratchadamnoen Nok Road,
Bangkok 10200, Thailand
Tel: +66 2 2823548 Fax: +66 2 2813741
E-mail: preyanatpu@yahoo.com

Vietnam

H.E. Chu Tien Vinh (Dr.)

Deputy Director-General
Fisheries Administration
Ministry of Agriculture and Rural Development
10 Nguyen Cong Hoan, Ba Dinh
Hanoi, Vietnam
Tel: +84 437245374 Fax: +84 43724374

Nguyen Viet Manh

Director
International Cooperation Department
Fisheries Administration
Ministry of Agriculture and Rural Development
10 Nguyen Cong Hoan, Ba Dinh
Hanoi, Vietnam
Tel: +84 437245374 Fax: +84 43724374
E-mail: manhnv.htqt@mard.gov.vn

Nguyen Thi Trang Nhung (Ms.)

Deputy Director
International Cooperation Department
Fisheries Administration
Ministry of Agriculture and Rural Development
10 Nguyen Cong Hoan, Ba Dinh
Hanoi, Vietnam
Tel: +84 437245374 Fax: +84 43724374
E-mail: trangnhung73@yahoo.com

Nguyen Thi Hong Nhung (Ms.)

Deputy Head
Global Integration Division
Fisheries Administration
Ministry of Agriculture and Rural Development
10 Nguyen Cong Hoan, Ba Dinh
Hanoi, Vietnam
Tel: +84 437245374 Fax: +84 43724374
E-mail: nhung.doa@gmail.com

Dinh Thi Thanh Huyen (Ms.)

Deputy Head
Global Integration Division
International Cooperation Department
Ministry of Agriculture and Rural Development
10 Nguyen Cong Hoan, Ba Dinh
Hanoi, Vietnam
Tel: +84 437347082 Fax: +84 437330752
E-mail: huyendtt@mard.gov.vn

ASEAN Secretariat

Sundram Pushpanathan

Deputy Secretary General
ASEAN Economic Community Department
The ASEAN Secretariat
70A Jalan Sisingamangaraja
Jakarta 12110, Indonesia
Tel: +62 21 726 2991 Ext. 249
Fax: +62 21 739 8234
E-mail: nathan@asean.org

Somsak Pipoppinyo (Dr.)

Director
Finance Industries and Infrastructure
Directorate
ASEAN Economic Community Department
The ASEAN Secretariat
70A Jalan Sisingamangaraja
Jakarta 12110, Indonesia
Tel: +62-21-726-2991 ext. 396
Fax: +62-21-739-8234
E-mail: somsak@aseansec.org

Suriyan Vichitlekarn

Assistant Director and Head
Agriculture Industries and Natural Resources
Division
ASEAN Economic Community Department
The ASEAN Secretariat
70A Jalan Sisingamangaraja
Jakarta 12110, Indonesia
Tel: +62 (21) 7243372, 7262991 Ext. 367
Fax: +62 (21) 7398234, 7243504
E-mail: suriyan@asean.org

Pouchamarn Wongsanga (Ms.)

Senior Officer
Agriculture Industries & Natural Resources
ASEAN Economic Community Department
The ASEAN Secretariat
70A Jalan Sisingamangaraja
Jakarta 12110, Indonesia
Tel: +62 21 726 2991 Ext. 484
Fax: +62 21 739 8234
E-mail: pouchamarn.w@asean.org

Anita Setyorini (Ms.)

Technical Officer
Agriculture Industries & Natural Resources
ASEAN Economic Community Department
The ASEAN Secretariat
70A Jalan Sisingamangaraja
Jakarta 12110, Indonesia
Tel: +62 (21) 7262991 ext 802
Fax: +62 (21) 7398234/7243504
E-mail: anita.setyorini@asean.org

SEAFDEC

Chumnarn Pongsri (Dr.)

Secretary-General
SEAFDEC Secretariat
P.O. Box 1046, Kasetsart Post Office
Bangkok 10903, Thailand
Tel: +66 2 9406326 Fax: +66 2 9406336
E-mail: sg@seafdec.org

Kenji Matsumoto

Deputy Secretary-General
SEAFDEC Secretariat
P.O. Box 1046, Kasetsart Post Office
Bangkok 10903, Thailand
Tel: +66 2 9406326 Fax: +66 2 9406336
E-mail: dsg@seafdec.org

Magnus Torell (Dr.)

Senior Advisor
SEAFDEC Secretariat
P.O. Box 1046, Kasetsart Post Office
Bangkok 10903, Thailand
Tel: +66 2 9406326 Fax: +66 2 9406336
E-mail: magnus@seafdec.org

Somboon Siriraksophon (Dr.)

Policy and Program Coordinator
SEAFDEC Secretariat
P.O. Box 1046, Kasetsart Post Office
Bangkok 10903, Thailand
Tel: +66 2 9406326 Fax: +66 2 9406336
E-mail: somboon@seafdec.org

Somnuk Pornpatimakorn

Administration and Finance Coordinator
SEAFDEC Secretariat
P.O. Box 1046, Kasetsart Post Office
Bangkok 10903, Thailand
Tel: +66 2 9406326 Fax: +66 2 9406336
E-mail: somnuk@seafdec.org

Nualanong Tongdee (Ms.)

Information Program Coordinator, *a.i.*
SEAFDEC Secretariat
P.O. Box 1046, Kasetsart Post Office
Bangkok 10903, Thailand
Tel: +66 2 9406326 Fax: +66 2 9406336
E-mail: nual@seafdec.org

Tadahiro Kawata

Technical Coordinator
SEAFDEC Secretariat
P.O. Box 1046, Kasetsart Post Office
Bangkok 10903, Thailand
Tel: +66 2 9406326 Fax: +66 2 9406336
E-mail: kawata@seafdec.org

Akito Sato

Assistant Trust Fund Manager
SEAFDEC Secretariat
P.O. Box 1046, Kasetsart Post Office
Bangkok 10903, Thailand
Tel: +66 2 9406326 Fax: +66 2 9406336
E-mail: sato@seafdec.org

WELCOME REMARKS

By *H.E. Mr. Theera Wongsamut*
Minister of Agriculture and Cooperatives, Thailand

Ministerial Session

**ASEAN-SEAFDEC Conference on Sustainable Fisheries for Food Security Towards 2020
“Fish for the People 2020: Adaptation to a Changing Environment”**

Your Excellency, Dr. Trairong Suwankiri, the Deputy Prime Minister of Thailand,
Your Excellencies, Distinguished Ministers
Distinguished Delegates
Ladies and Gentlemen, Good Morning!

On behalf of the Government of Thailand, please allow me to express my warmest welcome to all of you, to this Ministerial Meeting for the ASEAN-SEAFDEC Conference on Sustainable Fisheries for Food Security Towards 2020. Today, I feel highly honored and most appreciative to have His Excellency, the Deputy Prime Minister of Thailand, Dr. Trairong Suwankiri to preside over the Inauguration of this Meeting.

We must recall that in November 2001, the Association of Southeast Asian Nations and the Southeast Asian Fisheries Development Center co-organized the first ASEAN-SEAFDEC Conference on Sustainable Fisheries for Food Security in the New Millennium “Fish for the People” in Bangkok, hosted by Department of Fisheries of Thailand, to address important issues pertaining to the sustainable development of fisheries in the region. During that time, the Resolution and Plan of Action on Sustainable Fisheries for Food Security for the ASEAN Region were adopted by the Ministers in charge of fisheries, of the ASEAN-SEAFDEC Member Countries. Since then, such instruments have been used as both policy framework and guiding principle in the development of sustainable fisheries in our region.

Almost a decade later, despite the great efforts of the Member Countries in ensuring sustainable fisheries by preventing the deterioration of the aquatic resources and the environment, the well-being of these aspects of the ecosystem continue to remain great global concerns. The next challenge therefore is for us to strengthen our collaboration in order to determine the regional direction for revitalizing the promotion of sustainable fisheries and enhancing its contribution to food security as well as to the people’s well-being for the next decade. It is now the most opportune time for us to revisit the perspectives and prospects of fisheries for food security, re-examine the well-being of the fisheries communities for poverty alleviation, and promote socio-economic equity within countries and among the countries of Southeast Asia.

It is therefore urgently necessary for us to consider the “2011 Resolution and Plan of Action” since these instruments would be used as a guideline in strengthening the countries’ performance in the development of sustainable fisheries. Through the Resolution and Plan of Action, the countries in the region would also be able to gain enhanced support from regional and international organizations in order to implement projects and activities that could address the goals of sustainable fisheries development for food security towards 2020. Eventually, all our efforts would also support the ASEAN Community Building, which as envisaged, would be achieved by the year 2015.

During the last three days of the Conference, various emerging issues that impede the sustainable development of fisheries in the ASEAN region were discussed from which recommendations have been raised to further the development of the Plan of Action, which we would also adopt today. The issues that were discussed and addressed through the series of Regional Technical Consultations included those on fisheries management, sustainable aquaculture development, ecosystem approach to fisheries, post-harvest and safety, requirements for trade, climate change adaptation, fishing communities’ livelihood, and sustainability of food supply from inland fisheries.

We are therefore indebted to the ASEAN and SEAFDEC for their efforts in bringing about this meaningful dialogue. The magnificent support from the Government of Japan, and the expertise provided by the Food and Agriculture Organization of the United Nations and many other organizations and institutions have contributed to the Conference, and we deeply appreciate such support and assistance for without them, this Conference could not have realized its objectives.

Furthermore, this Conference allows us to fashion the future of regional fisheries and gives the foundation for the present and future generations to continue working with. "Fish for the People" is no idle speculation but is a pressing and vital necessity for the well-being of our food security. The road ahead will not be easy, but you have my assurance that Thailand will work hard to achieve the objectives of this Conference.

Before I close, please allow me now to express my appreciation for the great efforts made by those who took part in the plenary sessions and exchanged their experiences. I would also like to acknowledge the efforts of the steering committees, the technical consultations, and most particularly the works that went on in the back-rooms in order to make this Conference a great success. Thank you to all of you, for your work and your attention.

OPENING REMARKS

By *H.E. Mr. Trairong Suwankiri*
Deputy Prime Minister of Thailand
on behalf of the Prime Minister of Thailand *H.E. Abhisit Vejjajiva*

Ministerial Session

**ASEAN-SEAFDEC Conference on Sustainable Fisheries for Food Security Towards 2020
“Fish for the People 2020: Adaptation to a Changing Environment”**

Your Excellencies,
The Ministers of the ASEAN-SEAFDEC Member Countries,
Distinguished Delegates,
Ladies and Gentlemen:

First of all, *H.E. Mr. Abhisit Vejjajiva* the Prime Minister of Thailand asked me to express his regrets for not attending this ceremony due to sudden indisposition that makes him unable to accept your invitation.

On his behalf, I myself am deeply honored to be here with you today to deliver the opening address for the Ministerial Session of the ASEAN-SEAFDEC Conference on Sustainable Fisheries for Food Security towards 2020. This special occasion gives me an opportunity to publicly applaud the organization of this Conference, and especially the Meeting of Ministers who are responsible for fisheries in the ASEAN and SEAFDEC Member Countries. It is most heartening to witness the commitment of Your Excellencies to meet the challenges of developing a common regional policy on fisheries. We are very much aware that fishery is increasingly important for achieving food security in the ASEAN Member Countries. This Conference is therefore an expression of regional solidarity and unity, which earns my respect especially to the countries in the region for working together for the development of policies at the regional level to safeguard our interests.

We must recall that during the 14th ASEAN Summit in 2009, the ASEAN Leaders adopted the ASEAN Integrated Food Security Framework as a matter of permanent and high priority policy. I would therefore trust that this Ministerial Session would create a comprehensive policy framework as guide for all ASEAN Member Countries to implement our priorities for achieving sustainable fisheries and food security in the region. In the succeeding 15th ASEAN Summit, we reiterated our commitment to support the establishment of a fully integrated ASEAN Community by 2015, which is characterized by Community of Action, Community of Connectivity, and Community of Peoples as the ultimate beneficiaries. This Conference and the efforts of the Ministers to adopt the revitalized Resolution and Plan of Action on Sustainable Fisheries for Food Security for the ASEAN Region Towards 2020, is a clear evidence that the countries are preparing to implement what the ASEAN leaders have agreed, declared and envisioned towards the realization of an integrated the ASEAN Community.

I have been informed that the Resolution and Plan of Action on Sustainable Fisheries for Food Security for the ASEAN Region which was adopted in 2001, had since then been promoted in the region. Guided by the said Resolution and Plan of Action, the ASEAN countries throughout the past ten years, have exerted efforts and made significant progress in enhancing the role of fisheries as one of the main driving forces towards attaining food security in our region. However, we should also understand that many issues and concerns recently emerged had threaten the sustainability of fisheries in our region.

I understand that this is the second time that the ASEAN Member Countries have mobilized regional expertise on such a large scale to address the enormous problems that continue to confront the fisheries sector of our region. I am therefore thankful to the ASEAN and SEAFDEC for their continued efforts in providing a forum such as this for the countries to exchange experiences and ideas to address the impeding issues. I also understand that during this Ministerial Session, the new decade the Resolution and Plan of Action developed through various consultations and the Technical Session conducted during the last three days, will be adopted. I am sure that such instruments could also serve as a guideline for the non-ASEAN nations, which facing similar situations as in the tropical zone such as our region, and countries where small-scale fisheries is vital for their rural development.

At this juncture, I would like to acknowledge the most generous support of the Government of Japan through SEAFDEC, the ASEAN Foundation through the Japan-ASEAN Solidarity Fund, the United States Agency for

International Development, the Food and Agriculture Organization of the United Nations, and the experts provided by many technical and academic institutions in Japan and the region, the staff of the Southeast Asian Fisheries Development Center and the ASEAN Secretariat, for the hard work in the preparations and arrangements for this Conference. On behalf of the people of the ASEAN Member Countries, I also offer my heartfelt thanks and congratulations to all who have supported, arranged and participated in this Conference.

In declaring this Ministerial Meeting open, I wish to thank all the participants who have traveled internationally to lend their support to this vitally important event despite widespread turbulence in world affairs. Through this Meeting, we seek to harness the strength of each nation, working towards a common purpose – sustainable fisheries and food security for the ASEAN region – “fish for the people 2020”.

Your Excellencies, Ministers of the ASEAN-SEAFDEC nations, I wish you well in your deliberations. I now take great pleasure in declaring this Ministerial Meeting of the ASEAN-SEAFDEC Conference open. Thank you

**RESOLUTION ON SUSTAINABLE FISHERIES FOR FOOD SECURITY
FOR THE ASEAN REGION TOWARDS 2020**

(Adopted by the ASEAN-SEAFDEC Ministers on 17 June 2011)

Ministerial Session

**ASEAN-SEAFDEC Conference on Sustainable Fisheries for Food Security Towards 2020
“Fish for the People 2020: Adaptation to a Changing Environment”**

We, the Ministers of ASEAN-SEAFDEC Member Countries who are responsible for fisheries, met in Bangkok, Thailand on the occasion of the ASEAN-SEAFDEC Conference on Sustainable Fisheries for Food Security Towards 2020: Fish for the People 2020 “Adaptation to a Changing Environment” on 17 June 2011,

Recalling the principles of the ASEAN Vision 2020 and relevant ASEAN declarations/initiatives including the Roadmap for an ASEAN Community (2009-2015); the ASEAN Economic Community Blueprint; the ASEAN Socio-Cultural Community Blueprint; the ASEAN Fisheries Consultative Forum Work Plan (2010-2012); the ASEAN Integrated Food Security (AIFS) Framework and Strategic Plan of Action on Food Security in the ASEAN Region (SPA-FS) (2009-2013); and the ASEAN Multi-sectoral Framework on Climate Change: Agriculture and Forestry Towards Food Security (2010 onwards); and the Millennium Development Goals (MDGs) that need to be considered in achieving sustainable development of fisheries and the socio-economic well-being of all relevant stakeholders;

Guided by the ASEAN Charter, which aims to ensure sustainable development for the benefit of present and future generations and to place the well-being, livelihood and welfare of the people as the focus of the ASEAN Community building process;

Recognising the importance of the fisheries sector for food security, livelihoods and well-being of the ASEAN people and its contribution to sustainable development and realisation of the ASEAN Community by 2015, which encompasses the three pillars - the ASEAN Political Security Community, the ASEAN Economic Community and the ASEAN Socio-Cultural Community;

In response to the challenges of the changing environment and the emerging issues including climate change and the growing gap between the increased demand for fish and fishery products and ASEAN’s ability to supply these products in a sustainable manner, and taking into account the imperative to minimise the impacts caused by the increasing pressures on fisheries and globalisation of trade that are resulting in increased illegal, unreported and unregulated (IUU) fishing, the depletion of coastal fish resources, habitat degradation, negative impacts of aquaculture, and increased conflicts among resource users that further jeopardise the food security and livelihoods of ASEAN people, in particular the poor and disadvantaged;

Recognising the “ASEAN-Japan Partnership for New Growth in Asia”, through supporting the implementation of the Roadmap for an ASEAN Community 2009-2015;

Recognising the support from the other dialogue partners to ASEAN in the implementation of the Roadmap for an ASEAN Community 2009-2015;

Bearing in mind the provisions of international and regional declarations and instruments relevant to fisheries, food security, ocean governance, trade, rights/safety, social well-being and the aquatic environment, including the continued relevance of provisions provided in the FAO Code of Conduct for Responsible Fisheries and the Regional Guidelines on Responsible Fisheries in Southeast Asia;

Acknowledging the ASEAN-SEAFDEC Resolution and Plan of Action on Sustainable Fisheries for Food Security for the ASEAN Region that was adopted by the ASEAN-SEAFDEC Ministers responsible for fisheries during the ASEAN-SEAFDEC Conference on Sustainable Fisheries for Food Security in the New Millennium “Fish for the People” on 24 November 2001, and the progress made by the Member Countries in the implementation of the 2001 Resolution and Plan of Action;

Recognising the ASEAN-SEAFDEC Strategic Partnership (ASSP) in providing a cooperative platform between ASEAN and SEAFDEC, in achieving long-term common goals towards development and management for sustainable fisheries;

Acknowledging that priority should be given to the issues identified through the national and regional participatory processes in preparation for, and at the *ASEAN-SEAFDEC Conference on Sustainable Fisheries for Food Security Towards 2020: Fish for the People 2020 “Adaptation to a Changing Environment”*;

DO HEREBY RESOLVE, without prejudice to the sovereign rights, obligations, and responsibilities of our countries under relevant international laws and arrangements, to:

1. Sustain the supply of fish and fishery products from the ASEAN region to improve food security, facilitate poverty alleviation, and improve the livelihoods of ASEAN people dependent on the harvesting, farming and marketing of fish and fishery products, by enhancing the necessary national fisheries policy, legal and institutional frameworks that encourages and support small-scale fisheries/farmers, including providing alternative livelihood opportunities;
2. Further develop strategic partnerships and cooperation to maximise the synergies and complementarities among the various stakeholders – government, private sector, civil society and relevant development partners and donor agencies to address regional and global challenges;
3. Strengthen human capacity of relevant stakeholders through mobilisation of resources and the harmonisation of initiatives that support fisheries communities and governments, with a special focus on the women and youth;
4. Strengthen fisheries governance by evaluating current constraints to ensure comparability and compatibility between the required practices and operation of fisheries in the ASEAN Member Countries;
5. Further develop regional initiatives to promote a responsible fisheries management mechanism, taking into account the specific social, economic, cultural, ecological and institutional contexts and diversity of ASEAN and ASEAN fisheries in the spirit of the development of the ASEAN Economic Community and the ASEAN Socio-Cultural Community;
6. Implement effective management of fisheries through an ecosystem approach to fisheries that integrates habitat and fishery resource management aimed at increasing the social and economic benefits to all stakeholders, especially through delegating selected management functions to the local level and promoting co-management as a partnership between government and relevant stakeholders;
7. Promote better management of fishing capacity and use of responsible fishing technologies and practices, recognising the movement towards replacing the “open access” to fisheries resources with “limited access” through rights-based fisheries, and at the same time, secure the rights and well-being of inland and coastal fisheries communities;
8. Foster cooperation among ASEAN Member Countries and with international and regional organisations in combating IUU fishing;
9. Enhance resilience of fisheries communities to anticipate and adapt to changes in environmental conditions of inland and coastal waters, including those caused by climate change, which could adversely affect fisheries and aquaculture of fisheries communities;
10. Strengthen knowledge/science-based development and management of fisheries through enhancing the national capacity in the collection and sharing of fisheries data and information;
11. Enhance the awareness of the contribution that inland fisheries makes to food security and sustainable livelihoods, and include consideration of fisheries stakeholders when undertaking development projects that may impact inland fisheries;

12. Support ASEAN efforts to promote low carbon development by minimising the contribution of the fisheries sector to green-house gas emissions, with emphasis on promoting energy efficiency and use of alternative energy sources;
13. Improve the working conditions of people engaged in fisheries activities, and strengthen measures for safety of fishing vessels taking into consideration regional specificity;
14. Promote inter-agency coordination of multiple uses of freshwater resources for sustainable development of the resources and conservation of freshwater habitats;
15. Enhance the awareness that aquaculture makes to food security and sustainable livelihoods to deliver a responsible increase in aquaculture production that promotes aquaculture for rural development as means of rational use of land and water resources;
16. Promote cooperation among Member Countries and with international and regional organisations in encouraging responsible aquaculture practices through joint research, technology transfer and human resource development;
17. Mitigate the potential impacts of aquaculture on the environment and biodiversity including the spread of aquatic animal diseases caused by the uncontrolled introduction and transfer of exotic aquatic species and over-development of aquaculture;
18. Promote joint ASEAN approaches and positions in international trade in fish and fishery products indigenous to the region by harmonising the standards, criteria and guidelines and developing mutually-recognised agreements on sustainability and safety management systems;
19. Support the competitiveness of the ASEAN fish trade through the development of procedures and programmes that would certify, validate or otherwise indicate the origin of fish to reflect the need for traceability, sustainable fishing practices and food safety, in accordance with international and national requirements;
20. Optimise the utilisation of catch from water to market by reducing post-harvest losses and waste to increase fish supply and improve economic returns through promotion of appropriate technologies and facilities along the supply chain;
21. Improve technologies and facilities to ensure fish quality assurance and safety management systems, taking into account the importance of traditional fishery products and food security requirements, and promote the development of fishery products as an alternative supplementary livelihood for fisheries communities;
22. Support the Plan of Action on Sustainable Fisheries for Food Security for the ASEAN Region Towards 2020 adopted by the ASEAN-SEAFDEC Senior Officials; and
23. Pledge our commitment to fully support this Resolution and task ASEAN Senior Officials to implement necessary actions and report progress in the advancement of sustainable fisheries that contribute to a prosperous, stable and peaceful ASEAN Community.

AND DO HEREBY DECIDE,

That the Resolution be implemented as soon as possible and use the *Plan of Action* adopted by the ASEAN-SEAFDEC Senior Officials during the *ASEAN-SEAFDEC Conference on Sustainable Fisheries for Food Security Towards 2020: Fish for the People 2020 “Adaptation to a Changing Environment”*, held June 13-17, 2011, in Bangkok, Thailand, as a guideline for formulating and implementing programs, projects, and activities through appropriate ASEAN-SEAFDEC mechanisms.

ASEAN-SEAFDEC MINISTERS

H.E. Pehin Dato Yahya Bakar, Minister of Industry and Primary Resources, Brunei Darussalam

H.E. Dr. Fadel Muhammad, Minister of Marine Affairs and Fisheries, Indonesia

H.E. Mr. Seiji Kojima, Ambassador Extraordinary and Plenipotentiary of Japan to the Kingdom of Thailand

H.E. Dr. Ty Phommasack, Vice Minister of Agriculture and Forestry, Lao PDR

H.E. Noh Bin Omar, Minister of Agriculture and Agro-Based Industry, Malaysia

H.E. Mr. Khin Maung Aye, Deputy Minister of Livestock and Fisheries, Myanmar

H.E. Ms. Linglingay F. Lacanlale, Ambassador Extraordinary and Plenipotentiary of the Republic of the Philippines to the Kingdom of Thailand

H.E. Dr. Mohamad Maliki Bin Osman, Senior Parliamentary Secretary for National Development, Singapore

H.E. Mr. Theera Wongsamut, Minister of Agriculture and Cooperatives, Thailand

H.E. Dr. Chu Tien Vinh, Deputy Director-General of Fisheries Administration, Ministry of Agriculture and Rural Development, Vietnam

STATEMENT OF SUPPORT

By *H.E. Pehin Dato Yahya Bakar*

Minister of Industry and Primary Resources, Brunei Darussalam

Ministerial Session

**ASEAN-SEAFDEC Conference on Sustainable Fisheries for Food Security Towards 2020
“Fish for the People 2020: Adaptation to a Changing Environment”**

At the outset, I would like to join you in expressing our appreciation and congratulating the officials that have worked hard in coming up with the Plan of Action on Sustainable Fisheries for Food Security Towards 2020, which is indeed a very comprehensive document. In principle Brunei Darussalam supports the Plan of Action and we will cooperate and collaborate wherever possible in its implementation. We also endorse the Resolution on Sustainable Fisheries for Food Security for the ASEAN Region Towards 2020.

I would also like to take this opportunity to thank the host country the Government of Thailand and SEAFDEC for hosting the ASEAN-SEAFDEC CONFERENCE ON SUSTAINABLE FISHERIES FOR FOOD SECURITY TOWARDS 2020 which has been successfully concluded and the Ministerial Meeting.

At the same time, I would like to express our sincere and heartfelt condolences to the Government of Japan and the people of North East of Japan following the earthquake and tsunami that struck the area on the 11 March 2011. We share a deep sadness for the loss of lives and devastating damages caused by the disaster. Sincerely hope that things would get better and the difficulties would be overcome soon. Last but not least to thank the Government of Japan for all its immeasurable contribution to SEAFDEC. Japan has been a very valuable and generous donor member contributing financial resources, expertise and technology to SEAFDEC.

Brunei Darussalam becomes member of SEAFDEC since 1995 and has benefited greatly by joining SEAFDEC, especially in the areas of capture fisheries management, aquaculture, seafood processing and human resources development. Brunei Darussalam wishes to see the continuing existence of SEAFDEC to support and implement various programs including sustainable fisheries development of food security in the ASEAN region. ASEAN-SEAFDEC Strategic Partnership (ASSP) which was formalized in 2007 has been perceived as the main vehicle to drive the process of fulfilling the expectations and commitments of the fisheries sector.

At this juncture, I would like to share with distinguished colleagues here some developments that have taken place in Brunei Darussalam, to ensure the sustainability of our fisheries resources, and contribute to the food security for now and the future.

We have implemented zoning of fishing areas in our EEZ, which facilitates the management of the marine fisheries resources, carried out an extensive resources surveys that show our resources are declining and overfished. This prompted us to take immediate actions to arrest the decline, such as, the implementation of a moratorium on fishing and trawling in the coastal areas since 2008.

We have just declared the establishment of marine protected areas which aimed to protect and conserve the areas of high marine biodiversity and to increase the fish stocks in those areas.

To complement the International and Regional Plan of Action on IUU Fishing, we have just launched ‘Brunei Darussalam National Plan of Action (NPOA) to Prevent, Deter and Eliminate IUU Fishing’. IUU Fishing has become a concern lately to our country. In this connection we support Indonesia’s proposal to host IUU Conference in 2011, while in the area of aquaculture, we have already implemented zoning of areas for aquaculture development, to ensure systematic development of the industry. We are also going to enforce Good Aquaculture and Biosecurity Practices. We are currently carrying out an R&D programme on Specific Pathogen Free (SPF) Monodon, to ensure the availability of quality seeds for the industry that could also be available to the region and internationally.

We do recognize the need for Regional Centre for Inland Fishery Development as proposed by Indonesia.

Apart from all this, we realize that being a small country, it is important that we cooperate and collaborate with our neighbours regionally and internationally, essentially our ASEAN colleagues.

Last but by no means least, let me convey our deep appreciation to you, Mr. Chairman for the warm hospitality accorded to my delegation and to congratulate once again the Government of Thailand and SEAFDEC for hosting this meeting.
Thank you for your attention.

STATEMENT OF SUPPORT
By *H.E. Dr. Fadel Muhammad*
Minister of Marine Affairs and Fisheries, Indonesia

Ministerial Session
ASEAN-SEAFDEC Conference on Sustainable Fisheries for Food Security Towards 2020
“Fish for the People 2020: Adaptation to a Changing Environment”

Excellencies, Colleague Ministers,
Head of Delegates,
Distinguished Guests,
Ladies and Gentlemen,
Good Morning.

It is indeed a great opportunity for me to be here in this important meeting in discussing sustainable fisheries for food security towards the year 2020.

I am delighted to learn that we have endorsed and signed today the results of hard work involving many experts and resource persons in the region through a series of meetings and discussions. Please accept my appreciation for those involved in the preparation of those valuable documents.

The issues addressed in the Resolution and Plan of Action are important for the progress of the fisheries industry in our region. I believe our strong commitment and concerted effort to implement the Resolution and Plan of Action would certainly support and help to ensure sustainability of fisheries resources and provide sufficient, safe and nutritious fish products not only for our people in the region but also to feed the whole world.

In this context Excellencies, I am very pleased that in the Resolution which we signed today, curbing IUU Fishing is clearly stated that requires our collective actions. Considering the urgency of the matter, with Indonesia as the lead country on combating IUU fishing, I am glad to host a meeting sometime by the end of this year to find ways and means to effectively follow-up on the Resolution.

Excellencies, Ladies and Gentlemen,

The role of inland fisheries to food security was extensively discussed during the Conference. I do agree with this as this is very relevant to our region. Indeed we have big potential and so far still under-utilized. The open water fishery is promising to contribute to food security.

To meet future demand for fishery products, the development of inland water fisheries will strongly compliment fish production from aquaculture and marine capture fisheries.

Recognizing the contribution that could be expected from inland water fisheries, I am of the view that it is high time now for ASEAN and SEAFDEC to take this field as a new core activities and to establish a Regional Center for Inland Fisheries Development as part of SEAFDEC organization. With your strong support Excellencies, Indonesia is ready to host the center.

Thank you.

STATEMENT OF SUPPORT

By *H.E. Mr. Seiji Kojima*

Ambassador Extraordinary and Plenipotentiary of Japan to the Kingdom of Thailand

Ministerial Session

**ASEAN-SEAFDEC Conference on Sustainable Fisheries for Food Security Towards 2020
“Fish for the People 2020: Adaptation to a Changing Environment”**

Mr. Chairman,
Honorable Ministers,
Distinguished Delegates,
Ladies and Gentlemen,

It is my great honor to deliver remarks on behalf of the Government of Japan on this memorable occasion. First of all, I would like to express my deepest respect and gratitude to His Excellency Mr. Theera Wongsamut, Honorable Minister of Agriculture and Cooperatives, and the Royal Thai Department of Fisheries, as well as ASEAN and SEAFDEC for hosting this important Conference.

Before dealing with policy and cooperation on sustainable fisheries for food security towards 2020, let me take this opportunity to express Japan's deep gratitude for the generous support and kind expression of solidarity extended by ASEAN Member Countries in the wake of the earthquake and tsunami of unprecedented magnitude that struck Japan on March 11.

At the G8 Summit of Deauville held last month, the Prime Minister of Japan expressed his firm determination to overcome the challenges including the nuclear accident. He also ensured that products exported from Japan are safe; I would like to emphasize that it is safe to consume marine products both being sold in markets in Japan and being exported from Japan. I would also like to point out that at the G8 Summit, the Leaders of the Group of Eight stressed that measures on goods and travel should be based on scientific evidence.

Mr. Chairman,

Japan has taken active part in the efforts toward sustainable use of living marine resources based on scientific evidence provided by competent organizations such as FAO and the regional fisheries management organizations, given their importance for food security. At this juncture, I would like to express Japan's appreciation to ASEAN Member Countries for having taken the coordinated position with Japan, sharing the same recognition of the importance of sustainable use of living marine resources, at the last year's Meeting of the Conference of the Parties to the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES). Japan is determined to further strengthen its cooperative relations with ASEAN Member Countries not only in SEAFDEC and CITES, but also in other international organizations such as FAO and the regional fisheries management organizations.

Mr. Chairman,

It may be recalled that the last ASEAN-SEAFDEC Conference held ten years ago under the theme of Fish for the People adopted a resolution and plan of action, which have turned out to be instrumental in promoting sustainable fisheries in Southeast Asia.

Nowadays, however, a changing environment has given rise to many new challenges to sustainable fisheries – for example, addressing impacts of climate change and requirements of biodiversity conservation. Against this background, it is quite timely and significant for this Conference to aim at addressing the concerns on the current fisheries situation and emerging challenges that may impede the sustainable development and the contribution of fisheries to food security in the region.

The Resolution and Plan of Action on Sustainable Fisheries for Food Security for the ASEAN Region Towards 2020, which we are to endorse, are envisaged to serve as a regional policy framework and priority actions in guiding the development of ASEAN fisheries in the coming decade. On behalf of the Government of Japan, I am pleased to announce that Japan without any hesitation, joins ASEAN Member Countries in endorsing the Draft Resolution.

I sincerely hope that SEAFDEC and ASEAN Member Countries will steadily implement the Resolution and Plan of Action, which would contribute greatly to promoting sustainable development of fisheries and enhancing the contribution of fisheries to food security in Southeast Asia.

Before concluding my remarks, I wish the Conference a fruitful and successful conclusion under the Chairmanship of H.E. Minister Theera Wongsamut and with the cooperation of all the delegations. Thank you very much.

STATEMENT OF SUPPORT

By *H.E. Dr. Ty Phommasack*

Vice Minister, Ministry of Agriculture and Forestry, Lao PDR

Ministerial Session

**ASEAN-SEAFDEC Conference on Sustainable Fisheries for Food Security Towards 2020
“Fish for the People 2020: Adaptation to a Changing Environment”**

Your Excellencies, Mr. Theera Wongsamut, Minister of Agriculture and Cooperatives of Thailand
Excellencies,
Distinguished Delegates,
Ladies and Gentlemen,

It is a great pleasure for me on behalf of the Government of Lao PDR and the Lao delegates to attend the Conference on Sustainable Fisheries for Food Security Towards 2020 “Fish for the People 2020: Adaptation to a Changing Environment”. This Conference is very important as it aims to develop a regional policy and plan of action on the sustainable fisheries contribution to the food security in the ASEAN region.

As you know Lao PDR is a land locked country, there is no marine fisheries activities however, it is rich in natural resources, there are many rivers, especially the Mekong and its tributaries, natural water and man-made reservoirs which serve as potentials for inland fisheries and aquaculture production.

To achieve National Socio-economic development plan of the Lao Government, especially the prioritized plan including: Food security, poverty alleviation and sustainable natural resources especially aquatic resources management, the Ministry of Agriculture and Forestry (MAF) have developed its own specific strategic plan to support that, of which Fisheries Management and Development programs have been revised to harmonize with Fisheries Law which has been approved by the National Assembly last year.

To harmonize with the international and regional development program, the Department of Livestock and Fisheries, MAF have actively participated in the implementation of several projects in the areas of utilization of water resources and also import-export and transit control of aquatic and marine products through Lao PDR. We also actively participated in several projects and activities organized by SEAFDEC.

Ladies and Gentlemen,

This conference is an important step to promote the awareness on sustainable fisheries and its implication to enhance participation and solidarity among the countries in the region.

On this auspicious occasion, Lao PDR would like to support and endorse the Resolution and Plan of Action on Sustainable Fisheries for Food Security in the ASEAN Region as reported by Chairperson of the Senior Official Meetings for the ASEAN-SEAFDEC Conference on Sustainable Fisheries for Food Security Towards 2020. We hope that ASEAN-SEAFDEC Member Countries, concerned organizations and stakeholders will jointly collaborate to implement this Resolution and Plan of Action in order to achieve our common goals.

Finally, I would like to take this opportunity to thank his Excellency, Mr. Theera Wongsamut, Minister of Agriculture and Cooperatives of Thailand for hosting this important Meeting and for the excellent arrangements and kind hospitality accorded to our delegation. Thank you.

STATEMENT OF SUPPORT

By H.E. Mr. Noh Bin Omar

Minister of Agriculture and Agro-Based Industry, Malaysia

Ministerial Session

**ASEAN-SEAFDEC Conference on Sustainable Fisheries for Food Security Towards 2020
“Fish for the People 2020: Adaptation to a Changing Environment”**

Your Excellency Mr. Chairman,
Honorable Ministers and Head Delegations,
Distinguished Delegates,
Ladies and Gentlemen,

At the outset, I would like to express my pleasure on the occasion of this important conference. I wish to thank in particular the Government of Thailand for hosting this important event. In the same vein, I commend ASEAN and SEAFDEC for successfully organizing this timely event that marks a new episode in our quest for sustainable fisheries in the region.

As we all know, this event has resulted in the adoption of the Resolution and Plan of Action (RPOA) for Food Security for the ASEAN Region Towards 2020. We deemed the adoption of the RPOA as timely and appropriate in light of the global challenges of the changing environment and emerging fisheries issues. Moreover, the themes which have been selected and deliberated in the technical session were regarded as highly relevant.

At this juncture, Malaysia would like to express its continuous support to an effective implementation of the Resolution and Plan of Action (RPOA) in the years to come. This renewed commitment goes hand in hand with shared responsibility among us. With the leadership and professionalism of SEAFDEC and ASEAN, I am strongly convinced that these two organizations can enhance collaboration to a new level in devising a workable implementation mechanism in order to deliver the RPOA.

As pointed out earlier, Malaysia pledges to play its vital part in promoting sustainable fisheries and aquaculture. Concerning sustainable aquaculture, effort has already been happening in Malaysia aimed at increasing production while reducing pressure on marine capture fisheries and preserving the environment. The newly introduced national initiatives, the Economic Transformation Programme has adequately embraced sustainable aquaculture development objective.

Illegal, unreported and unregulated (IUU) fishing is deemed to be the major obstacle to achieve sustainable fisheries and effective fisheries management in both areas of national jurisdiction and in the high seas. Therefore, Malaysia joins the global efforts to use every resource at its disposal to combat IUU fishing. Malaysia fully supports the emergence of global IUU fishing-related counter measures. Instruments like Port State Measures Agreement and the Global Record of Fishing Vessels promoted by FAO may serve as an effective counter measures to address the issue. Nevertheless, it is worth to mention that we require capacity building in implementing these instruments.

In the area of fish trade, we also noticed the increasing trend of trade and market measures imposed either unilaterally or multilaterally by countries around the globe. We place grave concern on the likelihood of negative impact these measures may present to global fish trade. Henceforth, we in ASEAN should stay united at the international level both in our actions and voices in responding to such unnecessary pressure.

Malaysia sees the importance of Small-Scale fisheries in the overall national fisheries agenda. Given that about 80 percent of small-scale fishermen are fall under the low income group, the Government therefore has in its National Key Result Areas (NKRA) a programme dedicated to improve livelihood of the community involved. In this regard, Malaysia's effort goes in tandem with global agreement to establish a global instrument on small-scale fisheries, a work being promoted by FAO.

Finally, in this historical endeavor Malaysia would like to reaffirm its commitment to work collaboratively to achieve the sustainable fisheries for food security towards 2020 in our region. Thank you for your kind attention.

STATEMENT OF SUPPORT

By *H.E. Mr. Khin Maung Aye*

Deputy Minister of Livestock and Fisheries, Myanmar

Ministerial Session

**ASEAN-SEAFDEC Conference on Sustainable Fisheries for Food Security Towards 2020
“Fish for the People 2020: Adaptation to a Changing Environment”**

Excellency Theera Wongsamut, Minister for Agriculture and Cooperation;
Dr. Somying Piumsombun Director-General of the Thai Department of Fisheries;
Dr. Chumnarn Pongsri Secretary-General of the SEAFDEC;
Mr. Somsak Director, ASEAN secretariat;
Distinguish delegates,
Ladies and gentlemen!

First of all I may express my sincere thanks to Thai Government to invite and host me for this very important occasion to adopt resolutions and future plans for our ASEAN Region to further develop in all fisheries sector. Also I would like to express my sincere thanks and congratulation to the ASEAN-SEAFDEC for its excellent effort for this conference to become true and enable to set important resolutions and recommendations.

Mr. Chairman, it's a great honor for me to be with you all in this very important occasion for the ASEAN fisheries to develop further in the forthcoming decade from 2011 to 2020. We actually were having had a well experience to establish profound fisheries development in every each of our ASEAN nations in last 10 years mainly through guidance of ASEAN- SEAFDEC fisheries development strategies. As you all are aware of, fisheries are important for food fish security, income and livelihoods for most of our ASEAN Nations.

In respect to the fisheries in Myanmar, almost 70% of protein intakes of the country are derived from fish and fish products. Most of the people in the rural and coastal communities involve with fisheries in their day to day or some times of a year for food or livelihoods regardless of crop farmers or fishers. Currently, landing shared 53% from marine capture fisheries, 25% from inland capture fisheries and 22% from aquaculture of the total fisheries produced about 4 million tons in 2009-2010. Also fisheries contribution to National GDP in Myanmar is higher with 7.6% in the recent.

Addressing the sustainability of resources and utilization may subject to the common issues such as:-

- Increasing of fishing pressure and heavily exploit of resources,
- Deterioration of fisheries habitat and ecosystem,
- Decline trend from capture fisheries in term of quality and quantity,
- Less aware of all stakeholders to sustain resources,
- Constraints to access proper fisheries market and trade
- Scare of livelihood options in rural and coastal communities
- Competition among resources users in sharing limited resources and
- The need of users' participation in the governance of fisheries.

In this conference the presentations and discussions have focused common issues to develop all fisheries and fisheries related issues that categorized into 8 different thematic areas. Each and every of these issues are important for the way forward to fisheries development. In this regard I may wish to extend an issue relating to Disaster Risk Reduction (DRR). With the changing of climatic condition, occurrence of typhoon, cyclone and heavy storms are more frequent by these days. The impact has more pronounced in small-scale coastal fisheries. There are many stories of victims that floated away and landed to the places in other countries mostly along the India Ocean and Bay of Bengal. In such cases arrangement may need for those fishers to receive supports and necessary assistant as a victim instead of treating as illegal migrants. Also it may need to extend more for the training on safety at sea and arrangement for them to hold every ones recognizable Identity

Mr. Chairman, distinguish guests, ladies and gentlemen; thematic issues that have risen in this conference are fundamentals for the Resolutions and Plans of Action which will be used as policy principle by the ASEAN countries in achieving sustainable fisheries for food security in this decade. In this context Myanmar is in its state of readiness for hand to hand working with ASEAN countries in particular and also with regional and international collaborators as a whole.

Mr. Chairman I would like to express and render appreciation to ASEAN-SEAFDEC for its successfully coordinating of this important conference and creating way of fisheries development toward 2020 in the ASEAN Region. Thank You.

STATEMENT OF SUPPORT

By *H.E. Ms. Linglingay F. Lacanlale*

Ambassador Extraordinary and Plenipotentiary of the Republic of the Philippines to the Kingdom of Thailand

Ministerial Session

ASEAN-SEAFDEC Conference on Sustainable Fisheries for Food Security Towards 2020

“Fish for the People 2020: Adaptation to a Changing Environment”

First of all, I would like to congratulate your honorable for the election as chair of this Ministerial Session of the Conference. I would like to thank the government of Thailand through you for the excellent preparation and the gracious hospitality you have extended to the participants to this Conference. I would also like to thank to SEAFDEC, the ASEAN Secretariat, and the other organizations that have been involved in the preparation of this Conference for their support and making this Conference the successful on.

By all account, this has been a productive Conference. It has produced a comprehensive Plan of Action that has been a product of several technical meetings to address the current and emerging challenges faced by the fisheries sector in this decade. And it also contains valuable recommendations to support the government policy as well as strengthen cooperation among the members of SEAFDEC. The Philippines also recognize the support given by the ASEAN Plus Three Countries and the efforts of the SOM+3 in support of the Plan of Action.

Mr. Chairman,

Allow me to touch briefly on the policy of my government on fisheries. The Philippine fisheries call mandate of fisheries of marine of our country must be used in sustainable way. It is therefore our policy to maximize utilization and protection of our fisheries and marine resources. To a significant extent, the continuing decline of our fisheries production is attributed to marine resources destruction brought about by over-fishing and destructive fishing methods. It is therefore part of the Philippine government commitment to address and give full attention to this issue.

On the production side, our government will pursue sound aquaculture and marine culture practices. And toward this end, we intend to adopt as part of our regulation the Code of Conduct for Responsible Fisheries. The Philippines also wishes to note the importance of protection of important common migratory fisheries and marine resources, such as tuna, skipjack, marine turtles, and whales. We believe that this is one area where regional collaboration may be further strengthened. And in this regard, we welcome the proposal of Indonesia to host the Conference on the IUU fisheries at the end of this year.

On this note, Mr. Chairman, My government fully endorses the Resolution before us and the Plan of Action on Sustainable Fisheries for Food Security for the ASEAN Region Towards 2020.

Thank you very much.

STATEMENT OF SUPPORT

By *H.E. Dr. Mohamad Maliki bin Osman*

Senior Parliamentary Secretary for National Development, Singapore

Ministerial Session

ASEAN-SEAFDEC Conference on Sustainable Fisheries for Food Security Towards 2020

“Fish for the People 2020: Adaptation to a Changing Environment”

Your Excellencies,
Distinguished Delegates,
Ladies and Gentlemen,

First and foremost, I would like to congratulate Mr. Theera Wongsamut, Minister of Agriculture and Cooperatives in Thailand, on being elected as the Chairman of the ASEAN-SEAFDEC Ministerial session.

On behalf of Singapore and my delegation, I would also like to express our gratitude to Thailand for the warm generosity in hosting this Conference.

Growing populations, climate change, over-fishing and the degradation of marine and freshwater habitats have put tremendous pressure on our fisheries resources. It has become increasingly important for Governments to work together to address these issues, so that future generations will continue to enjoy the bountiful harvests from our seas.

I would thus like to commend SEAFDEC and ASEAN for taking the proactive step to organise this Conference and the Ministerial Meeting to discuss these issues.

While Singapore’s fishery industry is small, we recognise that we have a part to play in ensuring the sustainability of ASEAN’s fishery resources.

One of our areas of contribution is in aquaculture, as we believe there is potential to further strengthen our region’s aquaculture capabilities. Singapore has set up a Marine Aquaculture Centre (MAC) to develop and harness technology to facilitate the development and expansion of large-scale hatchery and fish farming production, both in Singapore and overseas.

Another area which we can contribute is in post-harvest technology. Singapore’s Post-Harvest Technology Centre is a Collaborating Centre of SEAFDEC and has developed projects to optimise the utilisation of fish and fisheries products, and minimise wastage. We hope that these projects will help enhance regional capabilities and facilitate the exchange of information among ASEAN Member Countries.

Let me conclude by reiterating Singapore’s support and commitment to implementing the Plan of Action. We also look forward to greater collaboration with our ASEAN neighbours on sustainable fisheries for food security.

STATEMENT OF SUPPORT
By *H.E. Mr. Theera Wongsamut*
Minister of Agriculture and Cooperatives, Thailand

Ministerial Session
ASEAN-SEAFDEC Conference on Sustainable Fisheries for Food Security Towards 2020
“Fish for the People 2020: Adaptation to a Changing Environment”

Please allow me, on behalf of Royal Thai Government, to express my appreciation for the great efforts in preparation of the Resolution on Sustainable Fisheries for Food Security towards 2020 and also the plan of Action for the next decade.

Throughout our last decade, much has been done in order to develop sustainable fisheries, enhance food security and food supply for the people. There are lot of issues remain to be driven.

Our population always increases but not our resources at this moment, the environment and climate changes are so rapid and greatly affecting our fishery resources.

Our wealthy resources are imported greatly from both these changes and also our careless exploitation fishery.

The government regulator, responsible for the control and management of the fishery resources utilization will join hand and move towards together as committed to be one community of ASEAN.

Thailand will exercise its utmost assurance to fulfill the Resolution and Plan of Action that we have prepared and will endorse today.

Thank you, your Excellencies.

STATEMENT OF SUPPORTBy *H.E. Dr. Chu Tien Vinh*Deputy Director-General of Fisheries Administration,
Ministry of Agriculture and Rural Development, Vietnam
(ASEAN-SEAFDEC Ministerial Meeting, 17 June 2011)**Ministerial Session****ASEAN-SEAFDEC Conference on Sustainable Fisheries for Food Security Towards 2020
“Fish for the People 2020: Adaptation to a Changing Environment”**Excellency Mr. Chairman,
Distinguished Delegates,
Ladies and Gentlemen,

On behalf of the Minister of Agriculture and Rural Development of Vietnam, I would like to extend our sincere thanks to the government of Thailand, the Association of Southeast Asian Nations (ASEAN) and Southeast Asian Fisheries Development Center (SEAFDEC) for initiative of organizing this important Ministerial Session for the ASEAN-SEAFDEC Conference. I believe that under the judicious guidance of the Chairman, the session will be fruitfully successful.

It is sure nowadays, that the development of the sustainable fisheries for food security under the context of changing environment is a very urgent matter that needs the great efforts of each individual country as well as the cooperation in the region. Ensuring sustainable fisheries development will continuously contribute to the improvement of socio-benefits, food security, economic environment, and living habitats of the communities in the region. Based on the profound understanding of the practical relationship between national economic development, protection and sustainable utilization of natural resources, Vietnam has strongly paid attention to the sustainability of marine environment and conducted various activities for this purpose. National programs have been implemented such as: Integrated Coastal Zone Management, Fisheries Resources Protection, Marine Survey and Research, Master Assessment on Marine Resources and Environment, Establishment of Marine Protected Areas Network, Sustainable and Responsible Fisheries, Co-management of Coastal Small-scale Fisheries, Poverty Reduction and Hungry Eradication for Coastal Communities, Natural Disasters and Environment Break-down Prevention and Elimination. The fisheries development programs are implemented in orientation of ensuring efficiency and people’s lives, sustainability of the ecosystem and gradually towards to quality instead of quantity development and the long-term benefits of the coastal communities. In the strategy of fisheries development to the year 2020, the Vietnamese Government defined the fisheries sector as a key economic sector with quality economic growth, diversified and environmental friendly fisheries production, economizing on natural resources, social security and ecological safety.

However, with population of over 86 million people, of which more than 20million are living in the coastal areas and islands where the poverty, natural calamity as well as the natural resources and marine system facing up to exhausted potential threatening the people’s lives for the past time and in the long run, and being one of five countries predicted to be the most seriously affected by climate change and sea level rise, Vietnam is facing a lot of challenges and difficulties in implementing the strategic objectives for further development of the fisheries sector connected with economic development, improvement of fishermen’s living standards and sustainable protection of marine ecosystem as follows:

- Marine and coastal resources are under increasing pressure of unsustainable level of marine catches due to excessive fishing capacity, use of destructive fishing methods, unsustainable aquaculture production practices, weak land use planning, competing land and water uses, habitat loss and degradation and weak environmental management.
- A good foundation of legal, policy and regulatory measures for the fisheries sector has already been established but there is a gap lying in implementation of these measures. This “implementation gap” stems from a combination of factors, including a limited capacity from government agencies and from provinces for operational planning and implementation, the limited ability among stakeholders in the past to cooperate around a common vision, and the lack of investment capacity within segments of the private sector to upgrade facilities and management practices.

- The impact of global climate change (including sea level rise, ocean warming, and potentially more frequent and severe storms), volatile market conditions, and increasing international standards and requirements for food safety and traceability.

Distinguished delegates!

Issues regarding sustainable fisheries development are often complex. Improvement requires a “learning by doing” approach at significant scale based on replicable good practices and strategic investments in public goods in support of individual and collective actions.

An important dimension of the approach for our fisheries development is to aim to support a shift of the planning paradigm from one focused on production/catch volumes and gross export values to one centered on integrated approaches that combine improved resource management, resilience, quality, value addition, long-term, competitiveness, and sustainability.

Another important dimension is to increase transparency and knowledge about the status of coastal and marine resources and the current and prospective impacts of resource degradation trends in order to support multi-stakeholder engagements for broader scale, longer term, collective and individual action.

Meanwhile, Vietnam highly appreciates the outcomes of Senior Official Meeting for drafting the Resolution and Plan of Action for the sustainable fisheries development in ASEAN-SEAFDEC Member countries. I do hope and believe that the Resolution adopted in this Ministerial Meeting will be foundation to concretize guidelines by ASEAN leaders as well as appear in the National Plan of Action of each member country in the next decade towards the sustainable fisheries development for food security.

Mr. Chairman,
Ladies and Gentlemen!

Sustainable development is considered as a multi-targeted matter, which requires the close cooperation in the region. Vietnam highly appreciates SEAFDEC initiatives, activities and programs in the ASEAN region and hope that in the forthcoming time SEAFDEC will increase its more important role in creating the common voice in the region to address the emerging concerned issues, especially creating an effective cooperation mechanism in transfer, assistance and sharing of management experiences as well as science – technological achievement of coastal economies; and finally human resources development which is vitally important for sustainable fisheries development.

Once again, I would take this opportunity to express the high appreciation on the valuable and effective contributions for organizing successfully Ministerial Meeting by host of the Ministry of Agriculture of Thailand, the ASEAN Secretariat and SEAFDEC.

Thank you very much for your attention.

JOINT PRESS STATEMENT

(Adopted by the ASEAN-SEAFDEC Ministers on 17 June 2011)

Ministerial Session

ASEAN-SEAFDEC Conference on Sustainable Fisheries for Food Security Towards 2020 “Fish for the People 2020: Adaptation to a Changing Environment”

1. The Ministerial Session for the ASEAN-SEAFDEC Conference on Sustainable Fisheries for Food Security Towards 2020 “Fish for the People 2020: Adaptation to a Changing Environment” was held in Bangkok on 17 June 2011 under the chairmanship of H.E. Mr. Theera Wongsamut, Minister of Agriculture and Cooperatives, Thailand.
2. The Ministers recognised the importance of the fisheries sector in ASEAN and the major role it plays in the three ASEAN Communities – Political Security, Economic and Socio-cultural. They also recognised the sector’s role in contributing to national development, food security, sustainable development and the improvement of livelihoods, as well as its important contribution towards the realisation of an integrated ASEAN Community and achieving the Millennium Development Goals (MDGs).
3. The Ministers expressed satisfaction with the improved cooperation and progress made by the Member States in the implementation of the ASEAN-SEAFDEC Resolution and Plan of Action on Sustainable Fisheries for Food Security for the ASEAN Region that was adopted by the ASEAN-SEAFDEC Ministers responsible for fisheries during the ASEAN-SEAFDEC Conference on Sustainable Fisheries for Food Security in the New Millennium “Fish for the People” on 24 November 2001.
4. The Ministers recognised the emerging challenges and changing environment facing the fisheries sector, particularly the degraded status of fisheries resources and their associated habitats, rapid changes in trade and market measures, and the potential adverse impacts of the changing environment brought about by climate change, among others. These challenges require closer cooperation and innovative interventions to enhance the adaptive capacity of the sector in the context of ASEAN Community Building and beyond.
5. The Ministers emphasised the importance of the “*Fish for the People 2020: Adaptation to a Changing Environment*” Conference and the Ministerial Meeting as venue for fostering dialogue on fisheries issues at the ASEAN-SEAFDEC ministerial level with the aim of promoting and enhancing cooperation towards achieving sustainable fisheries for food security and improving livelihoods and the well-being of the ASEAN people, in the context of a changing environment in the coming decade.
6. The Ministers, in recognising the importance of this event, commended the collaboration between ASEAN and SEAFDEC for making the Conference a success under the ASEAN-SEAFDEC Strategic Partnership (ASSP) and for providing a cooperative platform between ASEAN and SEAFDEC to achieve the long-term common goals towards sustainable fisheries development.
7. During the Conference, issues and concerns on the current fisheries situation as well as emerging issues that could impede sustainable development and hinder the contribution of fisheries to food security were discussed. The technical session of the Conference considered issues related to: enhancing governance in fisheries management; sustainable aquaculture development; an ecosystem approach to fisheries; post-harvest and safety of fish and fisheries products; emerging requirements for trade in fish and fisheries products; climate change adaptation and mitigation; livelihoods of fishing communities; prospects of employment in fisheries-related activities; and sustaining food supply from inland fisheries.
8. The Ministers expressed their appreciation for the assistance and support given by the various international and regional organisations including the Food and Agriculture Organisation of the United Nations (FAO), as well as the technical experts from within and outside the region for their contribution to the series of preparatory works that led to the successful Conference. Special gratitude was extended to the ASEAN Foundation, the Government of Japan and USAID for their generous financial support.
9. Having considered the conclusions and technical recommendations developed through a series of national and regional preparatory processes for the Conference, technical sessions, public-private sector dialogues, and Senior Officials Meetings, together with the result of the deliberations during the Ministerial Session

on 17 June 2011, the Ministers agreed to adopt the **Resolution on Sustainable Fisheries for Food Security for the ASEAN Region Towards 2020** on 17 June 2011. The Resolution will be implemented through individual and collective efforts among ASEAN-SEAFDEC Member States, in order to promote sustainable fisheries for food security in the region.

10. The Ministers welcomed the endorsement of the Plan of Action on Sustainable Fisheries for Food Security for the ASEAN Region Towards 2020 during the Senior Officials Meeting on 16 June 2011 that will support of the implementation of the Resolution, The Plan of Action will serve as a framework for formulating and implementing programs, projects and activities through appropriate mechanisms at both the national and regional levels, including increased regional cooperation through the ASEAN-SEAFDEC Mechanism.
11. The Ministers expressed their appreciation to Japan for continuing its support for the sustainable fisheries development of the region that has occurred since the establishment of SEAFDEC in 1967, and the generous support to ASEAN under the "ASEAN-Japan Partnership for New Growth in Asia" in implementing Roadmap for an ASEAN Community 2009-2015.
12. The Ministers also expressed appreciation to Japan, China and Republic of Korea for the policies and cooperation dialogue towards promoting sustainable fisheries and food security in the ASEAN Region, particularly under the ASEAN Plus Three cooperation, including the special support expressed during the Senior Official Plus Three Meeting on 16 June 2011.
13. To ensure the successful implementation of the Resolution and Plan of Action, the Ministers tasked the Senior Officials and ASEAN Sectoral Working Group on Fisheries (ASWGFi) and develop supporting programmes and initiatives in consultation with relevant ASEAN stakeholders (e.g. Private Sector, Civil Society Organisations (CSO), and Academic Institutions) and in cooperation and partnership with Dialogue Partners (e.g. Australia, ASEAN Plus Three, United States of America (USA), European Union (EU)), and Development Partners (e.g. Southeast Asian Fisheries Development Center (SEAFDEC), Food and Agriculture of the United Nations (FAO), Mekong River Commission (MRC), the WorldFish Center, Network of Aquaculture Centres in Asia-Pacific (NACA), Islamic Development Bank (IDB), Asian Development Bank (ADB) and the World Bank).
14. The Ministers of Brunei Darussalam, Indonesia, Japan, Lao PDR, Malaysia, Myanmar, Philippines, Singapore, Vietnam, expressed their sincere appreciation to the Government and the people of Thailand, especially the Department of Fisheries of Thailand, for hosting the Conference, for the warm hospitality and for the excellent arrangements of the Conference. The Ministers thanked the ASEAN Secretariat and SEAFDEC for assistance rendered to them.

ASEAN-SEAFDEC MINISTERS

H.E. Pehin Dato Yahya Bakar, Minister of Industry and Primary Resources, Brunei Darussalam

H.E. Dr. Fadel Muhammad, Minister of Marine Affairs and Fisheries, Indonesia

H.E. Mr. Seiji Kojima, Ambassador Extraordinary and Plenipotentiary of Japan to the Kingdom of Thailand

H.E. Dr. Ty Phommasack, Vice Minister of Agriculture and Forestry, Lao PDR

H.E. Noh Bin Omar, Minister of Agriculture and Agro-Based Industry, Malaysia

H.E. Mr. Khin Maung Aye, Deputy Minister of Livestock and Fisheries, Myanmar

H.E. Ms. Linglingay F. Lacanlale, Ambassador Extraordinary and Plenipotentiary of the Republic of the Philippines to the Kingdom of Thailand

H.E. Dr. Mohamad Maliki Bin Osman, Senior Parliamentary Secretary for National Development, Singapore

H.E. Mr. Theera Wongsamut, Minister of Agriculture and Cooperatives, Thailand

H.E. Dr. Chu Tien Vinh, Deputy Director-General of Fisheries Administration, Ministry of Agriculture and Rural Development, Vietnam

STATEMENT OF COOPERATION
Food and Agriculture Organization of the United Nations (FAO)

By *Mr. Hiroyuki Konuma*
Assistant Director-General, FAO Regional Office for Asia and the Pacific (FAO/RAP)

Ministerial Session
ASEAN-SEAFDEC Conference on Sustainable Fisheries for Food Security Towards 2020
“Fish for the People 2020: Adaptation to a Changing Environment”

Excellencies,
Dr. Sundram Pushpanathan, Deputy Secretary-General of ASEAN,
Dr. Chumnarn Pongsri, Secretary-General of SEAFDEC,
Senior officers and representatives of ASEAN-SEAFDEC Member Countries,
Honorable representatives of regional organizations,
Ladies and Gentlemen,

On behalf of the Director-General of the Food and Agriculture Organization (FAO) of the United Nations, I would like to thank ASEAN-SEAFDEC for this opportunity to speak at this Joint Press meeting for the Ministerial Meeting.

FAO would like to congratulate the ASEAN Ministers for adopting the Resolution and Plan of Action on Sustainable Fisheries for Food Security for the ASEAN Region towards 2020, and for recognizing SEAFDEC's importance as a regional advisory and capacity building body in the fishery and aquaculture sectors in SouthEast Asia. FAO is pleased to see SEAFDEC and ASEAN cooperating closely to meet the challenges facing fisheries and aquaculture in the ASEAN region.

FAO recognizes that this resolution and plan of action builds on the 2001 ASEAN-SEAFDEC Resolution and Plan of Action on Sustainable Fisheries for Food Security for the ASEAN Region and the significant progress made in the region. FAO is pleased to have been associated with this process through technical assistance to preparation and the involvement in implementation, including the contribution of FAO staff for both the 2001 Fish for the People conference and the ASEAN-SEAFDEC Conference on Sustainable Fisheries for Food Security Towards 2020: Fish for the People 2020 which has just been concluded.

The work of FAO in the fisheries sector is guided by the global normative framework know as the Code of Conduct for Responsible Fisheries (CCRF) and the work of the FAO Committee on Fisheries (COFI). FAO's global programs to support Member Countries are underpinned by regional actions, and FAO works closely with regional bodies and economic cooperation arrangements. In this regard, FAO welcomes ASEAN Member countries commitment to a forward-looking resolution to guide the region's work over the next decade.

FAO acknowledges that there remain significant challenges to sustaining the supply of fish and fishery products from the ASEAN region, and particularly in ensuring that this is achieved responsibly and within sustainable limits. FAO therefore welcomes the ASEAN-SEAFDEC goals of improving food security, facilitating poverty alleviation, and improving the livelihoods of those ASEAN people dependent on the harvesting, farming and marketing of fish and fish products, noting that this can be achieved through the implementation of the Code of Conduct for Responsible Fisheries.

Excellencies,

World demand for fish and fish products are rapidly increasing, especially in middle income countries including those with emerging economy.

While aquaculture sector would continue to grow to meet the demand, concerns have been expressed continuously on marine captured fishing for which weak governance is the main cause of overfishing.

Therefore, enhancing the role of governance towards responsible fisheries management and ecosystem approach for sustainable fisheries are key to attain our common goal to achieve fish for all and sustainable food security.

To achieve this goal, FAO welcomes once again the adoption of the "Resolution and Plan of Action on Sustainable Fisheries for Food Security for ASEAN Region towards 2020".

However, this is not something that can be achieved without the mobilization of human and financial resources and development of related collaboration and partnerships. In this regard, our goals are mutual and FAO would like to offer continued cooperation to both ASEAN and SEAFDEC to facilitate the implementation of the resolution and plan of action and to assist on mobilizing the resources needed, particularly as it relates to the implementation of the Code of Conduct for Responsible Fisheries.

In concluding my statement,

I would once again like to express FAOs gratitude for the opportunity to address the meeting and look forward to further decade of productive cooperation between FAO and ASEAN-SEAFDEC in the fisheries.

Thank you

STATEMENT OF COOPERATION
ASEAN Seafood Federation (ASF)’s Views on Sustainable Fisheries and Aquaculture
For the ASEAN Region in Decade 2011-2020

by Prof. Dr. Nguyen Huu Dung

Chairman, ASEAN Seafood Federation (ASF)

Vice President, Vietnam Association of Seafood Exporters and Producers (VASEP)

Ministerial Session

ASEAN-SEAFDEC Conference on Sustainable Fisheries for Food Security Towards 2020
“Fish for the People 2020: Adaptation to a Changing Environment”

ASEAN Seafood Federation (ASF)

ASEAN Seafood Federation (ASF) was established on 12 May 2009, joining the leading national seafood producers and exporters’ associations of the ASEAN countries. Its core members are the: Brunei Darussalam Aquaculture Producers Alliance Cooperative (BAPA), Fresh & Frozen Seafood Association of the Philippines (FFSAP), Indonesian Frozen Seafood Association (AP5I), Malaysian Frozen Food Processors Association (MFFPA), Myanmar Fishery Products Processors & Exporters Association (MPEA), Thai Frozen Food Association (TFFA), and the Vietnam Association of Seafood Exporters and Producers (VASEP). Thailand was the first Chair of the ASF and Vietnam is taking Federation’s Chairmanship for 2011-12. Although it was formed mainly as a private enterprises group, the ASF has all the blessings of the ASEAN Secretariat and the Signing Ceremony of the Federation’s Framework Agreement was witnessed by the Secretary-General of the ASEAN.

The objectives ASF are: to improve cooperation among regional seafood processors and exporters (who account for up to 50% of the world’s seafood market and up to 80% of shrimp products market); to establish a forum for members to freely and openly exchange views on matters of mutual interest; and to give members access to better technology, food safety assurance, environmental and social responsibility, and marketing. The establishment of ASF is a necessary preparation to enhance cooperation among regional countries for the ASEAN Community in 2015, contributing to a larger goal of integrating the region’s national economies and achieving higher levels of economic dynamism, as espoused in the ASEAN Economic Community Blueprint. Moreover, the members hope to manage the production and exports in the region more effectively; to improve quality, safety and value of products; and to increase technical, environmental and social standards and marketing. The new organization is also expected to reduce inter-country rivalry and conflicts in the region while ensuring better commonly-accepted standards. The closer cooperation in production and marketing by the ASEAN countries could have greater impact and control over the global markets.

Under the framework of ASF, Vietnam will be responsible for cooperation on production and technology, Thailand for food safety assurance and marketing, Myanmar for cooperation on securing production inputs, while Indonesia, the Philippines and Malaysia are to handle logistics. Other areas of cooperation include quality standardization, inspection and certification, labeling and packaging and investment in ASEAN. Under the new Federation’s framework, members would also share trade and market information, as well as the latest production technologies.

ASF Common Vision on Sustainable Fisheries and Aquaculture

Sustainable development of fisheries and aquaculture is the biggest concern and the highest target of all members of the ASF from its establishment. At the 2010 Meeting, all members unanimously adopted the ASF motto: “**Sustainable Seafood for the World**”. The ASF logo is the stalks of paddy (like in the ASEAN emblem) and the symbol of the seafood industry (a fish) in the centre encircled by the name of the Federation.

The Federation recognizes key issues and challenges posed to the fisheries and aquaculture sector, including fisheries resource degradation, multiple water resource use conflicts, unsustainable and illegal practices, stringent requirements of market and trade, impacts of climate change, among others. The members also recognized the need for all seafood associations in the seafood sector to work together to step-by-step ensure the sustainable development of fisheries and aquaculture in the ASEAN region. The ASF members understand clearly that Public-Private Partnership (PPP) is becoming increasingly important for achieving sustainable

development goals, noting the comparative advantages of both sectors, synergies, and complementarity that would emerge from the partnership.

The Public Sector plays a key role in developing sector policy, establishing governance and management framework, providing enabling environment and incentive system to foster sustainable fisheries and aquaculture, setting rules, regulations and ensuring their enforcement, among others. The Private Sector has very important role in investment, cooperation and compliance to management framework, R&D and technological advancement, sharing of information and experience, implementing the corporate environmental and social responsibilities. PPP offers opportunities to achieve sustainable fisheries and aquaculture, through improving the quality of service, improving cost-effectiveness, increasing financial services and investment, better allocation of risk, faster implementation, accelerated physical and technical infrastructure provision, increased investment in technical innovation, improving access to national and international markets, improving food safety and quality, developing niche markets, improving sector-specific infrastructure services, improving information and communication, improving capacity building and extension services, and privatizing government-owned facilities and services.

The members of ASF strongly believe that the ASEAN seafood industry still has a great potential for further expansion. To actively contribute to that development purposes, in close cooperation of public sector, together with other organizations from ASEAN private sector, in the present decade of 2011 - 2020, ASF is planning to put more efforts to implement following practical activities:

- a) Enhancing exchange of information and strengthening the marketing activities of ASEAN seafood within and outside the region;
- b) Enabling better participation of regional seafood producers and exporters in all national seafood exhibitions and preparing them for the organization of ASEAN Seafood Exhibition;
- c) Strengthening the exact and fast communications among members in the supply and demand of seafood; preparing to set-up a website and publish a professional magazine for the ASEAN seafood industry; and
- d) Helping new initiatives for cooperation in larger scale and with deeper contents between regional producers on technological, financial and trade.

Recommendations to the ASEAN

With the view to promote PPP for ensuring sustainable fisheries and aquaculture, on behalf of all associations-members and ASEAN seafood private sector, the ASF totally agrees with and strongly supports the main contents of the *Resolution and Plan of Action on Sustainable Fisheries for Food Security towards 2020* adopted by ASEAN-SEAFDEC Fisheries Ministers on 17 June 2011 in Bangkok.

The ASF would like to emphasize on the following six recommendations to ASEAN:

- a) **To set up ASEAN legal management framework for fisheries and aquaculture.** For sustainable development, it is necessary that as early as possible the legal framework for co-management in the ASEAN fisheries and aquaculture industry, where rights, responsibility and obligations of stakeholders are clearly defined.
- b) **To establish ASEAN policy and incentive/compliance systems for sustainable fisheries and aquaculture.** It is important that key stakeholders are actively involved, providing them with common directions and frameworks for actions.
- c) **To enhance organization of fisheries communities and institutionalize PPP.** This should be carried out both at national and regional levels, including developing a private sector vision for ASEAN fisheries; establishing regular public-private sector dialogues; and initiating PPP programs on fisheries/aquaculture as a platform for fostering partnership.
- d) **To strengthen competitiveness of the seafood sector by joint efforts and stronger cooperation in the whole supply chain.** Enhancing competitiveness of the sector through setting-up the ASEAN common strategy and programmes for development of its key products (*i.e.* shrimps, pangasius, tuna, tilapia), product value-addition and diversification, marketing, market access and export promotion.
- e) **To facilitate higher standards in the seafood sector.** Set-up and implement advanced ASEAN regional standards, assurance systems and recognition, certification systems (*i.e.* safety, quality, sustainability, community, best practices, labour welfare aspects) to meet high requirements of the market and consumers.

- f) **To jointly promote cross-cutting issues for sustainable fisheries and aquaculture.** This could include improved communication and compilation of statistics, education and training, capacity building, R&D and technological advancement, intellectual property rights, sharing of information and experiences, disease diagnostics, laboratory testing.

STATEMENT OF COOPERATION
Southeast Asian Fish for Justice Network and
Southeast Asian Traditional Fisheries Alliance (SEAFish for Justice)

by Mr. Arsenio Tanchuling
 Executive Director of Tambuyog Development
 In his capacity as the Coordinator of SEAFish for Justice

Ministerial Session
ASEAN-SEAFDEC Conference on Sustainable Fisheries for Food Security Towards 2020
“Fish for the People 2020: Adaptation to a Changing Environment”

Asian countries account for about half of global fish capture production (data from the State of World Fisheries and Aquaculture, 2008). Specifically, the fisheries in the South East Asian region produced an estimated 25.2 MMT in 2007 with an estimated value of US\$23.9 billion (SEAFDEC data).

However, it is ironic that despite the contribution and value of fisheries in the region, an estimated 17 million small-scale fishers with more than a hundred million dependents still live in poverty while even facing worsening social, environmental and economic conditions. Moreover, we raise to you the following common concerns as experienced by small fishers in the region and specific proposals of SEAFish:

1. Current Policies and Programs on trade liberalization of fishery products have not protected men and women in small-scale fisheries and instead give biased protection to investments that resulted to overfishing and further degradation of fishery resources.

Our proposal is for the ASEAN governments and relevant agencies to take into consideration that sustainability of fisheries products highly dependent on ecological balance and therefore should be given special and differential treatment. Relatedly, a sensitive list (products that are proven to be threatened or overfished) must be drawn up. Commodities in the sensitive list should be exempted from tariff reduction in multilateral and bilateral trade negotiations and should be given protection during spawning period. Some examples are the small pelagic species such as roundscad, mackerel, sardines, and anchovies among others. ASEAN should consider harmonizing fisheries trade policies with the Multilateral Environmental Agreements such as the Convention on Biological Diversity, Code of Conduct for Responsible Fisheries, etc. Coastal areas are the most important part of fisheries and to artisanal fishers' community, hence, a well-managed fisheries guarantees sustainable trade. Therefore, we urge ASEAN governments to support and pursue community-based coastal resource management (CBCRM). Small-scale fisheries is sitting directly on 2/3th of the resource base and capturing it at lower cost to society and the planet, while providing food for the world and more employment opportunities. Small-scale fisheries has market potential if resource rent is taken into account in the market.

2. Aquaculture is being given much attention by ASEAN member States to supply export market without proper management of capture fisheries and its needed support. The massive expansion of aquaculture has been causing negative environmental and social impacts in coastal communities.

In order to address the negative environmental and social impacts of aquaculture and its expansion in coastal communities, we call on the ASEAN governments and relevant agencies to seriously consider participation of men and women small-scale fishers in drafting the ASEAN Good Aquaculture Practices (GAP) as irresponsible aquaculture affects capture fisheries management. There should be a combination of state regulation and market discipline in attaining a socially responsible, environmentally sound and economically viable aquaculture industry.

3. We raise alarm over the vulnerability of coastal areas, fishers' communities and the fisheries sector to climate change. The 2020 scenario leading to further rise in sea level, further increased warming of sea surface temperature and more extreme weather events can greatly damage coastal ecosystems and displacement of fishing communities.

Therefore, priority should be given to vulnerability assessments, adaptation and mitigation financing and support to coastal communities. ASEAN governments and relevant Agencies must review fisheries and

aquaculture management plans, coastal zones and watersheds to ensure they cover potential climate change impacts, mitigations and adaptation responses.

4. Various mega-projects in coastal waters like deep sea ports, power plants, sand mining, mining of mineral resources and reclamation for tourism and other uses affect small fishers and their families' livelihood and income denying them access to fishing areas. These projects in turn dislocate them from their living and settlement areas and cause harm to fish spawning and natural production areas---destroying natural fish habitats like mangroves, coral reefs and sea grasses due to the absence of regulatory policies and/or weak enforcement of fishery laws in ASEAN member States.

We stress that climate change impacts occur on top of and exacerbate many other external stresses on the coastal ecosystems already beleaguered by the above mentioned problems. Therefore, we ask that ASEAN governments and relevant Agencies to consider reducing human threats to corals, mangrove areas, sea grass beds, estuaries, living shorelines and others by protecting and restoring ecosystems to increase the ability of coasts and its people to cope with climate change and strictly enforcing fishery laws. WE call on governments to practice and seek coastal community's prior and informed consent and conduct socio-environmental impact assessments before setting up coastal/fishery related so-called "development" projects.

5. Illegal, unregulated, and unreported (IUU) fishing, in both national fishing territories and borders in the shared water bodies still remains a problem. This contributes to further depletion of fishery resources.

Our proposal is for the ASEAN governments and relevant Agencies to discuss and implement guidelines on illegal, unregulated, and unreported fishing (IUU) in the Southeast Asia Region in accordance with the United Nations Convention on the Law of the Sea (UNCLOS) and the UN-FAO Code of Conduct for Responsible Fisheries and must be recognized in the ASEAN Charter and Treaty of Amity and Cooperation.

6. We have documented stories of our small fishers arrested for fishing in disputed territorial boundaries and receiving inhumane treatment from police authorities, without appropriate assistance from their own country government authorities. We believe that this is largely due to unclear territorial boundaries and the overlapping territorial claims among ASEAN Member Countries.

Therefore, in the absence of clear territorial decisions, we call on the ASEAN governments and relevant Agencies to develop and strengthen mechanisms on cross-border cooperation of shared or common water bodies at least for clearer fishing rules for artisanal fishers. Resource Management bodies in common/shared water bodies and territories must be established and consider representation from small- scale fisheries. A sustainable fisheries management framework should be adopted by ASEAN country members to guide management efforts.

Further, we call on the ASEAN to address capacity-building for men and women small fishers in the region focusing on information and orientation/education among traditional fishers on transboundary issues and protection of the rights of fishers during judicial processes, such as right to due process, right to counsel and respect for human rights during arrest and while in custody of the police authorities.

7. There is an alarming situation of trafficking of persons in the Region. Many workers are being forced to work in fishing boats illegally in the Region. We call on the ASEAN to consider measures and mechanism to address the human trafficking within ASEAN member states forcing persons to work illegally in distant water fleets. We are hoping that the ASEAN will seriously consider these proposals and make them part of your resolutions and plan of actions on Sustainable Fisheries For Food Security Towards 2020.

STATEMENT OF COOPERATION AND VOTE OF THANKS

By *Dr. Chummarn Pongsri*

Secretary-General, Southeast Asian Fisheries Development Center

Ministerial Session

**ASEAN-SEAFDEC Conference on Sustainable Fisheries for Food Security Towards 2020
“Fish for the People 2020: Adaptation to a Changing Environment”**

Your Excellency, the Minister of Agriculture and Cooperatives of Thailand, Mr. Theera Wongsamut,
Your Excellencies, the Ministers responsible for fisheries of the ASEAN-SEAFDEC Member Countries,
The Representative from the ASEAN Secretariat, Dr. Somsak Pipoppinyo, on behalf of the Secretary-General
of the ASEAN Secretariat,
Distinguished senior officials and delegates from the Member Countries
Representatives from international and regional organizations,
Representatives from the Press, Ladies and Gentlemen, Good afternoon!

On behalf of the Southeast Asian Fisheries Development Center, I wish to take this opportunity to express our gratitude for giving SEAFDEC the chance to be represented at this Meeting. For myself, I am indeed grateful to be here in front of Your Excellencies, the Ministers responsible for fisheries of the ASEAN-SEAFDEC Member Countries. We recognized that this Ministerial Session is the ultimate and concluding episode of the efforts that have been undertaken by SEAFDEC in collaboration with ASEAN and the ASEAN-SEAFDEC Member Countries throughout the past two years. I am particularly referring to the preparations for the Conference especially the processes that were carried out to compile the inputs that went into the draft Resolution and Plan of Action.

Your Excellencies, as you are all well aware of, SEAFDEC, the ASEAN and the Member Countries had closely collaborated in the preparation and organization of this Conference, which comprises the Technical Session, the Senior Officials Session, and this Ministerial Session. Since early of this week, we carried out the necessary activities and came up with the conclusion and recommendations based on the technical perspectives of ensuring that fisheries in the region would be developed in a sustainable manner. Through these recommendations, we could be assured that the contribution of fisheries to food security and well-being of the peoples in our region would also be enhanced.

We also acknowledged with much gratitude the efforts made by the Senior Officials responsible for fisheries of the ASEAN-SEAFDEC Member Countries that led to the adoption and subsequent endorsement of the “Plan of Action on Sustainable Fisheries for Food Security for the ASEAN Region Towards 2020” during the earlier concluded Senior Officials Meeting. The Plan of Action is very important, as it comprises the priority actions to be undertaken by the fisheries-related agencies in the region towards the ultimate goal of sustainable fisheries development and food security.

During this Ministerial Meeting, we have envisaged that the “Resolution on Sustainable Fisheries for Food Security for the ASEAN Region Towards 2020” would be endorsed by Your Excellencies, the ASEAN-SEAFDEC Ministers. For this, we are very grateful to all of you because this valuable instrument would serve as policy framework for the sustainable development of fisheries in our region for the coming decade. With your kind consideration, we could be assured of your high-level recognition of the importance of fisheries for food security as well as your commitment to support the activities that would be undertaken in the ASEAN region for the sustainability of fisheries in accordance with the adopted Resolution and the Plan of Action.

Your Excellencies, Ladies and Gentlemen,

Since its establishment in 1967, SEAFDEC has built up our strength in being the technical organization for fisheries development in our region. Along the way, we have closely collaborated with the ASEAN in undertaking various activities for the sustainable development of fisheries in the region. Such collaboration had been concretized with the establishment of the ASEAN-SEAFDEC Strategic Partnership paving the way for SEAFDEC to uphold our role as the technical arm on fisheries for the ASEAN.

Nevertheless, as we all have discerned, despite our efforts in emphasizing the importance of fisheries to our region, fisheries remain a rather small sector compared with other food production and development sectors. As

a matter of fact, the fisheries sector is sometimes even ignored due to the difficulty in quantifying the exact value of the fishery resources and the actual production from fisheries. This is due to the nature of fisheries in our region, which is characterized as multi-species, and undertaken mostly by small-scale fishers, with large portion being directed to household consumption without any record. However, considering the significant contribution of fisheries to food security, improved livelihoods and job opportunities, particularly in the rural, remote and less developed areas where people have inadequate capital or opportunity to access the other resources, it is very important for policy makers to recognize the importance of fisheries and provide the necessary support to ensure the sustainability of the sector.

Your Excellencies, Ladies and Gentlemen,

Please allow me to reiterate that SEAFDEC and ASEAN have always collaborated closely in undertaking various activities towards sustainable development of fisheries in our region. The conduct of this Conference is one important milestone for a new fisheries development era for enhancing the sustainability of the fisheries sector and improving the socio-economic well-being of the people in our region.

On behalf of SEAFDEC, I would therefore like to take this opportunity to express our deepest appreciation to all Ministers responsible for fisheries of the ASEAN-SEAFDEC Member Countries for your countries' contribution and support in the implementation of the activities during the past years. I would also like to assure you of the commitment of SEAFDEC to collaborate with various partners in our efforts to continue providing support to the Member Countries especially in the implementation of the new Resolution and the Plan of Action endorsed at this Conference.

Furthermore, while we recognize the Resolution and the Plan of Action as important instruments providing policy and direction in channeling the future undertakings of fisheries development in this region, I would like to encourage the Member Countries to be aware of the importance of research, as an important and fundamental means of generating information and knowledge that could be used as basis for science-based policy and development planning for the sustainable development of fisheries. In addition, human resources development in fisheries is another important area that we should not overlook, as this aspect is very crucial for ensuring the availability of capable and knowledgeable people who could provide insights in optimizing the utilization of fishery resources, maximizing the benefits for our people, and ensuring the long-term sustainability of fisheries of our region.

Your Excellencies, Ladies and Gentlemen,

At this juncture, please allow me also to express our concern on the stability of the SEAFDEC. As you must have already taken note of, SEAFDEC was established under the Agreement, which signified the commitment of all Member Countries to work together for the good of the Center. Therefore, the strong sense of ownership, dedicated support and clear guidance from the Member Countries would be necessary to steer SEAFDEC towards the direction of sustainability. With your steadfast support and guidance, SEAFDEC would be able to undertake programs and activities that could generate the utmost benefits for our Member Countries.

Lastly, as the Secretary-General of SEAFDEC, I wish to request the Member Countries to reassure us of your commitments by revitalizing your support to SEAFDEC to enable us to continue our role in the sustainable development of fisheries in our region and in improving the socio-economic well-being of our peoples. SEAFDEC therefore appeals for your strengthened support so that we can effectively carry out our programs and activities especially those that promote the implementation of the new decade Resolution and Plan of Action.

Thank you very much.

SELECTED BEST DRAWINGS FROM THE ASEAN-SEAFDEC MEMBER COUNTRIES

Side Event

**ASEAN-SEAFDEC Conference on Sustainable Fisheries for Food Security Towards 2020
“Fish for the People 2020: Adaptation to a Changing Environment”**

BRUNEI DARUSSALAM



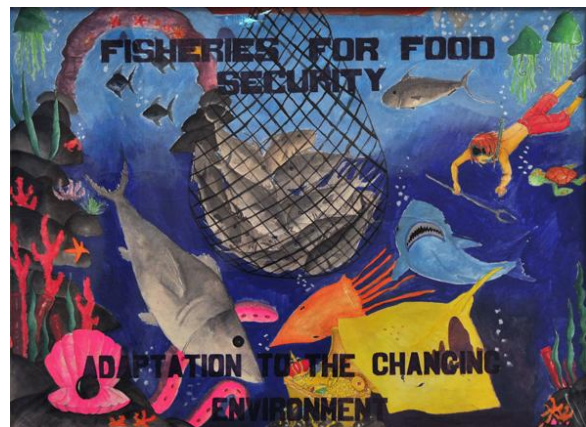
First Prize Drawing
By Mohd Hadif bin Madili (14 years old)



Second Prize Drawing
By Tok Sheng Sung (12 years old)

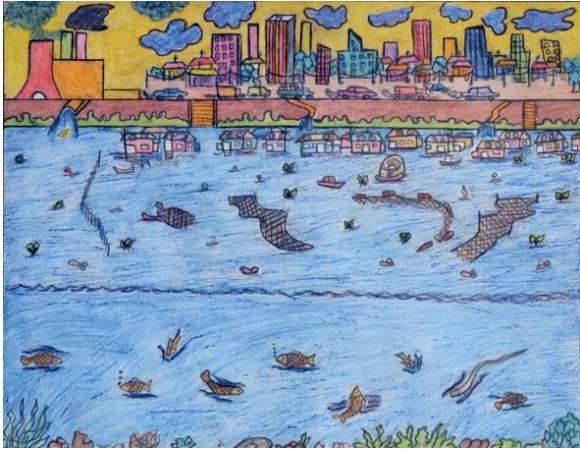


Third Prize Drawing
By Adil Hakeem bin Mohammad Kamarul (13 years old)



Consolation Prize Drawing
By Hamizah binti Sani (14 years old)

CAMBODIA



First Prize Drawing
By Kim Leakhena



Second Prize Drawing
By Koam Seyma

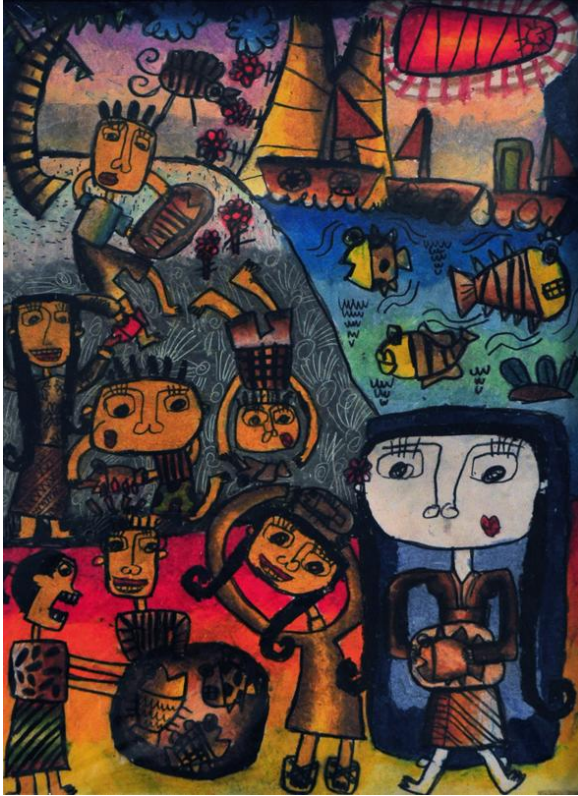


Third Prize Drawing
By Kung Chhin Panha



Consolation Prize Drawing
By San Nisa

INDONESIA



First Prize Drawing
By Muhammad Afda



Second Prize Drawing
By Putri Hastifah I.



Third Prize Drawing
By Nadya Wahyudi Kusmono



Consolation Prize Drawing
By Yumna Nuraini

JAPAN



兵庫県 三田市立けやき台小学校5年 森下怜哉

First Prize Drawing (Elementary School)
By Reiya Morishita



鹿児島県 長島町立本浦小学校2年 植元武蔵

Second Prize Drawing (Elementary School)
By Musashi Uemoto



鹿児島県 始良市立帖佐中学校3年 中原里紗

First Prize Drawing (Junior High School)
By Risa Nakahara



北海道 礼文町立船泊中学校2年 岩田梨央

Second Prize Drawing (Junior High School)
By Rio Iwata

LAO PDR



First Prize Drawing
By Deuangpheng Chindavong (16 years old)



Second Prize Drawing
By Thavisouk Hadthakone (15 years old)



Third Prize Drawing
By Santhisouk (14 years old)

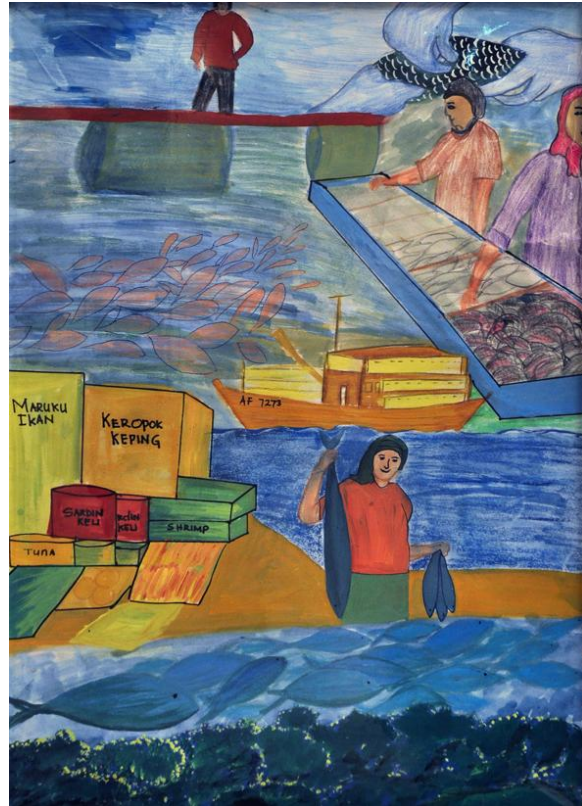


Consolation Prize Drawing
By Pooky Sipaseuth (15 years old)

MALAYSIA



First Prize Drawing
By Goh Wern Sze (14 years old)

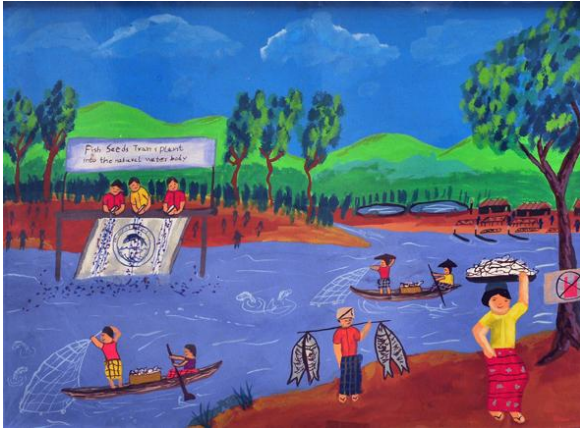


Second Prize Drawing
By Mohd Arif bin Mohd Salleh (12 years old)



Third Prize Drawing
By Mohd Nor Aman bin Mohamed Zain (15 years old)

MYANMAR



First Prize Drawing
By Pyo Ko Ko



Second Prize Drawing
By Thant Zin Htite

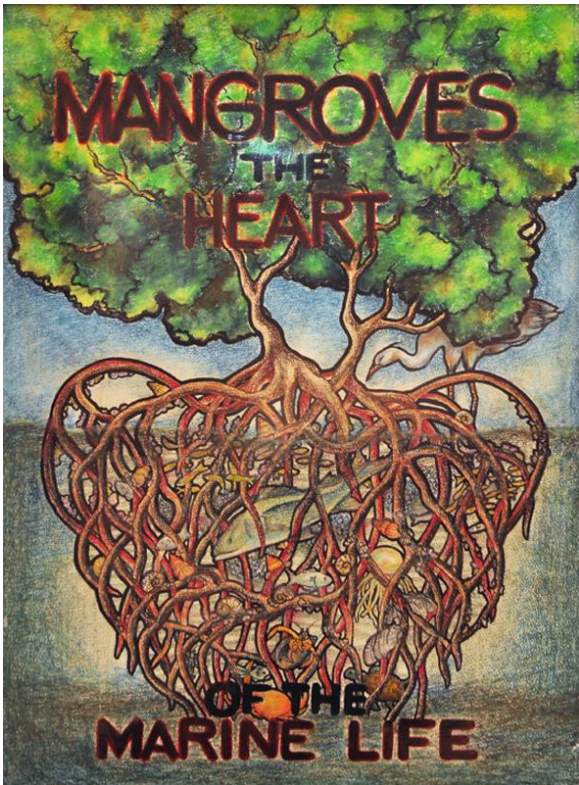


Third Prize Drawing
By Thidar Tun



Consolation Prize Drawing
By Aye Chan Moe

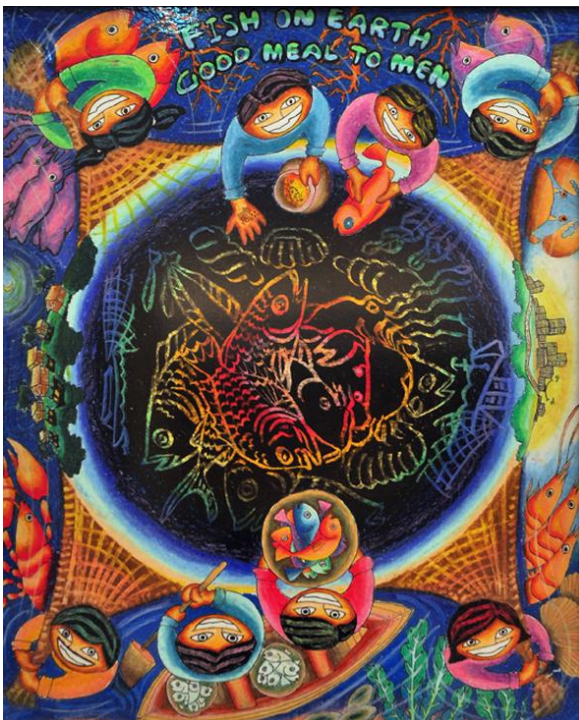
PHILIPPINES



First Prize Drawing
By Jann Martine Esperancilla (13 years old)



Second Prize Drawing
By Aubrey Beatrice Carnaje (10 years old)



Third Prize Drawing
By Laurice Anne Lima (11 years old)



Consolation Prize Drawing
By Mariela Quipid

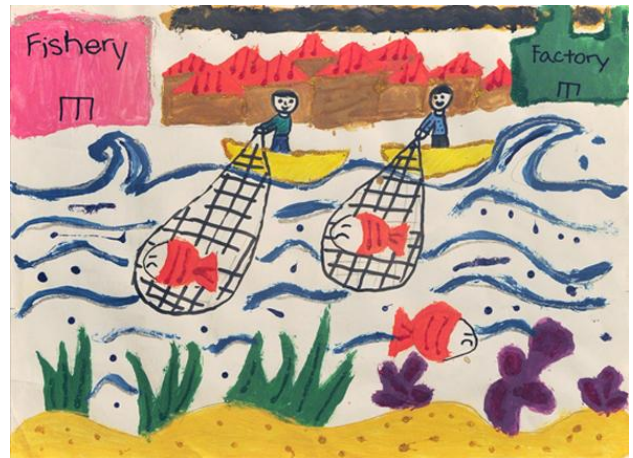
SINGAPORE



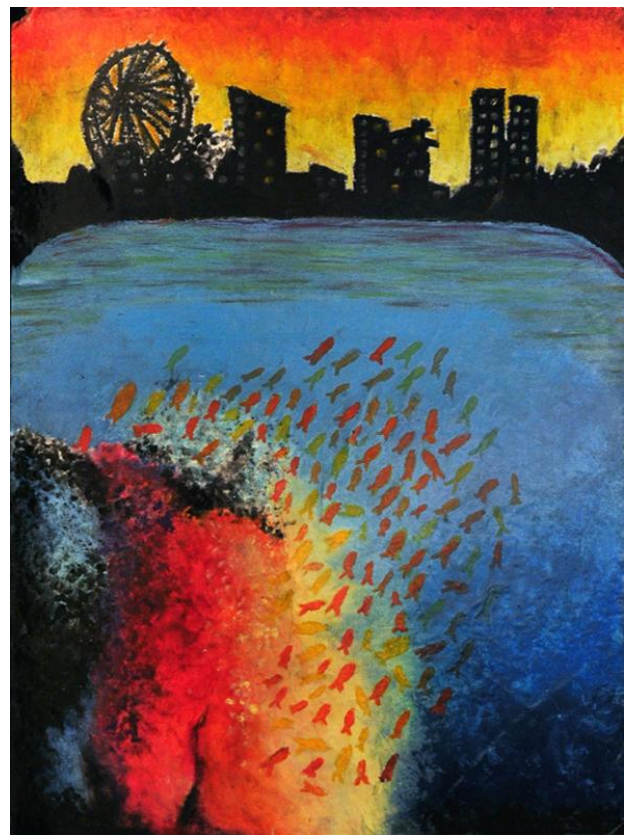
First Prize Drawing (Primary 1-2)
By Simone Ngiam Zhengxuan (8 years old)



First Prize Drawing (Primary 5-6)
By Lee Huan (12 years old)



First Prize Drawing (Primary 3-4)
By Deborah Ong (10 years old)

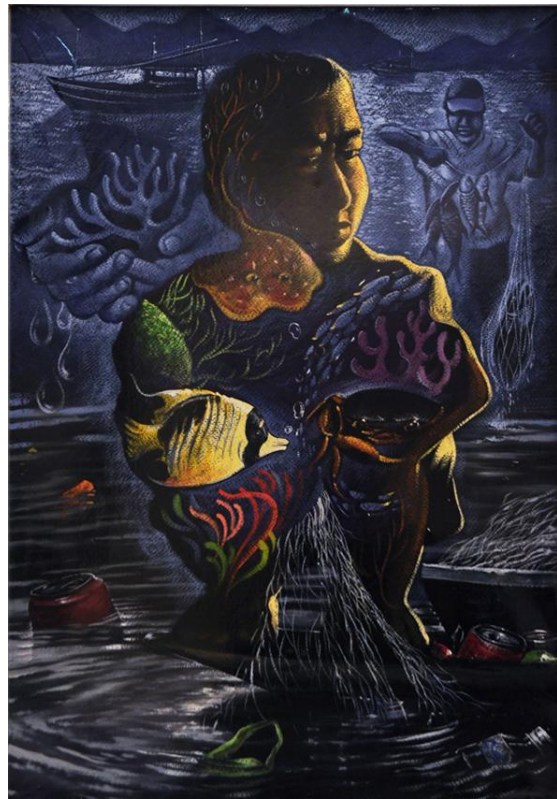


First Prize Drawing (Secondary 1-3)
By Phyo Phyo (13 years old)

THAILAND



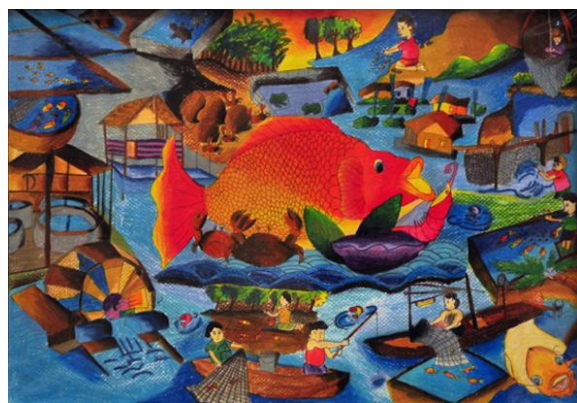
First Prize Drawing
By Pim Sub-arnaek (15 years old)



Second Prize Drawing
By Dech Oonrueng (15 years old)



Third Prize Drawing
By Maneerat Charoenphon (14 years old)



Consolation Prize Drawing
By Nichakarn Sornkaew (14 years old)

VIETNAM



First Prize Drawing
By Le Thanh Thao (8 years old)



Second Prize Drawing
By Bui Thu Teang (11 years old)



Third Prize Drawing
By Pham Thu Thao (6 years old)



Consolation Prize Drawing
By Pham Khanh Vy (6 years old)

EVALUATION FORM

Technical Session

**ASEAN-SEAFDEC Conference on Sustainable Fisheries for Food Security Towards 2020
“Fish for the People 2020: Adaptation to a Changing Environment”**

General Information					
Country of origin:					
Type of organization: <input type="checkbox"/> Governmental Agency <input type="checkbox"/> Private Sector <input type="checkbox"/> Academic Institution <input type="checkbox"/> NGOs <input type="checkbox"/> International/Regional Organization <input type="checkbox"/> Donors <input type="checkbox"/> Others (Specify)					
How did you know about the Conference? <input type="checkbox"/> Website <input type="checkbox"/> Newsletter <input type="checkbox"/> Invitation letter <input type="checkbox"/> Announcement <input type="checkbox"/> Others.....					
Overall Arrangement	Rating				
	5	4	3	2	1
Conference location & meeting rooms					
Overall conference programs					
Documentations (Handbooks, Technical Documents)					
Conference secretariat and other services					
Food and Beverage					
What was your main expectation for attending the conference?					
Your general satisfaction related to the conference					
<input type="checkbox"/> Very Satisfied <input type="checkbox"/> Moderately Satisfied <input type="checkbox"/> Not Satisfied because.....					
Conference Evaluation					Rating
(Please rate only sessions you attended)					
	5	4	3	2	1
Plenary I: ASEAN Fisheries: Status and Trend / ASEAN Fisheries toward 2020: Vision and Challenges					
Appropriateness of speakers/panelists					
Appropriateness of contents (documents, presentations and time allocation)					
Active interaction/inputs from participants					
Other comments:					
Theme 1: Enhancing Governance in Fishery Management					
Appropriateness of speakers/panelists					
Appropriateness of contents (documents, presentations and time allocation)					
Active interaction/inputs from participants					
Other comments:					
Theme 2: Sustainable Aquaculture Development					
Appropriateness of speakers/panelists					
Appropriateness of contents (documents, presentations and time allocation)					
Active interaction/inputs from participants					
Other comments:					
Theme 3: Ecosystem Approach to Fisheries					
Appropriateness of speakers/panelists					
Appropriateness of contents (documents, presentations and time allocation)					
Active interaction/inputs from participants					
Other comments:					
Theme 4: Post-harvest and Safety of Fish and Fisheries Products					
Appropriateness of speakers/panelists					
Appropriateness of contents (documents, presentations and time allocation)					
Active interaction/inputs from participants					
Other comments:					

Theme 5: Emerging Requirements for Trade of Fisheries Products							
Appropriateness of speakers/panelists							
Appropriateness of contents (documents, presentations and time allocation)							
Active interaction/inputs from participants							
Other comments:							
Theme 6: Climate Change Adaptation and Mitigation Towards Food Security							
Appropriateness of speakers/panelists							
Appropriateness of contents (documents, presentations and time allocation)							
Active interaction/inputs from participants							
Other comments:							
Theme 7: Livelihood among Fishing Communities and Prospects of Employment in Fisheries Related Activities							
Appropriateness of speakers/panelists							
Appropriateness of contents (documents, presentations and time allocation)							
Active interaction/inputs from participants							
Other comments:							
Theme 8: Sustaining Food Supply from Inland Fisheries							
Appropriateness of speakers/panelists							
Appropriateness of contents (documents, presentations and time allocation)							
Active interaction/inputs from participants							
Other comments:							
Plenary II: Overview of the Sustainable Fisheries for Food Security Toward 2020							
Appropriateness of speakers/panelists							
Appropriateness of contents (documents, presentations and time allocation)							
Active interaction/inputs from participants							
Other comments:							
Plenary III: Fisheries Cooperation in the ASEAN Region: Vision of Cooperation in the Region Towards 2020							
Appropriateness of speakers/panelists							
Appropriateness of contents (documents, presentations and time allocation)							
Active interaction/inputs from participants							
Other comments:							
Evaluation on Social and Side Events			Rating				
(Please rate only activities that you participated in)			5	4	3	2	1
Exhibition arrangements							
Reception dinner (13 June 2011)							
Post Conference Excursion Program							
Side Meetings							

Other comments:

.....

SUMMARY OF THE EVALUATION OF THE CONFERENCE

ASEAN-SEAFDEC Conference on Sustainable Fisheries for Food Security Towards 2020 “Fish for the People 2020: Adaptation to a Changing Environment”

The ASEAN-SEAFDEC Conference on Sustainable Fisheries for Food Security Toward 2020 “Fish for the People 2020: Adaptation to a Changing Environment” was organized from 13 to 17 June 2011 at the Sofitel Centara Grand Bangkok Hotel, Thailand. The Conference comprises: Technical Session (13 to morning of 16 June 2011), Senior Officials Session (afternoon of 16 to 17 June 2011) which comprises the Senior Officials Plus 3 Meeting (afternoon of 16 June 2011), Senior Officials Meeting (afternoon of 16 June 2011) and the Ministerial Meeting (17 June 2011).

This evaluation exercise was conducted to obtain the participants’ feedback and views on the arrangements and the conduct of the Technical Session (including side events) of the Conference. Out of the total of 467 participants from 24 countries, 236 participants accounting for 50.5% provided their feedback through the evaluation form, the results of which could be summarized as follows:

I. GENERAL INFORMATION

From the returned evaluation forms, 94.7% of the respondents are from the ASEAN-SEAFDEC Member Countries; while only 5.3% are from Non-Member Countries (e.g. Bangladesh, Canada, China, Germany, India, Italy, Maldives, Scotland, Sweden and USA). Of the total respondents, 67% of the respondents are from governmental agency while 15.1 % are from international/regional organization, 7.5% from academic institutions, 5.3% from private sector, and 0.9% from donor agencies. The participants (32.5%) obtained information on the Conference mainly from invitation letters, from the Conference website 20.6%, Conference Announcement 19.3%, and other SEAFDEC publications 17.5%.

II. OVERALL ARRANGEMENTS

The participants were requested to indicate their **level of satisfaction on the arrangements of the Conference** based on five ratings: (1) very unsatisfied, (2) unsatisfied, (3) moderately satisfied, (4) satisfied, and (5) very satisfied. The results showed that the participants were *mostly satisfied* with the “Conference secretariat staff and their services”, with 43.0% of participants indicated that they were **very satisfied** while 36.5% indicated that they were **satisfied**. The aspect where the participants were *least satisfied* is the “amount of the registration fee”, where 38.9% of participants indicated that they were **moderately satisfied** with the rate while only 33.0% indicated that they were satisfied.

For the other aspects, *i.e.* “Pre-conference on-line registration and payment”, “On-the-spot registration processes, Conference location/venue and facilities”, “Transportation between your hotel and Conference venue”, “Document and materials”, “Food and beverage”, 44.0%, 47.0%, 47.9%, 34.7%, 43.6% and 43.9% of the participants indicated that they were satisfied with such arrangements, respectively. The details are shown in **Table 1**.

Table 1. Overall Evaluation of the Conference

Overall Evaluation	Rating (%)				
	1	2	3	4	5
Amount of registration fee	1.5	8.6	38.9	33.3	17.7
Pre-conference on-line registration and payment	1.9	4.3	21.5	44.0	28.2
On-the-spot registration processes	1.0	4.5	22.5	47.0	25.0
Conference location/venue, meeting rooms and facilities	2.8	5.1	17.9	47.9	26.3
Transportation between your hotel and Conference venue	0.5	15.6	28.6	34.7	20.6
Documents and materials	0.5	5.0	25.9	43.6	25.0
Food and beverage	1.4	3.6	20.8	43.9	30.3
Conference secretariat staff and their services	0.9	2.8	16.8	36.5	43.0

Remarks: rating (1) very unsatisfied, (2) unsatisfied, (3) moderate, (4) satisfied and (5) very satisfied.

The participants also elaborated on their **expectations from the Conference**, which could be categorized as follows:

- i) To gain more information/ knowledge and experience sharing on fisheries (55.5%)
- ii) To obtain information on the current situation of ASEAN Fisheries, Progress of Resolution and Plan of Action and future direction (21.9%)
- iii) To obtain information on specific issues under theme 1-8 (9.6%)
- iv) To enhance networking and cooperation (8.2%)
- v) To contribute to sustainable Fisheries Development (4.8%)

In addition, the participants also specified **what they like and dislike most** about the Conference, which could be summarized as follows:

What participants *like* mostly the:

- i) Technical session, speakers and discussion (55.6%)
- ii) Conference arrangement and facilities (16.1%)
- iii) Networking opportunity (12.1%)
- iv) Information and knowledge sharing (9.7%)
- v) Exhibition (6.5%)

What participants *dislike* mostly the:

- i) Theme and Presentation (37.0%)
- ii) Transportation (21.7%)
- iii) Conference venue (19.6%)
- iv) Food (17.4%)
- v) Internet service (4.3%)

For the **overall level of satisfaction of the participants**, 55.7% indicated that they were **very satisfied** with the Conference, 42.8% indicated that they were **moderately satisfied**, while only 1.5% indicated that they were **not satisfied**.

III. THE CONFERENCE TECHNICAL SESSION

For the evaluation of the Conference Technical Session, the participants are requested to indicate their level of satisfaction on the Plenary and Panel Sessions (in terms of speakers/panelists, appropriateness of topics/contents and time allocation, and active interaction/input from participants) based on five ratings: (1) very unsatisfied, (2) unsatisfied, (3) moderately satisfied, (4) satisfied and (5) very satisfied. The participants were mostly satisfied with the all Plenary and Panel Sessions, the details of which are shown in **Table 2**.

Table 2. Conference Technical Session

Conference Technical Session	Rating (%)				
	1	2	3	4	5
Plenary I: ASEAN Fisheries: Status and Trend/ASEAN Fisheries toward 2020: Vision and Challenges					
Speakers/panelists	2.5	3.0	26.0	50.5	18.0
Appropriateness of topics, contents and time allocation	2.5	3.0	22.2	51.5	20.7
Active interaction/inputs from participants	3.1	3.1	28.7	46.1	19.0
Plenary II: Overview of the Sustainable Fisheries for Food Security Toward 2020					
Speakers	2.7	4.0	18.8	52.4	22.1
Appropriateness of topics, contents and time allocation	2.0	4.7	20.7	46.7	26.0
Active interaction/inputs from participants	2.7	3.4	18.2	50.0	25.7
Plenary III: Fisheries Cooperation in the ASEAN Region: Vision of Cooperation in the Region Towards 2020					
Speakers	1.8	6.1	20.2	49.1	22.8
Appropriateness of topics, contents and time allocation	1.8	6.1	21.9	49.1	21.1
Active interaction/inputs from participants	1.8	4.4	22.8	45.6	25.4
Panel Session (Theme 1-Theme 8)					
Theme 1: Enhancing Governance in Fishery Management					
Speakers/panelists	2.3	4.7	18.6	51.9	22.5
Appropriateness of topics, contents and time allocation	3.1	6.1	23.7	46.5	20.6
Active interaction/inputs from participants	1.6	7.1	21.4	50.0	19.8
Other comments: good session, less discussion concerning combating IUU fishing					

Theme 2: Sustainable Aquaculture Development					
Speakers/panelists	3.2	5.6	17.6	52.0	21.6
Appropriateness of topics, contents and time allocation	3.2	5.7	17.7	49.2	24.2
Active interaction/inputs from participants	4.0	5.6	24.6	46.0	19.8
Other comments: late start no time for question, need to ask comment from presenting, Panelist should be allocate a specific topic with the subject area to avoid duplicate in their presentation countries					
Theme 3: Ecosystem Approach to Fisheries					
Speakers/panelists	0.9	4.6	24.8	54.1	15.6
Appropriateness of topics, contents and time allocation	1.9	4.7	29.0	43.9	20.5
Active interaction/inputs from participants	1.9	3.7	24.3	50.5	19.6
Other comments: Academically nice and beautiful but not easy to implemented, should have private fisher company attend session					
Theme 4: Post-harvest and Safety of Fish and Fisheries Products					
Speakers/panelists	2.4	2.4	30.1	47.0	18.1
Appropriateness of topics, contents and time allocation	2.4	1.2	32.9	43.9	19.5
Active interaction/inputs from participants	2.4	1.2	27.7	48.2	20.5
Theme 5: Emerging Requirements for Trade of Fish and Fisheries Products					
Speakers/panelists	2.2	1.1	23.9	50.0	22.8
Appropriateness of topics, contents and time allocation	2.2	1.1	18.9	54.4	23.3
Active interaction/inputs from participants	2.2	2.2	23.1	48.4	24.2
Theme 6: Climate Change Adaptation and Mitigation Towards Food Security					
Speakers/panelists	2.1	2.1	28.4	48.4	19.0
Appropriateness of topics, contents and time allocation	1.0	4.2	25.3	51.6	17.9
Active interaction/inputs from participants	2.1	4.2	29.5	48.4	15.8
Theme 7: Livelihood among Fishing Communities and Prospects of Employment in Fisheries Related Activities					
Speakers/panelists	3.3	5.5	28.6	40.6	22.0
Appropriateness of topics, contents and time allocation	2.2	4.4	24.4	45.6	23.3
Active interaction/inputs from participants	2.2	5.6	24.4	48.9	18.9
Other comments: not well focus with too wide topic sub-theme					
Theme 8: Sustaining Food Supply from Inland Fisheries					
Speakers/panelists	3.3	4.3	17.4	46.7	28.3
Appropriateness of topics, contents and time allocation	1.1	4.3	18.5	50.0	26.1
Active interaction/inputs from participants	1.1	4.4	22.8	42.4	29.3
Other comments: time limited, we need to work on these problems					

Remarks: rating (1) very unsatisfied, (2) unsatisfied, (3) moderate, (4) satisfied and (5) very satisfied.

IV. SOCIAL AND SIDE EVENTS

For the Conference-related social events and side events, the participants were requested to rate their level of satisfaction based on five ratings: (1) very unsatisfied, (2) unsatisfied, (3) moderately satisfied, (4) satisfied and (5) very satisfied. For the **Exhibition**, 52% of respondents indicated that they were **satisfied**; for the **Reception Dinner**, 46.1% indicated that they were **satisfied**; and for the **Excursion Program**, 44.7% indicated that they were **satisfied**. The details are shown in **Table 3**.

Table 3. Social and Side Events

Social and Side Events	Rating (%)				
	1	2	3	4	5
Exhibition	1.2	5.9	17.9	52.4	22.6
Reception dinner (13 June 2011)	4.3	2.8	17.7	46.1	29.1
Post-Conference excursion program	3.5	2.4	25.9	44.7	23.5

Remarks: rating (1) very unsatisfied, (2) unsatisfied, (3) moderate, (4) satisfied and (5) very satisfied.

Although only few participants provides responses to specific side meetings, however, the outcome from the evaluation shows that the participants were generally satisfied with these side meetings. The outputs of the evaluation on the side meetings evaluation are shown in **Table 4**.

Table 4. Side Meeting

Side Meetings	Rating (No. of Participants)				
	1	2	3	4	5
Global Food Production and Aquaculture by WorldFish Center	-	-	3	3	2
European Union Research Funding Opportunities in Fisheries and Aquaculture: FP7 Information and Matchmaking Session by the European Commission and the SEA-EU-NET Project	-	1	1	3	1
Private Sector Roles on Sustainable Fisheries for Food Security by ASEAN-US Technical Assistance and Training Facility II	1	-	-	3	1
Small-scale Fisheries Guidelines Development Process by FAO	1	-	-	6	2

V. OTHER COMMENTS

In addition to the views expressed through the earlier questions, the participants also provided other comments, which could be summarized as follows:

- i) The Conference should invite more international speakers and other sectors that also access the water ecosystems/resources;
- ii) The exhibition should also involve other stakeholders;
- iii) Conference venue should be closer to participants accommodation, and transportation should be arranged with schedule well-informed ahead of time; and
- iv) More internet facilities/access should be provided.

The participants also indicated several areas that the Conference could contribute to their future works. These include:

- i) Aquaculture development;
- ii) Food security and poverty alleviation;
- iii) Development of vision/direction, policies and plan for fisheries;
- iv) Development of guideline and framework for fisheries sector;
- v) Consideration and development of appropriate research topics;
- vi) Providing better understanding on fisheries situation in the ASEAN Member Countries; and
- vii) Enhancing future networking and international cooperation.