



Coastal Zone Asia-Pacific / SEAFDEC and Too Big to Ignore Asia & Oceania Regional Workshop

Summary¹

Introduction

The Too Big to Ignore (TBTI) project², in collaboration with the Coastal Zone Asia-Pacific (CZAP) Secretariat and the Southeast Asian Fisheries Development Center (SEAFDEC), organized a workshop titled “*Small-Scale Fisheries: Livelihoods, Wellbeing, Vulnerability and Governance*” on December 17-19, 2012 at SEAFDEC Headquarters in Bangkok, Thailand. The purpose of the workshop was to bring together researchers, government officials and other fisheries stakeholders to discuss the following topics: (1) the importance of SSF to coastal livelihoods and wellbeing; (2) vulnerability of coastal people to natural phenomena and anthropogenic changes; and (3) roles of governance systems, such as co-management, in enhancing opportunities of fishing people, especially women and children. The workshop was attended by 38 participants (see Appendix I), and was followed by the TBTI-Asia and Oceania (ASO) regional workshop and Working Group (WG) 3 meeting (see participants list in Appendix II).

TBTI-CZAP-SEAFDEC workshop

Each day of the workshop included keynote and paper presentations, interactive discussion and a roundtable panel (see Appendix III for the workshop program). The summary below captures key points presented and/or discussed during the three days of the workshop.

Session 1: Coastal vulnerability and innovation

The session was opened with a presentation on blue economy principle and integrated systems thinking. Ways to efficiently create food for aquaculture from by-products (e.g., waste from coffee production, etc.) and innovative management techniques for sustainable economy were described. It was followed by a presentation about sustainable fishing in

¹ Prepared by Ratana Chuenpagdee and Beatrice Frank, TBTI Coordinators

² Toobigtoignore.net

China, which involved a use of software to identify optimum governance interventions and the likelihood of governments to implement the regulations. The Ecopath with Ecosim (EwE) model and the Analytic Hierarchy Process (AHP) were suggested as tools to explore the governance issues presented. In general, information about SSF, defined as any boats smaller than 20 hp, was lacking in China. At-risk coastal areas in the Philippines were the main theme of the third presentation. Lack of government support was identified as a limitation from hazard recovery in the Philippines, especially in the agricultural and fisheries regions. The last paper in the morning was about lessons learned from historical data on typhoon impacts in Vietnam. To prepare coastal defense against typhoons, it was suggested to consider pre-satellite records to provide an overall picture of the potential risk or vulnerability of coastal areas. Such an approach would enable an establishment of early warning systems.

The afternoon session started with a presentation on how to assess vulnerability and mitigate impacts in coastal areas. To increase area resilience, the following approaches were listed:

- use of stock assessment tools;
- foster awareness and dialogue with coastal people;
- apply stakeholder and institutional analysis;
- develop long-term trends for large impacts-proxies;
- map the spatial distribution of population and wealth;
- consider traditional knowledge and the historical perspective of the area;
- plan long-term vulnerability assessment and use early warning systems; and
- develop fisheries insurance (e.g., Ecuador model).

In India, warning systems, coastal security systems and co-management are used to assess coastal vulnerability. In Sri Lanka, resource depletion and economic vulnerability are often interconnected. Learning from traditional systems and enabling communities to develop ownership toward resources through co-management are possible solutions to address these matters.

Roundtable discussion: Governance, capacity and mitigating coastal vulnerability were the main themes of this session. SSF vulnerability in ASO is conditioned upon livelihood challenges (e.g., poverty, access to food, hospital, etc.) and climate change impacts, among other factors. Different stakeholders have different perceptions and necessities, thus approaches to manage and preserve resources should be diversified. To integrate the different perspectives presented at the workshop four main categories were suggested: science, economics, governance and planning. The need to be action-oriented and to develop laws that are easy to implement and enforce was also discussed. In developing countries, municipalities should address coastal vulnerability issues by addressing the impacts of infrastructure, waste disposal and sewage on coastal habitats. Integrating academic research into practical work was perceived as a key issue due to organizations and governments lack of financial, technical and human capacity. It was suggested to apply the lessons learned from successful stories to reduce coastal vulnerability.

Session 2: Values, importance and wellbeing

SSF are not static as fishers values may evolve and change. Cultural values and valuation are distinct concepts. Metrics on how fishers value their own environment should be better encompassed and environmental variables should be narrowed down from macro to community level. For example, Thai fishers talk about what they value about their environment and why it is important to them. Such information should be captured while collecting data.

A clarification of the meaning of values and wellbeing is needed to develop the wellbeing framework (WBF) of WG3. A series of values can be attributed to SSF (e.g., cultural, monetary, recreational). The number of livelihoods/fish or litre of gasoline, along with the jobs created by SSF in developing countries can be considered the main value generated by this subsector. Wellbeing depends also from the sustainability of the resource being fished and on the state of the environment. SSF generally do not extract resources and damage environments like large-scale fisheries. SSF have different logic of production and an alternative approach to capitalist production.

SSF plays an important role in enhancing livelihoods, promoting poverty alleviation and increasing food security. Nevertheless, this sector is hardly considered while addressing global fisheries challenges. The WBF addresses SSF marginalization by documenting the value perspective of this subsector. The valuation will not be quantified through an economic or market value, but will be based on other metrics. Difficulties might be encountered in capturing values of different stakeholders such as policy maker, governments, fisher communities and scientists. Key words that can be attributed to SSF are social value, food security and environmental aspects.

The interconnection between wellbeing and policy was discussed. There is a need to go beyond multi-dimensional poverty indexes and to develop functional approaches for policy makers. To implement SSF livelihoods, past experiences should be documented and lessons learned from different approaches collected. To implement SSF wellbeing, alternative perspectives that work at local level and enhance the participation of fishers in markets are necessary. Livelihoods and social wellbeing were defined as complementary terms. Wellbeing adds to livelihoods a relational and multi-scalar dimension. The existence of some facets of negative wellbeing might open up a way into valuation and provide an entry point for interventions.

WG3 is attempting to design a livelihood and wellbeing valuation framework. As an alternative to certification, the FAO Regional Fisheries Livelihoods Programme for South and Southeast Asia (RFLP) has partially developed a scheme for SSF based on management, safety, community development, and conservation among other criteria. The scheme of RFLP could be embodied in the WG3 framework. The idea behind the WBF is to create a tool that enables knowledge collection about SSF, that is functional for policy makers and that is

applicable across a series of case studies. A checklist to be used by practitioners in the field could be developed for the WBF. To collect data that can be compared across case studies, numerical measures could be associated to specific issues. For example, while exploring gender, quantitative indicators could be associated to infant mortality. It is important to determine how this tool will assess the contribution of SSF to society and how it will be used to enhance SSF presence on policy agendas.

Fishers need to take control and develop their resources. If fishers undertake activities other than fishing to improve their wellbeing, fishing communities might disappear. It is important to properly define SSF, determine which are the main actors partaking to SS fishing (e.g., fishers, their wives, processors, etc.) and acknowledge that fishing communities can play a variety of different roles (e.g., stewards of the environment).

Roundtable discussion: To reduce the pressure on the resource and foster a more sustainable SSF, alternative livelihoods approaches are needed. Non-fisheries and fisheries livelihoods should be better understood by addressing the following questions: what is the degree to which SSF participate in the market? What is the role of SSF into value addition? Is there a significant difference between production and sale price? What can be done to upgrade SSF position in the value chain? RFLP has worked to promote alternative employment by developing training programs, by educating students about environmental protection and by training unemployed youth. Their livelihoods approach has also focused on marketing and value chain analysis (e.g., scad and anchovies in Vietnam).

To influence policy makers, an economic valuation (i.e., cash and non-cash values) of SSF is need. Evaluating SSF economic value is difficult as this sector is seasonal, dynamic and account for only one part of fishers' lives. Overfishing of large pelagic fishes is resulting in modifications in people diets in ASO. Consequently, the economic and cultural values of some fish species are changing. The valuation approach used to assess SFF could be used against this sector. The valuation score obtained for a SSF could be low due to institutional problems, lack of regulation and/or enforcement. Nevertheless, policy makers may use the low score as an excuse to shut down a SSF. Similarly, developers may overexploit a resource due to its low values. Values toward non-fisheries activities, if not properly documented, can be also misinterpreted (e.g. tourism development). TBTI task is to bring SSF value to the attention of policy makers. The wellbeing approach will be just one of several approaches to increase SSF visibility.

Session 3: Livelihoods and gender opportunities

The inclusion of capacity and technological innovations should be promoted at local and regional levels. An easy language and an inclusive approach should be used to avoid a situation that a few elites make decision for the entire sector.

In many Asian countries, processes of decentralization are partly implemented and powers are delegated to local authorities. Local government institutions, however, lack funding, personnel and capacity to address SSF challenges. This creates a vacuum as neither central governments manage the fishery nor do local authorities support this sector. For example, a 10 mile limit has been agreed upon in more than 10 provinces in Thailand. Authorities are not able to enforce this regulation since government departments are underfunded and fishers are hungry.

Roundtable discussion: The roundtable discussion for this session has resulted into a generation of Table 1, which highlights key issues/problems, as well as solutions and responses.

Table 1: Key issues/problems and solutions/responses identified by participants during the livelihoods and gender opportunities session.

Key Issues/Problems for SSF	Solutions/responses
<p>Resource degradation Environmental pollution Lack of ecological fisheries data Destructive fishing practices</p> <p>Conflict Competition with other sectors Displacement by larger fisheries/gears Inability to compete in the market Competition for space Population</p> <p>Governance/Institutions State policy bias against SSF Institutional failure Irregularities in governance Market failure/imperfections Ineffective implementation of policy Lack of sartorial integration Excess Capacity Lack of recognition of women's role</p> <p>Multidimensional poverty Human security, Social marginalization, Ethnic marginalization, Literacy, Health Social Exclusion Dependence on resources Lack of access to credit Lack of support from alternative livelihoods Exit of next generation of fishers from the sector</p>	<p>Use of social safety nets to reduce pressure on fisheries (including ensuring access to education of high standard, experience based learning)</p> <p>Innovative approaches to development of infrastructure and coastal zone management to reduce pollution</p> <p>Identify and share inspiring success stories</p> <p>SS fishers solidarity movement/mass mobilization/community organization (ABCD)</p> <p>Improvements in on board and post harvest handling to reduce spoilage and increase value</p> <p>Provision of training for fishers by government</p> <p>Reduce excess capacity by buying out fishers. while taking into account previous failures, whilst regulating those who remain in the fishery more effectively</p> <p>Do small scale fishers know they are too big to ignore? TBTI should raise awareness of the importance of the sector amongst fishers themselves in order to empower them</p> <p>Cooperatives/institution building</p> <p>Building resilience and engaging SS fisher communities in planning in a participatory manner</p>

	<p>Encourage people to work – incentives should have conditionality's attached (Example from Grenada of fuel subsidy contingent on boat registration)</p> <p>Role for religious organizations in fisheries management (e.g. Kerala example)</p>
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About TBTI

General information about TBTI was also presented to bring everyone up-to-date with the purpose of the partnership and how it functions. The presentation highlighted the creation of the information system for small-scale fisheries (ISSF) through the work of WG1. The system will be built as an open-access, online database, such that people can download data, research frameworks, maps and other information from it. ISSF will be interactive and will serve as a communication forum. All WGs will help in developing the system by providing key data parameters relevant to SSF. The idea behind the information system is to build local community capacity in carrying out research and in engaging in informed discussion with policy makers. The research carried out by the TBTI partnership is also a tool to be used by implementers, such as FAO, NGOs, etc. WG1 will cover many aspects of the communication strategy (communication forum) and allow public access to the database information in an appropriate format.

During the knowledge integration component, all WG/region frameworks will be shared within the TBTI network. The Merida mid-term meeting (the 2nd World Small-Scale Fisheries Congress; 2WSFC) is a good opportunity to see how the different components of the TBTI project link together and to finalize the development of the different frameworks. After the conference, the TBTI partnership could focus on applying the frameworks.

Of the total funding of CAD 2.5 million, one third is allocated to student scholarships. Students can come from outside and within Canada, and are to be enrolled at Canadian Universities. The other one-third goes to staff and research assistants, and the last portion is for network activities and dissemination, such as meetings and conferences. Each WG/region will have US\$ 5,000 per year to carry out meetings and research. Research will be mostly funded through in-kind contributions from TBTI members and partners. Other sources can be used to gather further funds (see IDRC call for proposal: <http://www.idrc.ca/EN/Funding/Competitions/Pages/default.aspx>).

Comments about TBTI are as follows:

- SEAFDEC looks at biological, technological and social aspects of fisheries, but lacks the capacity to provide sufficient training and capacity. TBTI activities and

experience are complementary and could help implement SEAFDEC's activities around Southeast Asia.

- TBTI should become more interdisciplinary by better encompassing science in coastal zone management. For example, physical geographers, ecologist and other non social-scientists could address the impacts of natural disasters and changing monsoons (climate change) on the environment from which SSF depend.
- A communication strategy is needed and information should be target to specific audience to implement the TBTI database. The Committee on Fisheries (COFI) forum, the Year of Family Farming (2014), the SARNISSA (Sub-Saharan network) and the Science communicator group (Philippines) could be useful networks to maximize the visibility of the WBF.

TBTI ASO and WG3 session

The meeting began with reflections from the participants about the contributions of SSF to society, and of society to SSF (what society is missing when ignoring SSF) in relation to the development of the wellbeing framework/approach and measures/indicators. Further discussion was around possible case studies. This session ended with discussion about the development of a workplan, a timeline and a communication strategy.

Contributions of SSF to society, and of society to SSF

The aim of WG3 is to develop a globally applicable framework that highlights SSF value and can be used across a variety of different fisheries. It will cover themes such as material, nutrition, food security, but also cultural, societal worth etc. This tool will be presented in Merida at the 2WSFC in 2014. The approach designed for ASO will be shared with the other WG/region and will represent a template for livelihood and wellbeing evaluation in other parts of the world. The contribution of society to SSF should be considered along the same lines as values. The template should be designed in a way that general public can use it. Fishing communities themselves should be able to apply the framework and work with governments and NGOs toward policy change. The idea is to develop a modular and flexible framework that enables different user groups to select different elements. This tool could have a variety of different levels (e.g., individual, household, community, etc.). Such approach may allow creating a live database like Fishbase. To make the framework more appealing for policy makers it is suggested to focus on the economic side of SSF. Additionally, ecosystem health could be located in the centre of the diagram (Figure 1) as it includes people.

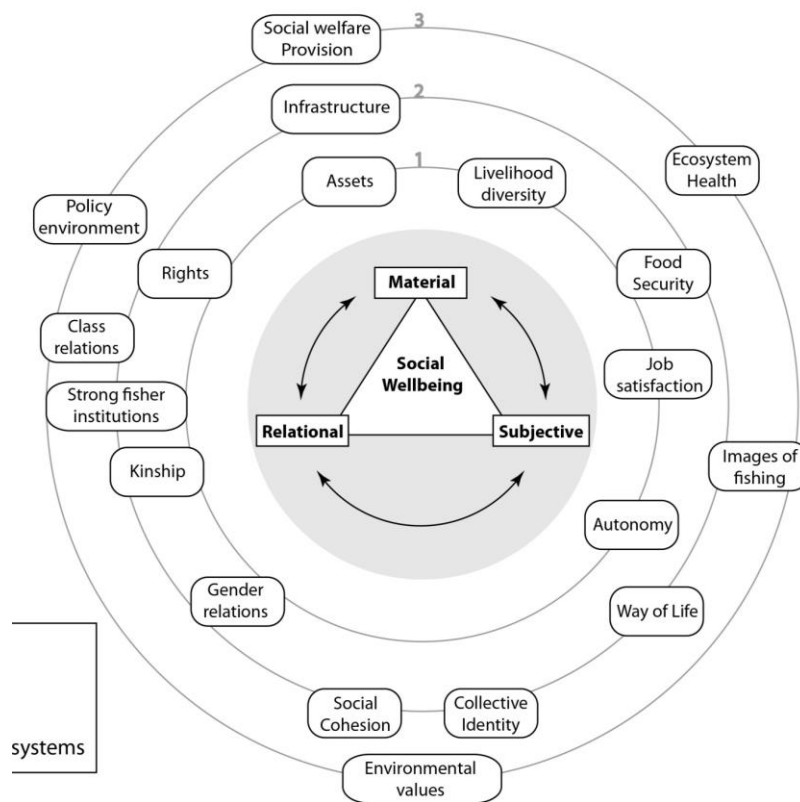


Figure 1: Wellbeing framework (WBF) diagram

Ideally the WBF would apply to any temporal or spatial scale. Different ecosystems (e.g., marine, freshwater, brackish), types of fisheries and aquaculture should be considered while developing the framework and selecting case studies for ASO. The framework should be organized in categories, to consider non-material aspects of SSF and to avoid creating general indicators. The need to identify few key attributes that can be applied for all SSF was highlighted. Possible key facets to consider could be:

1. ecosystem values: protection, conservation, amount of food in system, nutritional contribution;
2. material values; food security and nutrition, jobs, income;
3. supporting subjective/cultural values: identity, satisfaction, aesthetic
4. strengthening relational/social value: institutions, local organization, social fabric, social relationships and kinship.

Additional key words mentioned by participants were: poverty alleviation, freedom, access and ownership.

It was proposed to switch the wellbeing box, originally in the center of the diagram, with the ecosystem health box (see Figure 1). Many boxes of the diagram could be located at different scales and fitted in different areas of the figure. Boxes might be added/moved while developing the WBF. It was argued that the boxes were oriented towards an individual level. A switch from a micro to macro level was proposed.

Framework testing and brainstorming exercise

Participant were split into 4 country groups: i) Thailand, ii) Bangladesh, India and Sri Lanka, iii) Philippines, and iv) China, to further discuss the applicability of the WBF to their fisheries. The deliberation of the first two groups is captured below³.

Thailand example:

In Thailand, SSF are rather distinct from others in the region since they are mostly situated in areas accessible by roads and equipped with basic amenities. SSF are not the poorest of the poor and small-scale fishing people generally have reasonable relationship with middlemen and do have certain bargaining power due to popularity of seafood in Thailand. SS fishers are generally aware of the importance of natural resources management and conservation. They play an important role in protecting, restoring and enhancing marine natural resources. The quickly growing tourism represents a threat to SSF as it can lead to:

- an increase in illegal activities and public health issues;
- a lost of local traditional knowledge;
- a growth in coastal development.

Co-operatives in the south of Thailand are helping in increasing the value of existing resources. In a year, a rise in profits of 40% and a reduction in loans have been registered in this area. There is a need to design guidelines to ensure a more sustainable SSF. Such an approach would lead to an increase in support of governments toward SSF. A country level study could be developed in Thailand given the social importance of SSF.

In terms of importance of SSF, the following are examples of contributions of SSF to the country. These items can be easily mapped on to the WBF.

- Natural resource/ecosystem conservation; habitat restoration, fisheries enhancement (e.g., crab bank);
- Mitigate social problems (e.g., like narcotic);
- Nutritional value (through consumption of freshly caught seafood with no contamination; related to health);
- Indigenous knowledge and cultural values; and

³ Notes about the other two countries could not be found. Anyone has these notes, please forward to toobigtoignore@mun.ca

- Slow down the development of large-scale fisheries (e.g., trawl) and other big projects like ports.

Bangladesh, India and Sri Lanka example:

Shrimp-prawn farming has grown in Bangladesh as the aquaculture sector has become increasingly a commodity and a cash source. The development of this industry has led to a decline in the ecosystem health, in less fish supply and to a dependence of communities on markets for their food security. Prawn farming, however, has also improved communities subjective wellbeing by redistributing more equally money between local residents and by increasing food security. The WBF diagram may not be able to capture the interconnections of the system explored.

In India there are different scales of SSF. This sector plays a fundamental role in poverty alleviation. Thus, discussions about SSF have been carried out from national to community level. Also gender is an important theme associated to SSF, as women are the main contributors to community wellbeing.

Fishery in Sri Lanka is currently in a transitional stage, as this country is becoming relatively stable after years of war. The framework should encompass freedom of movement, access restrictions, ownership and infrastructure to be applied in Sri Lanka. From societal point of view, food security should be placed between the meso-and macro levels of the WBF as this sector provide communities with nutrition and livelihoods. Maybe it would be better to reword societal into social, as the second term encompasses all sociological dimensions of SSF.

WG3/ASO Case studies and deliverables

The following case studies were proposed for the edited volume of ASO and WG3.

- Bangladesh (Ben Belton – all dimensions);
- Thailand (Thamasak Yeemin - Trad Province);
- Sri Lanka (Mohamed Munas - livelihoods, food security, identity);
- India (Jyothis Sathyapalan – poverty, food security, income, property rights);
- India (Derek Johnson - Gujarat);
- Viet Nam (Ann Wilkings);
- Timor Leste (Don Griffiths);
- Thailand (Magnus Torell - Mogen, Satun);

- Thailand (Kungwan Juntarashote – all of coastal Thailand);
- Philippines (Alice Ferrer– all dimensions);
- China (Cheng Heqin – all dimensions, materials value contribution; diversification of livelihoods; documentation of TK, ecosystem restoration and conservation);
- Cambodia (maybe Melissa Marschke).

The expected deliverables of ASO and WG3 are an edited volume (with case studies and synthesis), a journal special issue, other peer reviewed articles, presentations in Merida 2014 and training activities (SAFDEC). Other written contributions will be supplied by Ellen Hines and Suvaluck Sathumanusphan on climate change perception and by Ellen Hines on human/marine mammal interactions.

The following are additional writing contributions for the edited volume of ASO and WG3:

- Ben Belton (theory);
- Magnus Torell (method);
- Pedcris Miralles Orencio (method);
- Kungwan Juntarashote (measures/indicators);
- Alice Ferrer (stories/examples);
- Ellen Hines (review).

Timeline

The following timeline was agreed upon by participants:

- Complete draft of the ‘guidebook’ for feedback – March 1;
- Actual case study research – April 1, 2013 to March 31, 2014;
- First draft of the chapter/MS – June 30, 2014.

Acknowledgments

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assistance. We also thank CDC for additional support and assistance. Final thanks go to all speakers, participants and note-takers for their contribution.

Appendix I: Participants of the TBTI-CZAP-SEAFDEC workshop

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Appendix III: Workshop program



TBTI-CZAP-SEAFDEC Workshop

“Small-scale fisheries: livelihoods, wellbeing, vulnerability and governance”

December 17-19, 2012

SEAFDEC Suraswadi Building, Bangkok, Thailand

WORKSHOP PROGRAM

Small-scale fisheries in the Asia and Oceania region are of great importance to the livelihoods of coastal people, contributing to economic growth, food security and poverty alleviation, among other things. The region is prone, however, to many kinds of natural disasters, including floods, earthquakes, and tsunamis. This, together with other climatic variability and anthropogenic change, creates uncertainty and risks that affect the viability and wellbeing of small-scale fishing people. Concerted effort is required from all involved parties, including governments at national and regional levels, fishing communities, trade associations, environmental groups and academics, to examine key issues concerning small-scale fisheries, to assess their importance and vulnerability, and to promote appropriate governance responses.

Too Big to Ignore (TBTI) is a new global research network and knowledge mobilization partnership established to elevate the profile of small-scale fisheries, to argue against their marginalization in national and international policies, and to develop research and governance capacity to address global fisheries challenges. TBTI comprises 15 partners, 62 researchers from 27 countries, conducting activities in five regions of the world. In Asia and Oceania, the TBTI research network focus on values, livelihoods, social wellbeing and gender. Deprivation and vulnerability due to risks and uncertainties associated with coastal disasters, and fishers' adaptation and social resilience are also key themes in Asia and Oceania. Assessing social and cultural values and wellbeing of small-scale fisheries will be pursued in this region by refining existing approaches, methodologies and tools.

It is within this context that TBTI has collaborated with the Coastal Zone Asia-Pacific (CZAP) Secretariat and the Southeast Asian Fisheries Development Center (SEAFDEC) to organize this three-day workshop titled “*Small-Scale Fisheries: Livelihoods, Wellbeing, Vulnerability and Governance*” on December 17-19, 2012 in Bangkok, Thailand. The purpose of the workshop is to bring together researchers, government officials and other fisheries stakeholders to discuss issues concerning small-scale fisheries in Asia and Oceania region, and to exchange ideas about approaches and tools necessary to address these concerns. The workshop focuses specifically on the importance of small-scale fisheries to coastal livelihoods and wellbeing, on how vulnerable coastal people are to natural phenomena and anthropogenic changes, and on how governance systems, such as co-management, can be used to enhance opportunities of fishing people, especially women, in engaging in coastal livelihood opportunities. The workshop also sets the stage for the discussion about what the ASEAN Economic Community will mean for small-scale fisheries in the region.

TBTI-CZAP-SEAFDEC Workshop

“Small-scale fisheries: livelihoods, wellbeing, vulnerability and governance”

December 17 - 19, 2012

SEAFDEC Suraswadi Building, Bangkok, Thailand

AGENDA

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December 17, 2012

Day 1: Coastal vulnerability and innovation [Chair: Dr. Kungwan Juntarashote]

08.30 – 09.00	Registration
09:00 – 09:15	Opening remarks by Chumnarn Pongsri (SEAFDEC), Kungwan Juntarashote (CZAP) and Ratana Chuenpagdee (TBTI)
09.15 - 09.35	Introduction of participants
09.35 – 10.20	“Blue economy in coastal management: an ecological perspective” keynote presentation by Nicholas Kathijotes Questions and discussion
10.20-10.50	Refreshment break
10:50 – 11:10	“Rational small-scale fisheries in an ocean economic developing zone, Northwest Pacific Ocean” by Cheng Heqin
11:10 – 11:30	“A 30- year qualitative multi-hazard approach for determining at-risk coastal areas in the Philippines” by Pedcris Miralles Orencio
11:30 – 11.50	“Coastal history lessons in northern Vietnam: reanalysis of the Tongking typhoon of October 1881 and the ensuing storm surge inundation of the Red River delta” by James Terry
11:50 – 12:30	Questions and discussion
12:30 – 13:30	Lunch
13:30 – 14:15	“Developing a regional governability index: the evolution of regional climate adaptation institutions” keynote presentation by Tiffany Morrison

Questions and discussion

14:15 – 15:15 Interactive discussion on tool and approaches to assess coastal vulnerability and to mitigate impacts

15:15 – 15:45 Refreshment break

15:45 – 17:00 Roundtable discussion on governance roles, capacity and interventions in mitigating coastal vulnerability

December 18, 2012

Day 2: Values, importance and wellbeing [Chair: Dr. Alice Ferrer]

09:15 – 10:00 “Improving fisheries resource management and livelihoods in coastal communities: lessons learned from the Regional Fisheries Livelihoods Programme for South and Southeast Asia (RFLP)” keynote presentation by Don Griffiths & Steve Needham

Questions and discussion

10:00 – 10:30 Refreshment break

10:30 – 10:50 “Issues and challenges with respect to small-scale fishers’ wellbeing: A review of Andhra Pradesh marine fishery, India” by Jyothis Sathyapalan

10.50 – 11:10 “Scorched earth and the garden of Eden: shrimp, prawn and divergent agrarian change in Southern Bangladesh” by Ben Belton

11:10 – 11:30 “Promotion alternative livelihood to be local business in fisheries community” by Sumitra Ruangsivakul

11:30 – 11:50 “Longitudinal study of fisher household livelihood trajectories in north and east of Sri Lanka - Secure Livelihoods Research Consortium” by Mohamed Munas

11:50 – 12:30 Questions and discussion

12:30 – 13:30 Lunch

13:30 – 14:15 “Making the case for small-scale fisheries in Asia and Oceania: how do we argue social and cultural values?” keynote presentation by Derek Johnson

	Questions and discussion
14:15 – 15:15	Interactive discussion about tools and approaches to assess importance and wellbeing
15:15 – 15:45	Refreshment break
15:45 – 17:00	Roundtable discussion about governance roles, capacity and interventions for better valuing and improving wellbeing in small-scale fisheries
18:00 – 21:00	Group dinner

December 19, 2012

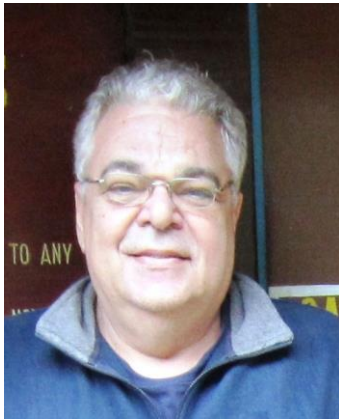
Day 3: Livelihoods and gender opportunities [Chair: Dr. Jyothis Sathyapalan]

09:15 - 10:00	“Life, fish and mangroves: reflections on 15 years of resource governance in coastal Cambodia” keynote presentation by Melissa Marschke Questions and discussion
10:00 – 10:30	Refreshment break
10:30 – 10:50	“Decentralization and governance responsiveness: an investigation of small-scale fisheries in the Philippines” by Cedric Boisrobert
10.50 – 11:10	“Agrarian transitions in Aquarian contexts: A path toward (un)sustainability?” by Ann Wilkings
11:10 – 11:30	“Impacts of Sagay Marine Reserve as perceived by the municipal fishers in Sagay City, Negros Occidental, Philippines” by Alice Ferrer
11:30 – 11:50	“Complex relationships between small-scale fishers and marine mammals” by Ellen Hines
11:50 – 12:30	Questions and discussion
12:30 – 13:30	Lunch
13:30 – 15.15	Interactive discussion about tools and approaches to assess livelihoods importance and to examine gender roles and opportunities

15:15 – 15:45	Refreshment break
15:45 – 17:00	Roundtable discussion about governance roles, capacity and interventions for improving livelihood and gender opportunities in small-scale fisheries

Note: Lunches will be provided at the workshop venue; dinner on Tuesday will be in the vicinity (details to be given at the workshop).

KEYNOTE SPEAKERS



Dr. Nicholas Kathijotes is a professor in the Department of Civil Engineering at the Cyprus University of Technology and an Honorary Professor (Adjunct) at the NP Institute of Soil Science in BG. He is also the International Ocean Institute's Focal Point for Cyprus. He received his first degree in Civil Engineering (BSCE), from the University of Massachusetts (USA). After a Fulbright scholarship he received his Master's degree in Environmental Engineering from the University of New Haven (USA). His PhD is from The UACEG in Bulgaria. He is now a partner in FP7 EU project NOVIWAM on water resources and involved in many other national and international projects. He participates in UNEP Global Programme of Action for the Protection of the Marine Environment from Land-based Activities (GPA). In his capacity as Focal point of IOI, he investigates nutrient pollution of coastal areas as well as extreme weather phenomena, and mitigation measures. He is an author of over 100 scientific articles in International Journals and Conference proceedings and presented lectures at various scientific events in Europe, Canada, Malaysia, USA, Canada, Russia, Philippines, Kenya and others. (Website: www.kathijotes.com)



Dr. Tiffany Morrison is foundation director of the Environmental and Social Planning Research Group at the University of Queensland. She specialises in the institutional and political dimensions of land use. Her research on integrated planning regimes, and the role of scale, have influenced Australian policy settings and have also been used by the Australian science agency to assess regional environmental planning arrangements. Dr Morrison's program also involves interdisciplinary collaborations with scientists, policymakers and communities concerned with the management of complex social-environmental interactions. This area of research is concerned with assessing the feasibility of different institutional designs to respond to contemporary land use planning issues, such as biodiversity decline, the expansion of coal seam gas development, and urban climate adaptation. She is currently Chief Investigator on a large Australia Research Council award investigating regional adaptation to the impacts of sea level rise.

Don Griffiths is the Chief Technical Advisor of the Regional Fisheries Livelihoods Programme (RFLP). He was born in Liverpool, England in 1955 and is a British national. He graduated with a B.Sc. in Ecology (Hons) from Edinburgh University, Scotland (UK), in 1977, specializing in fisheries management, watershed management, and environmental pollution. He graduated in 1985 from the Institute of Aquaculture, Stirling University, Scotland (UK) with an M.Sc. in Aquaculture and Fisheries Management. Don Griffiths has over 30 years work experience; the majority with applied field-based poverty focused development projects/programmes funded by a variety of donors and executed by different institutions including ODA/DFID, Danida, AECID, EU, USAID, the Food and Agriculture Organization of the United Nations, the Mekong River Commission, and the Asian Institute of Technology. Don Griffiths has extensive long-term work experience particularly in Asia, including Bangladesh (8 years), Cambodia, Indonesia, Lao PDR, Malaysia, the Philippines, Sri Lanka, Thailand (8 years), Timor-Leste, Viet Nam (7 years). Additionally Don Griffiths has also worked in Lesotho (2 years), Mozambique and Fiji.

Steve Needham is the Information Officer of the Regional Fisheries Livelihoods Programme (RFLP). He is an information and communications professional with 20 years experience working in Asia with the European Union, United Nations and private sector. He has a BA (Hons) in Humanities from Brighton Polytechnic (UK) and an MA in Public Relations from the University of Southern Queensland (Australia).



Dr. Derek Johnson is an Associate Professor in the Department of Anthropology at the University of Manitoba. He has a PhD from the University of Guelph and strong connections to the Centre for Maritime Research at the University of Amsterdam. Most broadly, he is interested in applied social science, with a concern for how insights from socio-cultural anthropology and political economy can strengthen efforts to improve human wellbeing and human relations with the natural environment. His longstanding focus has been the small-scale marine fisheries of Gujarat, India although he is also interested in comparative lessons from other sectors and other places, particularly Canada.

The nature of his research necessarily engages him in interdisciplinary conversations, especially with economists, geographers, sociologists, biologists, and ecologists. The interdisciplinary spheres in which he most commonly positions his work are international development studies and natural resource governance. He is linked to an extensive Canadian and international network of scholars working on fisheries, development, agriculture, and natural resource governance.



Dr. Melissa Marschke is an Associate Professor at the School of International Development and Global Studies, University of Ottawa. Her research centres on human-environment relations, with a particular focus on resource governance, livelihoods and social-ecological change. She has been researching fisheries and resource governance issues in Cambodia since 1998. She has just completed a book `Life, Fish and Mangroves: Resource governance in coastal Cambodia` (2012, U Ottawa Press).

LIST OF ABSTRACTS

Day 1: Coastal vulnerability and innovation

Blue Economy in coastal management: an ecological perspective

Nicholas Kathijotes

Cyprus University of Technology, Cyprus

The aim of Blue Economy models are to shift society from scarcity to abundance –based on what we have, and to start tackling issues that cause environmental and related problems in new and novel ways. Some major factors that cause ecological alterations to coastal and surface waters and contribute to nutrient inputs include, in no special order, municipal wastewater and storm water discharges; combined sewer overflows; other urban runoff; agricultural runoff; aquacultures, and various others. The issue of nutrient input due to aquaculture, being a serious input source in developing countries is emphasized together with actual measurements and control techniques applied in EU. Other general quality issues in coastal and aquaculture environments will be presented within the scope of blue economy principle and thus suggesting novel actual management techniques. The IOI strategic roadmap on ocean governance is also outlined.

Rational small-scale fisheries in an ocean economic developing zone, Northwest Pacific Ocean

Cheng Heqin¹, Lin Liangyu¹, Jiang Hong¹, Xue Bin², & Lu Zhanhui²

¹East China Normal University, 200062, Shanghai; ²Marine Fisheries Research Institute of Zhejiang Province, Zhoushan.

The Zhoushan islands new area was established in July 2011, which is the latest and most important economic developing area in China. It will be governed with the implementation of comprehensive marine economic developing management. Shipping industry, port logistics, marine equipment manufacturing, modern fisheries, tourism, and marine services, etc. will be fast developed in the coming years. The population will be dilated from 1 million at present to ca. 5 million in the 2025. Marine ecological industry protection and restoration in the Zhoushan islands new area will definitely be focused as hotspot. Unfortunately, the small-scale fisheries have not been assigned in the modern fisheries in those related projects and designs in the forthcoming developing area. As the Zhoushan islands is located in the traditional and most important fishing ground, total catches in the area accounted for 10% of the whole country. Economic values of fishery and aquatic product processing account for 29% of total industry and half of the population works for the fishery industry in Zhoushan islands area. So, fishery was, is and will be the mainstay industry in local economy of

Zhoushan islands area, even with the increase in shipping, port logistics and manufacturing. In the coming years, large-scale fishery will decrease due to the negative effects of gears used in the large scale-fishery as bottom trawl, shrimp trawl and gill net on the sustainable fisheries economy and ecological preservation in the area. But inshore and offshore small-scale fisheries including aquaculture should be and supposed largely expanded due to the rational and limited impacts of gears used in the small-scale fisheries as crab pots, angling; stow nets and high employment, sustainable tourism economy. The rational small-scale fisheries will promote the management system of fisheries in the East China Sea and then even cut down the summer fishing closure. This also should be based on the improved implementation system of small-scale fisheries management in the area, which will be developed and suggested to the study case of the TBTI project.

A 30- year qualitative multi-hazard approach for determining at-risk coastal areas in the Philippines

Pedcris Miralles Orencio & Masahiko Fujii

Hokkaido University, Japan

In this regime of climate variability, hazards have increasingly become frequent causing various natural disasters. As such, managing risks associated with these events occurring in coastal areas has been considered an important local government function. To provide valuable information towards sustainable and effective local risk management systems, policies and interventions, an approach for determining at-risk coastal areas in the Philippines using a meta-analysis of potential risks from multi hazards was undertaken. In this study, risk analysis was computed based on hazard's locational probability and impact on a certain province in a 30-year period starting from 1982 to 2011. All information used for the analysis were sourced from the Center for Research and Epidemiology of Disasters Emergency Disasters Database (CRED- EMDAT). These included population and areas affected, and frequency and duration of hazard events (i.e., meteorological, geophysical, biological, hydrological and climatological). Risk measurements were then spatially presented and combined using a geographic information system (GIS) to determine an area's overall risk from hazard events. Finally, a deterministic approach based on a computed recurrence rate of interval of hazard events and population growth rates was used to identify at-risk coastal areas in a 10-year and 30-year cycle. Results showed that not all areas frequently affected by hazards were necessarily at-risk, while, densely populated coastal areas were found to have high risk potential. The information generated by the assessment is expected to be used to improve management and decision making on addressing potential adverse effects to coastal communities due to occurrence of natural disasters.

Coastal history lessons in northern Vietnam: reanalysis of the Tongking typhoon of October 1881 and the ensuing storm surge inundation of the Red River delta

James Terry¹, Nigel Winspear², & Tran Quoc Cuong³

¹*National University of Singapore, Singapore;* ²*Aon Benfield Asia Pte Ltd, Singapore;*

³*Vietnamese Academy of Science and Technology, Vietnam*

October 2012 marks the 131st anniversary of the great ‘Tongking’ typhoon of 1881 which caused widespread destruction along the coast of northern Vietnam. The young port town of Haiphong (the name of which means ‘sea defense’ in the Vietnamese language) was engulfed and washed away. This paper reconsiders the significant characteristics of this intense event that produced a high storm surge and resulted in severe marine inundation of the Red River Delta that led to the loss of over 3000 lives. Several important but atypical features of this remarkable typhoon are reassessed, in particular its development and unusual migration path as it made landfall on the Gulf of Tonkin coast. Valuable lessons can be learned that have a bearing on appreciating the growing risks of coastal hazards faced by modern Haiphong and the wider populations of northern Vietnam. Reanalysis of the 1881 Tongking typhoon serves to illustrate that adequate coastal defenses and disaster planning are needed before such an event recurs.

Developing a regional governability index: the evolution of regional climate adaptation institutions

Tiffany Morrison

The University of Queensland, Australia

Increasing trends to decentralize policy-making, increase public-private arrangements, and employ a wider range of policy instruments can result in fragmented or blurred responsibilities, increased transaction costs and diminished policy outcomes at the regional level. To understand why some regions deliver, while others paralyze under the strain of institutional complexity, we need to identify the operational elements of governability. Governability refers to a measure of how coordinated the governance of a particular region is. Measuring and monitoring (1) levels of engagement in regional networks or organizations; (2) the nature of instrument interactions; (3) levels of long-term planning; (4) the nature of broader fiscal, administrative and democratic support, enables a serious assessment of the degree of policy interplay and cohesion in a particular region. Empirical analysis of the evolution of climate adaptation institutions in north-eastern Australia reveals the key variables affecting the interactions between regional agencies, service providers and industry. A regional governability index is proposed. Such an index is useful to identify how particular regions can enhance their performance, and also makes a key contribution to the study of institutions managing the human-environment interface.

Day 2: Values, importance and wellbeing

Improving fisheries resource management and livelihoods in coastal communities: lessons learned from the Regional Fisheries Livelihoods Programme for South and Southeast Asia (RFLP)

Don Griffiths & Steve Needham

Regional Fisheries Livelihoods Programme GCP/RAS/237/SP FAO Regional Office for Asia and the Pacific Maliwan Mansion, Thailand

The Regional Fisheries Livelihoods Programme for South and Southeast Asia (RFLP) sets out to “strengthen capacity among participating small-scale fishing communities and their supporting institutions to drive improved livelihoods and sustainable fisheries resources management” in Cambodia, Indonesia, the Philippines, Sri Lanka, Timor-Leste and Viet Nam. The four-year (2009 – 2013) RFLP is funded by Spain and implemented by the Food and Agriculture Organization of the United Nations (FAO) working in close collaboration with national authorities for fisheries in participating countries. 100 years ago there were far fewer fishers and fishing boats than today and bounty of the seas seemed limitless. The current back-drop is an ever growing world population with much of that growth centered on Asia. The reality is that there are now too many fishers and too many fishing boats. While governments, fishery managers and most fishers recognize the need to reduce fishing pressure, numbers of fishing boats, fishing effort etc., doing so poses a massive political and social challenge. Two key areas of RFLP activity which seek to address the above challenges are the implementation of co-management mechanisms for sustainable utilization of fishery resources and to facilitate strengthened and/or diversified income opportunities for fisher families. Activities related to co-management and fisheries resources include supporting the establishment or strengthening of co-management mechanisms, strengthening fisheries information bases, developing management plans and IUU reduction. Meanwhile with regards to enhancing income opportunities RFLP has undertaken wide range of fisheries and no-fisheries related pilot activities across the six countries in which it works. This range from helping communities produce better quality dried fish or shrimp paste to manufacturing handicrafts and coconut oil. This presentation will highlight some of the key lessons learned by RFLP in these two areas of activity.

Issues and challenges with respect to small-scale fishers' wellbeing: a review of Andhra Pradesh marine fishery, India

Jyothis Sathyapalan

Centre for Economic and Social Studies, India

India has a continental shelf of about 508,000 square kilometers and a coastline with an approximate length of about 8100 kilometers. The Planning Commission Working Group on Fisheries for the 12th Five Year Plan of India noted that the estimated marine resource potential of the Indian EEZ is about 4 million metric tonnes at the present exploitation rates. The report highlights the current estimate is about 0.5 mmt more in comparison with the last estimate carried out in 2000. A depth-wise distribution of marine fish production potential shows that about 87 percent of the resources are available in the 100 meter depth zone; 6 percent in 100-200 meter depth; and 3 percent in the 200-500 meter depth zone. The resource in the oceanic area is about 5 percent of the total potential. The fisheries production in India during 1950s was more pronounced in the marine fisheries and it remained the major contributor of total fish production till early 1990s. Its share in the total fish production was more than 70 per cent in 1960s, but thereafter it started declining, coming down to 59 per cent in 1980s. In the mid-nineties, the fisheries production witnessed a significant change and hence the growth potential of the marine sector remains at very low level with large dependency of human population for livelihoods and employment especially on small-scale inshore fishery. Today, the small-scale inshore fisheries are largely marginalized and ignored. In this context, the present paper provides a review of issues and challenges facing the small-scale marine fishery of Andhra Pradesh (AP) in India. The paper uses marine fishery census data 2010 of AP published by the Government of India. The review has been done to understand the significance of small-scale fishery in terms of its contribution to the overall wellbeing (in terms of poverty alleviation, food and nutritional security) of coastal fishing communities living along the 975 kilometers of AP coastal line which is a home for 498 marine fishing villages (with 130000 fishing households) and 271 marine fish landing centers and four fishing harbors.

Scorched earth and the garden of Eden: shrimp, prawn and divergent agrarian change in Southern Bangladesh

Ben Belton

WorldFish Center, Dhaka

This paper presents preliminary analysis of divergent outcomes for two villages in Southern Bangladesh resulting from a shift from subsistence rice cultivation to production of two high value export crops; black tiger shrimp (*Penaeus monodon*) and giant freshwater prawn (*Macrobrachium rosenbergii*). In each case, dramatic changes accompanied the shift to

production for the market. In the village where shrimp production became the dominant land use, injustices and inequalities associated with land grabbing, declining agricultural production, the incorporation of women into the labour force on unfavorable terms, outmigration, and a gradual erosion of resilience and wellbeing occurred. In the second village, a boom in prawn cultivation resulted in increased cropping intensities and agricultural diversification, greater participation of women in paid and unpaid economically productive work, an influx of migrants from outside the locality, reduced inequality in access to land, and rising incomes and levels of wellbeing. Two factors are key to understanding these divergent trajectories of change: 1) the characteristics of the two commodities produced, and 2) the agrarian structure of the two locations.

Promotion alternative livelihood to be local business in fisheries community

Sumitra Ruangsivakul

Southeast Asian Fisheries Development Center (SEAFDEC) / Training Department, Thailand

The SEAFDEC Project on Integrated Coastal Resources Management (ICRM) in Thailand, Malaysia and Cambodia, aim to implement local business development to increase fishers' income and create job opportunities as compensation for the reduction in profits due to degraded fishery resources. The approach was first initiated as part of the women's group activities, as it was considered vital and easily accessible to marginalized women. Four main steps were undertaken to promote the development of local business in fisheries communities. The first step, named discussion and planning, was about identifying the main local business activities and to assess their potential and establishment. The second step, called preparation, encouraged participation, fostered capacity building and created financial transparency in the system through training, field trips and technical demonstrations. Implementation, the third step of the process, was about increasing the income of fishermen by improving enterprise activities. The fourth step, monitoring and evaluation, focused on promoting business management activities, such as book keeping, accounting, quality check of products, and marketing. This final step was important and necessary to promote the growth of local business. Additionally, the strategy for poverty alleviation of fishery communities focused on improving women group's skills and knowledge, on promoting product development, and on fostering micro-financing. Enhancing women knowledge and skills was seen as a way to improve economic development of fishers' communities. Indeed, the women's groups participating in the project were able to learn new techniques to improve the quality of their traditional products, gained knowledge in management, accounting, planning and marketing, and learned the necessary skills to potentially increase their households' incomes.

Longitudinal study of fisher household livelihood trajectories in north and east of Sri Lanka - Secure Livelihoods Research Consortium

Mohamed Munas

Centre for Poverty Analysis (CEPA), Sri Lanka

As part of the activities of the seven country research consortium, a preliminary literature review on livelihoods and growth was carried out. Beyond individual case studies, this research highlighted the lack of knowledge about what makes people revert to their pre-conflict livelihoods, what the critical barriers to revert conflict situations are and/or what makes people change life direction permanently. Fishing is an important industry that contributes to the growth of the national economy in the coastal north and east of Sri Lanka. Thus, the Sri Lanka research component within the consortium focuses on coastal livelihoods-of small-scale fishers. Specifically, the aim of the research is to understand the livelihood trajectories of people affected by conflict. By focusing on the livelihood of small-scale fisheries we envision to capture subsidiary and alternative livelihood options that women and men have used as a coping strategy during conflicts such as migration for employment. The study will help understanding how macro level policy decisions impact women and men in poor fishing families in post-war areas. The effects of actions undertaken by the state, non state and private sector on small-scale fisher households over time, especially from a conflict to a post conflict rehabilitation phase, will be also explored in this research. A longitudinal livelihoods survey will be conducted in years 2 and 5 of the programme in three conflict affected districts. This survey will focus on the main dimensions of people's livelihood trajectories over time and on the impact of aid interventions, government policies and programmes on peoples' lives. Specifically, the survey will attempt to answer the following research question: "what do livelihood trajectories in conflict-affected situations tell us about the role of governments, aid agencies, markets and the private sector in enabling people to make a secure living?" The analytical framework applied in this research highlight that people's livelihood status can be explained through several elements, such as i) differences between households (household factors); ii) contextual factors; iii) the shocks experienced by a household and the coping strategies used to deal with shocks; and iv) differential access to basic services, social protection and livelihoods services and the quality of these services/transfers. At present, 1377 fishing and non fishing households from three conflict affected districts in the country has been surveyed and the data analysis has been started. Further qualitative work will be developed focusing on particular issues and themes emerging from the survey. Most likely themes such as land rights and dynamics of displacement and return will emerge. The outcomes of this research will clarify the role and effectiveness of coping strategies related to 1) long term livelihood diversification through internal and external migration; 2) reliance on social networks and negotiation with different actors within changing conflicts, policy contexts and power relations; 3) livelihood security from conflict to post conflict time periods; and 4) natural resource management in a volatile environment and in conflict situations. The longitudinal findings obtained through the fisher

household coping strategies will be used to inform state policy, donor aid and households about how to secure people livelihoods when affected by conflicts.

Making the case for small-scale fisheries in Asia and Oceania: how do we argue social and cultural values?

Derek Johnson

University of Manitoba, Canada

Policy for fisheries and the management of coastal areas typically shows scant regard for the interests of small-scale fisheries, which have found themselves increasingly marginalized in many parts of the world including in Asia and Oceania. Particularly neglected in national policies regarding coasts and fisheries are questions of how to recognize and support the distinctive life ways of small-scale fishers. While the task of reconfiguring policy to embrace small-scale fisheries is foremost a daunting political question, that effort is strengthened by research that shows the value of small-scale fisheries locally, regionally, nationally, and globally. As part of a larger research program aimed at building the global case for small-scale fisheries, this paper proposes a strategy for valuing their social and cultural dimensions that is based on a social wellbeing approach. I argue that social wellbeing is methodologically, and politically, powerful because it provides a framework to identify socially important and quantifiable aspects of small-scale fisheries but also insists that a critical part of the value of these fisheries stems from features that are unique and unmeasurable.

Day 3: Livelihoods and gender opportunities

Life, fish and mangroves: reflections on 15 years of resource governance in coastal Cambodia

Melissa Marschke

University of Ottawa, Canada

Drawing from my book "Life, Fish and Mangroves: Resource Governance in Coastal Cambodia" I will explore the opportunities and constraints facing villagers in coastal Cambodia, reflecting on how livelihood challenges intersect with resource governance arrangements (both local and national). In this region, government and business interests in community-based management and resource exploitation combine to produce a complex, highly uncertain dynamic. I will demonstrate how -- in spite of a significant effort spanning many years and engaging many players -- resource governance remains fragile and coastal

livelihoods in Cambodia remain precarious. I will conclude with some reflections on enhancing governance arrangements.

Decentralization and governance responsiveness: an investigation of small-scale fisheries in the Philippines

Cedric Boisrobert

University of Amsterdam, The Netherlands

Several countries in Southeast Asia have decentralized fisheries management, from central government to local authorities. This devolution was promoted in order to improve public accountability, environmental sustainability, more efficient forms of resource management, and inclusion/empowerment of poor and vulnerable groups. However, decentralization, in most instances, has led to poor results, and the expected development outcomes related to coastal livelihoods, poverty reduction, and environmental conservation did not deliver as planned. The Philippines has implemented decentralization reforms for nearly 20 years, in a variety of provinces, and has a wealth of experiences of local level fisheries management. Taking the municipality as the unit of study, the research will analyze the decentralization process and outcomes from the new institutional arrangements in several municipalities throughout the country, in order to identify factors influencing local governance responsiveness and effectiveness, and understand to what extent and under what circumstances decentralization reforms have benefited local fishing communities and ecosystem end-users.

Agrarian transitions in Aquarian contexts: a path toward (un)sustainability

Ann Wilkings

University of Ottawa, Canada

In recent years, Vietnam has revealed comparable total production between both capture fishing and aquaculture. Vietnam is unique in this respect since there are few other countries where both fishing and fish farming are practiced at a small producer level. Along with the economic gains from the intensification of fishing and fish farming come ecological, environmental, and socio-economic concerns. These associated costs and benefits cultivate tension between resource extraction and resource protection. In the past, state intervention in Vietnam's resource management has shown to be inconsistent creating an unpredictable and uncertain context for local resource users. It is thus interesting to consider the viability of VietGAP certification as an emerging form of fisheries governance in the region. Vietnam's ambitious trajectory for VietGAP certification presents uncertainty for resource users due to factors like access to international markets, a lack of alternative livelihood activities, and

questions surrounding depletion of fish stocks. This paper presents preliminary empirical findings of a four month study conducted in the Tam Giang Lagoon in Thua Thien Hue Province, Central Vietnam—an area conducive to multiple fishing activities. Scholars to date have researched either capture fishing or aquaculture but have not taken a simultaneous look at both. Therefore, this research is innovative in its focus on both capture fisheries and small-scale aquaculture producers. The study investigates the production systems found amongst small-scale fishers and fish producers and the interactions within and across these systems that help to inform the viability of fisheries and aquaculture certification in the region.

Impacts of Sagay Marine Reserve as perceived by the municipal fishers in Sagay City, Negros Occidental, Philippines

Alice G. Ferrer¹, Joey P. Pedrajas², Flora Vom Hofes³, Terence Dacles⁴ & Kristina Boerders³

¹University of the Philippines Visayas, Philippines; ²GIZ Environment and Rural Development, Philippines; ³ASA Programme, Germany; ⁴GIZ Environment and Rural Development, Philippines

The impacts of Sagay Marine Reserve (SMR) were evaluated by exploring the perceptions of municipal fishers from Barangay Taba-ao, Sagay City, Negros Occidental. The aim of the research was to obtain information from local communities to improve the management of the SMR. Data were collected from the 21st of August to the 5th of October 2012 through 1) surveys to 72 fishers; 2) eight focus group discussions with 77 male and female participants; 3) interviews to eight key informants; 4) a review of pertinent documents; and 5) field observations. Income and material lifestyle indicators showed that the fishing households were poor. The SMR did not help in increasing fishers' income and in improving local communities' livelihood in the area. In general, fishers perceived that resources in the SMR were declining. The indicators emphasized the likelihood of overfished resources (i.e., declining volume of fish catch, smaller fish size, disappearance of first class fish, longer fishing time) and of an increase in fishers since the establishment of the SMR in 1995. Although the SMR was perceived as a tool to protect fishery resources, respondent did not believe that the protected area establishment had lead to a higher fish catch or the recovery of the resources. The governance indicators also highlighted the need to revise the management plan of SMR. Additionally, limited human and financial resources were applied in the area to enforce fishery legislations. To improve the management of the SMR, there is a need to carry out an income diversification program for the fishers, implement environmental awareness and knowledge of local people, design and apply effective management strategies, promote stakeholder participation and representation, enhance the management plan compliance, address conflicts, create a statistical database and monitor the resources status over time.

Complex relationships between small-scale fishers and marine mammals

Ellen Hines

San Francisco State University, USA

Relationships between small-scale fishers worldwide and the coastal marine mammals they share near-shore fishing areas with are diverse and complex. Marine mammal interactions are a daily routine for many small-scale fishers with historical and current cultural and environmental importance. Global examples show a wide range of examples that can be classified as competitive, cooperative, utilitarian, spiritual, symbolic or incidentally threatened. Along the western coast of North America, seals are blamed wrongly for fish scarcities. Aboriginal peoples globally have complex utilitarian and spiritual dependencies on marine mammals. In Myanmar, Irrawaddy dolphins in the Ayeyawady River fished cooperatively with castnet fishers until recent electric fishing techniques employed by the same fishery now threaten the animals. In Vietnam, dugongs are still hunted and body parts sold illegally as medicine. Manatees in the Amazon basin were hunted until non-profit organizations started educational programs. In this presentation, I will compare and contrast examples such as these. From within these examples, questions I will explore include: 1) Why and how are coastal marine mammals important to small-scale fishers? 2) Why are they critical to marine and human habitat? 3) What happens when they do go extinct? 4) What is the role of education, legislation, and changing economies on fisher-marine mammal relationships?