Too Big To Ignore Research Report

Number 10.1/2015

TBTI Research Clusters Meeting

Tuesday, June 23rd, 2015

MARE 'People and the Sea VIII' Conference

Amsterdam, The Netherlands

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RESEARCH

POLICY

MOBILIZATION

Too BIG To IGNORE
Global Partnership for Small-Scale Fisheries Research

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Summary

The TBTI@MARE meeting took place on June 23rd 2015 in Amsterdam, prior to the MARE 'People and the Sea VIII' conference. The meeting included presentations about the twelve TBTI research clusters and was open to all TBTI members and other interested people. Among other things, the meeting was an opportunity to discuss synergies among and integration across the different clusters as well as to receive feedback about the clusters (e.g. objectives, work plan, impact, integration with other clusters etc.). A part of the meeting was allocated for the discussion about the upcoming FAO Policy Forum as well as any other ideas about what TBTI can do to influence policy and affect change at all levels.

Each cluster was presented through a short, ten-minute power-point presentation, followed by discussion. The discussion was focused on how each cluster can influence policy and contribute to TBTI capacity development. For the benefit of those not at the meeting, the report includes substantial details about the discussion that took place throughout the day.

Research and activities conducted under each cluster are impressive and have great potentials to address issues and concerns in SSF. A strategic perspective of the research clusters is the strengthening of current networks, taking advantage of the positive aspects of what the network has created and strengthen areas that had received little attention. It is quite obvious that there is now little need to argue about the SSF importance, especially with the endorsement of the Small-Scale Fisheries Guidelines have been endorsed. Now is the time to move forward!

One critical aspect identified in the meeting was the communication between scientists and practitioners, policy makers and communities. A common language to communicate between scholars, researchers, managers, practitioners, and fishers must be found. We need to integrate and synthesize our knowledge, communicate our work to a wide range of audiences, and do our best to influence policies at all level, in order to make contribution to addressing real-world problems concerning SSF.

We thank all the presenters and the participants for the fruitful discussion. Special thanks to the note-takers who helped capture the essence of the meeting.

Agenda

Time	Topic
Morning Session	
9:00 - 9:30	Welcome and introduction
9:30 – 10:00	Presentation of clusters (Global Synthesis, SSF Guidelines, Diverse Values)
10:00 – 10:30	Discussion
10:30 – 11:00	Break
11:00 – 11:30	Presentation of clusters (Market Opportunities, Economic Viability, Fish-as-food)
11:30 – 12:00	Discussion
12:00 – 13:00	General discussion and Policy Forum 2016/2017
13:00 – 14:15	Lunch
Afternoon Session	
14:15 – 14:45	Presentation of clusters (Transdisciplinary Fisheries, SSF Stewardship, Inland Fisheries)
14:45 – 15:15	Discussion
15:15 – 15:45	Presentation of clusters (Indigenous Fisheries, Transboundary Interactions, Global Change)
15:45 – 16:15	Discussion
16:15 – 16:46	Break
16.45 – 17:45	General Discussion
17:45 – 18:00	Wrap up
19:00	Dinner (hosted, location TBD)

Welcome and introduction

Too Big To Ignore (TBTI) is a global research network and knowledge mobilization partnership established to elevate the profile of small-scale fisheries (SSF), to argue against their marginalization in national and international policies, and to develop research and governance capacity to address global fisheries challenges. The partnership began in 2012 with seven working groups operating in five geographical regions: Africa, Asia and Oceania, Europe, Latin America and Caribbean, and North America. At the 2nd World Small-Scale Fisheries Congress (2WSFC) held in Merida, Mexico, 2014, TBTI received numerous feedback and inputs from the communities, which led to a re-structuring of activities into twelve 'Research Clusters'. Many of these clusters align with the original working groups but some new clusters have been added to address topical issues suggested at the congress. Rather than regional focus, TBTI cluster activities will be global or country focus.

The main goal of the TBTI@MARE meeting is to present the work done so far within each cluster, inform the attendees about the current cluster activities and future plans, and give cluster and project members an opportunity to interact. The meeting is also a way for those interested in TBTI to find out more about the project and the clusters.

1. Presentation of TBTI and twelve research clusters

Ratana Chuenpagdee, TBTI project director, gave an overview of the project and its objectives. She talked about the importance of making SSF more visible by documenting where they are, what they do, and how they do it. She stressed how essential it is for the project to have the 'highest impact possible' for the SSF sector.

The research clusters (Figure 1) represent a new TBTI phase in which activities are organized around twelve high-priority themes. While these themes are already linked to the TBTI original topics, some of them include new dimensions of SSF related research. The cluster aims to achieve 'visible' products in order to create high impact on SSF at policy, decision making, and other levels.

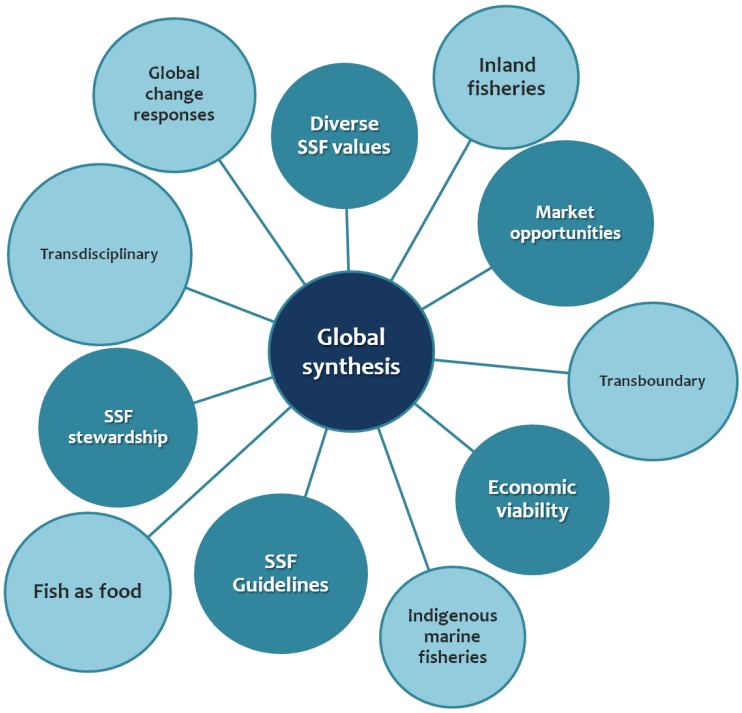

Figure 1 TBTI research clusters

2. Global Synthesis, SSF Guidelines, and Diverse Values clusters

2.1 Global Synthesis Cluster by Ratana Chuenpagdee

This presentation focused on the Information System for Small-scale Fisheries (ISSF), providing information about its datasets, different layers of information and types of data. The participants were invited to contribute to ISSF by entering data on SSF, uploading publications and scientific material and

sharing information on research projects, all of which can then be integrated into the ISSF. The current data layers include:

a) *'Who is who'* - information about the experts working on SSF related issues;
b) '*State-of-the-Art* (SOTA)' - current and new publications and scientific material produced about SSF;
c) '*SSF profile'* - information (qualitative and quantitative) about environmental, economic, social and governance aspects of SSF;
d) '*SSF organizations'* - the institutions and organizations directly linked with SSF;
e) '*SSF guidelines'* - activities, initiatives, and other issues taking place at local, national, or global scale related to the Voluntary Guidelines for Securing Sustainable Small-Scale Fisheries in the Context of Food Security and Poverty Eradication (SSF Guidelines).

All information gathered through ISSF is being synthesised to provide a global picture about SSF, which will contribute to achieving SSF sustainability.

The work plan for the 'Global Synthesis' cluster includes the following:

a) Gathering a large number of 'SSF profiles' so that we have a good representation and description of all regions of the world;
b) Synthesis of the collected data and production of preliminary reports will start in the second half of 2015, with the help of a new PhD student (Miguel Lorenzi), and with the 'Policy Forum', to held in 2017 in Rome, Italy, as a target; and
c) Production of other publications and dissemination of the findings is planned for the second half of 2016.

2.2 SSF Guidelines Cluster by Svein Jentoft

The development and negotiation process for the SSF Guidelines was quite challenging and it involved a great amount of effort. The quality of this instrument is the flexibility and diversity of its implementation strategies, an advantage brought about by the voluntary nature of the instrument. However, this flexibility can also cause difficulties for the actual implementation since it depends on the willingness and capacity (or the lack of these) of decision and policy makers, users, and other actors to implement the SSF Guidelines.

The cluster makes an appeal to scholars, university groups, policy makers, fishers, other users and community members to investigate whether and how

the SSF Guidelines are being implemented in their own countries. Since the SSF Guidelines are global in scope, a critical question is how to achieve the implementation of the SSF Guidelines in such diverse and dynamic contexts. Therefore, the aim of this cluster is to mobilize the research community on a global scale to conduct research in support of the implementation of the SSF Guidelines.

Key questions from this research cluster include:

- "How serious is the implementation?",
- "To what extent and at what scale is the implementation successful?",
- "How can scientists support the implementation?".

The cluster calls for a reflection of current examples of implementation within diverse contexts. It is recognized that the implementation is challenging, since it requires legal amendments and policy modifications. The implementation is about fisheries management and laws, as much as about political science and public administration agendas. Both approaches are needed to understand the scope and main challenges for the implementation of SSF Guidelines, especially with its link to multifaceted issues such as human rights. The assessment of the guidelines implementation must take into account diverse ways and approaches taken across the globe. It is also important to analyse the instances where there is 'no action'. Lack of capacity, willingness and awareness may be key barriers to the implementation of the SSF Guidelines.

Despite the wide range of themes covered by the SSF Guidelines there are still important issues that were not included (e.g., food sovereignty). The discussion about the missing issues would enhance the awareness about them in the society and inspire scholars to study the SSF Guidelines.

Funding is an important aspect in the implementation of the SSF Guidelines. The SSF Guidelines explicitly mention that "*States and other parties should, to the extent possible, ensure that funds are available for small-scale fisheries research, and collaborative and participatory data collection, analyses and research should be encouraged*" (Part 3, 11.9, pp.17).

This research cluster is preparing an edited volume for which we received fourteen abstracts. The aim is to launch the volume at the 2017 MARE People and the Sea conference. Alternative launch date could be during the Policy Day in Rome in the summer of 2017.

2.3 Diverse SSF Values Cluster by Derek Johnson

"Why diverse values?" is a central question of this cluster and the TBTI-Working Group 3 (WG3) framework. The working group and the cluster call for an anti-reductionist perspective in understanding SSF meaning. This perspective argues that there is not a single reason why SSF are important; instead, it recognizes the great diversity of SSF meanings. For instance, 'specific values' referred by Pauly (2006) and the 'advocacy level values' both represent the reductionist perspective. While these perspectives look at SSF only as a 'template' of values, this cluster and the WG3 propose that other values, such as 'engagement values' may be taken into account. This would in turn provide a more comprehensive understanding of SSF values. The cluster aims to acknowledge the various perspectives of SSF and works towards improving the consistency of perceptions on SSF. The research summary for this cluster has been recently developed and is available online.

Other research interests of this cluster include:

- SSF values in historical, socio-economic, and conflictive contexts;
- Internal and external pressures over SSF.

Next steps:

- Expand the effort in building the WG3 edited volume;
- Explore how narrative-based data can be contributed to ISSF;
- Increase the collaboration with other TBTI clusters and other networks.

2.4 Discussion

In general, the three clusters were seen as more research oriented. The next step is to think of ways to improve the involvement of policy makers, decision makers, practitioners, and other stakeholders. We should also think of ways to integrate policy and community and how to attract strategic actors such as fishing business people as potential allies. One way of getting the attention of policy makers is through methodologies. We could provide methods that could be applied to the SSF context, such as cultural preservation approach, economy of happiness, joy-satisfaction framework or the level of satisfaction criteria. By enlarging the focus and connecting the economic and social aspect of SSF wellbeing, these alternative analytical frameworks are promoting the integration of non traditional ways of assessing fisheries.

It is essential to properly communicate messages from the research clusters and TBTI. There is still a gap between researchers, policy makers and community, which is why one of the clusters' aims should be to fill out this gap. For example, ISSF can be used to link the community to initiatives about SSF that are taking place around the globe. TBTI could also gather insights about the perceptions that policy makers, community members and other relevant actors have about the SSF policy and current issues, which would in turn increase the visibility of this sector.

Messages about the SSF have to be carefully crafted. For example, the notion of fishers being the 'bad guys' is affecting how the entire society perceives SSF. People are refusing to eat fish because they believe the messages that depict fish as endangered resource. TBTI could certainly play a relevant role in elevating the profile and minimizing the negative perception of SSF.

One of the most important contributions of TBTI and the greatest legacy of this project could be the assessment of how well the SSF Guidelines are connected with civil society. This could be achieved by looking at what is happening 'on the ground'. It is important to take into account the potential integration of public servants in the SSF Guidelines cluster and find out how to successfully achieve the 'science-society' connection.

The TBTI research clusters should shifts from a 'fishers discourse' to a 'narrative about fisheries'. Global historical and economic contexts are needed, especially about SSF and fishers that shifted towards industrial activities; this must be included in the analytical perspectives done by scientists at different levels. One such approach would be to investigate the choices and conditions linked to these transitions. While a synthesis of issues concerning SSF cannot be generalized, it can provide a good overview of the global complexity and diversity of SSF.

The current lack of engagement of non-scientists with SSF issues calls for immediate action. The systematized information about SSF should be communicated, through proper mechanisms to enable better engagement. Business people related to fisheries can take part in these scientific initiatives and become important actors. This could be seen as an adaptation strategy, which calls for the engagement of people in the industry, not only for marketing opportunities but also as allies on issues of mutual interest (e.g., impacts of climate variability on fisheries). Other potential strategy could address equity, compensation and technology.

A critical aspect in the implementation of SSF Guidelines is funding. It should be clear that funding is not (and cannot) be drawn from the governments alone, but should come from public and private organizations, communities, and other civil society groups too. We also need to think about the deliverables, which are crucial for decision and policy making. These could include tools, methods, monitoring exercises, policy briefs and others.

The take-home message is to 'spread the message'! First, we need to recognize that policy-makers will not necessarily read a brand new book about SSF governance. Second, we need to recognize that bridging the gap between academy and society is of utmost importance, even though not many academics are trained to do that. It would be good to seek professional help; maybe develop professional communication strategies to spread the word about TBTI and the research clusters' achievements. One identified communication strategy is a TBTI news section. Another could be policy and research briefs. One good example is the TBTI Policy Brief about the European SSF in relation to the European Common Fisheries Policy. As a group, our job is to identify mechanisms for making the connections, as soon as we can.

3. Market Opportunities, Economic Viability, and Fish as Food clusters

3.1 Market Opportunities Cluster by Jose Pascual Fernández and Cristina Pita

SSF are faced with serious challenges, including low price of fish products, increase of tourism, likely increase of fish consumption by tourists, growth of global markets, changes in policies, significant environmental changes, and a lack of profitability for SSF. One of the main aims of this cluster is to study SSF marketing opportunities.

The cluster explores "What is fished?" and "Where is it fished?". Fishers struggle to get good prices for their catch. Their ability to add value to their product is limited, mainly due to the lack of organizations capable of pursuing these activities or supporting them, as well as the existence of multiple national and international regulations. Individual strategies to overcome these challenges have often been seen as controversial. One such strategy is the allocation of power to middlemen or to enterprises, acting on fishers' behalf. This has been a highly criticized initiative since it undermines the SSF sector

and the fishers' resilience in the long term. When we talk about fisheries sustainability, we are not talking only about business but about sustaining a way of living too.

The main cluster objective is to study what is happening with all the actors in the fisheries area, addressing the following topics:

- Analysis of market channels, strategies, and outcomes (including new marketing schemes)
- Analysis of the role of women in the SSF markets
- Identifying alternative ways of fishing, including certification;
- Exploring technological innovation and identifying how it helps the SSF sector
- Identifying how the fish is being caught
- Illustrating strategies to differentiate SSF catches from the industrial sector
- Making appropriate suggestions

Deliverables:

- Database
- Peer-reviewed publication
- Synthesis policy brief
- Journal special issue

3.2 Economic Viability Cluster by Anna Schuhbauer

Fisheries produce $230 billion in revenue; of which $22 million are from SSF. We know that large-scale fisheries (LSF) pose a serious threat to SSF. We need a comprehensive way of SSF assessment, one that will include more dimensions (economic and social values) since economic viability means money and time.

Why is economic viability of SSF important? Because if fisheries are economically valuable, it increases their viability, which means long-term survival of SSF. It is challenging to recognize that the goal of SSF is not always profit and that SSF catches also go to home consumption. SSF should be understood as a way of life, not only as a job. It is also important to comprehend that SSF and fishers are often isolated from fisheries governance. We must look at SSF holistically, at both global and local scales.

Main objectives:

- Identify main factors that affect economic viability of SSF

- Compare and contrast the mechanics used by fishers to improve economic viability
- Make adequate policy recommendations

Goals and deliverables:

- Process data in a global database
- Develop an edited book volume or journal special issue
- Develop 'Economic viability framework'
- Identify economic viability attributes (14 attributes have been identified so far).

Next steps:

- Invite people to contribute to the cluster: more data is needed for the database
- Identify data with higher/lower weight
- Bridge quantitative and qualitative data produced in the cluster

3.3 Fish-as-Food Cluster by Moenieba Isaacs

Human nutrition is at a critical point. The definition of 'food security' is complex and so are all the issues linked to this macro-theme. The notion of 'food security' was raised at the 'World Food Summit' in 1996, and refers, among other things, to:

- Access
- Availability
- Affordability of food, as well as how food is used

This cluster targets the necessity to set links between food security and food systems under environmental, social, political, and economic determinants, all the while recognizing their complexity. The food systems and their interactions must be addressed under these complex scenarios. In a meeting about food security held on Cape Town the theme 'politics of the food' and 'food systems' were addressed and looked at as drivers. This was the starting point on this cluster approach by acknowledging "not all fish are equal".

Critical aspects tackled by this research cluster are food production, food processing, food distribution, and food consumption. This research cluster argues that the food security concepts and its definition are not dealing with those dimensions properly. As such, and in order to address these shortcomings, a new notion including all those attributes was constructed in

the form of 'food sovereignty'. This issue, despite its high relevance, has not been fully debated and addressed by the SSF Guidelines. In that context, this cluster has recognized that there is moral issue behind food security discourse, and that the theme of food sovereignty would help open a new door for SSF governance at regional, national and global scale. In short, food security, food sovereignty and fisheries, all elements of the fish-as-food notion, must be integrated.

The issue of food sovereignty was highly controversial under the SSF guidelines development process. In this cluster, we explore the issue as:

- The rights of people to protect the local production and consumption;
- The rights of people to maintain nutritious diets; and
- The way of people to regulate market access.

This research cluster takes into account the following aspects: fish as catch (i.e., livelihood); fish for self consumption (i.e., household); and fish for nutrition. One of the most important aims of this cluster is to show the importance of fish for fishers' food and as human nutrition source in general. It also focuses on critical linkages between fish (especially small fish) and human nutrition (i.e., fish-based nutrition and human health benefits).

Key research questions are:

- The importance of SSF catch for family consumption and nutrition
- The SSF contribution to food production
- The value of SSF catch as a source of protein
- The perception of SSF values (both fish and fisheries)
- The SSF contribution to the fishing communities economy (i.e., fish-as-money)
- The SSF preference changes (i.e., fish losses and implications of food); and
- The ways SSF national and international policy has evolved over time

Deliverables:

- Journal special issue: Fisheries and Food systems: A cross-pollination and synthesis; in 'Agriculture and Food Security'.

3.4 Discussion

The discussion started with a note about the important contribution of TBTI for strengthening of SSF institutions around the globe through targeting and achieving shared strategic objectives. TBTI should attempt to find out what

kind of organizations are out there and what can we learn from them. We would enhance the willingness for cooperation by recognizing that there are many areas where shared initiatives are needed.

It is also important to draw major issues from all TBTI clusters' perspectives so that the TBTI SSF research is seen as a whole. In that regard, SSF can potentially be viewed as a solution and could play a larger role at addressing bigger issues, which have been mostly dominated by powerful sectors of society. TBTI research has to be attentive and linked with those bigger and controversial issues (e.g., development, poverty reduction, human rights, equity concentration, food sovereignty), since these critical features influence SSF and provide context for understanding SSF challenges.

Further, we need to recognize the direct link between SSF and human development. It is critical to acknowledge that major discourses such as sustainability and development could be troubling under the SSF perspective, since dimensions linked to these concepts are differently valued and perceived by fishers. In general, SSF do not align well with the development notion prevalent in the western-minded world, which is why SSF need to be addressed from different and flexible perspectives.

Commoditization is one of the main problems in fisheries. Additionally, there is increasing competition for the exploitation of marine resources. Fishers are forced to get more fish, which leads to 'more fishers, less fish'. In that context, arguments such as 'too many people after too few fish' are misguided since they claim large and small- scale fisheries are equally affecting sustainability of fishing resources.

Under the economic perspective and a liberal market paradigm, the marketing sphere of the already scarce fish becomes the main challenge, which clearly threatens the sustainability of SSF. The biggest challenge SSF face is creating sustainable market in a liberalized economy. Under this notion, the three clusters presented above are addressing shared issues.

Despite similarities between these clusters, specific issues (e.g., vulnerability addressed in the 'Economic viability' cluster) require particular approaches. These are different from the approach taken by the 'Market Opportunities' cluster, which mostly focuses on what happens to the fish after it is landed. At the same time, the different discourses within each cluster are all placed under broad SSF lenses. The target, focus, and strategies of the TBTI research clusters need to be aligned towards a common aim.

Another aspect to take into account is the inappropriate strategy to reduce fishing capacity by reducing the number of fishers. This managerial approach is simplistic and unfair. Sustainability in fisheries must be tackled in a different way, using successful, regional examples. In addition, fishers who are not able to sell their fish are troubled by debts and crisis. We need to address SSF sustainability from a comprehensive perspective looking at global markets, marketing bottlenecks, and at the role of liberal economies, which cause the destruction of the fish stocks. More focus should be put on the adaptation of fishers to these conditions, which has been rarely documented. Creating new products linked to SSF can be an alternative for addressing economic challenges and development in the context of SSF.

An important issue in the economic viability of SSF is the notion of 'fish-chain'. Knowing where the money goes is critical as well as recognizing that SSF fish-chain includes not only harvesting but also post-harvesting sector. The implications of post-harvest issues in terms of food losses and the question of what type of fish poor people have access to, has become very relevant.

Is viability linked to sustaining fish, fishers or fisheries? In this case, geopolitical issues play a significant role and provide a broader picture of SSF. For example, we could think of cases of SSF embargoes caused by political retaliations that directly affected the SSF sector (e.g., the Scottish fishing exportations were stopped due to the westerns politic conflict with Russia that was the main commercial partner of Scotland). Additionally, a global issue affecting SSF is the liberal approach of fisheries and other resources, which under international trade agreements (e.g., Global Trade Agreement, GTA) greatly threaten the long-term stability of natural resources. The international trade laws need to be addressed, taking into account the difference between SSF in developed countries from those in less developed countries; these fisheries should be treated separately. The 'Market opportunity' cluster would be an ideal ground to look at the trading blocks and how they affect the access to markets of the less developed countries. SSF can be the solution for economic, social, and environmental challenges, but the research must clearly demonstrate this.

These clusters need to identify who the SSF are competing with: large scale fisheries, markets, environmental issues, and/or tourism sector. They also need to identify mechanisms that will add value to the SSF product. Viability of SSF institution plays a key role within the entire fish-chain approach (i.e. 'from boat to consumer').

Under the food sovereignty perspective, the main goal is to keep food locally. SSF and fishers wants to have access to national and international markets,

which are normally dominated by a liberalized economy. It is this characteristic which troubles the sustainability of SSF. In some cases, the middlemen capture the benefits of fish trade, compromising fishers' access to the economic profit. For instance, middlemen, due to their politic and economic linkages have access to certification tools (e.g., MSC label), something that fishers cannot afford. In fact, certification is an important issue that could be addresses by the 'Market opportunities' cluster. Additional challenge is the 'dark area' of SSF: the non-estimated, unknown fishing aspect of the SSF sector. Illegal, unregulated, and unreported catches are extremely hard to study. Perhaps 'they' and maybe even 'we' don't want to talk about these issues because of the way they portray SSF? Is this a management problem? Is it about criminalization of SSF? What are the linkages between the elements of the system that determine their occurrence? We need answers to these questions to better understand the current situation.

Participants also discussed regulation of markets access, i.e. 'restricted access to market', which is closely linked to food sovereignty discourse and the 'access to food'. This idea involved the notion of keeping food for local consumption, looking at the food democracy from the local people's perspective, and understanding the rationale behind fishers' decisions to sell their catch to the markets or keep it for household consumption.

Discussions about SSF economic value often include misrepresentation of other types of values (i.e., ecological, social values) and the notion that SSF could be valuable economically but not ecologically. This is why the 'Diverse SSF values' cluster applies a broad perspective that encompasses other variables that must be considered to fully understand SSF (e.g., benefit distribution attribute, number of jobs, quality and type of jobs, working conditions on the SSF sector, scale of jobs, amount of SSF related jobs in industry, number of women in the fishery sector etc.).

A good example of such broad perspective is Thailand, where commercial fisheries are considered part of SSF. In this case, sustainability of SSF has been achieved by applying good management measures regarding mesh size. In addition, costumers in Thailand prefer to eat fish from SSF and are willing to pay more for that fish. The fish from SSF is sold to customers through the website services which are run by middlemen: 'from boat to door'. However, marketing of SSF is still a challenge as prices of fish caught by SSF are lower than those from industrial sectors.

In other regions, like Lake Victoria, industrial sectors are complaining about the fish information marketing system and the fact that fishers are allowed to sell

their catch to any factory. Those initiatives, which are clearly benefiting the fishers, were successful in Kenya but not in the neighbouring countries, where fish factory owners argued and lobbied against the Kenyan system.

The economic viability assessment involves the vulnerability criteria, which includes varied attributes. If the 'Market opportunity' cluster studies complete a fish-chain analysis it would be a unique opportunity to know what happens with the fish through the entire harvesting cycle.

While it is important to address 'fish-as-food' and improve the consumption of fish, questions remain. How would this eventually increase fish catches, and would it lead to overfishing and stock depletion? While the cluster promotes the consumption of fish, it also highlights the relevance of small pelagic fish as an alternative to already depleted big-size fish stocks. We should increase awareness about the importance of fish consumption of fish, even though it is challenging to promote the notion of fish-as-food is in a cash-economy. In that sense, lobster, octopus, and calamari can still be exported but small pelagic fish must be retained for local access.

When we talk about food and food sovereignty it is important to consider the diversity of food systems. In other words, it is necessary to identify feasible mechanisms that illustrate how to integrate other systems under those discourses. It could be that bigger planning schemes (e.g., marine planning, land planning, coastal systems etc.) can be a way to introduce these aspects into societal narratives, by understanding that fish-as-food is implicit in those managerial approaches. While the 'Fish-as-food' cluster recognizes the importance of integrating different food systems, it will specifically focus on small-scale marine fisheries. The knowledge collected through the cluster can eventually be extended to other food systems.

4. Transdisciplinary Fisheries, SSF Stewardship, and Inland Fisheries clusters

4.1 Transdisciplinary Fisheries Cluster by Danika Kleber

The main cluster objective is to use a transdisciplinary (TD) approach to engage fishing communities.

The main research questions are:

- What is TD?
- When does a TD approach help?
- What is TD used for?
- How do we build capacity for TD research and projects?

In order to address SSF problems we first need to recognize the high complexity of their systems. The multidisciplinary approach looks at one problem without challenging discipline boundaries or solutions. The interdisciplinary, on the other hand, examines the interactions between academic disciplines, without challenging the production of academic knowledge. The transdisciplinary perspective bridges and transcends academia and disciplines, but not necessarily in order to get solutions.

Transdisciplinarity is a great tool, although it is not always needed; its applicability depends on what systems are in place. Some of the main challenges for implementing TD approach are the dominance of one discipline and the fact that it takes a lot of effort to involve and engage many people, without the actual guarantee of its success.

The TBTI TD initiative started at the 2WSFC with a TD workshop that was attended by a diverse group of academics and practitioners related to SSF. Some of the TD workshop attendees also participated in the online, collaborative process to build a TD fisheries course, through which they developed a course philosophy, principles, and goals. The course content is currently being developed, and will be tested in January 2016.

4.2 SSF Stewardship Cluster by Tara Whitty

Conservation measures, including area-based conservation initiatives, have not yet been clearly defined, which makes it hard to assess, manage, and/or implement these measures. World Conservation Monitoring Centre has created a task force that looks for appropriate definitions of the "Other Effective Area-based Conservation Measures" (OECM) so they can be formally recognized.

Building from the work done in WG4 (Stewardship), the 'SSF Stewardship' cluster is looking at how to identify area-based conservation measures, assess the types, and raise the awareness about them. The cluster will also focus on

synthesizing a global view of small-scale fishing impacts and contributions of SSF to conservation and stewardship. Specifically, the cluster is interested in the following questions:

- What type of stewardship exist in the SSF communities?
- What are the processes, objectives, and enabling factors associated with the stewardship?
- How effective are they?
- What are the relative impacts of SSF gears, also in comparison with large-scale?
- What strategies can be employed to mitigate SSF gear impacts?

Deliverables:

- Peer reviewed papers
- Research cluster report
- Toolkit (e.g. expanding frameworks)
- Blog series (e.g., using already existing platforms such as TBTI website)
- Case study
- Data available in the 'Global Spatial Database'

4.3 Inland Fisheries Cluster by Andrew Song

Inland SSF are a marginalized sector, compared to marine SSF, including within TBTI. The importance of inland SSF is enormous including provision of food, recreational and commercial products. Like other SSF, the sector is beset by many issues such as overfishing, biodiversity loss, habitat degradation, invasive species as well as socio-political factors that relate to tenure rights or large-scale hydro development. In addition, there are abundant intersectoral conflicts within inland SSF (e.g., between recreational fisheries in lakes and river; between aboriginal fisheries etc.). Some of these conflicts take place at trans-boundary scale like, for instance, in the Great Lakes and the Lake Victoria. By taking a global perspective, the Inland SSF Cluster aims to identify and analyze some of the prevailing social, cultural and political hurdles to sustainable utilization of inland fisheries, and in doing so, it seeks to raise the profile of inland small-scale fisheries and generate insights that can lead to effective governance.

Several themes will be addressed within the cluster, including:

- Adequate mechanisms for evaluation of economic, social, and cultural dimensions of inland SSF

- Identification of fair means of evaluation
- Negotiation of external threats and cross-sectors integration
- Achieving trans-boundary and inter-jurisdictional coordination

Deliverables:

- Global scale synthesis of governance challenges
- Email survey in order to collect rapid response from the cluster member
- Research/policy briefs
- Forthcoming meetings: InFish Group (Florida, US) and World Fisheries Congress (Busan, South Korea)

4.4 Discussion

The stewardship cluster was inspired by the production of the e-book 'Enhancing Stewardship in Small-scale Fisheries: Practices and Perspectives' (McConney et al. Eds. 2014). The e-book helps identify how SSF contribute to stewardship. Now, the cluster wants to understand how fishing people contribution to conservation, by integrating varied theoretical and analytical frameworks, ideally with larger sample sizes. It is also interested in identifying best ways to replicate successful stewardship practices.

A critical thing is to clearly define what is meant by 'stewardship'. A simple way to explain it could be by illustrating how a community takes active leadership to manage their resources. It should be noted that the definition of stewardship by researchers might not be as relevant as the definition of the term by the fishing communities.

When it comes to inland SSF, it is important to ask the question "Why are they treated differently from the marine SSF"? It could be that people doing marine SSF research perceive marine fisheries differently from inland SSF and don't study them in the same way. Equally, inland SSF and indigenous SSF communities are often treated separately, although we understand them better if we were to look at them jointly.

When looking at all SSF, regardless of whether they are inland or marine, there are four main issues to take into consideration: societies of freshwater systems and marine SSF are quite different; the dynamics of their systems are different; the marketing channels and markets vary; and the policies in those systems are quite different too.

When it comes to gender, it has been identified as a fundamental and critical issue under the TBTI project agenda, although it has not been addressed within a separate research cluster. It is expected that gender will be reflected across all TBTI research clusters.

In order to address SSF challenges, no single discipline is the panacea. Instead, we need to use and apply many disciplines to enhance the chances of finding the answers to our questions. TD approaches certainly goe beyond SSF, but TD approaches can be used to address SSF as a way to illustrate issues challenging other sectors, resources, or aspects of our interest (e.g., legal dimensions).

Despite being ecologically different, the way inland and marine communities see and perceive their 'coast' is quite similar. In fact, communities along a river, a lake, or a sea shore, will intuitively look at that water body, in a pretty similar way, which often leads to inland and marine SSF being understood similarly, despite the immense, social, cultural, and historical variations between them. It would be interesting to explore how are these similarities/differences translates into different forms of governance.

5. Indigenous Fisheries, Transboundary Interactions, and Global Change clusters

5.1 Indigenous Fisheries Cluster by Andrés Cisneros-Montemayor

The presentation provided a general overview of the 'indigenous fishing communities'. Issue such as barriers to mobility of indigenous fishing communities, marginalization, ecological uncertainty, economic pressures, and food sovereignty were all identified as contributing to the extreme vulnerability of these communities.

Proposed research questions:

- Who are indigenous fishing communities?
- How many indigenous fishing communities are there?
- Where are the world´s coastal indigenous groups?

Variables taken into account for defining indigenous fishing communities:

- Recognized and unrecognized self-identifying indigenous groups
- Yearly seafood consumption

- Intrinsic value of the consumed fish
- Datasets including:
    - indigenous fishing communities' seafood catch
    - indigenous fishing communities' seafood consumption
    - global list of coastal indigenous groups, which included communities, groups, populations, locations. Country-level data was used.

Some findings:

- 1742 communities
- 586 groups
- 18/21 sub regions
- 76/140 marine states
- Indigenous groups eat more seafood than their country counterparts
- Maps of distribution showing:
    - How much do we know from the regions mapped?
    - How much do we know about group consumption?

Activities:

- Looking for more data for global analysis

5.2 Transboundary Fisheries Interactions Cluster by Joeri Scholtens

This cluster presentation involved a general introduction about the need to go beyond boundary contexts. In that regard, it was said that transboundary fisheries and its issues must be addressed from a higher scope and scale. In fact, when studying transboundary fishing impact, it is necessary to scale up or down in accordance to the context.

The first premise to set the Transboundary SSF Cluster´s rationale is that it cannot be understood in isolation. Thus, cross sectorial linkages, at multiple scale levels are needed in order to address challenges affecting SSF, which are typically looked at from within. In fact, most data for SSF is generated at local or national level, and misses impacts at larger scales. This research cluster in intrigued by the dispossession of SSF livelihoods, which quite often is observed in cases of disputed boundaries, when for instance, fishers are appropriating of marine resources across legal jurisdictions usually between state boundaries.

Additionally, an interesting area of interest is the internationalization of fishing fleets. In that regard, this research cluster is not talking about transboundary fish stocks. But it recognizes that transboundary stocks, transboundary governance, transboundary conflicts are issues that have been widely

researched. However, few information and reduced knowledge exists about transboundary in SSF, and their connections to larger political economy discourses.

Some of the research questions may include:

- What are the implications of transboundary in SSF?
- What are the disputes and geopolitics attributes in transboundary SSF?
- How to achieve (increase) inclusive governance in transboundary SSF?

Plan of actions:

- Research agenda
- Knowledge stock taking
- In-depth comparative study
- Policy relevant synthesis
- Policy-related manuscript

This cluster will have a special session at MARE conference, which will be an opportunity to further develop the research agenda.

5.3 Global Change Response Cluster by Ratana Chuenpagdee

The aim of the cluster is to learn about the effectiveness of various responses to global changes affecting SSF around the world. This cluster work is related to the work done by Human Dimensions Working Group of Integrated Marine Biogeochemistry and Ecosystem Research (IMBER), which is one of TBTI member. IMBER HDWG has been working for a few years to develop I-ADApT, which stands for "Assessment based on Description and responses, and Appraisal for a Typology". As a decision-support tool, I-ADApT aims at making responses more effective and timely by following the typology of responses that correspond best with the ecological, socio-economic and governance systems under investigation.

Key data required to develop I-ADApT are:

- Issues (what is going on)
- Systems (natural and social)
- Stressors (what is causing change)
- Changes (what changes are occurring)
- Impacts (what are the impacts of the changes)
- Responses (type of response to the changes)

TBTI Global Response Cluster will aim to apply I-ADApT to as many SSF case studies as possible. The cluster would also like to see I-ADApT being used as part of a community monitoring and assessment tool, developed and owned by communities.

The main research questions for the cluster are:

- What issues affect SSF around the world?
- How do they respond to global change?
- How effective are these responses?
- What can other SSF communities learn from these responses?

Deliverables:

- E-book based on the rapid assessment of how small-scale fishing communities respond to global changes
- Contribution to the further development of I-ADApT as an operational tool for decision making
- A journal special issue or a peer-reviewed book based on the I-ADApT case studies
- Community handbook, policy brief, technical report and synthesis paper

5.4 Discussion

When talking about boundaries, the first idea that comes to mind is the necessity to define what types of boundaries there are, what boundaries do we want to include, and what the boundaries would be used for. It was recognized that there are many boundaries relevant for addressing SSF issues. If boundaries are defined, the meaning that this cluster may give to them should be defined in advance and must be aligned with the cluster objectives. A useful outcome of the cluster's research would be development of methods to help define and describe SSF boundaries.

Boundaries are understood as geopolitical and have close connections to political, economic, and geopolitical features of human life. In addressing them, the notion of shared jurisdictions arises and thus, policy and governance dimensions become involved. At this stage, the interactions among the SSF sectors become evident, and also those between SSF and large-scale activities. It is important to recognize that looking at transboundary interactions implies both positive and negative examples. In the context of this cluster, the interest is focused on positive interactions occurring at diverse scales. In the context of transboundary research, it would be necessary to include highly relevant

human issues, linked to critical processes like those occurring with migration in SSF. However, it has to be noted that those migratory patterns associated with SSF do not necessarily mean negative examples of human movements. In fact, evidence exists of documented traditional migratory movements linked to SSF, which have been taking place for a long time in communities with ancestral fishing background. The geographical perspective would help and enhance the performance of the research of this cluster, since SSF are connected to processes happening at a macro level (e.g., globalization), due to economic and politics interests (e.g., MPAs, transboundary disputes due to oil and gas companies).

Despite the fact that SSF have been rarely addressed under the transboudnary perspective, there is still an important body of literature that is worth exploring regarding transboundary issues (e.g., information about European-based research, the Common Fisheries Policy in Europe, among others). In this example, it is clear that transboundary directly influences the level of knowledge about fishing policy in Europe, since each country has different levels of knowledge about their own fishing sector. Another example are mechanisms put in place to operationalize transboundary issues in Europe, like the economic agreements (e.g., between Sweden and Morocco). In those cases, the fishery agreements involved one developed and one developing country, but did not always address the needs of both parties. Additional tools to address transboundary issues in SSF are illustrated by access agreements, based on surplus principles, which include obligations (of varied types) for the fishing fleets.

With respect to the indigenous cluster, the adjacency principle was discussed as overlapping with the indigenous principle, when addressing SSF. There were several recognized problems regarding indigenous fishers. One of the most relevant is the self-recognition and identification of fishing communities as “indigenous”. Examples in North America and Australia show that people are considered “indigenous” under certain political projects with some specific interests. These identifications may hold symbolic meaning, but have scarce practical implications. In some cases, indigenous people have been considered as such in order for them to survive. In this context, the cluster aims to address the critical question: what makes a community indigenous?

There is an internationally recognized and complicated definition of indigenous (e.g., those applied in North America, Australia; the one provided by UN with ca. 300 pages), but there are other regions where definitions are inaccurate and where they play irrelevant roles, since different ontologies regarding indigenousness take place (e.g., India, African and South American countries).

Another example is illustrated by the indigenous issues addressed by the Norwegian constitution, where Sami people are recognized as different people. They are said to be fishing people, and are treated differently than other non-Sami Norwegians. In one way, this shows a positive discrimination (which is a way to compensate them for a history of marginalization), but it happens in a country where the society is supposed to be based on equality. This privileges acts as a counterpoint to Norwegianization, under which the Sami people went through and which caused the lost of their language, culture, but not of their customary use of fishing resources. And thus, this positive discrimination is a way to rectify past injustice.

Other geopolitical issues arise under the indigenousness definition, like colonialism, and make the indigenous aspects even more complex. There is currently a lot of focus on indigenous people, especially in global instruments dealing with SSF. In the Guidelines, indigenous issues took another dimension when it was recognized that there is no "right/wrong" response to indigenous issues and other important aspects must be taken into account (i.e., tenure rights, rights of use). The indigenous fisheries cluster should examine government agreements regarding indigenous fisheries communities, by utilizing approaches like the legal or rights-based approach (e.g., property rights). Attention must be paid however to the argument that rights are now constructed in terms of markets, which redirect our attention to those dimensions as well. Some communities have certain recognized rights, but other communities have less tangible but better realized privileges.

Participants agreed that a clarification of the term "indigenous" would make the cluster´s performance stronger. One approach would be to categorize the indigenous groups that are recognized legally, and those that self-identify. Another approach would be to engage in current debates about how indigeneity, and/or indigenousness, is constructed, especially in relation to what/how people claim their ancestral use/presence of fishing resources. Here, the recognition of "indigenousness to a place", "dispossession of language, culture" etc., are arguments that may play a relevant role. And paying attention to legal instruments allows these issues to be addressed as matters of simple justice.

In short, the problem with indigenous definition is the definition itself. By focusing on a particular definition, we would risk an overly narrow scope and approach. Would any fishing community that identifies as indigenous be considered indigenous? And since some indigenous groups have industrial fishing fleets wouldn't it just be better to focus on SSF? Furthermore, is a focus on indigenous issues marginalizing non-indigenous fishers? In one Madagascar

case the research showed that indigenous issues have not been defined, especially regarding original culture, language, and attachment to the territory, which are aspects that may be used to recognize indigenous people.

The Global Change Response cluster discussion showed the development of a "tool" for coastal people to deal with change, with greater focus on broad changes. It was called as a "community tool for monitoring". Relevant question at this point would be, how change is conceived, recognizing the continuity quality of change itself. Change is a continuous dimension (e.g., climate demographic, livelihood), and it seems that this cluster is dealing with all these changes. This proposed framework would be good at telling us how to respond to change. But perhaps in order to address the intensity and speed of change we are dealing with, it might be better to have a framework to anticipate change. What then do we need to add to build an anticipatory model?

Large-scale change processes are the main issue to address (e.g., acidification, mass mortality), but can certainly be shifted to population growth especially regarding SSF. It has to be recognized that there is a major difference between change and variability. They have not addressed what kind of change SSF communities will deal with and in order to do so, they need to define it. The cluster has not yet defined what changes are the most important to monitor. Including social science in the model will bring a whole range of indicators that could be monitored. The cluster must be willing to expect these new questions and decide how to deal with them. There is a need to first get fishers to verify the questions and perhaps co-design the tool, take ownership of the data, and perhaps even develop an early warning system. It would be necessary to recognize differences in community perceptions and response to hazards. I would also be important to look at capacity building from that perspective.

Changes to SSF will be linked to other big changes. For that reason, case studies across the world that illustrate SSF responses to those changes are needed. This led to the call for contributing to the database. The invitation to contribute asked for information on "What?", "Where?" and "How?" SSF adapt and change and what is the best way to respond to change? This global tool recognizes technology and mobilizing knowledge as important aspects to target. Additionally I-ADApT can be used to mobilize knowledge and by improving the I-ADApT format, hazards and their effects on communities could be reduced. The cluster is looking at "adaptation readiness" concept. They would like to have at least 100 cases to complete the analysis. This will help to map out who is ready and who is not.

6. General discussion (Policy Forum, Future of TBTI)

Key questions to bear in mind for TBTI:

- Are we addressing the big questions?
- Are we making the contributions that the project expects to do?
- Are we taking the right direction?

Conversation about 2016-2017: policy forum

- What to do? Strategic planning must be done. Decide what role should be played by the FAO?
- Will FAO be hosting it?
- What does TBTI achieve as a group?
- How to address crucial topics?
- How to make it relevant for the decision makers? How much does it cost?
- How to communicate to the policy makers? And other civil society members?
- Who are policy makers? How to communicate with them effectively.

Final thoughts:

- Impressive collaboration of TBTI members.
- Key aspect: How to maintain the network?
- Funding streams? How to continue in the future?
- Policies with high relevance, in what form are they presented?
- Each cluster needs to show deliverables and how they can be integrated and synthesized to answer the big questions.

Appendix 1 – List of Participants

Name	Affiliation	Country
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Anna Schuhbauer	University of British Columbia	Canada
Cristina Pita	University of Aveiro	Portugal
Daniela Kalikovski	FAO	Italy
Danika Kleiber	University of British Columbia	Canada
Derek Johnson	University of Manitoba	Canada
Jim Prescott	Australian Fisheries Management Authority	Australia
Joeri Scholtens	University of Amsterdam	The Netherlands
Johny Stephen	University of Amsterdam	The Netherlands
Joonas Plaan	Memorial University	Canada
Jose Pascual	University of La Laguna	Canada
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Kungwan Juntarashote	Retiree, Coastal Development Centre, Kasetsart University	Thailand
Kuperan Viswanathan	University Utara Malaysia	Malaysia
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