

SMALL-SCALE FISHERIES OF THE WORLD



VOLUME II

STATE OF THE ART

in small-scale fisheries



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Too Big To Ignore (TBTI; toobigtoignore.net) is a global research network and knowledge mobilization partnership supported by 20 partner organizations and over 200 members from around the world. The network aims at elevating the profile of small-scale fisheries, arguing against their marginalization in national and international policies, and developing research and governance capacity to address global fisheries challenges.

WHERE DO WE STAND

with small-scale fisheries?

A large amount of work on small-scale fisheries was performed worldwide and published in various ways.

What do they tell us?

In the previous volume of the Small-scale Fisheries of the World Series¹, we described who is working on Small-Scale Fisheries (SSF) around the world, what their research topics are, which issues they address, and what motivates them. These researchers and organizations actively participate to enhance small-scale fisheries knowledge worldwide and, by publishing their work, offer a huge amount of information on SSF to the public.

Summarizing the available information on small-scale fisheries at this time brings useful highlights of where we stand now with these traditionally and economically essential activities. Providing a succinct bibliographic inventory also helps to lay the foundations for future work to be done. With these purposes in mind, we

analyzed the “State of the Art” (SOTA) layer of the Information System on Small-Scale Fisheries (ISSF), the Too Big To Ignore (TBTI) partnership online crowdsourcing database, to learn about the up-to-date knowledge about SSF. We show where research on SSF take place, what they tell us about SSF characteristics around the globe and the issues SSF face, as well as the changes in research over time.

¹ Rocklin D. (2016) Who's who in small-scale fisheries. In Chuenpagdee R. and Rocklin D. (Eds) Small-scale fisheries of the world. TBTI Publication Series, St John's, NL, Canada, Vol. I, 8 pages.

WORLDWIDE RESEARCH

on small-scale fisheries

In May 2016, a total of 1702 records were available in the SOTA ISSF layer. Among them, 61% are found to be peer-reviewed papers, 20% reports, 10% books or books chapters, and 3% conference proceedings. Information on SSF are also disseminated through newsletters, PhD theses, documentaries, monographs, handbooks, or teaching kits.

When focusing on peer-reviewed publications, we found that no less than 298 different peer-reviewed journals were considered to publish worldwide SSF research results. Among them, the most frequent were

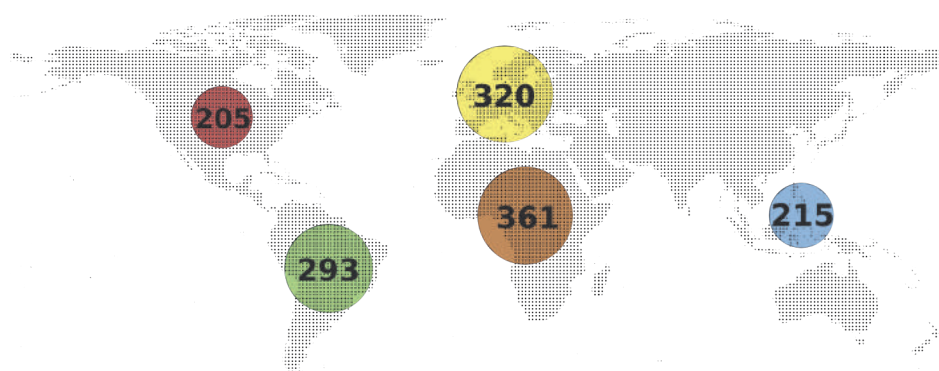
Marine Policy, Fisheries Research, and Ocean and Coastal Management (20%, 10%, and 7% of the publications listed in ISSF, respectively). However, many other journals such as Ecology and Society, African Journal of Marine Science, Brazilian Journal of Oceanography, Environment and Natural Resources Research, or Rural Sociology also published studies on SSF around the globe.

Among the nearly 1400 studies focusing on specific geographic areas, 361 of them were about SSF in Africa, 215 in Asia and Oceania, 320 in Europe, 293 in Latin America and the

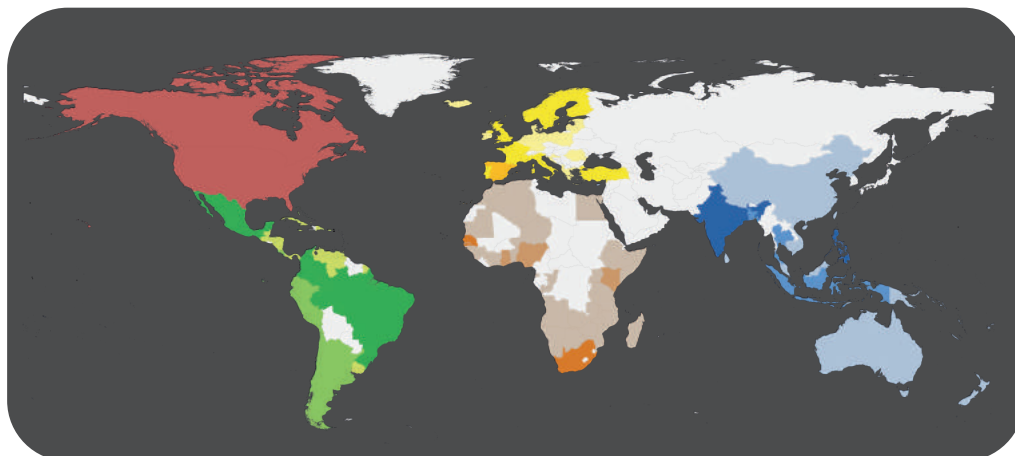
1702
SOTA
records

in

116
countries



Number of publications on local or regional small-scale fisheries case of study, recorded in ISSF in May 2016.



Number of publication records on SSF according to the regions in which they perform (Red: U.S. and Canada; Green: Latin America and the Caribbean; Yellow: Europe; Orange: Africa; Blue: Asia and Oceania). The color gradient depends on the number of publications per country (Light colour: <10 publications; Medium colour: 10-30 publications; Dark colour: >30 publications).

Caribbean, and 205 in U.S. and Canada.

These studies cover at least 116 countries in the North and the South, letting us know about SSF in diverse places such as Albania, Angola, Denmark, Honduras, Ireland, Namibia, Puerto Rico, and Vanuatu. The distribution is rather skewed, however, with a higher number of publications associated with small-scale fisheries in Spain, U.S., Canada, South Africa, Senegal, Mexico, India, Brazil, and the Philippines,

but with a much lesser extent in Venezuela, Germany, Algeria, Malawi, Australia, China, and New-Zealand.

MAIN CHARACTERISTICS

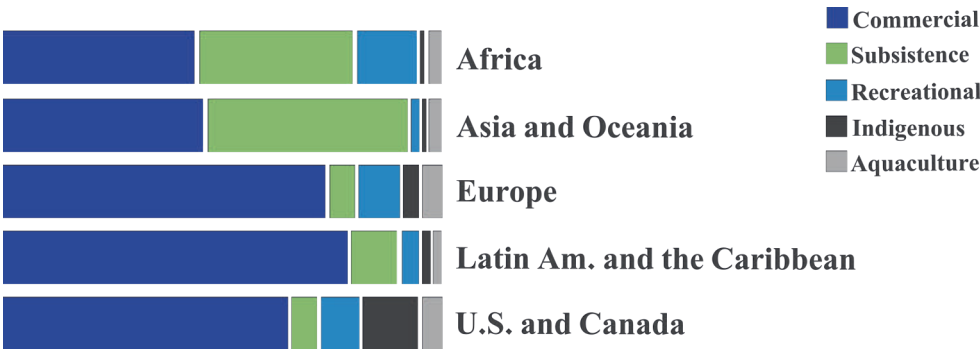
of small-scale fisheries

The information provided in ISSF enables us to learn more about the types of fisheries studied around the world, the gears used, the regulations, the rules, and the governance models in operation. It is also possible to see how similar or different these fisheries are across regions.

Research on SSF targeted diverse fisheries types. In Africa and Asia/Oceania, the publications mostly deal with both commercial fishing (45% and 47% of the records,

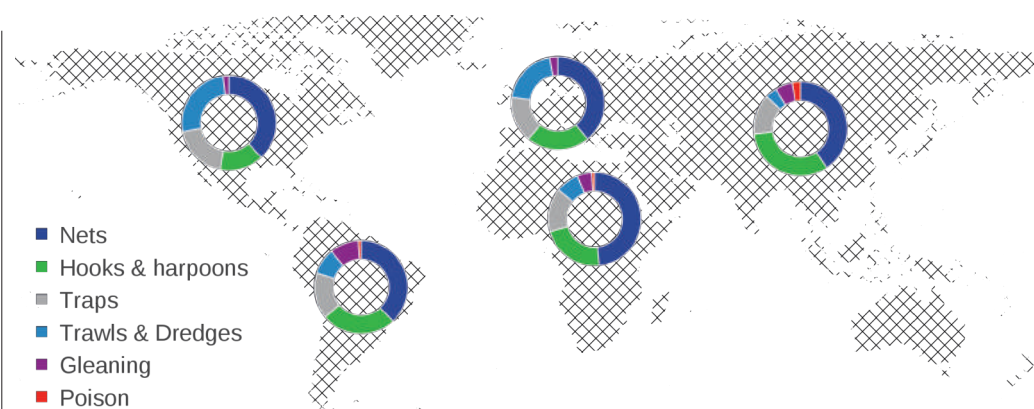
respectively) and subsistence fishing (36% and 47%, respectively), while in the rest of the world, commercial fishing clearly prevails as the most considered topic. Interestingly, recreational fishing and aquaculture, despite being common activities around the world, do not appear to be widely studied. Finally, research on small-scale indigenous fisheries is mainly published for U.S. and Canada case study (about 13% of their SSF publications) but only represent between 1% and 4% of the publications in other regions.

63%
of the studies
concerns
Commercial
fishing
and
21%
Subsistence
fishing



Which type of small-scale fisheries are studied in each region, according to the bibliography in ISSF?

41%
of the gears used
are
Nets



Gears used in small-scale fisheries around the world, according to published case studies in ISSF.

In the five regions of the world, different types of nets, such as cast nets, gillnets, lift nets, and seines, are the most commonly used gears (described in 38% to 48% of the publication records). The second most common gears used are hooks and harpoons, which are found in Asia/Oceania more than in other regions.

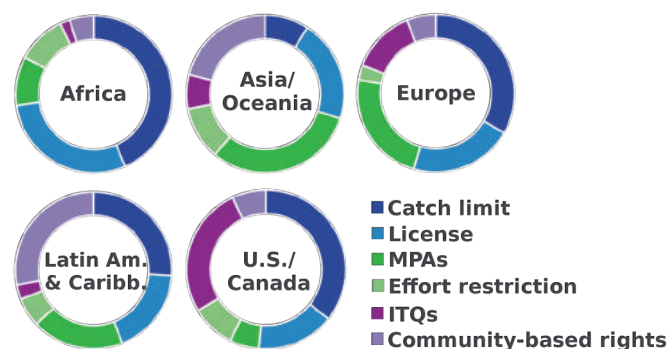
In Europe, U.S., and Canada, research focuses mainly on trawls and dredges. The usage of traps is common in all regions, while gleaning fishing activities are more often studied in Latin America/the Caribbean and Asia/Oceania than in other regions. Finally, poison fishing is still used in Asia and Oceania (described in 3% of the publication records) and more rarely in Africa and

Latin America/the Caribbean.

With respect to management measures applied to SSF around the globe, catch limit is the main rule in Africa, Individual Transferable Quotas (ITQs) are more commonly used in the U.S. and Canada (described in 27 % of the reported studies), and Marine Protected Areas (MPAs) are found to be more common in Asia/Oceania and Europe (31% and 32% of the references, respectively). Community-based

Catch limits
are used in

30%
of the studies



Management measures applied to small-scale fisheries in the five regions, based on the recorded publications in ISSF.

36%

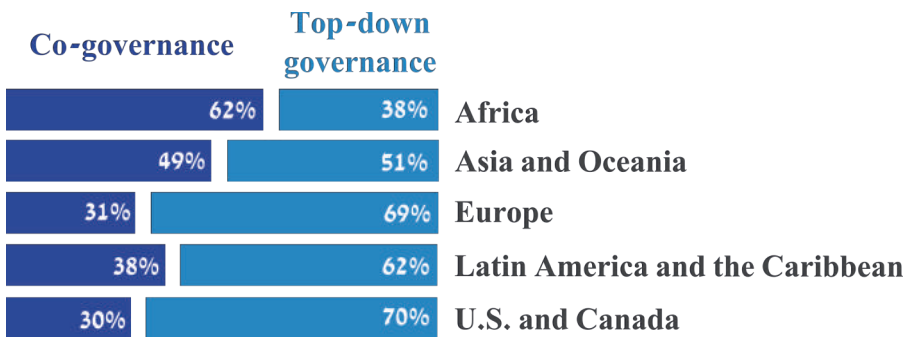
of the issues concerns

Governance

and

12%

Economy



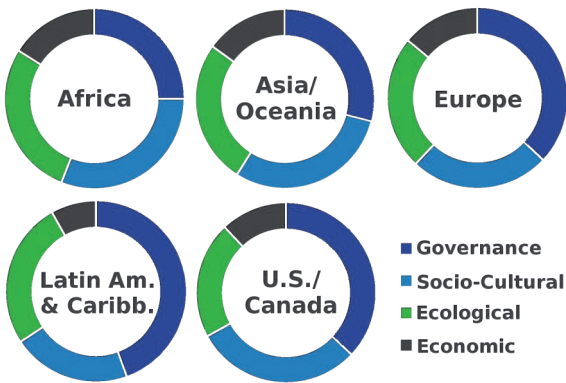
Small-scale fisheries governance models in the five regions, according to ISSF records.

rights systems are more frequent in Asia/Oceania and Latin America/the Caribbean than in the other regions. Finally, fishing effort restrictions, targeting gears and vessels, are not often addressed in the available records globally, and are described in only 3% to 11% of the bibliography.

Governance of small-scale fisheries, on which millions of people are dependant, is a crucial issue. Based on the published case studies in ISSF records, co-governance is the predominant governance model used in African countries, while in Asia and Oceania, co-governance and top-down governance are found to be equally applied (49% and 51% of the case studies, respectively). However, in other regions, the top-down governance is the most common way to manage small-

scale fishing activities, as described in 62%, 69%, and 70% of the Latin American/the Caribbean, European, and U.S./Canadian case studies, respectively.

Various issues are encountered when working on SSF, related to ecological, economic, socio-cultural, and governance topics, in all regions. However, economic issues are less considered in the publications, representing only between 8% and 16% of the discussed topics in SSF research. Socio-cultural subjects are the ones mostly



Main issues addressed by the publication records on SSF around the world.



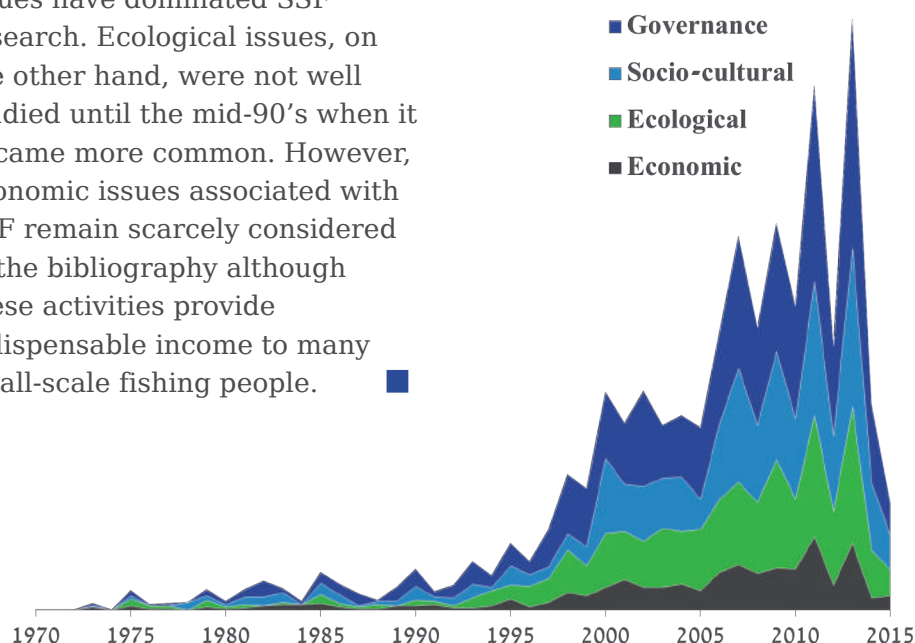
Main topics addressed in the literature in each region, according to the four main issues (Dark blue: Governance issues; Turquoise: Socio-cultural issues; Green: Ecological issues; Dark grey: Economic issues)

considered in Africa and Asia/Oceania, while in the three other regions, governance ones dominate, with a particular importance in Latin America and the Caribbean, representing 44% of the discussed issues.

Within the four main issues, some emphasis is made on specific topics and varies by regions. When having a closer look at the governance issue, it appears that Europe and Latin America/ the Caribbean mainly consider the participation and representation of small-scale fishers in decision-making, while in U.S./Canada, publications mostly focus on the SSF access and allocation rights. The socio-cultural issue both in Africa and Asia/Oceania overall focuses on livelihoods and well-being and poverty, in terms of health and safety, while subjects such as identity or gender are rarely considered.

The ecological issue is mainly concerned with human impacts and threats to SSF in the northern regions, while in Latin America/the Caribbean and in Africa, it mainly deals with the biology of the targeted species. Moreover, sustainable fishing and best practices issues are commonly found in studies in Asia and Oceania while they appear to be more rarely addressed in the other parts of the world. The role of traditional ecological knowledge or conservation and stewardship in SSF appear to be scarcely considered. Finally, economic issues mainly deal with incentives and subsidies in Africa, and with financial viability of SSF in Europe and Asia/Oceania. Other topics such as SSF importance in the income and employment are barely presented in the records.

Since the early 70's, governance issues have dominated SSF research. Ecological issues, on the other hand, were not well studied until the mid-90's when it became more common. However, economic issues associated with SSF remain scarcely considered in the bibliography although these activities provide indispensable income to many small-scale fishing people.



Representativeness of the issues addressed in SSF studies of ISSF records since 1970.

Information about the State of the Art in SSF, collected through the Information System on Small-Scale Fisheries (ISSF), provide insights about where we stand with SSF nowadays, what studies have been performed and where, what are the similarities and differences of SSF characteristics in each region and which issues they address. Considering the number of SSF, their diverse nature and characteristics, their social, cultural and economic importance, and issues affecting their sustainability, many more people and organizations need to contribute to enhancing their knowledge and to support them. What is reported here is likely a small fraction of the actual amount of published information on SSF. By sharing information about the work you have done or work you know through the ISSF platform, you make it possible for everyone to learn more about SSF around the world. Join the community and visit issf.toobigtoignore.net to contribute!

The “Small-Scale Fisheries of the World” publication series presents synthesized information and knowledge about various aspects of small-scale fisheries (SSF) around the world, including key issues pertinent to their sustainability. The synthesis is largely based on available data in the Information System on Small-scale Fisheries (ISSF), an online open-source database developed by the Too Big To Ignore (TBTI) partnership, supplemented by findings from SSF research and studies both within TBTI and beyond. This series, composed of several reports, opens a window on the world of small-scale fisheries in ways that have rarely been done.

The “Small-Scale Fisheries of the World” series will be useful for anyone interested in small-scale fisheries and wishing to help raising awareness about their contribution to livelihoods, well-being, poverty alleviation and food security of millions of people around the world.

