About more than just the size of the boat

Small-scale fisheries are hard to measure, so their importance to food security and livelihoods is often underestimated; the **Big Numbers Project** works to fill the information gap

Small-scale capture fisheries are essential sources of nutrition, employment and income for many of the world's coastal and rural poor. Small-scale fishing is a key livelihood strategy for millions of households in developing countries and central to safeguarding their food security and reducing poverty. Fishing and related activities provide jobs and income, and fish is an important protein source. In addition to fulltime fishing, seasonal or occasional fishing supplements other livelihood activities, either as a recurrent sideline or as a failsafe when agricultural harvests fall short.

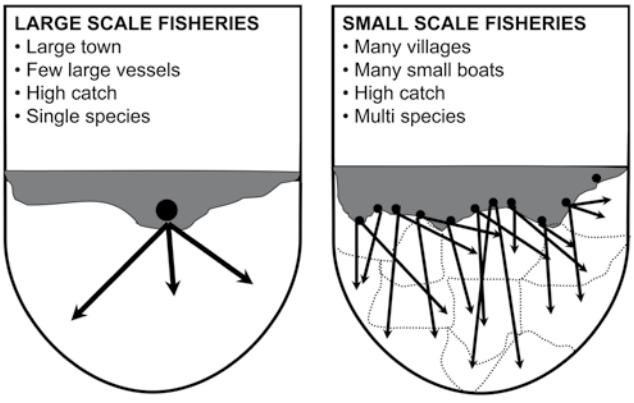
Important as they are, small-scale fisheries are rarely monitored and often un-managed. Statistics on capture fisheries tend to focus on the large-scale sector, which governments collect primarily to manage the fisheries or document economic gains. Managed, large-scale fisheries are typically monitored by recording landings at established, centralized ports. Socioeconomic importance is generally monitored at the macroeconomic national level — measuring contributions to gross domestic product, foreign exchange earnings and state tax revenues — and does not cover indicators at the much narrower level of the community or household.

Inland fisheries are often even more informal and dispersed than their marine counterparts. As existing assessment frameworks and reporting systems do not work well under these circumstances, catches in small-scale fisheries, particularly inland, are not always adequately recorded. The appearance that they are less productive than large-scale fisheries simply reflects that we just do not have information about them.

The lack of information generates ignorance, and ignorance breeds a lack of understanding and support. This situation is unfortunate, as many small-scale fishing communities in developing countries are highly vulnerable to such threats as environmental degradation, overfishing and rising fuel prices. Political will and innovative approaches are needed to support, manage and enhance small-scale capture fisheries; maximize their contribution to food security and poverty reduction; and to protect the many vulnerable people whose livelihoods depend on them. For this we need information.

WHAT ARE SMALL-SCALE FISHERIES?

Small-scale capture fisheries are environmentally diverse and fished using many different fishing methods and under an array of organizational setups. There can be no



As landings in small-scale fisheries are not made at official landing sites or go through formal distribution channels, underreporting of catches and fisher employment is common. Source: Adapted from Berkes 2003.

Small-scale fishing may be part of a complex set of livelihood strategies and also take place "on foot", with hand held gear and shore-based equipment. Landings do not go through official landing sites or enter formal distribution channels. Hence, underreporting of catches and employment is common.

Rice-field lift-net fishing in Thailand. (Photo: FAO Bangkok), Shark fishers in Senegal (Photo: D. Mills), glass-fibre artisanal vessels in Nicaragua (Photo; F. Marttin) and net fishers, Tonle Sap, Cambodia (Photo: Mith Samonn) are all part of the world's small-scale fisheries sector, contributing to food security and poverty reduction.

Families lift-net fishing for small riverine species during monsoon season, Thailand (Photo: FAO Regional Office of Asia and the Pacific)

universal definition, as something considered small in one place may be large in another. Still, small-scale fisheries share some general attributes. Fishers' boats are generally small and operate with little mechanization. Fishing trips are relatively short, to fishing grounds not very far away. Family businesses and local contacts are common. While export-oriented production is increasing, small-scale fishers usually supply fish to local and national markets through small-scale processors and vendors.

The Big Numbers Project is a joint activity of the Food and Agriculture Organization (FAO) of the United Nations, World Bank and the WorldFish Center in collaboration with national partners. It is funded through PROFISH, the World Bank's global program on sustainable fishing. It aims to fill the information gap by providing disaggregated data on capture fisheries. The intention is to support the establishment of procedures that allow for the regular analyses of fisheries' status and trends. These analyses will inform policy formulation and support the provision of management advice within countries and globally.

The first project milestone was to capture a snapshot of the current situation based on the most recent statistics and information available. By carrying out case studies in selected developing countries, the project collected information on small- and large-scale fisheries in inland and marine waters. Based on these data and information from other recent studies, the project estimated a number of key indicators in the format of a Thomson table[1] for developing countries (see page 4).

WHAT WE KNOW ABOUT SMALL-SCALE FISHERIES

The following are key preliminary finding of the Big Numbers Project:

- Over half of the catch in developing countries comes from small-scale fisheries. Fully 90-95% of small-scale fishery landings are destined for domestic human consumption, not for export or use as animal feed. This illustrates how strongly small-scale fisheries contribute to local food supplies and food security

[1] The original Thomson table appeared in July 1980 in an ICLARM newsletter that published an article by David Thomson on conflict within the fishing industry. Thomson argued for protecting inshore fishing grounds and supporting small-scale fishers (Thomson 1980).

Women in Pekalongan, Indonesia, preparing traditional "pindang" products (Photo: L. Westlund)

Local fishers and villagers work together to catch fish as flood water recedes in a Bangladesh floodplain (Photo: Felix Marttin)

- Small-scale fisheries directly employ 25-27 million fishers, fulltime or part time, in developing countries. As another 68-70 million people work in postharvest activities, small-scale fisheries provide over 90% of all fishery jobs
- While marine fisheries are more productive than inland fisheries, inland fisheries employ more people
- Women account for about half of the total fishery workforce, both fulltime and part time, in developing countries. Women often work in processing and marketing and can play an important role in providing working capital for fishing trips
- In addition to fulltime and part-time employment, small-scale fisheries provide food and income to millions of occasional fishers and fishery workers. These fisheries play important roles in food security and poverty alleviation by providing a security net for poorer populations in coastal areas
- Many small-scale fisheries in developing countries are vulnerable to threats both internal and external. Volatile fuel prices constitute a particular concern in this respect, as fuel typically absorbs a major part of the cost of fishing, even in less-mechanized small-scale fisheries

REFERENCES:

Case studies: Bangladesh, Brazil, Cambodia, China (three provinces), Ghana, India, Indonesia, Mozambique, Nigeria, Philippines, Senegal, Thailand, Vietnam and Lake Victoria (Kenya, Tanzania and Uganda).

Berkes F. 2003. Alternatives to conventional management: Lessons from small-scale fisheries. In: Bavington D. and Slocombe S. (eds.). Managerial ecology: Counterproposals. Environments, 31: 5-19 (www.entrepreneur.com/tradejournals/article/107201729.html)

Thomson D. 1980. Conflict within the fishing industry. ICLARM Newsletter 1980, 3: 3-4.

Thomson table for developing countries, based on preliminary estimates from the Big Numbers Project

	SMALL-SCALE FISHERIES			LARGE-SCALE FISHERIES			TOTAL
	MARINE	INLAND	SUBTOTAL	MARINE	INLAND	SUBTOTAL	
PRODUCTION AND UTILIZATION							
ANNUAL CATCH (MILLION TONS)	28-30	9-13	37-43	31-34	very little	31-34	68-77
ANNUAL CATCH FOR DOMESTIC HUMAN CONSUMPTION (MILLION TONS)	Aproximately 25 million	Aproximately 10 million	Aproximately 35 million	Aproximately 15 million	very little	Aproximately 15 million	Aproximately 50 millions
ANNUAL CATCH FOR DOMESTIC HUMAN CONSUMPTION AS A SHARE OF THE TOTAL CATCH (%)	Aproximately 90	Aproximately 95	90-95	Aproximately 45	N/A	Aproximately 45	Aproximately 70
DISCARD SHARE OF CATCH (%)	Aproximately 0.5	negligible	Aproximately 0.5	Aproximately 2	N/A	Aproximately 2	Aproximately 1
EMPLOYMENT							
NUMBER OF FISHERS (MILLION)	11-12	14-15	25-27	1-2	very few	1-2	26-29
NUMBER OF JOBS IN PROCESSING AND MARKETING (MILLION)	32-33	36-37	68-70	5-6	very few	5-6	73-76
TOTAL	43-45	50-52	93-97	6-8	< 0.5	6-8	99-105
OF WHOM WOMEN (%)	Aproximately 50	Aproximately 55	Aproximately 60	Aproximately 70	Aproximately 30	Aproximately 65	Aproximately 50
PEOPLE EMPLOYED PER 1,000 TONS OF FISH CAUGHT	1,500	4,600	2,400	200	few	200	1,400
FUEL EFFICIENCY							
FISH CAUGHT PER TON OF FUEL CONSUMED (TONS)	1-10	5-15	2-12	1-5	N/A	1-5	2-10

More results from the Big Numbers Project are available in the preliminary report entitled *Small-scale capture fisheries: A global overview with emphasis on developing countries.*

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