

## Rebuilding fisheries and coastal livelihood in tsunami affected areas

by  
*Daniel Pauly*

**M**any of the victims of the recent tsunami in South and Southeast Asia were fishers and their families, and much of the infrastructure that was destroyed was ports and boats and other fishing gear. It seems therefore obvious to many in the developed world that they should help in rebuilding the fisheries, for example, by funding the construction or purchase of replacement vessels. Indeed, I have recently received several phone calls asking my advice on how to go about such rebuilding. One of my callers even suggested that we should send surplus vessels from British Columbia as part of this rebuilding effort.

Before countries such as Canada commit themselves to such far-reaching decisions, a few important features of South and Southeast Asian fisheries need to be considered, notably that (except for the oceanic tuna fisheries), they consist of two fundamentally different and antagonistic components.

One of these is small-scale fisheries, employing tens of thousands of fishers, operating traps and other fixed gears along the coast. Open crafts are also used, some motorized and many not and usually of the size ranging from that of a kayak or row boat. The other component consists of large-scale, 'industrial' fisheries operating motorized and decked vessels, mainly bottom trawlers, along with purse seiners and other specialized crafts.

Some small-scale operators are still, in various places, 'traditional fishers' in the sense that they are members of families that have been fishing for many generations. However, in many parts of the tsunami affected region, the majority of fishers have entered the fisheries only recently. They are, in the main, landless farmers who have been driven into what is, in effect, an occupation of last resort.

In the tropics, nutrient recycling and biological

production occur near the coast and, thus, tropical fisheries differ from temperate ones in that they operate relatively close to the shore, where prawns and fish are concentrated at depths of between 10 and 50 metres. Small-scale fishers and industrial vessels thus largely exploit the same resource, leading to competition between these two components of the fisheries sector. This conflict has led to numerous acts of violence, ranging from the wilful destruction of traps and set nets by trawlers to the latter being set on fire by irate small-scale fishers.

The governments of the region are well aware of these conflicts. However, their fisheries policies, while stating an intention to assist in the 'sustainable development' of the small-scale fisheries, usually tend to favour the industrial sector, as manifest in boat-building, fuel and other subsidies, lack of enforcement of the regulations banning trawlers from shrimp-rich inshore areas, etc.

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The lending policies of regional development banks have tended to exacerbate this conflict: only the industrial fisheries provide opportunities for big, 'bankable' projects. Alternative, micro-lending schemes would thus help, and so would the implementation, on the ground, of stated policies designed to assist small-scale fisheries. In the long run, however, these policies will fail to lift the incomes of South and Southeast Asian small-scale fishers, who are usually desperately poor. There are simply too many small-scale fishers and too many new ones are recruited from coastal hinterlands, every year anew, for this sector to become sustainable.

This is true even if small-scale fisheries appear to have been sustainable in pre-industrial times, when traditional self-

management, and lack of technology and of globally integrated markets for seafood, imposed limits on the growth of fisheries.

The challenge is thus to rebuild fisheries while, at the same time, directing as much of the available funds and energy as possible to generating land-based job opportunities for young fishers. Emphasis should

thus be given to basic education and technical skills, as fishers in South and Southeast Asia are generally the worst educated in countries where illiteracy tends to be high, which limits their social mobility.

Education, whether basic or technical, would contribute to increasing their ability to leave a sector that cannot give them anything but a grim future.



*The challenge is thus to rebuild fisheries while directing funds and energy to generating land-based job opportunities for young fishers*

## The tsunami crisis and the Millennium Ecosystem Assessment

*by Jackie Alder*

The 'Assessment' in the Millennium Ecosystem Assessment (MA) may give the impression that this global initiative has little relevance to the recent crisis in the Indian Ocean.

However, the work of the MA, especially in Scenarios and Responses, can make a significant contribution in the medium to long-term to the rebuilding of sustainable ecosystems and livelihoods for many of the coastal communities affected by this disaster. While the Conditions and Trends volume highlighted the vulnerability of coastal communities to events such as increased storms and flooding due to climate change, the Scenarios volume highlighted the possible futures that coastal communities could have under different development policies. The Responses volume provides some guidance on the policy options that could be used in the coast. In the short-term providing the basic needs to these communities is of paramount importance. However, once these needs are met and the focus shifts to rebuilding communities, these people are in the unique position of being able to decide what future they would like to have, and the outcomes of the MA scenarios can give them some idea of those possible futures, while the Responses outcomes gives them guidance on how to move towards that future, one which we hope includes healthy ecosystems and sustainable communities.

The *Sea Around Us* project newsletter is published by the Fisheries Centre at the University of British Columbia. Included with the Fisheries Centre's newsletter *FishBytes*, six issues of this newsletter are published annually. Subscriptions are free of charge.



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The *Sea Around Us* website may be found at [saup.fisheries.ubc.ca](http://saup.fisheries.ubc.ca) and contains up-to-date information on the project.

The *Sea Around Us* project is a Fisheries Centre partnership with the Pew Charitable Trusts of Philadelphia, USA. The Trusts support nonprofit activities in the areas of culture, education, the environment, health and human services, public policy and religion. Based in Philadelphia, the Trusts make strategic investments to help organisations and citizens develop practical solutions to difficult problems. In 2000, with approximately \$4.8 billion in assets, the Trusts committed over \$235 million to 302 nonprofit organisations.

# Fish fingers matter

by

**Jackie Alder and Ussif Rashid Sumaila**

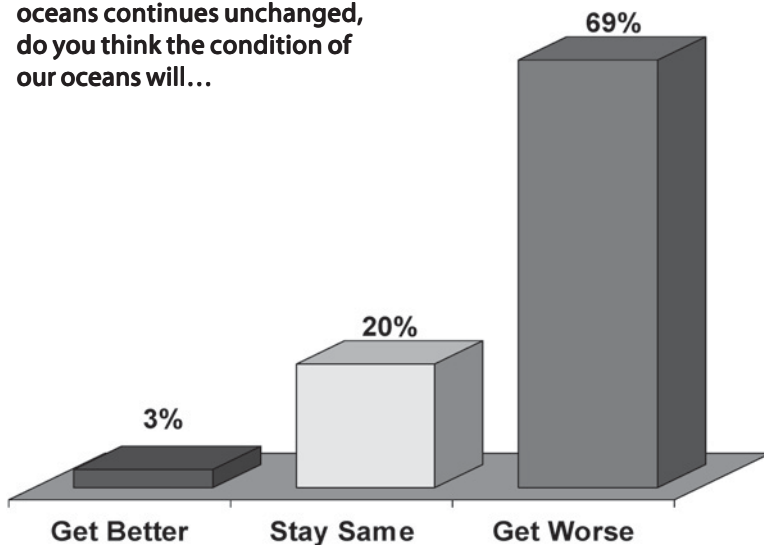
**H**ow valuable are inshore coastal areas, coral reefs, seagrass and kelp beds, and deep-water environments such as seamounts to the public? Finding the answers to such questions is critical to policy makers. There is also a growing urgency to answer such questions because marine

habitats and the resources they support are being used to meet a growing variety of human needs and demands. Hence, decisions on how to allocate these resources between competing uses emerge. Answering such questions requires more than one approach, which is what we did

in an ongoing study for Oceana ([www.oceana.org/index.cfm](http://www.oceana.org/index.cfm)) where we combined traditional monetary valuation techniques for commercial and recreational fisheries with survey/opinion polling to help determine how much value the US public places on its marine habitat and the sources they support.

*Some preliminary results reveal that the US public is concerned with the current and future condition of their marine habitats*

**If current management of the oceans continues unchanged, do you think the condition of our oceans will...**



Working with EdgeResearch, a company with extensive experience in opinion polling of marine issues, over 1100 randomly selected US residents were surveyed in early December, 2004. The participants in the survey were asked their opinions on such aspects as funding for resource management, and maintaining biodiversity for marine habitats. The marine habitats were represented by commercial fish that people could easily recognize or relate to. These include species such as salmon, pollock (expressed as fish and chips and fish fingers) and lobster.

## Biodiversity matters

**S**enior Research Fellow with the *Sea Around Us* project, Reg Watson, has just returned from Santa Barbara, California, where he joined the third of a series of working group meetings at the National Centre for Ecological Analysis and Synthesis (NCEAS), devoted to 'linking marine biodiversity to ecosystem functions and services'. This meeting generated a major synthesis of information, from small-scale experimental set-ups to large marine ecosystems. The group is quantifying the link between marine biodiversity and ecosystem functioning and examining the potential for the disruption of marine ecosystem services that are vital to our food supply, economies, and human health. The group, led by Boris Worm (Dalhousie) and Enric Sala (Scripps), includes experts from a range of fields. Reg is contributing his expertise with modelling global fisheries data. For more information see: [www.nceas.ucsb.edu/](http://www.nceas.ucsb.edu/)

The results of the survey have just been collated and we are currently in the midst of detailed analysis. However, some preliminary results reveal that the US public is concerned with the current and future condition of their marine habitats (see Figure), and that they are willing to either pay more through higher prices to consume fish or to shift their tax dollars from other initiatives to help ensure the long term sustainability of their marine ecosystems. We are excited about our findings and hope to present a more detailed analysis in future newsletters.



## Call for Abstracts - 2005 NAAFE Forum

### Fisheries Benefits to all Generations: the role of economics

*... a platform for fisheries economists, policy makers [...] and fisheries stakeholders to analyze fisheries problems and explore workable and effective solutions*

In December 2003, the Board of Directors of the **North American Association of Fisheries Economists (NAAFE)** appointed Ussif Rashid Sumaila of the University of British Columbia's Fisheries Centre to host the third biennial NAAFE Forum. Dr Sumaila will head the organizing effort in collaboration with NAAFE President, Dr Jon G. Sutinen and others.

The Forum promises to be a major event and will take place from **May 25-27, 2005** at the UBC Conference Centre in Vancouver, BC, Canada.

#### **Forum Goal**

To provide a platform for fisheries economists, policy makers, intergovernmental and non-governmental organisations and fisheries stakeholders to meet and analyze fisheries problems and explore workable and effective solutions.

#### **Session Themes**

*Fisheries governance and management issues*  
Fisheries governance; Property rights in fisheries – ITQs, community quotas; Environmental Impacts of Alternative Fisheries Regulations; Spatial effort dynamics; predicting fisher reaction to spatial closure policies; What have EEZs accomplished?; Managing shared fish stocks.

*Economic and valuation issues*  
Fisheries and ecosystem values and valuation – do they go far enough?; Fisheries subsidies: the good, the bad and the ugly; Fish for whom: ethics and fisheries economics; Economics of fisheries and ecosystem restoration; Economics of ecosystem-based fisheries management; Large-scale versus small-scale fisheries.

*Trade and fisheries management*  
Globalization and fisheries sustainability; Fish trade and marketing; Economics of illegal, unregulated and unreported fishing (IUU); Net costs and benefits from aquaculture, including open-ocean aquaculture.

#### **Special highlight: Fisheries debate of our time**

*Ensuring Fisheries Benefits for all Generations. In Search of Common Ground: Two Visions from Ecology and Economics*

Featuring Jim Wilen (Dept of Agricultural and Natural Resource Economics, University of California, Davis) and Daniel Pauly (UBC Fisheries Centre).

**For more details about the 2005 NAAFE forum; to register or submit an abstract online: visit [www.feru.org/events/naafe.htm](http://www.feru.org/events/naafe.htm).**

## Synthesizing the Millennium Ecosystem Assessment

*by Jackie Alder*

**N**ow that the Millennium Assessment (MA) is winding up, one of my last tasks, as for many of the writers of the various volumes, has been to contribute to the synthesis reports for the various conventions that have supported the MA over the last three years. The RAMSAR Convention for Wetlands ([www.ramsar.org](http://www.ramsar.org)), which includes many coastal areas such as reefs, estuaries, lagoons and kelp beds is one of the original conventions to support the idea of the MA. Indeed, the parties to this convention are keen to see how the MA can assist in managing their wetlands. Last year several authors from the MA drafted a synthesis report based on the current findings in the three volumes: Conditions & Trends, Scenarios and Responses. Now that these three volumes are complete, we have spent three days (12 to 14 January 2005) in The Hague condensing over 3000 pages of text and figures to less than 88 pages of text and figures that describe wetlands, now and in 2050, as well as how parties to the Convention might manage wetlands in the future. It was a challenging task to assimilate such a volume of material and more importantly to consolidate the material into key messages for decision makers, but quite rewarding to work with ten other authors from diverse backgrounds and perspectives. After three intense days of writing, a very focused report was produced which I hope readers interested in wetlands will read when it is released by the MA later this year.