



The Conference “Coping with global change in marine social-ecological systems” took place at the FAO, Rome, Italy July 8th-11th, 2008

The theme of this conference, organised by the LOICZ sister programme, GLOBEC is at the core of LOICZ PT1, so the Rome conference was a good opportunity to explore complementarities and synergies.

Conference goals introduced by the main organizer, Ian Perry were

- 1) Explore conceptual issues
- 2) Analyse case studies
- 3) Synthesize natural and social science cooperations
- 4) Develop innovative methodological approaches
- 5) Address governance

These were addressed over 4 days four keynote papers and eight sessions with short papers.

The first keynote speaker, Fikret Berkes advocated a redefinition of the terms resource and management to better address the management of the resilience of “fish and fishers as an integrated system”. In particular, Berkes stressed the need to widen our knowledge base by including local knowledge. He also emphasised the distinctions and interactions between global environmental change and globalisation and suggested that climate change be seen in the context of other global changes.

In three research regions (NE Canada, Baja California, Mexico and the US East coast, the second keynote speaker, Bonnie McCay explored the question of what prompts an SES to switch from undesirable to desirable strategies.

Kate Brown, the third keynote speaker, explored the concept of vulnerability at national, regional, community and household level. The lists of components of adaptive capacity, she and her colleagues compiled differed between spatial scales and provided rich discussions on measurement issues as well as on the relative merits of the concepts of vulnerability, resilience, adaptive and transformative capacity in the study of change in marine social-ecological systems.

Moving on to the topic of governance, the fourth and last keynote speaker, Judith Kildow addressed the difficulties of translating knowledge into actual practice. Postulating the existence of “social tipping points” beyond which governments heed scientific knowledge, Kildow underlined the greater reactivity of local and regional citizens and governing bodies to the threats of environmental change, stressed the need for concerted action at higher levels and pointed out how fast rates of social change might slow down rates of environmental change.

Session 1 (with 11 speakers and 3 posters the largest one) presented case studies and integrated approaches to the study of change in marine social-ecological systems. For the GLOBEC Focus 4 group “Feedback from Ecosystem Changes”, Ian Perry and cooperators consider marine social-ecological systems as composed of human and non-human subsystems” and explored human and non-human responses and coping strategies in the face of crises. The GLOBEC group has an exclusive focus on fisheries.

Most **Session 2** speakers, under the heading “Are the high seas social-ecological systems?”, provided evidence on a diverse set of human-nature interactions surrounding open-ocean resources.

Session 3 explored the integrated modelling of marine social-ecological systems with 10 presentations ranging from agent-based modelling on the Australian Great Barrier Reef (Rich et al.), via innovative stochastic modelling techniques (Bayesian Belief networks) which link lifestyles to ecosystem changes (Mee & Longmead), to models with larger spatial scales such the 20 LMEs with 60% of world fish catches covered by the Questfish programme (M. Barange et al.) or the 66 LMEs which make up the worlds oceans and 39 trophic groups “from detritus to toothed whales” included in Jaqueline Alder’s global fisheries model EcoOcean.

Session 4 underlined an emerging consensus that “humans are not just disturbances in ecosystems (humans as predators), that the value of marine ecosystems is not reducible to “the value of dead



fish" (economics predominance) but that it comprises a range of spiritual and cultural values and that we need to understand fishers in order to manage fisheries (agent-oriented analysis).

Session 5 addressed human security in the face of climate change with diverse examples of exposure and vulnerability of coastal communities and fisheries. The relation between poverty and coastal resource management in developing countries was analysed. Camilla Andreassen presenting a small scale fisheries in Guatemala emphasised the lack of impact fisheries resources management is likely to have in this country unless other issues like drugs traffic and violence are confronted at the national level.

Session 6 entered the minefield of discussions on how marine and social scientists can work together on social-ecological systems analysis. In her presentation on the impact of social and environmental restructuring on human and coastal health, Rosemary Ommer stressed the need for a common vision among researchers of different disciplines who aim to cooperate. Tony Starfield proposed that system modelling start with prototyping social-ecological systems from an integrative point of view, irrespective of individual disciplinary knowledge rather than starting off with the attempt to bring together different disciplinary foci.

Session 7 explored the connection between marine science and society. Barbara Neis stated that knowledge is a social-ecological product and science needs to pay attention to its own social ecology". In **Session 8** Anthony Charles picked up her call for "transboundary knowledge" in his account of transdisciplinary efforts to connect academic and community partners in the Coastal Community-University Research Alliance.

Svein Jentoft presented the "governability assessment framework" of the Fisheries Governance Network, and discussed who should govern the fisheries and in particular, whether governance should be market- or community-led.

All the highlights of this rich and diverse set of papers cannot be presented here (see conference web page: www.peopleandfish.org). However, many speakers provided detailed accounts of local and regional implications of climate change. Lives lost as fishermen defy increasingly frequent and intensive storms were a particularly striking demonstration that human well-being is affected by global change as fishermen go to sea despite increased storm warnings, exacerbated by inflexible regulations (ITQs in Iceland and Alaska /James McGoodwin) or, as in Bangladesh because they cannot afford days off fishing despite the increased incidence of storms (presentation by Ahsan Uddin Ahmed). The conference also highlighted the very different pathways coastal social-ecological systems are taking at present: on the one hand, coastal communities of the North where young people of fishing origin outmigrate to more promising regions and economic sectors and remaining communities are stretched to breaking-point to maintain even basic social and cultural features; and on the other hand, coastal communities in generally hotter and poorer regions which support large numbers of subsistence and artisanal fishers and, in addition, are the recipients of many poor immigrants in search of the mostly de-facto open-access resources of the sea. A common trend in most coastal communities is perhaps towards stratification in fishing communities accompanied by a loss of local control and increasing corporate influence. This increases the vulnerability of coastal residents. Examples to the contrary (by Bonnie McCay, Baja California) raised the questions to what extent the conditions for successful co-management can be generated by governance and management interventions and to what extent they are determined by ecological, social and historical facts over which humankind has little influence. However, the final session on governance indicates that most researchers, this writer included, tend to assume some scope for human-induced change.

Report by Marion Glaser
