

CULTURALLY BASED ETHICS AND RESOURCE CONSERVATION: LEARNING FROM SMALL ISLANDS

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Introduction: the Industrial Fisheries Management Paradigm

In eastern Canada an expensive, science and technology based, federal fisheries management system has failed to prevent profound declines in the marine ecosystem, with tragic consequences for many coastal communities (MacDonald et al., 2006). The dramatic closure of the Canadian east coast groundfishery in 1992 mirrored global troubles in industrial marine fisheries (FAO, 2006; Myers & Worm, 2003; Dulvy et al., 2003). An excess of destructive fishing power and fish processing capacity was (and often still is) subsidized by national governments bent on maximizing corporate profits and national exports (CEDF, 1994; Hutchings & Myers, 1995; Felt & Locke, 1995; Pauly et al., 2002), with tragic results that are exacerbated by pollution and climate change related degradation. The fisheries-based livelihoods of at least 400 million people world-wide, and food security for a billion coastal dwellers (Berkes et al., 2001: 223) are at risk. Effective management of coastal development, fisheries and other human activities that impinge on marine ecosystems is urgently required but remains elusive.

Tsing (2005) has pointed out the importance of recognizing 'wild' environments as social landscapes imbued with cultural and spiritual meaning, especially for those people who live within them and depend on them for livelihoods. The acknowledgement of the human, social aspects of the wild would lead us to doubt the rationale for industrial forms of economic development through which 'the wild' is tamed and transmuted into money, without regard for the consequences to either the ecosystem or the human communities nested within it. Tsing was speaking of the forests of Borneo but the same holds true for the shallow marine waters plied by inshore fishers.

The top-down, western industrial fisheries management paradigm leaves little or no room for the exercise of local power guided by local ecological knowledge and local value systems. The alternative—community-based management—is a concept that has attracted the attention of academics, environmentalists and community development practitioners, but purely local management efforts cannot hope to control degradative forces that occur at regional, national and international scales. In small islands of the developing world and also in western industrial nations such as Canada a third alternative in state-citizen relations is being envisaged. This involves co-management that may be framed nationally and maintains the roles of national governments in standard setting, research and enforcement, but also incorporates local knowledge, responds effectively to local conditions and devolves some degree of decision-making to the community level (Berkes, 1994; Sen & Nielsen, 1996; Berkes et al., 2001; Nielsen et al., 2004; Graham et al., 2006).

In efforts to understand what an effective community role could be in co-management, remnants of pre-colonial cultural practices that have value for resource management at the local level have been analysed, particularly in the islands of southeast Asia and the South Pacific. These are now being resurrected and reinvented (Zerner, 1996; Novaczek et al., 2001; Novaczek et al., 2005) in the belief that fishers are more likely to comply with locally

developed regulations as compared with rules imposed by distant bureaucracies (Pomeroy & Berkes, 1997).

In this paper several traditional, community-based management institutions on small islands are described, which have proved resilient over hundreds of years and which are now being augmented by elements of modern scientific management practice. A third case, in which traditional cultural ethics have been used as the basis for development of a community fishery in Canada, will also be considered as a potential model for future co-management arrangements. All three systems are based on a cultural ethic that defines the essential relationship of humans with, and within, our supporting ecosystems. Each also pays attention to the local knowledge of fishers as a complement to academic and government-based scientific knowledge and methods, and engages the broader community in coastal and fisheries management. Such models are examined to provide guidance in development of effective fisheries co-management institutions in eastern Canada.

The Power of the Cultural Ethic in Traditional Resource Management Practice

In pre-colonial times, life in clan-based human societies was rich with ritual. Before the advent of institutional religions, animistic cultural practices commonly involved the appeasement of spirits in order to ensure fruitful hunts and harvests. Sometimes these rituals had value as ecological conservation practices, even though this may have been an inadvertent benefit (Zerner, 1996; Jones and Williams-Davidson, 2000). Where conservation goals are explicit, ritual and ceremony contribute to the success of such institutions by publicly affirming the community members' commitment and compliance (Johannes, 1998).

Sasi in the Spice Islands of Indonesia:

One example of cultural practice that has been recognized for its resource management attributes comes from the Spice Island of Haruku in Central Maluku, eastern Indonesia (Kissya, 1995). Haruku legends tell of a crocodile which lived in the local river in ancient times when people spoke to animals and were assisted by supernatural spirits. The crocodile helped the villagers cross the river and in exchange, the villagers made rings of palm fibre to adorn the animal's toes. One day, as a reward for ridding a neighbouring island of a giant snake, the crocodile was granted a small pelagic fish called the *lompa* (*Thryssa baelama*), which it brought back to the island of Haruku. Today hereditary leaders of Haruku monitor the seasonal movements of the fish, and when they deem that the *lompa* are sufficiently well grown and plentiful they arrange for a limited communal harvest that is accompanied by ritual, feasting and celebration. Because *lompa* have been decimated in recent times by industrial net fisheries, Haruku leaders restrict their harvest to a single day, or may even cancel it for the year if the fish are too few. The fishery provides tonnes of protein which is divided among all the people of the village, including those too old, too young or too sick to participate in fishing. People from other villages who have traditional ties to Haruku are also accorded access to the fish. Thus, the rituals serve not only to conserve the fish stock but also to care for the poor and nurture neighbourly relations. Economic spin-offs result because the celebrations attract family, friends and international tourists. The rituals are called *sasi* and they are part of an ancient social order known as *adat* (Cooley, 1962) which predates both Muslim and Christian influences.

Some form or remnant of *sasi* is still extant in 75% of the villages of the islands of central Maluku, with 27% of villages practicing fisheries management under *sasi* (Novaczek et al., 2001). Useful concepts such as community-based rule-setting and enforcement, closed seasons, protected areas and gear type restrictions are culturally embedded and expressed in these fishing villages. However, *sasi* as a institution is threatened by processes of

modernization including the cash economy, an erosion of communal values, the adoption of new and overly efficient fish harvesting technologies, the displacement of chiefly authority by elected officials, and church influences that undermine the spiritual underpinnings of *adat*. Being a relic system with limited scope and range, *sasi* has been insufficient to stem the trend of destruction of fisheries and fish habitat evident in Maluku. Nevertheless it does have some local benefits and has attracted the attention of academics, NGOs and government agencies who are collaborating to resurrect and reinvent *sasi*, introducing modern research tools and approaches to augment local practice. In 2000, the Indonesian government devolved some management powers to the regions, allowing *sasi* to become a legally recognized element in an evolving co-management system (Harkes, 2006).

What makes *sasi* not only a form of social control but also a conservation tool, is the underlying belief in the intimate connection between humans and the natural world (Novaczek et al., 2001). *Sasi* is perceived as “a good thing” passed down from the ancestors. Adverse consequences are predicted for persons who are disrespectful, wasteful or destructive of an ecosystem that is alive with ancestral spirits. A critical element in an effective and socially just *sasi* institution is legitimate leadership in the form of chiefs who adhere to *adat* principles of governing for the well being of the entire community. This engenders trust and compliance among those subject to *sasi* fisheries regulations.

Vanua in Fiji:

A more overt, culturally based recognition of the oneness of man and nature is found in South Pacific island nations. In Fiji, for example, people living in coastal communities speak of *vanua*. *Vanua* is not simply a reference to a person’s home territory but encompasses all of the animate and inanimate elements of land and sea. In this world view, humans are neither separate nor separable from the earth, the sea and other living species. Traditional Fijians grow up with an understanding of what some modern day environmentalists refer to as the inherent value of nature and the imperative of seeing humans as an integral element of ecosystems, rather than the masters of creation. Translated through social institutions at the village level, *vanua* and its inherent concepts of stewardship and communality underpins local management systems governed by hereditary chiefs. The chiefs may place certain species, fishing grounds or times of the year out of bounds for fishing, thus allowing for the recovery and persistence of marine species and habitats (Veitayaki, 1994; Novaczek and Angus, 2008). As in Indonesia, village level governance in Fiji has been undermined by colonial and post-colonial government policies, imposed conversion to Christianity and other processes of modernity. However, these village systems are now being recovered and reinvented by teams of academics, government agencies, elected and traditional leaders and non-governmental organizations linked to global environmental networks. The resulting Locally Managed Marine Area Networks of the South Pacific hold promise for reversing the loss of critical fisheries and fish habitat (Veitayaki, 1994; 1999; Tawake and Tuivanuavau, 2004) through application of science-based management techniques made appropriate through collaborative construction and integration of local cultural standards and ecological knowledge, and backed up by traditional authorities.

Netukulimk on Prince Edward Island, Mi’kmaki:

On Prince Edward Island, Canada, despite our apparent wealth and capacity, many coastal habitats and fisheries are in decline or already commercially exhausted (GTA, 2006; AMEC, 2007). The fisheries management system still fails to meaningfully involve small boat fishers and their communities in decision-making that affects local livelihoods (FRCC, 2007: 47). However, grassroots efforts have begun to establish some form of local institutional base in eastern Canada (Wiber et al., 2004; Graham et al., 2006). One of these efforts is that of the

Mi'kmaq people of Lennox Island First Nation where a fisheries management system has arisen from the memory of a time before European colonization when Mi'kmaq people, under the leadership of hereditary chiefs, governed access and withdrawal of marine resources guided by a core spiritual belief, *netukulimk* (Native Council of NS, 1993). Like the Fijian *vanua*, *netukulimk* conveys a oneness of animate and inanimate beings, all of which deserve respect. Taking no more than you need and sharing your catch with family and community members are inherent in this world view. Focusing on the well-being of the entire community as opposed to maximization of individual wealth, the Lennox Island system is designed to be inclusive of women, youth and elders as well as fishermen (Novaczek and Angus, in press 2008). Checks and balances help to ensure equity, accessibility and transparency. Engagement of households in multiple fisheries is encouraged so that when necessary, people can switch fishing effort away from any stock that shows signs of depletion, and move to one that is more healthy. The stated intent is to promote sharing of fisheries income and access to fish as food among all community members. Thus the institution has core attributes of cultural legitimacy, ecological justice and social justice. The development of such a system has not been an easy process and the rules are constantly negotiated. Like any community, Lennox Island is not homogenous, and some fishers resist the communal ethic. Yet, despite its difficulties, the Lennox Island model is a beacon of hope and possibility for the inclusion of Canadian fishing communities in fisheries management systems.

The Oceans Act and the Earth Charter: Ethics for a Globalized Society

At the time when eastern Canada's groundfishery was collapsing in 1992, Canada's Prime Minister was attending the United Nations Conference on Environment and Development that produced Agenda 21. By 1996, Canada had enacted the Oceans Act, a legislative instrument promoting sustainability, holistic management and the precautionary approach—a bundle of concepts that can be imagined as our modern, secular approximation of *netukulimk*. Although mostly neglected and to date lacking regulatory teeth or firmly funded programmes, the Oceans Act represents the germ of a new paradigm. At an international level, ethical principles for the 21st century that are consistent with the Oceans Act concepts are being advanced through global movements such as the Earth Charter (www.earthcharter.org). Could these be embraced in a modern, post-industrial nation as the basis for reforming and reinventing governance?

Resonances with the Earth Charter movement are found in Canadian aboriginal communities that are recovering and reasserting their cultures, and also in the grassroots environmental concern over climate change evident in Canadian society generally. In the Canadian province of Newfoundland and Labrador, where failing fisheries hit first and hardest, academics seeking to understand the meaning of that collapse have detected a shift in consciousness in the island of Newfoundland's coastal communities (Tomblin et al., 2006). They point to significant opportunities for change that are inherent in the continuing fisheries crisis. The work of reforming state-societal relations and developing new forms of governance seems possible and is gathering momentum:

Citizens are less deferential: there are growing demands for smaller government and a cleaner environment, and a growing interest in rethinking relationships among public policy, governments, markets, and the voluntary sector in civil society (ibid: 292).

There is growing pressure in an era of globalization for more citizen empowerment and decentralized authority. It is a time of powerful changes in both international and domestic life (ibid: 292).

Impediments to Fisheries Co-Management in Eastern Canada

Since the groundfishery moratorium imposed in 1992, the groundfish stocks of eastern Canada have not recovered and declines are now evident in other fisheries, for example in the Northumberland Strait in the Southern Gulf of St Lawrence (AMEC, 2007). Recent consultations undertaken by the Department of Fisheries with industries and academics (Kearney, 2006) revealed that the various stakeholders in marine resource management share a strong belief in the power of science despite its apparent limitations as a management tool. Academics use scientific expertise to establish their legitimacy in the management hierarchy. Industrialists, government regulators and inshore fishers alike insist on clear, science based evidence to support any change in regulations or in the fisheries and coastal management frameworks. However, history shows that the generation of scientific evidence of harm usually lags behind applications of new technology and other potentially dangerous projects in the field of fisheries. If evidence of harm is found, the inherent error margins of research conducted in complex, dynamic marine environments provide endless debating points that can be used to stave off regulatory action if that action is deemed contrary to industry's short term economic interests. A case in point is the continued use of bottom-dragging gears in sensitive habitats, despite the accumulation of scientific evidence of harm that spans decades. Thus, the reliance on science alone fails to prevent or reverse harm to fisheries and their supporting ecosystems. The continuing assertions that no action should proceed in the absence of scientific certainty is a serious impediment to progress.

Movement towards effective co-management is also hampered by the paucity of legitimate leadership and trust. In meetings among themselves and with government agencies, small boat fishers consistently voice distrust of both the corporate fleets and government, whom they see as conspiring to squeeze them out of the fishery. Fishers also exhibit competitiveness and distrust among themselves, between their organizations and between provinces and regions. Meanwhile, academic researchers voice cynicism with respect to the manipulation of science in political processes (Kearney, 2006). Within governments, there are ruptures between fisheries research scientists and their political masters. Such ruptures and miscommunications are common when people negotiate rights of access and withdrawal of natural resources; they can even be the source of what Tsing (2005) calls "productive confusion". But to be able to collaborate in a practical way in a management institution, people need to establish at least some common ground: explicit, shared core values that provide guidance for decision-making.

Discussion and Conclusions

Close examination reveals that the remnants of traditional, local fisheries management institutions in Indonesia and the South Pacific have failed to prevent the regional trends of declining fish stocks and habitat destruction that have accompanied modernization (Novaczek et al., 2001; Novaczek et al., 2005). However it is possible to construct more effective systems that incorporate modern science but are based on the culturally embedded values of traditional institutions. These alternative institutions can be nested within national management systems. They represent the reintroduction of community culture and ethics into national fisheries management regimes that are typically dominated by science, politics and economics.

Establishing a community-based institution is a complex process that takes years (Berkes et al., 2001) but where successful, such institutions not only allow the local recovery of damaged inshore marine ecosystems but also contribute to social capital and community well-being (Novaczek et al., 2001; Novaczek & Angus, 2008). Because, like government agencies, they are vulnerable to political interference, local institutions need to be carefully structured. Being inclusive of the full range of locally available talents and knowledge (i.e. inclusive of women,

youth and elders as well as fishermen) and fluid enough to adapt to changing local conditions, are attributes that contribute to resilience. Success also depends on legitimate and respected leadership; this allows for trust to develop among the various participants, which is critically important. The benefits of strengthened social capital that accrue to communities engaged in local fisheries management institutions have so far proved to be a sufficient incentive for civilian and government stakeholders to persist in working together on such systems in many parts of the world (Berkes et al., 2001; Nielsen et al., 2004).

Over the past century's rush to economic development, Canada's fisheries management system has failed to protect and conserve fish and fish habitat, just as other agencies have failed to protect forests, productive soils and water quality. Many communities have suffered harm from a capitalistic development process that embodies serious inequities of power (Sinclair & Ommer, 2006). In the example of Lennox Island First Nation in Canada, we see how the culturally embedded ethic of *netukulimk* has been used as a basis for reinventing local fisheries management in a western industrial context. Longstanding community-based systems in Indonesia and Fiji are similarly rooted in culturally embedded ethics of respect for and integration with the natural world.

If inshore fisheries of eastern Canada are to benefit from these small island examples, fishers, researchers and government agencies will have to recognize the limitations of science and pay more attention to values and ethics. The interconnectedness of humanity with the supporting ecosystem provides a possible starting point for practical and effective stewardship of marine resources. However, modern western societies are many generations removed from any such ancestral ethic, and the Christian belief systems typically dominant have not fostered this type of thinking (Dunham & Coward, 2000). In our modern, secular, multi-ethnic society, how can we develop common ethics of ecosystem justice and social justice that do not depend on a belief in ancestral spirits or deities, and are compelling to youth as well as elders and regardless of class, culture, religion or ethnicity? Adopting an ethic of conscious stewardship would imply voluntary restraint and precaution as well as long-term thinking (Roach, 2000). We would have to reinvent a cultural tradition of respect for nature and stop thinking of our supporting ecosystems as 'resources' that are available for liquidation. As noted by Berkes et al. (2001: 226):

the revival of tradition is necessary to balance out globalizing influences, providing local pride and a sense of well-being, a social identity and social capital to help people survive in the alienating environment of an increasingly globalized economy.

Will we have a chance, as a society, to reimagine notions of prosperity, recognize limits to growth, exercise restraint and build systems that allow us to find our sustainable place among the species, within the ecosystem? Whether Canadians can indeed transform governance quickly enough to salvage fisheries and other natural 'resources' and their dependent human communities remains in question. To shift the paradigm will require a critical mass of trusted and legitimate leadership at all levels from local communities to the federal and international spheres.

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