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Ghoti

Ghoti papers

Ghoti aims to serve as a forum for stimulating and pertinent ideas. Ghoti publishes succinct commentary and opinion that addresses important areas in fish and fisheries science. Ghoti contributions will be innovative and have a perspective that may lead to fresh and productive insight of concepts, issues and research agendas. All Ghoti contributions will be selected by the editors and peer reviewed.

Etymology of Ghoti

George Bernard Shaw (1856–1950), polymath, playwright, Nobel prize winner and the most prolific letter writer in history, was an advocate of English spelling reform. He was reportedly fond of pointing out its absurdities by proving that 'fish' could be spelt 'ghoti'. That is: 'gh' as in 'rough', 'o' as in 'women' and 'ti' as in palatial.

Co-management without involvement: the plight of fishing communities

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Abstract

This paper discusses the role of fishing communities in the stewardship of their adjacent fish resources, and the benefits associated with community participation in co-management. Contrary to the view of most fisheries management agencies, local communities are able to design institutions that can successfully restore equity and limit access to the fishery. The dismissal of local concerns may be at the root of biological and social crises in fisheries, and the privatization of common fishing rights world-wide through individual transferable quotas (ITQs) is contributing to these problems. Community involvement that is embedded into a network of management at larger spatial scales would allow fishing communities to regain some control over their livelihoods. Meaningful co-management arrangements must go beyond consultation by redirecting the flow of social and economic benefits from the fishery back into communities. Unless geographically defined communities are allowed to share power and responsibility with government fisheries managers, both fish stocks and fishing as a way of life are in danger of vanishing.

Keywords: fisheries management, co-management, communities, ITQs, CDQs

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Introduction

Co-management has become the buzzword of contemporary fisheries management. It has the connotations of a co-operative, just and equitable decision-making process in a time when allocation decisions in fisheries are plagued by political strife among user groups, environmental groups and the public. Despite the widely held belief among administrators and the public that co-management is the formula for successful fisheries management, fishermen are often deeply disappointed by its outcomes. What are the reasons for the failure of this theoretically transparent and inclusive procedure?

'Co-management' describes power and responsibility-sharing agreements that are made between government and user groups. Most writers on the subject now recognize that the term 'co-management' covers a wide spectrum of power-sharing arrangements, ranging from the extensive consultation of government with harvesters to government having a purely advisory role. On a world-wide level, this range in management styles provides us with natural experiments that allow us to compare the methods and outcomes of co-management schemes. Scientists have focused the dialogue surrounding the concept of co-management on improving the *process* through which these agreements are reached; in fact, the success of co-management may well depend on social learning, as in the case of South Africa (Hutton and Pitcher 1998). Through our collective experience with co-management, we can clarify what the components of successful co-management are. After all, co-management is less about the resultant institutions than about the process through which they are formed: who participates, and how (Jentoft *et al.* 1998).

Challenges facing co-management

Co-management that involves true responsibility and power-sharing is difficult to achieve in a climate in which interest groups are polarized and current licensing policies reward the largest and most profitable firms. Historically, Canadians have radically shifted their views of fish property rights, each progressively loosening the ties local communities had with their fish resources (Ommer 2000). Pre-contact group access rights gave way to a merchant capitalist ethic, which focused on the production of surplus, and allowed merchants to achieve ownership of fish through purchase. The industrial capitalist ethic introduced state ownership and control of fisheries, and with it the view that centralized government agencies should remove the resource from public control and reallocate it to the most modern, productive and capital-intensive fishing sector. True co-management, on the other hand, requires a radical departure from such mainstream thinking about the role of local, regional and federal governments. It also forces us to ask tough questions about the kind of fisheries we envision in the future, and to consider the political changes that are necessary to realizeour vision. The popular term 'stakeholder' encompasses all sorts of professions and groups, besides fishing people, who might possibly have an economic or cultural interest in fisheries, many of whom do not reside in geographically defined fishing communities. Environmentalists, processors and transporters, to name just a few, might therefore be considered as 'stakeholders' in the general sense of the term. Local fisheries management, however, requires us to consider some stakeholders – local fishing people – as more legitimate than others, and some forms of management – local-level decision making – as more ethical than others. However, the implications of these changes are beyond the scope of this article.

Co-management is sometimes criticized for its inability to deal effectively with highly migratory fish stocks such as herring and salmon. Opponents claim that although co-management can work well for certain relatively stationary species that do not cross jurisdictional boundaries, only regulators working at a national level can equitably and responsibly allocate migratory fish. Although this may be true, there is no reason to believe that bureaucrats who are far removed from the problems facing coastal communities and small-scale owner-operators will not cave in to political pressure and continue to provide access to those same industrial fishers who historically have endangered the biological status of the resource. This phenomenon is clearly illustrated by the history of federal government support for the spatial expansion of fishing in Newfoundland (Matthews 1993; Felt and Locke 1995; Hutchings and Myers 1995). Issues of distributive justice, or issues relating to inter-sector and intergenerational inequities in the distribution of the costs and benefits of the fishery (Neis and Morris 2000), may be more effectively handled by a network of local, regional and federal management authorities that is truly co-operative, but not hierarchical. Under the auspices of national authorities that can ensure the stock remains within safe biological limits throughout its range, regional and local authorities would co-operate to make regional and local allocation

decisions, respectively. This type of management framework is not feasible without extensive community involvement and an ethic amongst the actors to preserve the biological and social importance of the resource.

Local participation: an essential component of successful co-management

Certainly, there are many possible procedures that could lead to a successful co-management outcome that incorporates both biological and social concerns, and is considered legitimate by user groups. However, I argue that the one component that all of these must contain is direct local community involvement. Community-based management goes further than consultation, in that it can ensure the survival of small, rural fishing communities, the independent fisherman, fishing as a lifestyle, and provide opportunities for meaningful stewardship of fish resources. A well-known example of this comes from Maine, where lobster fishers have successfully restricted access to outsiders, thereby ensuring a livelihood in lobster fishing for future generations of locals. Increasingly, the large-scale fishers that are responsible for decimating fish stocks, as in the case of the Newfoundland draggers (Milich 1999), live in urban centres, far removed, both physically and culturally, from the communities located adjacent to the resource. Co-management arrangements that allow a substantial amount of local control are, in general, more effective than centralised, top-down management. Managing at the traditional level of the stock's entire range fails to address the complexity and possibly chaotic nature of fish stocks (Wilson *et al*. 1994). Self-governance is therefore much more sensitive to the relevant scale of the biological problem than centralised biological management. In fact, it may be impossible to separate biological concerns from social concerns, and some thinkers on this subject have even gone so far as to suggest that viable fish stocks *require* viable fisheries communities (Jentoft 2000).

Research in the social sciences has called into question the traditional role of government as a manager, and brings to the forefront the role of local institutions in protecting ecosystems and local access privileges. The metaphor of the 'social fishery' (Matthews 1995) has made its way into the sustainability rhetoric of many fisheries managers when, in fact, real participation of community members in defining the values underlying the development of their adjacent fishery is usually lacking. I suggest that this type of management situation, in which federal governments' dismissal of local concerns is plunging many human and fish communities into a spiral towards social and biological ruin, is becoming increasingly prevalent around the world.

Community-level involvement is central to Ostrom's (1990) design principles that characterize long-enduring common-pool resource institutions. Local appropriators must work to close the resource to 'outsiders', so as to ensure that benefits accrued from the resource do not dissipate. Rules regarding the details of resource extraction should be tailored to local conditions. Local appropriators must participate in the collective choice, have rights to organizeindependently, and participate in sanctioning and monitoring compliance. Additionally, there must be rapid access to low-cost local arenas to resolve conflicts both between appropriators and between appropriators and officials. Where appropriate, Ostrom argues, the management system must be organised in a system of multiple, nested layers: the local, regional and national jurisdictions. Pinkerton (1994) agrees with this emphasis on the local in generating successful co-management solutions. She emphasises the need for a higher degree of local control accompanied by a clear legal definition of local powers. Similarly, Jentoft (2000) claims that current government-centred management systems ignore the importance of communities, erode social bonds and responsibility, depersonalizerelationships and, indeed, transform fishermen into the self-interested social actors of Hardin's (1968) "tragedy of the commons". In fact, community-level management may be the most effective way to manipulate the decision-making behaviour of individuals and avert the type of disasters described by Hardin. Local ownership and control, when embedded into a system of institutions that delegate power and are truly interactive, may be a key principle in facilitating successful co-management (Noble 2000).

The definition of 'community' is controversial in the literature (Jakes and Anderson 2000). Behind every definition of community lies a hidden agenda. A community that consists of all individuals who presently harvest a given species reinforces and promotes an extreme open-access situation in which fishers, in light of an uncertain future, have the capacity and self-interest to maximizethe economic value gained. Proponents of 'economically efficient' fisheries are therefore likely to advocate a definition of community that includes individuals who are able to extract the greatest value from a stock with the least

effort expended. On the other hand, geographically defined communities, though politically problematic, may well aid fisheries management in two ways: (i) by restoring equity in benefits and access to the fishery and (ii) by limiting access through the exclusion of outsiders. Pinkerton (1999) argues that geographical communities are fundamentally different from other types of communities such as 'virtual communities', in part because all externalities such as habitat quality and age-composition of the stocks are evident or can be easily detected by local-scale institutions, and because users are forced to bear the costs of unsustainable use. Similarly, Pauly (1999) believes that only fisheries management that takes into account the 'places of people' will in the long term be sustainable.

The traditional definition of community as a group of citizens living together in a small, geographically defined area may well be the best opportunity for restoring some element of local control into fisheries management. Over the past decade, small-scale fishermen and fishing communities around the world have expressed outrage at government-imposed fishing regulations which they claim take away local access and place it into the hands of large-scale, urban-based fishers. Organizations such as the Coastal Community Network in British Columbia and the Canadian Council of Professional Fish Harvesters, as well as countless fishermen's trade publications, are imploring fisheries managers to look beyond the supposed economic efficiency of privatized fishing rights and centralised management regimes to the effects these have on the viability of owner-operated, small-boat, inshore fleets. The real crisis in fisheries management is not the over-exploitation of many stocks, but the desperation of fishing-dependent people and communities in the face of this lack of control over their livelihood. The concerns of fishing communities world-wide highlight the necessity of an increased role for local communities in the management of their fisheries.

Rarely are either local level control or the existence of place-based fishing communities considered central to the implementation of 'stewardship.' Many fisheries scientists deem fishing communities incapable of acting as stewards and tend to view marine stewardship as something that comes about only through the guidance of centralised management. As a result, centralised fisheries management agencies take upon themselves the task of 'educating' fishing peoples about the value of the resource through the establishment of rules and institutions which may bear no resemblance to existing, local rules. Gavaris (1996), for example, suggests that the interests of stewardship would best be served by partitioning the value of uncaught fish – defined purely biologically as the spawning potential of the unfished portion – according to the rules of a central authority, who entrusts a portion of the stock to the care of individuals and groups. Not only does this approach ignore the ecological knowledge of local people, but fishing rights at the local level are determined entirely by non-local level institutions. Similarly, Griffis and Kimball (1996) believe that national-level fisheries councils, originally designed to represent fishermen, practice good management if they base their approach on 'sound education' and 'applicable science.' Instead, I suggest that stewardship is the idea that sustainable livelihoods are the key to sustainable development. Milich (1999) notes that when livelihoods are at stake, stewardship is greatly enhanced and people develop an intimate knowledge of the emergent properties of marine ecosystems that are overlooked by fisheries scientists. For this reason, the recognition of forms of common property resource management at the local level is the best way of protecting fish stocks from the unpredictability of stock assessment science and over-exploitation by large-scale fishers.

Privatization of common fishing rights: examples of coastal community concerns

Communities sometimes appear to fisheries managers to be unable to cope with administering the allocation of fishing rights at the local level. Local systems of rules and norms for excluding outsiders or restricting fishing places, times or people can fail to prevent the endangerment or collapse of fish stocks and fishing livelihoods. In these cases, privatization is often recommended as a viable alternative to failed local institutions. Upon closer examination, however, many of the difficulties experienced at the local level can be traced back to outside pressures on the community, including attempts by outsiders to privatize the fishery. On Caye Caulker in Belize, for example, new and larger markets for lobster have disrupted the traditional transfer of territories within families and have led to the commodification of territories. King (1997) remarks that this increase in the privatization of access to territories is actually further opening the fishery to outsiders, thereby separating fishing activities from the monitoring and decision-making activities of the community. Similarly, new sets of social relations between community members came about when

mechanised purse-seine boats were introduced into an Ecuadorian fishing community that had traditionally fished collectively by beach seine (Southon 1989). New boat owners refused to pay taxes to the local fisheries management institution or yield to its authority, creating a fishery based on entrepreneurial individualism and external, non-community allegiances.

Fisheries management authorities appear not to have paid attention to such examples and have progressed steadily down the road of privatization and centralised management. One of the first countries to jump on the privitization bandwagon was Iceland, with its introduction of individual transferable quotas (ITQs) in the herring fishery in 1979; since 1990, all Icelandic fisheries have been managed through ITQs (Arnason 1993 and 1996). Not only are quota increasingly being accumulated by the largest companies (Palsson and Helgason 1995), but a new 'feudal' system is emerging, in which smaller-scale fishers who cannot afford to purchase quota of their own must lease it from quota-rich companies (Eythorsson 1996a). These arrangements typically cut a small-scale operator's income by 40–50%, who in turn compensates for his losses by reducing the wages and shares of his crew (Palsson and Helgason 1995). Not surprisingly, these realities of the ITQ system have had profound implications for the social and economic life of fishing communities. Hardest hit are the small communities of less than 500 inhabitants, which have lost a much larger share of their quotas than the bigger towns (Eythorsson 1996b).

In the last two decades, a number of other European countries have begun to privatize fishing rights. Norway has adopted an allocation system that in many ways resembles individual quotas: approximately 85% of the total cod quota is in the form of individual vessel quotas, and quotas can be freely sold within a given geographical area (Symes and Crean 1995). Allocation formulas based on vessel length failed to recognizethat fishers with small boats tended to be much more productive than those with larger boats. These new regulations, instead of limiting the expansion of cod fishing, have encouraged the purchase of larger vessels and harder fishing, and discouraged part-time, small-scale fishermen and local, informal management systems (Maurstad 2000). In the Netherlands, transferable quotas that were initially provided free of charge are now worth millions of ECU in many cases; these exorbitant prices have encouraged Dutch vessel operators to purchase fishing rights in other countries such as the United Kingdom (Davidse *et al.* 1999). ITQs in the Netherlands have had some of the same side-effects as in other countries: the concentration of vessel ownership, an increase in fishing capacity and high levels of non-compliance with regulations (Symes and Crean 1995).

New Zealand began experimenting with individual transferable quotas (ITQs) in the mid 1980s as a method to promote economic efficiency, reduce overcapitalization and end the 'race for fish' (Annala 1996). This development has had dramatic consequences for a great number of communities whose economic bases rest on the inshore fishery. Contrary to the expectation that private property rights would motivate quota holders to become better stewards of the resource, the introduction of ITQs has resulted in astronomical levels of quota-busting, high-grading, misreporting of discarded bycatches (Dewees 1989; Boyd and Dewees 1992; Monk and Hewison 1994) and depletion (Mace 2001). Furthermore, small coastal communities are suffering from what inhabitants perceive as a loss of independence and control caused by the aggregation of quota by large fishing companies (Dewees 1989). During the period 1987–89, the 10 largest quota holders increased their share of quota from 67% to 82% (Boyd and Dewees 1992). The extra operating and capital costs required to fish under the ITQ system are too high to bear for many inhabitants of poor rural, fishing dependent towns already suffering from high unemployment (Fairgray 1986). The desperate situation of many small-scale fishers in New Zealand is further exacerbated by their perception of limited influence in the political process and their geographical and ideological distance from state decision-makers. Not surprisingly, these fishermen are not represented directly in the consultative process, nor do they belong to any formal organizations that could argue their cause (Fairgray 1986).

In 1990, the surf clam and ocean quahog fishery of the US became the first federally regulated fishery to adopt ITQs. Because the allocation formula favoured owners with large boats, the ITQ plan is seen by critics to favour big-fleet operations with more capital, and many independent owners have had to lay off their crew and lease the allocation to maintain the mortgage on their vessel (Moore 1992). Extreme fleet rationalization has been accompanied by crew layoffs, and the remaining crew have poorer bargaining power and lower pay (McCay 1994). In fact, crew members seem to be paying for the purchase or leasing of ITQ through cuts in wages, particularly in the larger firms. The introduction of ITQ appears to have boosted the position of large processors and fishing firms, and preliminary evidence suggests that it also

has changed the geographical distribution of fishing rights (McCay *et al.* 1995).

The small-boat, mobile-gear groundfish fleet in the Scotia-Fundy region of eastern Canada became subject to individual quotas in 1990. In contrast to the surf clam and ocean quahog fishery of the US, the "Under 65′" individual quota management plan included provisions that were intended to meet social and community needs. These measures included a ban on transferability (which was lifted in 1994), the requirement that license holders be bona fide fishermen, and caps on the concentration of quota in individual hands (McCay *et al.* 1995). These regulations were easily circumvented by processing plants and large fleet owners by, for example, listing licenses in the name of a fisherman in their employ. Although the allocations of many fishermen are so small that it is not cost-effective to fish them, they are unable to buy additional quota at skyrocketing prices. Fishermen claim that abuses are higher now than before the introduction of ITQs, and control over the fishery is increasingly being transferred to the processing plant owners (Griffin 1992). There is some evidence that the number of ports where fishers land their catch has decreased, indicating possible geographical concentration of ownership (Wright *et al.* 1996). Only three years after the start of the ITQ program, more than 200 of the 325 vessels that initially received allocations were no longer actively fishing (McCay *et al.* 1995).

A similar trend of government-sanctioned privatization has occurred since the introduction of individual vessel quotas (IVQs) for Pacific halibut in British Columbia, Canada in 1991. Fishermen had become frustrated with limited entry licenses that led to ever shorter season openings and more intense races, involving higher investments and more competitive fishing. Under heavy lobbying pressure by some license-holders, the Department of Fisheries and Oceans implemented a two-year experimental IVQ program, which became permanent in 1993 (Casey *et al.* 1995). Although these quotas are tied to vessels, the consequences of this management manoeuvre have included labour displacements, quota concentration and the consolidation of productive capacity. Not only have the number of license holders participating in the halibut fishery dropped from approximately 433 in 1991 to 285 in 2000, but 'armchair fishermen' can lease their licenses to other operators. Spokespeople for British Columbia's coastal communities claim that quota holdings are increasingly becoming concentrated in companies based far away from rural fishing communities. Individual quotas remove control of the fishery from livelihood fishermen who use the resource to satisfy social and economic requirements, and transfer it to the corporate fishery where access rights are regulated by the ability to pay (Davis 1996). Communities are paying a high price for the elimination of so-called 'inefficient', small-scale, owner-operators.

Community development quotas

Social scientists' cry for truly co-operative, community management is not going entirely unheeded by government agencies. One approach to this problem of loss of fisheries-related benefits to coastal communities is the establishment of community development quotas (CDQs). Under this system, government management agencies transfer quota to community management boards, which consist of representatives from geographically defined communities. Since 1992, regional alliances of Bering Sea Alaskan Native villages have been allocated shares of the total allowable catch of pollock and, later, also crab and other groundfish species. Under strict federal and state oversight, the program was meant to address the 'underdevelopment' of these communities by giving them access to the high-value fisheries of the Bering Sea and Aleutian Islands (Holland and Ginter 2001). As part of the CDQ program, Alaska has set aside a percentage of the total allowable catch (TAC) for the exclusive use of community organizations from villages bordering the Bering Sea that have an approved Community Development Plan (Ginter 1995; Wingard 2000). By explicitly acknowledging the rights of coastal communities to a certain amount of control over a portion (around 10%) of the total allowable catch, some benefits are, at least in theory, preserved not only for the present but also for future generations of the community at-large. Indeed, since the inception of the program, new jobs on factory trawlers and processing plants seem to have been created for community members, providing new economic opportunities in fisheries where few existed previously (National Research Council 1999).

However, in many important ways, the CDQ program in Alaska falls short of its goals. Groups of communities are required to adopt the corporate organizational form and enter into contracts with corporate partners. These arrangements ignore the economic and cultural significance of subsistence economies and their associated ways of life (Keys 1997). Local knowledge of fisheries management

institutions is ignored, because no provisions exist for the communities to share in any management responsibilities. Communities are both physically and culturally alienated from the corporate structures which govern the distribution of access to the quota allocation. In fact, only one of six CDQ headquarters is located in the region in which it serves, and residents have very little awareness of the program itself (National Research Council 1999). In reality, therefore, CDQs seem to function in many of the same ways as individual quotas. In fact, CDQ fishing rights are highly sought after by participants in the individual quota fishery, who see the CDQ privileges as secure and more flexible than other fishing rights (Holland and Ginter 2001) and, as a result, CDQ corporations primarily lease quota to outside parties in return for employment opportunities and royalties. Despite the promise of greater local community involvement in the groundfish fishery inherent in the concept of the CDQ, the coastal community's marginal position with respect to the fishery has scarcely improved.

Where do we go from here?

Given the attention that local involvement in resource management is paid in the social science literature, it should come as no surprise that the inhabitants of fishing communities are frustrated by government claims that advisory boards representing the current license holders are acceptable forms of co-management. If fisheries managers continue to pay mere lip service to the principle of 'co-management', the potential of many coastal fishing towns as anything but retirement communities is in serious jeopardy. Therefore, fisheries biologists (that are so often put in charge of making decisions about the allocation of fishing rights) must become aware of the potential of local communities to develop successful institutions for limiting access to those with a long-term interest in the fishery. Restoration of access to geographically defined communities located adjacent to their fish resources can empower those communities to develop institutions that best fit their needs for social and economic development. The devolution of a significant amount of authority to the local level is not an alternative to top-down decision making: it is the *only* way in which the biological and social components of the fishery can be linked. Experience has shown that local communities, by structuring the fishery around social concerns, are able to efficiently and successfully provide for the biological sustainability of the resource. Government fisheries officials as well as local communities should work much more closely with social scientists, who can assist in the design and evaluation of management institutions and provide critical feedback to the management process on the social impacts of management measures. Perhaps then, true community involvement will characterize a new era in fisheries management.

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