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Assessing poverty in small-scale fisheries in Lake Victoria, Tanzania

Paul Onyango & Svein Jentoft

Norwegian College of Fishery Science, University of Tromsø, N-9037 Tromsø, Norway

Abstract

Poverty is a pervasive issue in small-scale fisheries. Not only does it affect a substantial population, it is also a complex problem that is difficult to define, explain and solve. Thus, poverty in small-scale fisheries constitutes what in the planning literature is sometimes identified as a 'wicked problem'. This paper applies the interactive governance framework to identify the limits of, and conditions for, governability and how they affect poverty, using the Lake Victoria small-scale fisheries in Tanzania as an illustrative case. More specifically, the paper first uses the three systems model of the interactive governance framework, i.e., the system-to-be-governed, the governing system, and the governing interaction, to explore poverty as a 'wicked problem' involving challenges pertaining to governability. Secondly, the paper suggests 'governance elements' that are fundamental for addressing poverty through the first, second, and third orders of governance. The paper emphasizes the importance of social values as crucial entry points in addressing poverty in small-scale fisheries.

Keywords Governability, interactive governance, Lake Victoria, poverty, small-scale fisheries, 'wicked problems'

Correspondence:
Paul Onyango, Norwegian College of Fishery Science, University of Tromsø, N-9037 Tromsø, Norway.
Tel.: +47 776 20930
E-mails: paul.onyango@uit.no, onyango.paul@udsm.ac.tz

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Introduction

Small-scale fisheries are an important part of the fisheries sector and economy in most coastal countries around the world. They also play a central role in livelihoods of people living in coastal communities. In Asia and Africa and elsewhere these fisheries contribute substantially to household poverty alleviation (FAO 2005a,b). The current global crises in fisheries are therefore of grave concern to policymakers, fisheries authorities, fishers and other stakeholders. The concern is founded on the reality that these crises are threats to ecosystem health, livelihoods and employment, social justice, food security and food safety, among others (Bavinck *et al.* 2005; FAO 2005a,b; FAO/World Fish Center 2005). Compounded with this is the idea that small-scale fisheries often provide a 'safety valve' for people who cannot access other sources of livelihood (see Béné 2003, 2004).

Small-scale fishers incomes have often been observed to be very low (Loayza and Sprague 1992; Cunningham 1994). Poverty has therefore been understood and measured as income poverty (Hulme and Toye 2006; FAO 2005a,b; Maxwell 2001). However, as is typically the case with poor people, poor small-scale fishers are poor not only in terms of income but they often are also deprived of health, access to education and other basic services. For instance, Spicker (1999) argues that poverty has a series of meanings. He identifies a number of different descriptions of poverty; need, standard of living, limited resources, lack of basic security, lack of entitlement, multiple deprivation, exclusion, inequality, class, and dependency. Further, poverty means different things in different contexts, which suggests that poverty cannot easily be defined in absolute terms but must also be understood relatively (cf. Townsend 1976; Sen 1999). Given the multifaceted nature of poverty, there is neither one way of describing the causes and effects, nor one specific way of dealing with it (Agarwal 1985; Leach *et al.* 1997; UNDP 1997, 2000). Poverty, for all these reasons, remains a contested concept and a 'wicked problem' (Rittel and Webber 1973; Jentoft and Chuenpagdee 2009).

The main aim of this paper is to address the question of poverty as a problem requiring an understanding not only about the poor but also the natural and social systems that they are part of and how governance works among them. We take the view that poverty is attributable to systemic causes and outcomes and that governance may be both part of the problem as well as the solution. 'Good governance' in this context would involve a governance system that goes beyond the commonly associated qualities of this concept such as accountability and transparent government, free and fair elections, and governance according to the rule of law. Here it would also address the 'the whole of interactions taken to solve societal problems and to create societal opportunities, including the formulation and application of principles guiding those interactions and care for institutions that enable them' (Kooiman *et al.* 2005, 17). In the context of poverty in small-scale fisheries, this would mean looking at relationships and interactions among user groups within the 'fish chain' (Kooiman *et al.* 2005) such as between fishers and traders, groups of fishers using different gear and other user groups competing for resources, between small-scale fishers and government, and also at the rules and regulations that structure their interactions.

Building on Kooiman's definition of governability as 'the overall capacity for governance of any societal entity or system' (Kooiman 2008, 173), this paper presents a framework for assessing poverty in small-scale fisheries through governability lenses by using a Lake Victoria fishing community for illustration. More specifically, the paper argues that conditions and capacities for addressing issues pertaining to poverty and poverty alleviation must: (i) be sought in the entire governance system, which according to this framework is composed of the governing system, system-to-be-governed and governing interaction, and (ii) be located within what Kooiman and Chuenpagdee (2005) call the 'three orders' of governance, i.e. the first, second and 'meta'. The paper begins with a brief description of the interactive governance theory and what characterizes poverty as a 'wicked problem'. Then, through the examination of the three system components, it exemplifies how an assessment of poverty among small-scale fisheries would look like when employed in empirical research.

Interactive governance: Brief presentation

The concept of interactive governance is originally conceived by Kooiman (2003) and later employed to address fisheries issues (Kooiman *et al.* 2005). The term governance, which goes back to Plato, was traditionally related to what governments do. Government was viewed as having the capacity and

resources to address societal problems. However, the increasing realization that a number of social problems presented themselves as too complicated and complex for government to deal with single-handedly led to the inclusion of any social actor relevant to governance, including stakeholders representing the market and civil society. Therefore, Chuenpagdee and Jentoft (2009, 11) hold that 'governance is the collective and integrated process of governing actors, which can be more or less organised and routine, rarely harmonious but typically interactive'. Governance theory recognizes two things; first, that since governance is beyond government it is possible to have more governance but less government, and that solutions to many societal 'wicked problems' require partnership arrangements between public (or government) and private (or market and civil society actors). Secondly, it is recognized that governance is broader than management. That is, governance involves more than the use of technical instruments to address societal problems in that it also concerns with the determination of principles and values that underline the manner in which governors define their tasks and roles. This is what has been referred to as the 'meta' order governance (Kooiman and Chuenpagdee 2005; Jentoft *et al.* 2007; Chuenpagdee and Jentoft 2009).

As a normative theory, interactive governance emphasizes that principles, values and goals should ideally be expressed through an interactive process among stakeholders. It is assumed that stakeholders may have essential but distinct capabilities and that an inclusive and participatory governance system should build on their individual and collective competencies and strengths. This is contrary to a model where management plans are drawn up beforehand by a central government agency according to some predetermined goals, and then used as leverage for governing interventions. Stakeholder involvement is generally viewed as a process of increasing the governability of societal problems such as poverty, but it must also be recognized that stakeholder involvement is in itself a 'wicked problem' that poses governability challenges (Jentoft and Chuenpagdee 2009). In assessing the governability challenge that such problems involve, there must be a focus on stakeholders and their governance interaction.

Interactive governance theory operates from a three systems model: a system-to-be-governed, a governing system and a governing interaction that links the two. These are the systems to focus on if one is to understand the poverty problem and prescribe solutions in a particular context. The theory points out that, in concrete situation, there are limits to how governable these systems are. The governing system consists of institutions and steering mechanisms such as organizations, legal rules, and economic incentives (Chuenpagdee and Jentoft 2009). The system-to-be-governed is partly natural, partly social comprising ecosystems, as well as the various categories of and relationships between resource users, the institutions, rules and regulations they have created among themselves, and which form a framework for their economic, social, political and cultural practices. In seeking to understand the conditions and limitations with regard to poverty and poverty alleviation among small-scale fishers, one should examine how the governing system and the systems-to-be-governed are interacting. The theory indicates that these systems would tend to share similar structural properties; they are all diverse, complex, dynamic and multi-scale (Jentoft 2007a). These properties constitute what to look for in these sub-systems so as to be able to understand how effective governance initiatives targeted at poverty are and what room for improvement exists. Diversity, in this case, refers to the spatial and organizational variability in natural social and cultural conditions. The ecosystem has several species and microhabitats, the social and cultural systems have a number of often competing stakeholder groups with different ambitions and practices. Complexity refers to the linkages and interdependencies of the systems elements, such as species, habitats, rules and actors. Dynamics refer to the interactive processes which imply that systems are not in a steady state but that they often change frequently, unpredictably and unexpectedly. And finally, these systems properties work at different spatial and temporal scales, which mean that one also needs to be concerned with system boundaries and the influences and interventions and impacts that cut across them.

Methods

This paper reports part of the findings from a broader study on poverty among small-scale fishers in Lake Victoria. (http://forskningsradet.no/servlet/Satellite?c=Prosjekt&cid=1193731621096&pagename=ForskningsradetNorsk/Hovedsidemal&p=1181730334233). Data were collected from

Nyakasenge and Sota beaches in the Tanzanian part of Lake Victoria. The fieldwork involved a six months period in which interviews and participant observation tools were used. In total 20 formal interviews were undertaken, which included eight focused group discussions. Besides collecting data in the two communities, fisheries authorities in the lake region and in Dar es Salaam as well as in Jinja, Uganda were interviewed and relevant documents retrieved. Secondary information was also collected from available published and unpublished literature. Some additional documents were retrieved from websites and libraries.

Governance systems

The meaning and causes of poverty are complex, numerous, and contextual and cannot be exhausted in this short paper (Narayan *et al.* 2000). Rather the idea is to apply the interactive governance framework to identify where and how to look for the governability problems and prospects concerning poverty alleviation, using the Lake Victoria small-scale fisheries in Tanzania as an illustrative case. The view advanced here, as already mentioned, is that poverty can be attributed to, and traced within, the three sub-systems described above. This paper discusses how poverty in small-scale fisheries is related to the structure and functioning of these sub-systems.

It must be emphasized that peoples' perception of poverty is not necessarily in accordance with some 'official' standard such as level of income. Poverty is also a subjective experience, where people would define what poverty means to them and to their community (Narayan *et al.* 2000). In absolute terms, small-scale fishers in Lake Victoria fishing communities are poor in the sense that they are deprived of many of the capabilities, goods and services that would be regarded as essential to a life without poverty in any other setting. Still, they do not necessarily perceive themselves as being poor when they compare themselves with people living elsewhere in the region. None of the common descriptions of poverty such as hopelessness, incapacity, dependency, exclusion, low incomes or expenditure (Henderson 1971; Jensen 2000; Béné 2003; Thorpe 2004; Hulme and Toye 2006), applies to them. Rather, in these communities poverty is regarded among their members as inability to do something to improve their situation. Thus a poor person is viewed as one who cannot use his head, hands or legs and cannot respond to emergencies. As long as a person is capable of doing that, he cannot go hungry, or be without shelter and clothing. In fact, if someone in the communities does not have food and clothing, he/she can ask for help from relatives or neighbours. It is also common in these communities for neighbours and/or relatives to feel morally compelled to provide food, clothing and even shelter to those who do not have them. A person would be considered poor if he or she has no such network to rely on when in need. From this general perception, there is practically no one in Nyakasenge and Sota who will be categorised as poor. However when poverty is also viewed as inability to respond to emergencies, then a large number of people find themselves within the poor category. Emergencies here include, but are not limited to, getting immediate medical attention, inability to travel to provide assistance to sick relatives or to gather if a relative dies because of poor roads or lack of transport and lack of capability to respond to windstorms that destroy the house or flooding that damages agricultural produce. In this sense, poverty remains a reality in the eyes of people who live in these fishing communities.

Poverty has therefore persisted in these fishing communities despite economic opportunities created through the boom in fishing after the introduction and proliferation of Nile perch (*Lates niloticus*, Latidae) (locally known as Sangara) that revolutionised the fishery of the lake (Abila and Jansen 1997; Kolding et al. 2008). The once subsistence fishery undertaken by simple gears such as basket traps, gill nets, and hand paddled boats has transformed into a commercial enterprise with the use of modern motorized equipment such as engine driven boats, drift nets (known locally as 'Tembea'), and long lines. In addition, several fish processing establishments have been installed and the fishery has also attracted involvement of non-riparian communities (Owino 1999).

This transformation has brought great economic opportunities including increased employment and incomes, which have contributed substantially to the national economy (Odongkara *et al.* 2005). However, the Nile perch catches and increasing overall fish production also ushered in social conflicts, ecological disruptions and management changes that have subsequently affected fishers' experience of poverty. Indeed, some fishers have been pushed into extreme poverty after their fishing gears were stolen and/or lost during fishing (Witte

and Deusen 1995; Seehausen *et al.* 1997a,b; Kirema-Mukasa *et al.* 2005; Kolding *et al.* 2008).

The following is an illustration of what an in-depth governance analysis of the causes and outcomes of these transformations would involve and what suggestions for enhancing governability may be drawn from it.

Systems-to-be-governed

In order to assess how poverty can be seen as a 'wicked' governability issue, we begin by investigating the systems-to-be-governed, which in the case of small-scale fisheries is composed both of a natural and a social system.

Natural system

With respect to Lake Victoria, this system is comprised of a number of fish species and fish habitats, including rocky habitats, shallow (inshore) and deep (offshore) fishing grounds, river mouths and muddy bottoms (Witte and Densen 1995; Seehausen *et al.* 1997a,b). The lake shoreline has numerous sheltered bays and gulfs that make it very irregular and impart heterogeneity and ecological differentiation to the lake limnochemistry and biota. Until the 1980s the lake was colonized by a large number of endemic fish species (cichlids) comprising more than 28 genera with more than 350 species. The cichlids were mainly Haplochromines species and two tilapiine species, especially Tilapia (*Oreochromis esculentus*, Cichlidae) (known in Tanzania as Ngege/Sato/Perege) and another Tilapia species (*O. variabilis*, Cichlidae) (known in Tanzanian as Mbiru) (Ligtvoet *et al.* 1995). Besides the cichlids, 38 other species belonging to other families have been recorded in the lake (Graham 1929). In the 1950s, five new fish species were introduced, among them the Nile tilapia (*O. niloticus*, Cichlidae) and the Nile perch adding to the diversity of the lake ecosystem. Moreover, this high diversity also means complex trophic relations in the food web (Okeyo-Owuor 1999), posing thus a great challenge for governance given the amount of information required in order to fully understand the system.

Overfishing of the tilapiine species resulted in the decrease in catches and a subsequent increase and dominance of non-cichlids in the landings (Okeyo-Owuor 1999). However, in the 1970s and 1980s, the haplochromines species appear to have fallen dramatically. The fish fauna of the lake became limited to the species that had been introduced, the Nile perch and Nile Tilapia, and the Dagaa (*Rastrineobola argentea*, Cyprinidae) (Witte and Densen 1995). With the introduction of Nile perch in 1950s (Pringle 2005), the lake has undergone a series of faunal and limnological changes, including the extinction of some cichlids species. The reasons for the decline of cichlids and the extinction of some have been alluded to a number of factors, among others: (i) predation by Nile perch on the native cichlid fish fauna has altered the food web and caused a trophic cascade; (ii) increased nutrient inputs from the catchment area or the atmosphere, which resulted in the observed eutrophication; and (iii) modifications in the stratification and mixing regimes of the lake brought about by climate change which produced the observed limnological changes (Okeyo-Owuor 1999).

Social system

The observed faunal and limnological changes in the lake led to the near collapse of the fishery and had a terrible impact on the livelihood of the local populations. These changes can be traced to how humans relate to and interact with the natural system. Local fisher groups have been attracted to the lucrative Nile perch and Dagaa fishery but they have not been able to invest to a level which can make a significant impact in their lives. Those who clung to the old fishing methods to target the new dominant fish species of Nile perch, Tilapia and Dagaa have not been very successful. The observed changes in the species composition and faunal and limnology of the lake are an indication that the natural system has not remained healthy. Crises in other sectors such as agriculture and the mining industry have caused a major migration of people into fisheries and consequently a huge increase in the number of fishers from 50 000 (Lake wide) in 1960s/70s to over 100 000 in 2008 (Tanzania alone) (Jansen *et al.* 2000; LVFO 2009; Kenya, Tanzania and Uganda, unpublished data). Fishers have therefore to compete much harder for fishing grounds particularly in the commercialized Nile perch fishery. This has also led in part to the change in fishing gears and to conflicts among the fishers, as well as to the emergence of some powerful user-groups such as the fish agents (i.e. the middlepersons) and the owners of fish processing establishments. These groups have taken a leading role in controlling the mode of fishing, the gear used, the prices paid, and other conditions that fishers are

subject to. Fish agents, owners of fish processing establishments as well as non-riparian business people are now the dominating powers in the fisheries. Local fishers have been disempowered and have become price takers. They have also been left as crew members working in conditions with no formal employment contracts, health support and safety equipment.

The governing system

Currently, the three riparian countries (Tanzania, Kenya and Uganda) have initiated a joint management regime coordinated through the Lake Victoria Fisheries Organization (LVFO). The LVFO brings together the fisheries divisions/department/commissions and the state fisheries research institutes to the governance table. A council of ministers is the supreme body of the organization. In Tanzania, the Fisheries Division has the sole responsibility established through the Fisheries Act No. 6 in 1970 to manage the fisheries resources in the country. This Act repealed and replaced the Trout Protection Ordinance and has had succeeding principle regulations of 1973, 1989, 1994 and 1997 (Hoza and Mahatane 1998, 2003). The 1970 Fisheries Act has also been replaced by a new Fisheries Act of 2003. The new Act recognizes the decentralized government system where some decision making regarding fisheries resources (for example identifying who should be issued a fishing and trade license and where to establish a landing site) are bestowed upon local government authorities at the district level. The Fisheries Division at the national level, however, still retains the power to develop the fishing sector, regulate the sector through enforcement of fisheries regulations and make decisions to promote sustainable utilization of the fisheries resources (URT 2003). In 2008, a restructuring of the government at the ministerial level created a Ministry of Livestock and Fisheries. It is in this ministry that the fisheries division derives its mandate.

Due to environmental degradation resulting partly from the use of destructive fishing gears and methods, inadequate number of trained fisheries staff and budgetary constraints, along with a need to address poverty among the fishers, a form of collaborative management around the lake was introduced. This occurred in the late 1990s when participation of local communities was introduced (Hoza and Mahatane 1998), and which resulted in the establishment of over 500 Beach Management Units (BMUs) across the lakeside in Tanzania. The BMUs, which introduced community-based co-management in the lake fishery, were established through a process of one-day consultations with local fishing communities, in which a few selected fishers nominated 20 members from the fishing village to form the BMU. However, despite the intention behind this institutional reform, the BMUs neither managed to control the escalation of illegal fishing practices nor control the rising fishing effort which was seen as a major threat to the fish stocks. Moreover, they have not been able to handle conflicts among fishers. For these reasons the BMUs did not perform as expected (see Onyango and Jentoft 2007). Later they were re-established through a rigorous process of registering all fishers in a village and an election of executive officials and finally a registration of the BMU with the fisheries authority in Tanzania (Ogwang *et al.* 2005). The BMUs are expected to cooperate with the Fisheries Division and are recognized and required by law to implement the fisheries regulations. Although in principle BMUs were meant to operate independently, in reality they are part and parcel of the fisheries division; in fact, they are at the lowest ebb of fisheries management hierarchy.

For a substantial period of time, fisheries governance in Lake Victoria worked from the assumption that a good healthy ecosystem could be achieved and maintained by focusing attention on the ecosystem itself rather than on the social system as well. This can be seen right from the first formal management of the lake fishery which can be traced back to 1908 when the colonial legislation known as the Fish Protection Ordinance was enacted (Geheb 1997). This law introduced licensing and boat registration rules with the purpose of controlling fishing gear types and the number of fishers. There were amendments to this law due to an observed reduction in Ngege (*Oreochromis esculentus*), including the introduction of a 5-inch minimum mesh size for gillnets in 1933. Other technical measures, such as slot size (the range of fish length allowed in the market, i.e. 50–85 cm for Nile perch), closed seasons and closed areas have also been used. These technical measures basically targeting fish stocks have been considered to be indirectly useful in poverty alleviation, under the assumption that ensuring a healthy fisheries ecosystem, ecological integrity, and biodiversity will ensure sustainability of fish stocks and eventually

result in a healthy human population free from poverty.

The emphasis on technical measures in governing the lake resources underplays the perspective on fishers as constituting an important part, not only in the system-to-be governed, but also in the governing system via the BMUs. Although fishers have been incorporated through BMUs, their involvement is guided by an Act that focuses on technical measures which they are required to implement. This emphasis on technicalities does not take into consideration the social, political, institutional and cultural aspects of governance. Thus, BMUs are perceived as instruments of government more than vehicles for the empowerment of lake side communities. This arrangement results in a pattern where the government fisheries division formulates fisheries goals and objectives set to alleviate poverty with little involvement from stakeholders, such as fishers. Such a pattern tends to raise questions of legitimacy, which leads to a situation of perpetual non-compliance to government regulations among fishers (Onyango 2004).

Governing interactions

The governing interactions involve forms of communication, participation, and representation between the system-to-governed and the governing system and within each system. In Lake Victoria fisheries, in Tanzania, such interaction operates from the beach level to the regional level involving the BMU interacting with the local government fisheries staff responsible for enforcing fisheries regulations as well as providing extension service to fishers at beach level. There is at least one other government fisheries staff located at divisional level (these are administrative units that make up a district in Tanzania). BMUs are required to liaise with the fisheries staff on a daily basis when undertaking their activities, and they both interact directly with a District Fisheries Officer. Interaction also occurs between the District Fisheries Officer and the Directorate of Fisheries headed by a Director of Fisheries and the District Executive Director (DFsO employer). The Directorate of Fisheries and the fisheries research institute interact through the Ministry of Livestock and Fisheries Development and LVFO. The latter comprises of the directorates and fisheries research institutes in Kenya and Uganda. The LVFO coordinates fisheries activities at a lake-wide level (Figure 1). This system, however, faces challenges with regard to communication. Whereas there is good communication at the LVFO, the Directorate of Fisheries and the research institutes level, there is weak communication with the BMU at the lower level. The BMUs have served as research subjects to various researcher groups, where they participate only as respondents. Their representation in the governing system is weak. Neither do they have a forum to discuss issues of common interest and where they could harmonise their voice vis-à-vis government. They cannot therefore speak as one, and any particular BMU member cannot purport to be speaking for the others. Although there are plans to organise BMUs into one group at the national level the fragmented manner in which they are currently operating makes their contribution ineffective, for instance pertaining to poverty alleviation policy making.

The entire governing system is portrayed in Fig. 1. Governing interactions follow a hierarchical path that places the BMUs at the lowest ebb. Without local autonomy, the system is top-heavy and top-down, with a lengthy channel of communication. BMUs are required to give a periodic report of operations to higher authorities with requests for assistance on matters of their concern. Problems such as theft of gears that leads to complete displacement from the fishery and hence poverty may take too long to be addressed. Moreover, the lengthening of the chain of command has made governing interaction more complex. In the absence of a well established coordinating mechanism among the BMUs and with the district fisheries authorities the implementation of fisheries regulations have also tended to be inconsistent. For instance, BMUs are supposed to undertake weekly surveillance in order to check on illegal fishing practices but they rarely do this consistently. They are not invited to present ideas about how fisheries should be managed, how rules should be enforced and how management should be balanced with poverty alleviation. Thus their potential contributions to solving this problem are not exhausted. Some BMUs do surveillance only when arranged by the Fisheries Authorities. This limited consistency is based on the reality that BMU members view themselves as working for the Fisheries Division and therefore they should be rewarded and/or paid for their work. Although participants often get allowances for attending workshops and seminars, some BMUs think that they are left out by the

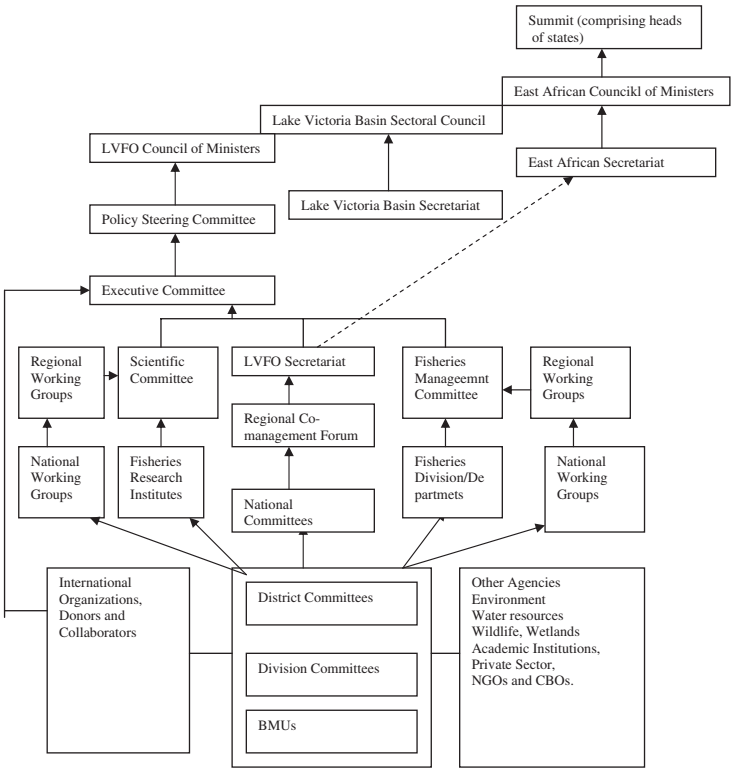

Figure 1 Communication structure in the Tanzanian Lake Victoria fisheries management. LVFO, Lake Victoria Fisheries Organization. The arrows show channels of communication with the institution in the origin of the arrow providing information to the institution where the arrow points and decisions made passed on backwards in the same direction. The communication between LVFO and East African Community (EAC) Secretariat is mainly to inform on ongoing and planned fisheries regional activities. Otherwise LVFO does not have to seek approval for its activities from EAC. The Summit is the highest decision making organ of the Fisheries. When decisions are made they are brought down from the Summit through each level for implementation. From the BMU upwards, interaction is in form of providing information and or recommendation to be used to make decision by the higher level. The Summit and council of Ministers are supposed to meet once a year or when deemed necessary.

fisheries authorities when they are not invited to attend. As a result, they do not take much interest in implementing the fisheries regulations. During our fieldwork in one beach community, we observed illegal undersized fish being bought and sold at night just outside a BMU office with the full knowledge of the BMU officials, and this appeared to be normal practice. Also trade in illegal undersized fish is not uncommon and not reported, nor are any actions taken by the BMUs officials. This indicates that even with increased participation of fishers in the management system, fisheries laws and regulations do not enjoy legitimacy among BMU fishers at the beach level as would be expected, which would suggest that the system is suffering from a governability deficit.

Governance orders

The Lake Victoria case briefly described above suggests that poverty problems can be traced to the system-to-be-governed, governing system, and governing interaction. It is also within these systems that a governability assessment should be focused. Such an assessment should strive to highlight how governance can make poverty alleviation initiatives and processes more effective by addressing the weaknesses and failures in the systems through an intervention of the three orders of governance. The 'orders of governance' is what interactive governance theory points out as being where governing activities take place (Kooiman 2003). In the first governance order, governors are

addressing daily problems, whereas the second order governance is about building governing institutions and facilitating the instruments and mechanisms for how to govern at first-order. The third (or 'meta-order') governance order is about ethics, values, norms and guiding principles that are underpinning the first- and second-order governance. Thus, the FAO's Code of Conduct of Responsible Fisheries (http://www.fao.org/fishery/publications/ccrf/en) would be an example of third order governance as it is meant to inspire, inform and guide governing institutions on how to govern well.

The empirical information presented above provides a suitable setting for assessing the governability challenge of poverty problems and poverty alleviation strategies emphasizing these governance orders. We suggest here that such an assessment should follow a conceptual framework as contained in Fig. 2. As indicated in the figure, assessing poverty as a 'wicked problem' involving governability constraints and opportunities should entail the evaluation of decision-making processes, some aspects of institutions, and social values in all three governance sub-systems, i.e. the system-to-be governed, the governing system, and the governing interaction. Thus, when searching to reduce or eliminate poverty by the first order governance, the focus is therefore first on *decision-making* and the process of defining the specific poverty problems that are experienced daily and routinely and identifying solutions to them. Who does what? What things are being done and how? What is the action space for other approaches? Within the second order of governance, the focus should be on *power and power relationships* that explain how resources and responsibilities are distributed across scales. Issues here are, among others, decentralization and devolution of formal and informal authority and mandates. What role(s) is each institution playing with regard to poverty alleviation? Which institution takes the lead (stakeholder or facilitator) and why? Whose interests are they serving, and who are the winners or losers in consequence? Within the third-order governance, where the focus is on *values, norms and principles*, the research questions would be how decisions and actions are pegged to values? Which and whose values are they? How widely shared are these values among stakeholders? How explicit are they and how are they communicated and deliberated?

First order: Decision-making

From a governance perspective, fundamental poverty related issues that are important for decision-making would comprise the following: (i) *Transparency*. From the perspective of the poor, transparency is about empowerment, a condition for their cooperation, and a basic human right. It is essential for people to be able to understand what is happening to them, what powerful people and institutions are up to, and to influence policies that impact on them. A question should therefore be to what extent and in what fashion are the poor lake fishers who are affected by governance involved in the decision-making process. Transparency implies openness, communication, and accountability. A decision is transparent if all information required or used in arriving at it is open and generally accessible. (ii) *Outcomes*. Have the effects on the poor lake fishers of the decision made been fully considered? If yes, what are they, and how are they being taken into account? This is about governance as a learning system, which is an essential condition for governability enhancement. (iii) *Fairness*. Are the decisions and outcomes considered fair from the perspective of the poor? This is an issue of social justice, and poor people's ability not only to make their voice heard but also to be able to effectively protect their interests.

In Lake Victoria fishing communities' involvement in decision-making is for the most part restricted to the BMUs. A move towards improved

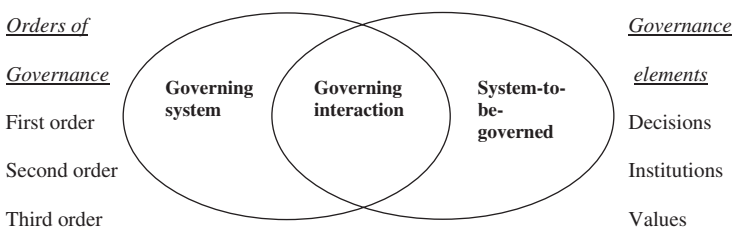

Figure 2 Governability assessment framework.

governability would be to enable the BMUs to participate at higher levels of decision making. Another reform that would enhance governability would be to set up a system where the final consequence of decisions for the system-to-be governed is expressed qualitatively or quantitatively. A move towards greater fairness would imply a concern for the allocation of fishing rights and distribution of benefits from the lake fisheries, access to scarce resources and the opportunity to be involved in creating the conditions and setting the operational rules. Questions can be raised concerning transparency and fairness of decisions made in a hierarchical system that operates in the lake.

There is also a need to understand how the lake's stakeholders create meaning in their environment, how the changed ecological status of Lake Victoria has affected the mindset of fishers in how they relate to its resources, how they understand and define the poverty problem they face as a consequence of these changes, and how they would regard the governance system that is affecting their lives. Specifically, as it is a common issue raised among fishers, it would be prudent to assess the dilemma with regard to the ecological status of the lake as something that requires immediate effort or it is the need to feed local populations that is a priority. Thus, in order to understand governability issues with regard to poverty related to governing decision- making, focus should be on how solutions to poverty problems are identified and negotiated and strategies for solutions reached.

Second order: Institutions

An assessment of how institutions influence poverty and poverty alleviations would need to emphasise their restricting as well as their enabling functions, the way institutions exacerbate or help to improve governability. One important issue would then be on the role of power as power tends to do both. As Forester (1989, 27) says: 'Whether or not power corrupts, the lack of power surely frustrates'. Thus, power is among the cross-cutting factors that determine the governability of the system-to-be-governed, the governing system, and the governing interactions. A focus would be on the relational, collective and institutional dimensions of power as it is played out in the three sub-systems. Power, whether institutionalised or not, largely determines the effectiveness of policy implementation and decision-making (Willard and Norchi 1993; Jentoft 2007b) and should, therefore, be included in the assessment of governability restrains and opportunities related to poverty and poverty alleviation of the Lake Victoria fisheries. It is likely that poverty alleviation policies and strategies may be less effective if the governing system does not have the sufficient clout to implement and enforce its decisions, and powerful interests involved have reservations about them. Similarly, problems may remain unresolved if powerful interests are able to keep them away from public awareness (Jentoft 2007b). Since poverty alleviation often requires redistribution of basic entitlements, it is a clear risk that this may happen.

Interactive governance theory advocates for a partnership model where power is shared, that power should not only be seen as a zero-sum resource but that it may be enhanced if shared. In other words, governors can do more as a partnership than if they act in isolation. The more power is distributed among the stakeholders, the more spirited their interactions become. Whether the BMUs work as a power sharing mechanisms, and whether or not they are effective in addressing poverty within their jurisdiction area as a consequence of how power is distributed, are interesting research questions. Within the current system for Lake Victoria, fisheries authorities appear to wield more power than other stakeholders, despite the latter being brought in on the governance table. Does this, for instance, mean that resource management issues take precedence over the livelihood concerns and poverty issues that local fishers raise?

Kooiman (2003) argues that second order of governance, which focuses on institutions such as organizations, rights and rules, is of a more political nature than first order governance. Their formation and functioning are also acts of power. Governing institutions, for instance, have a role to control or enable the process of solving societal problems such are those related to poverty. Power as it is used here is viewed to involve the ability to effect change (Etzioni 1968), and is therefore a central mechanism that make systems dynamic. In public/private partnerships, bringing change is not the responsibility of one institution but rather a collective responsibility. The state, as an institution, should therefore not be viewed as the only powerful institution that can and should bring about change, as is the case in the Lake Victoria region. The private sector, which is completely absent at the decision-making table in Lake Victoria and civil

society (non-governmental organizations), which has generally been brought to the table but remain institutionally weak, have complementary roles.

Third ('meta') order: Values

The making of and the implementation of decisions through the exercise of power are grounded on, and informed by values which are socially constructed, culturally legitimized and circumscribed. For instance, from a governability perspective, the cultural values of stakeholders must be taken into consideration in goal formation. If not, the legitimacy of governance institutions and actions would be challenged and possibly opposed. In Lake Victoria people regard the provision of food as a God-given entitlement. The demand for *mboga* (a Kiswahili word for the main dish in a meal) coupled with the limitation of the food supply have led fishers to follow the principle of not hindering others from fishing. A fisher is allowed to catch to feed his family, and no person has the right to stop another person from fishing. Fishers therefore discourage controls on access, and they normally abstain from reporting on their fellow fishers when using illegal fishing gears such as beach seines, small-sized nets and monofilaments. Under such circumstances, compliance is expected to be low. Thus, with the persistent non-compliance to fisheries rules and regulations in Lake Victoria, there seems to be a mismatch between values of those designing the rules and regulations and those for which these are intended. The designers are thinking more on sustaining the fish stocks while those who are targeted by the regulations think more of how to sustain their communities and to secure their income and food supply (Onyango and Jentoft 2007). Judgements made and decisions reached will be grounded on the cultural values of the group to which one belongs. For governance to address the lakes' poverty problems, it would be important to start by addressing the moral considerations that put poverty on or off the list of governing priorities.

Governance always operates according to certain norms, values and principles (Kooiman and Jentoft 2009). This is no less true when poverty is the issue at stake. These attributes are however not explicitly stated but must be discerned as part of the governability assessment. The task is to understand how individuals, organizations and society think and act in value terms (Flyvbjerg 2001; Laidlaw 2002). Following Flyvbjerg (2001), it could be argued that fisheries governance must involve ethical judgement of what constitute good goals of fisheries governance and how they should be prioritized. How prominent is poverty alleviation relative to other goals that typically inform fisheries governance, such as resource conservation, export earnings and the like? In governability assessments, goal formation would also be an empirical issue. Which values are actually turned into goals, and why? The technical approach to problems is important in so far as it brings to the table the alternative means through with a given goal can be addressed. However, when it comes to addressing the problem, the technical approach does not provide a 'way out' if the problem in question requires a change of the values and norms that are basic to the current approach (Hardin 1968). Whereas technical problems have a right or wrong or effective or ineffective answer, with 'wicked problems' such as poverty, it is not always clear even of how to define what the problem is, not to speak of what would be the right thing to do (Rittel and Webber 1973).

Based on the governability assessment framework, Table 1 presents a list of general research questions pertaining to poverty and poverty alleviation in small-scale fisheries. The list does not pretend to be exhaustive, and each cell may be filled in with other questions on poverty that are relevant in the particular context within which such an assessment takes place.

Conclusions

For understanding the underlying causes and effects of poverty in small-scale fisheries in Lake Victoria the governability assessment framework basically offers guidance in how to address three questions; (i) where to look; (ii) what to look for; and (iii) what to look at (Jentoft and Chuenpagdee 2009). As to (i), the assessment would examine the functioning and capabilities of the system-to-be-governed, the governing system and the governing interactions. What are their particular restrictions and opportunities for improving governability? At which governance orders do they exist (first, second or 'meta' order)? From the assumptions that the governability of these systems is essentially a 'wicked problem,' the assessment would commence with the analysis of how these limitations and opportunities are experienced, perceived and challenged by the various

Table 1 A framework for assessing governability of poverty issues in small-scale fisheries.

Variables for assessment	Governing system	System-to-be-governed	Governing interaction
Decision making	What governing modes are used to reach decisions? Are they top-down, co-management or bottom-up?	What are the social and ecological impacts of the decisions made to address poverty? Are these decisions considered fair and transparent from the perspective of the poor?	How do individuals, groups and governing institutions interact as they negotiate decisions?
Institutions	How are governing systems institutionalised? How is power exercised, responsibilities and mandates distributed and with what outcomes?	How are social practices, interests and power institutionalised? How do they determine social relationships and the distribution of cost and benefits among stakeholders?	What are the institutional characteristics of governing interactions? What rules exist pertaining to representation, participation and communication?
Value	How do values, norms and principles of governing institutions relate to problem definition, agenda setting and conflict resolution?	What values, principles and norms underpin social action and local institutional formations, decision- making and power relations?	How are values, principles and norms shared among stakeholders in their interactions?

stakeholders involved. As to (ii), the opportunities and restraints for alleviating poverty would be traced within the four system properties: (i) diversity; (ii) complexity; (iii) dynamics; and (iv) scale. Here one would ask questions such as where in these systems is poverty to be found (who are the poor), how is poverty linked with the particular relationships and processes that make up the system? How are relationships within the fishing household, to traders and to government? How do small-scale fishers gain access to resources and services? How does poverty evolve over time? How are fisheries linked to other sectors and to institutions and mechanisms at higher scales than the local community? As to (iii), what to look at, we suggest that a governability assessment for the first order should look at decision-making, the second order at institutions, and for the meta order at social values and principles which underpin positions and actions taken, including those of institutional design and reform. How is power mobilised in making decisions regarding how the four system properties give rise to poverty? How are decision-makers and stakeholders engaged in policies and initiatives for poverty alleviation? From what value positions do these decision-makers and stakeholders arrive? What motivates their arguments and actions and how are they legitimised in public discourse? As Rittel and Webber (1973) argue, 'wicked problems' such as poverty cannot easily be solved once and for all but need to be resolved within a governance system that evolves and respond to challenges that emerge over time. How this system learns, adapts and acts with regard to poverty in small-scale fisheries such as those in Lake Victoria are the overall questions that a governability assessment would address. A conceptual framework for assessing and addressing poverty as a governability issue, recognizing that the limits and obstacles to poverty alleviation require efforts at all three orders of governance.

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