

Final report

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7. Project Description

(extracted from the project proposal)

Goal: To sustain and improve the livelihoods of the rural poor who depend on fisheries for their employment, income and food security along the rivers of the Lake Chad and Zambezi basins.

Purpose: To strengthen the capacity of national and regional decision-making to develop and implement improved governance and policy mechanisms that sustain river fisheries and enhance their contribution to poverty alleviation and national food security.

Outputs: The primary output (1) from the project will be a set of policy recommendations to governments, river basin institutions, development assistance agencies, NGOs, and the wider development community on the development and management of governance arrangements that enhance the contribution of river fisheries to poverty alleviation and food security. This primary output will be informed and supported by four technical outputs for each basin: (2) a review of governance arrangements for river fisheries; (3) a review of the current fisheries policy processes at national and regional levels; (4) an ex-ante assessment of the impact of improved governance and valuation information on fisher livelihoods; (5) a comprehensive valuation of the contribution of river fisheries to rural and urban livelihoods. These will in turn be supported by a series of other outputs including (6) a set of robust valuation methods for developing countries river fisheries; (7) a technical 'Guide on Economic Valuation of River Fisheries in Developing Countries' for Policy-makers and Planners; (8) the development and strengthening of professional networks between the NARS partners within and between the two basins; (9) up to 16 African professionals trained in economic valuation techniques and governance and policy processes analysis; (10) at least 3 articles submitted to international peer-reviewed journals.

8. Major Research findings

This project was essentially a 'policy-oriented' project. The main scientific outputs achieved through this project were:

- A set of policy recommendations on the development and management of governance arrangements that enhance the contribution of river fisheries to poverty alleviation and food security. This corresponds to output No.1 as listed above in section 7. The document is presented in Appendix 1.
- New research methodology on governance analysis in small-scale inland fisheries, and improved understanding of the current governance issues in the sector in relation to decentralization reforms and co-management in sub-Saharan Africa. This corresponds to output No.2 of the original project proposal. The document is presented in Appendix 2.
- Improved understanding of the current policy context, processes, and opportunities in small-scale inland fisheries in the Lake Chad Basin and Zambezi River Basin and beyond -in sub-Saharan Africa. This corresponds to output No.3 of the original project proposal. The document is presented in Appendix 3.
- New research methodology on socio-economic valuations of small-scale inland fisheries (Appendix 4), and improved understanding of the role of these small-scale fisheries in the livelihoods of rural populations in sub-Saharan Africa. This corresponds to outputs No.5 and 6 of the original project proposal. Various

journal articles and working papers illustrate these outputs. The journal articles are presented in Appendix 5.

8.1. Policy analysis

This section presents a brief summary of the improved understanding of the current policy context, processes, and opportunities for small-scale inland fisheries in sub-Saharan Africa that were achieved through the project (output No.3)

This component of the research was undertaken as part of the first major phase of the project. The overall objective of this part of the project was to establish a better understanding of the national policy processes in the countries of the Lake Chad Basin (LCB) and Zambezi River Basin (ZRB) where the project was directly implemented. For this the analysis drew upon four national reviews that were completed in Cameroon, Niger, Nigeria and Malawi. The main findings of these national reviews can be synthesized under five key themes as follows:

8.1.1. Policy narratives

A wide range of policy narratives relating to national development and natural resources have emerged (and persist and overlap) over the past 50 years. The initial emphasis focused on production increases, technological development and large scale investment, plus government control. More recently, there has been an increased interest in local (community) level management and activity, and good governance (accountable democracy, subsidiarity principle and rights). The national studies reveal how government policies in the LCB and ZRB countries have evolved, using the narratives to varying degrees, and culminating in the most recent Poverty Reduction Strategies Papers (PRSPs). However, despite this progression in policy, there are concerns including the difficulties of attempting to integrate and then operationalise different narratives (economic growth vs. local level development), the possibility that livelihoods relationships with natural resources management (NRM) are not being fully taken into account (lack of knowledge, understanding) and the danger that new narratives (decentralisation, co-management) are perceived as a panacea for past policy failures.

8.1.2. Coherence

The extent to which policy coherence is achieved has a major impact on policy performance overall. The national policy studies reveal many examples of the difficulties of evolving new policies, and trying to integrate them within existing policy arrangements. In Malawi, for example, decentralisation policy, local government reforms and national fisheries policy, have not achieved a high degree of coherence, largely because they appeared at different times and did not refer to existing legislation. All the studies show the importance of policy coherence with reference to objectives and implementation approaches, and the need to ensure that there is harmonisation between relevant institutions. The national PRSPs encapsulate some of the major policy coherence challenges which all the countries must face, but unless the coherence issue is addressed the anticipated development potential of the sector will be compromised.

8.1.3. Actors

The national policy studies reveal the importance of a wide range of actors in the policy process – in both policy formation and implementation. There are two emergent and important issues for the future – the number of actors is increasing (for example, as decentralization policy demands new ways of operating, and also, as new economic opportunities arise within expanding economies), and the roles and

responsibilities for both new and existing actors will have to be carefully defined and formalised if policy implementation is to be successful.

8.1.4. *Spaces and opportunities*

The apparent success of policy development and reform in some natural resource sectors (e.g. Forestry policy in Ghana) is related to the ability to make 'policy space' for implementation at local and regional levels. There are at least five important issues – the ability of government to support a transfer of real power (to local level), to back this up with appropriate institutional capacity-building, to adapt policy declarations at national level into operational management systems at local level, to capitalise on incentives for participation and in making NRM work effectively (e.g. securing rights to long-term resource use), and for government in general to support the overall process of policy development and implementation over an extended period of time (it can be argued that 'quick wins' tend to be rare). It is likely also that 'policy spaces' will open up over time and offer opportunities for positive interventions involving government, civil society actors and international partners (donors). Although the current PRSPs place emphasis on the role of government and the private sector, other actors (principally civil society organizations) are not considered. New policy approaches will need to be inclusive of all actors, even if some threaten the existing governance arrangements of certain countries.

8.1.5. *Understanding the performance of decentralized NRM policies*

Policy assessment and evaluation is often problematic. In the case of 'decentralisation', this broad term can include a wide range of scales and processes (see section 8.2. on governance below), which are often country specific. However, there is no doubt that policy implementation, which has often been weak and unpredictable, needs to be underpinned by a greater understanding of the factors likely to affect it. Through more knowledge and feedback, both policy formation and implementation can be improved over time. Three important lessons for improved 'decentralisation' – but which can be generalised - include (a) the need for stepwise and coordinated implementation strategy, (b) the fundamental need to address governance weaknesses and (c) the advantages of making the policy implementation process a 'dynamic' one which can respond to local opportunities and challenges (e.g. by integrating research and information systems into step-wise policy implementation).

8.2. Governance analysis

This section presents a brief summary of the research methodology on governance analysis, and the improved understanding of the current governance issues in the sector that were achieved through the project (output no.2)

Like the policy analysis above, the governance component was undertaken as part of the first phase of the project. The objective was to evaluate the governance situation in the fisheries sector in the Lake Chad Basin (LCB) and Zambezi River Basin (ZRB) with a particular attention paid to co-management reforms. For this the analysis drew upon five national reviews that were completed by the partners in Cameroon, Niger, Nigeria, Malawi, and Zambia. The main findings of these national reviews can be synthesized as follows:

8.2.1. *Promote better integration of SSF sectoral devolution into decentralization*

The country reviews evidenced how poorly integrated small-scale fisheries and co-management are in the decentralization process being implemented in the rest of the economy of these countries. Inland fisheries are often overlooked by national and local decision-makers and considered as remnants of a stagnant, informal and

useless sector that is meant to disappear through the normal economic development process. This view certainly contributes to the predatory behavior adopted by national and local government agencies whereby small-scale fisheries are often heavily taxed but notoriously neglected in terms of redistribution.

Local governments' reliance on fisheries-generated income should in contrary be seen as the evidence that a more balanced relationship could benefit all parties. Better supported, small-scale fisheries would contribute more effectively to local economic development, thus strengthening local governments through the generation of direct revenue (taxes) and indirectly through the welfare functions generally provided by small-scale fisheries -employment for unskilled population (labor buffer, safety net), contribution to food security and economic empowerment of remote rural groups including women. This better integration of fisheries into the local planning process could (or should) be facilitated by the fact that local levels of decision are known to be more effective in ensuring integrated planning than higher (national) levels. As such the territorial decentralized institutions created through parallel decentralization process (e.g. Districts Assemblies in Malawi, District Councils and District or Provincial Development Committees in Zambia, Collectivités Territoriales in Niger and Cameroon) should be in a much better position to integrate and account for the aspirations and needs of the small-scale fisherfolks than national planners operating from central Ministries' bureaus. It is therefore the responsibility of the fisheries stakeholders (starting with the DoFs) to work closer with the decentralized governments' agencies in order to ensure a better integration of small-scale fisheries into the process of decentralized development, for the greater benefit of the resource, the local economy and the fisherfolks.

8.2.2. Recognize the complexity of the local political game

One of the main observations of the reviews was that co-management reforms have complexified the already hybrid and composite local governance system prevalent in Africa. While decentralization, in principle signifies increased procedural homogenization and transparency at the local level, in practice its implementation has led instead to greater fragmentation of the political arenas and greater complexity (de jure and de facto). Co-management has in particular increased the number of modern, as well as traditional, political and institutional local actors who are now competing, conflicting or colluding to capture part of the power and revenues that the control over fisheries resources can generate.

The recognition of this situation calls for greater coordination and more resources made available for building capacity of actors at local level while strengthening the central government capacities for coordinating policy guidance and setting the appropriate policy environment. Donor and international development agencies need to realize that decentralization (and co-management) reforms certainly require more financial and human resources (and certainly not less) and sit rather uncomfortably in a reduction of public services expenses agenda.

8.2.3. Account for the critical influence of traditional leaders

Although not an exclusivity of Africa -as many Pacific fisheries are in the same situation- African small-scale inland fisheries are for their majority still under the strong influence of local traditional leaders. While co-management projects could have been one way to reduce this influence, the analysis revealed a totally different outcome. Because co-management projects were poorly prepared to face this issue, these traditional leaders have usually been one of the groups which almost systematically managed to strengthen their local power during the establishment of co-management reform. This situation means that a large part of the success (or

failure) of these programs depends on these traditional leaders' willingness to collaborate.

This "resurgence of the traditional chieftaincies" through the decentralization process is not, however, necessarily systematically negative. In effect several cases demonstrate that they can be one of the key-players ensuring the success of co-management projects. When this happens, however, it is essentially the result of their own integrity and commitment, and frequently depends on the extent to which the co-management process has actively engaged with them.

These observations suggest that governments should recognize and define much more precisely the roles and responsibilities of traditional authorities in the decentralization process, and in particular in relation to natural resources management, being aware of the potential issues observed under the current decentralization experiences. In particular those existing mixed experiences underline the importance of establishing mechanisms of downward accountability. Until a minimum level of downward accountability is effectively embedded into the procedures, co-management projects will always depend on the personal commitment and capacities of few key actors, leaving the overall projects' fate –and its impact on the whole community- entirely in the hand of these actors.

8.2.4. Focus on implementation issues

Co-management –and more broadly governance reforms- are high in the agenda of most African countries. It would therefore be misleading to present the failure of co-management reforms as a consequence of lack of official political will. Co-management problems come essentially from an inability to support all the processes needed to allow genuine devolution (democratic decentralization). There is therefore an urgent need for academics to turn their attention toward the 'nitty-gritty', 'on-the-ground', and context-specific aspects of co-management implementation. While this has been highlighted many times, there is no 'one size fits all' and the success (or failure) of co-management programmes will essentially depend on local details: the integrity of the DoF local staff, the 'ethic' of the traditional leaders, the balance between the different groups of fishers (allochtone versus autochtone), the presence of local NGO, and in particular the pre-reform relationship between all these different groups and individuals.

These observations clearly call for policies and interventions which would aim at strengthening the organizational and institutional capacity of identified stakeholders, based on local situations, to enable them carry out their new institutional roles and responsibilities while ensuring effective coordination of the process. These interventions should include sensitization and training of stakeholders on resource and environmental management; administrative, financial management and leadership skills; and funding mechanisms to generate their own revenue to support co-management activities.

8.2.5. Promote participation, but more importantly ensure downward accountability

Enhancing the participation of fisheries end-users and other legitimate stakeholders in the decision making process of fisheries is a central element in these reforms. The involvement of these end-users is, in particular expected, to increase their sense of responsibility and ownership, thus facilitating the self-enforcement of the management system and in principle the 'sustainability' and equity of the system.

But 'participation' is not the panacea and "greater participation" will not ensure the success of co-management without being complemented by some forms of downward accountability. Since the involvement of every single fisherfolk (fishers,

traders, fish processors, etc.) in the decision making process (that is, direct democracy) is not possible as it would increase ad infinitum the transaction costs of the political process, participation of those legitimate stakeholders in the decision making process can only be achieved through representative governance. This is indeed what has been done in the majority of co-management projects through the creation of community-based organizations. What our research showed however is that, until these representatives are downwardly accountable to the rest of the stakeholders, any devolution of power to these representatives is likely to become a source of misuse and abuse. There is therefore an urgent need for national and local policy makers (but also NGOs and other project implementers) to focus on this issue of accountability and to create the appropriate institutional and legislative conditions and mechanisms to ensure the establishment of a systematic downward accountability environment in decentralization.

8.3. Socio-economic Analysis

In this section are briefly summarized the results of the analyses conducted on the role of small-scale fisheries in the livelihoods of rural populations in sub-Saharan Africa (outputs No.5).

The socio-economic studies were carried out in four major floodplains, two in the Chad Basin: Hadejia-Nguru (HN) Wetlands in North-East Nigeria and the Yaéres floodplain along the Logone river in North Cameroon; and two in the Zambezi Basin: the Kafue floodplain in central Zambia and the Lower Shire (LS) floodplain along the Shire river in South Malawi. The outcomes of these studies reveal some important similarities and differences in the socio-economic role of fisheries, analysis of which helps to understand the factors that determine their role in the livelihood of households and the policy direction that should be taken to improve these livelihoods.

8.3.1. Fishing contribution to household income

The four case studies illustrate the wide varieties of ways fishing contributes to the livelihood of households. In all four study areas, full time professional fishers are very few. In effect, the majority of households in HN, Yaéres and LS are primarily farmers who do fishing as a complementary activity. In Kafue, livestock rearing is the main activity for the majority of the households. In all areas, the probability of fishing is influenced by proximity to water-bodies, and is inversely related to amount of land in LS.

Overall, the studies indicate that fishing make a significant contribution to the total income of the households in all four areas, ranging from 16 – 29% of their total income. In three of the four study areas (Yaéres, Kafue and LS) this represents the second most important activity in terms of income. Off farm activities are minor in most areas, except in HN where they play the second role. A similar proportion of households engage in fishing in all four study areas (53- 66%). Fishing is however part of a highly seasonal and diversified portfolio of activities the organization of which is closely determined by the natural flood cycle.

8.3.2. Fishing as a risk management strategy

In HN and Yaéres, more in-depth econometric analyses suggest that fishing is done primarily for its income smoothing effect rather than its overall income effect. In fact households recognize that farming activity yields greater but highly volatile income (due in particular to large inter-annual variability) as opposed to fishing which yield lower but more continuous and predictable revenues. In Kafue, fishing is carried out by disenfranchised people who have migrated to the area in search of livelihood

opportunity, and is not traditionally carried out by the original inhabitants who are pastoralists. In sum, fishing acts as a risk-spreading (income-smoothing) strategy in Yaéres, LS and NH, whereas in the Kafue floodplain it plays more of a safety-net role for households originating from beyond the area.

8.3.3. *Role of fishing in poverty alleviation*

Comparisons with national poverty prevalence statistics reveal that households living in HN, Yaéres and Kafue floodplain are relatively better off than those in surrounding areas, probably because of a combination of cropping, livestock and fishery benefits provided by flooding. Within each area, fishing households are less poor than non-fishing households in HN, Yaéres and LS, but are poorer in Kafue. Nevertheless, all studies show that fishing reduces the incidence of poverty, and further analysis in HN and Yaéres suggests this particularly pertains to a reduction in *chronic* poverty.

From these various findings a series of lessons and recommendations can be drawn, that would help strengthening the contribution of the sector to the livelihood of rural populations.

8.3.4. *Policy recommendations*

Take a holistic, multi-sectoral approach to poverty alleviation and resource management. The four valuation studies reveal that poverty is prevalent in all the floodplains and households engage in diverse livelihoods strategies to reduce it. Many dimensions to poverty are prevalent in these areas (e.g. health, marginalization, gender etc.), besides income-related poverty. This finding has direct implications on how rural development programs should be designed for poverty reduction. Rather than focusing on a single sector such as fisheries alone, meaningful poverty reduction can only be realized with a multi-sectoral approach. There is therefore a greater need for fisheries department to engage in effective coordination with other sectors.

Define fishery objectives. When access to fisheries resource is *de facto* open access, fisheries can perform an important safety-net function, such as in the Kafue floodplain. In contrast when access is restricted, as it is the case in the Yaéres and Lower Shire floodplains, fisheries may generate greater economic returns for those who are entitled to access the resource. Households from the surroundings areas who may expect to rely on these fisheries as a safety net option when they experience shocks (e.g., harvest failure due to drought or pest outbreak) will however not be able to do so, and may have to migrate to other areas in search of opportunity (e.g. as it was observed in the Yaéres). There is therefore a trade-off between maximizing the aggregate revenues derived from fisheries through more restricted access and enabling use of the fishery as a safety net for vulnerable households through more permeable access arrangements. National policy needs to understand the need for this welfare function (the alternative being other forms of social welfare provision).

The choice of objective influences the general policy actions required. If one opts for a social objective, (to maximise distributional benefits and opportunity to perform welfare roles) it is necessary to recognise that people may enter the fishery as a copying strategy, and this situation needs to be accompanied by mechanisms to help people out of that situation. On the other hand, if one opts for an efficiency objective (to maximise the revenue of the fishery) it is necessary to encourage alternative livelihoods in order to provide other options for those who do not have access to the restricted fishery. In both cases (welfare versus maximization) interventions

supporting alternative livelihoods outside the sector are also necessary to reduce the pressure on the resource and conserve the stocks.

Support the accumulation of household non-fishing assets to encourage livelihoods diversification. In small-scale fishing communities, most households are poor because they possess few productive assets, which limits their ability to diversify their livelihoods and to generate enough income to escape chronic or even transient poverty. For example, in Kafue, many fishers who migrated to the area some years ago are still highly dependent on fishing, essentially because accumulation of land and livestock takes decades and requires social integration with indigenous communities. In other floodplains, livelihoods are already diverse, but lack of assets limits productivity. It is therefore recommended that rural development policies should aim at facilitating productive non-fishing asset accumulation by households. Policy measures could for instance, include increased access to credit, such as micro-lending systems. In countries or areas where communal land use right systems have led to inequitable access, such as in HN, such policies could include interventions aiming at increasing access to land by the poor and ensuring that existing land reform programmes reach the floodplain communities. The diversification of livelihoods can also be facilitated by promoting other income generating opportunities (see below).

Support fishing-related activities to add value. In areas where fresh fish fetches higher prices than dried or smoked fish, such as Logone, fishers in remote communities cannot realize the full potential value of their catches. To add value to the fisheries in such areas, and thus to improve the wellbeing of the population, there is need to raise the ability of fishers to market fresh fish. This could be achieved by:

- Improving the infrastructure (thus significantly decrease travel costs and time)
- Introducing more effective refrigeration techniques (e.g. supplying of ice boxes by traders)

In the vast majority of floodplains in Africa (including those in this research), access to electricity however is still limited. In those areas fish sun-drying and smoking are the only alternatives to conserve the highly perishable product that is fish. Processing facilities and techniques are however frequently inadequate or ineffective and often involve the application of pesticides (against insect attacks). Interventions aiming at improving these processing techniques and reducing pesticide are required would not only increase the value added of the fish commodity (and thus the income of the fishers/traders), but also help tackling food safety and health issues of primary importance in these areas.

Strengthen non-fishing livelihoods. Although floodplain households display diverse livelihood strategies, there is generally still high reliance on primary natural resource-based incomes, which puts households at considerable risk of environmental shocks. For example households rely primarily on farming in HN, L and LS, and livestock or fishing in Kafue. Although fishing households are better off in some areas, if access is limited or resources over-stretched there may be limited opportunity for fisheries to improve the lot of non-fishing households. Moreover, in Sub-Saharan Africa, particularly in the Sudano-Sahelian zone, climate conditions (mainly rainfall) have covariate effects on cropping, livestock and fishing: period of drought affects all these activities negatively. Hence, fisheries cannot adequately solve the intra-annual farming income variability problem. Inter-temporal management of financial and physical (non-fishing) capital is therefore a very central issue when dealing with dynamic welfare and risk analysis in these regions. Most households rely on liquidation of assets such as livestock to counterbalance the inter-annual variation in

crop production. This copying strategy leads however usually to substantial drop in the local (or even sometimes regional) livestock price, exacerbating the distress of these local populations.

Policy interventions should therefore aim to reduce the likelihood of crop failure in drought years through, for example, improved soil and water management, small-scale irrigation projects, or through the adoption of drought-resistant, early-maturing millet and sorghum varieties. These types of actions should be complemented by interventions that aim at offsetting or reducing the deflation of livestock prices during famine periods. In addition, alternative activities should be promoted to complement the seasonal and/or inter-annual income patterns of farming and fishing, in order to reduce the pressure on the resource, smooth income variation and increase income. These could include:

- Non-agricultural employment. Increased returns to off-farm activities have been shown to reduce fishing effort and hence may help to alleviate the pressure on the exploited fish stocks
- Introduction of aquaculture initiatives which may significantly improve the food security situation and reduce the inter-temporal variation in income through constant supply of fish, independent of the inter-annual variation in precipitation and hence the water level in the water bodies.

Improve understanding of socio-ecological systems. Overall, the four socio-economic studies implemented in the project have improved substantially our understanding of the socio-ecological functioning of floodplain systems, but it also highlighted that there are still major gaps in information and understanding. These gaps include understanding of long term patterns and inter-annual variability and risks, and linkages between socio-economic systems, ecosystem functioning and management systems. A great deal of research is still necessary to reach a full understanding about the sustainability (and resilience) of these socio-ecological systems. Efforts should be made to monitor people's livelihoods and wellbeing as well as the resource dynamics and its use. This should be done as a collaborative effort between fisheries and agricultural departments and statistical and planning offices that deal with welfare.

8.4. Auto-evaluation

Nine out of the 10 outputs that were listed in the initial proposal were completed and delivered in time. The results of 6 of them have been summarized in the paragraphs above (outputs No.1, 2, 3, 5, 6 and 7). The 4 others are outputs No.4, 8, 9, and 10.

Output No.8 (strengthening of professional network between the NARS partners within and between the two basins) has been also achieved successfully, essentially through the series of 7 meetings, workshops and communication exchanges that took places during the project. Similarly, outputs No.9 (16 African professionals trained in economic valuation techniques and governance and policy processes analysis) was completed (the target number was actually exceeded, as evidenced by the list of participants to the two training workshops that were organised -see Appendix 6).

Output No.10 (at least 3 articles submitted to international peer-reviewed journals) has been also largely exceeded since 10 articles have been published and/or submitted (cf. section 15 and Appendix 5). Some of these articles were submitted to

high ranked journals such as *Journal of Development Studies*, *World Development* or *Food Policy*.

The only initial output that was not delivered is the output No.4 “ex-ante assessment of the impact of improved governance and valuation information on fisher livelihoods”. The main reason for this was the heavy workload that was already imposed on the partners at the time this outputs was supposed to be delivered. Realistically this additional analysis could not have been conducted without potentially jeopardizing the successful completion to the field work. As the delivery of output No.4 was not critical to the rest of the project, it was dropped out.

Overall, the implementation of the project is regarded by the partners and the project coordinator as highly positive and successful. All the reports, outputs and deliverables were completed in time, in line with the timeframe agreed initially by the team. The 6-month non-cost extension that has been requested in January 2009 was used by the partners –and in particular the PhD students and their supervisors- to invest more quality time in the analysis of the data. Overall the scientific outputs generated by the project are of high quality, as evidenced by the top journals where the main scientific articles synthesizing the project findings have been submitted or accepted.

Three national-level feed-back meetings (which were not included in the initial workplan), were organized respectively in Cameroon, Nigeria, and Malawi during the last few weeks of the project. The decision (by the NARS) to organize these meeting is to be seen as an additional evidence of the satisfaction of the partners with the project results and their willingness to share and disseminate as widely as possible the main conclusions of the project within their countries.

9. Implications of Research findings

The outputs of the project have been designed, articulated, and written to be specifically pertinent to policy-makers, planners, scientists and international development agencies concerned with fisheries, natural resources management, poverty reduction, rural development and food security in the two basins (Lake Chad Basin and Zambezi River Basin).

At the level of the research institutes involved in the project (CG-center, ARIs, collaborating NARS and German partners), the different results are of high relevance for some of their current research agenda. The importance of documenting the various roles and functions that small-scale fisheries play in relation to the livelihood of rural population is for instance a high priority for the WorldFish Center, in particular in the context of the current restructuring of the CGIAR, but more globally for any research institution (national and/or international) or non-governmental organization concerned by issues related to these small-scale fisheries. One of the major current limitations in this sector is indeed the lack of data and information.

The socio-economic data collected through the field work in North-East Nigeria, North Cameroon, central Zambia and South Malawi will be critical to illustrate and document more rigorously the functions that small-scale fisheries play in the household economy of these regions. This improved documentation and enhanced understanding of the role of small-scale fisheries is expected to help researchers (both at national and international level) to raise the profile of small-scale fisheries in the current academic debates on water management, poverty reduction strategies

and, more generally, rural development from which they have been so far largely excluded.

In combination with this improved understanding of the importance of small-scale fisheries in the livelihood of the local households, the in-depth analysis of fisheries policy processes in relation to co-management and within the wider context of decentralization is also expected to help local and national decision-makers to improve the way the fishery sector is integrated (or at least accounted for) in other sectors such as agriculture and/or rural development planning.

10. Knowledge Transfer

Given the lack of recognition of small-scale fisheries in the academic spheres, one of the priorities of the project was to generate quality research outputs through, in particular, scientific publications. The reason for this strategy was the recognition that publication in top (development or agriculture economics) journals is a very powerful way to bring to the front issues that will then be 'picked up' by other academics, and progressively included in important debates such as poverty reduction, rural development or decentralization.

Overall, 10 articles have been submitted to peer-reviewed journals at this stage and one book chapter published. It is expected that other articles will be submitted in the coming months. As mentioned earlier some of the journals which were targeted are high profile, international, journals.

In addition to quality publication, the project also paid close attention to maximize the dissemination of the scientific work through other channels. Every major scientific output derived from research activities (methodological or analytical work) was turned into a project report. Thus the project produced a series of 27 reports and working papers, and 10 papers presented at various international conferences. All these materials have further been made available to through a website specifically created for this purpose:

http://www.worldfishcenter.org/wfcms/SSFvaluation_and_governance/

11. Training

From the planning stage, training and capacity building had been identified as key outputs of the project and a specific output (output No.9) had been associated with this capacity building objective. This was the training of NARS partners and other relevant actors to economic valuation techniques. Two technical workshops were organized, one in Nigeria (with NARS participants from both Nigeria and Cameroon), and one in Malawi with NARS participants from Malawi. In total 27 researchers and/or fisheries managers benefited from these two training workshops which focused on techniques of economic valuation in the specific context of small-scale fisheries (see Appendix 5).

Three PhD students were funded by the project and completed their field work and data analysis as part of the project's socio-economic component. Two of them have already successfully defended their thesis while the third one is expected to defend it in the coming months. Two of these PhD students are from Africa.

The NARS partners were closely involved in the stakeholder, policy and governance analyses, both in the field (survey) and in the subsequent analysis and writing steps.

Their involvement in the research allows them to greatly increase their analytical skills and knowledge on these different domains. It also offered them the possibility to assess their own country's national policy system and by so doing provided them with stronger ability and information to engage in future debates related to fisheries policy issues. They were encouraged to value their own research works through individual publication (Ovie et al, 2007; Njaya 2008; Njaya et al., submitted).

Finally the local staff of the NARS were closely involved in the PhD students' research, in particular in Nigeria and Cameroon where they contributed to the preparation and completion of the household questionnaires and the subsequent socio-economic analysis. This 'on-the-job' training offered them the opportunity to gain more experience in these important domains.

12. Lessons learned

The lessons learned from an academic/research point of view have been summarized in section 8 of this report. They are presented in a more elaborated discussion in the Policy Recommendation document (Output No.1).

Scientifically the project has been positive. All the objectives have been achieved or exceeded and positive feedbacks have been received from the NARS partners during the wrap-up meeting. The work has been highly collaborative as evidenced by the number of scientific papers co-authored by ARIS and NARS.

From a project management point of view as well, the project has been assessed positively (by the different partners). All milestones have been completed in time and no major issues have impeded the smooth running of the project.

Three non-cost extensions have been however requested in the course of the project implementation time:

- one at the very beginning of the project as the project activities effectively started in January 2006 (i.e. 6 months after the official starting date) due essentially to the delay induced by the signatures of the MoUs between all partners and WorldFish;
- one in the last year of the project (2009), when the partners and in particular the ARIs supervising the PhDs realized that the PhD students could greatly benefit from additional time to fully analyse the data; and
- one last one-month extension at the end of the project as the NARS partners expressed the willingness to organise national feedback meetings. As these had to take place after the final wrap up meeting, the project partners requested an additional period of one month to plan and implemented these feedback meetings.

All these non-cost extensions were accepted by BMZ after due justification from the project partners. This 'flexibility' greatly facilitated the smooth implementation of the project and certainly contributed to the successful and high quality of the overall outcome.

From an 'internal' management point of view (i.e. relations between partners), the only modification which perhaps could have been considered relates to the budget of the PhD students' fieldwork. In the original organization of the budget, the sums allocated to cover the PhDs' fieldwork activities were transferred through the NARS

budgets. This decision sounded initially 'logical' as these activities were to take place with the NARS cooperation in their countries (Cameroon, Nigeria, Malawi and Zambia). An indirect consequence of this, however, has been that the PhD students became rapidly almost entirely dependent from the NARS, since the money to cover their field work was to be disbursed through these NARS' budget. No major issue emerged as the collaborations between the NARS partners and the PhD students were harmonious, but it could have led to difficulties or delay in the implementation of the PhD students' work. In our case this situation put extra stress on both parties and in particular the NARS collaborators who had to do their best to ensure a timely release of the fieldwork budget despite their low administrative and financial capacities/resources.

An alternative strategy would have been to allocate the PhDs' field fieldwork budget to the ARI universities where the PhD students are enrolled. This would have led however to a smaller NARS's share of the overall budget.

13. Future Research Needs

Although the project was successful in 'probing' into the question of the contribution of small-scale fisheries to the livelihoods of households who engage in the sector, the research completed here reveals only the 'top of the iceberg'. It does confirm some of the conclusions reached by the (too few) other quantitative socio-economic analyses implemented in the small-scale fisheries sector in developing countries. It shows in particular the critical role that small-scale fisheries can play as a source of cash in household economy, even for those who would define themselves as farmers. But these answers are incomplete and patchy. To take one example, results in section 8.3.2 above revealed how fishing can act as a risk-spreading (income-smoothing) strategy –such as in the Yaéres, or the Lower Shire areas-, whereas in some other places -such as the Kafue- it seems instead to play more of a safety-net role for households. What factors make the same activity play different role within the economy of households is yet to be understood? Similarly, our research highlights the importance of distinguishing between chronic poverty and transient poverty, but does not bring any definite answer on this question and in particular on the role that small-scale fisheries could play in these dynamics.

In sum, there are therefore still many questions that remained unanswered and the research completed in this project only 'scratched the surface of the problem'.

14. Summary

Policy assessment and evaluation is often problematic. In the case of decentralisation reform, this broad term can include a wide range of scales and processes which are often country specific. In our case, the policy analyses reveal that in the countries of the Lake Chad Basin and Zambezi River Basin, fisheries national policies have been shaped by different narratives, culminating with the Poverty Reduction Strategies Papers (PRSPs). Despite this progression, there are still difficulties in integrating and operationalising relevant objectives. In general the analysis reveals the lack of policy coherence with reference to objectives and implementation approaches, and the need to ensure a greater degree of harmonisation between relevant institutions. As a consequence, the analysis also shows that fishing livelihoods are rarely taken into account in national development policies.

In a parallel approach, the governance analysis evidenced how poorly integrated small-scale fisheries and co-management reforms are in the general decentralization process. Inland fisheries are often overlooked by national and local decision-makers, resulting in the marginalization of fishing communities. The analysis also shows that co-management reforms have complexified the already hybrid and composite local governance system prevalent in Africa. Co-management has in particular increased the number of modern, as well as traditional local actors who are now competing, conflicting or colluding to capture part of the power and revenues generated by fisheries resources.

Enhancing the participation of fisheries end-users and other legitimate stakeholders in the decision making process of fisheries is a central objective of co-management reforms. The project analysis confirms however that participation is not the panacea and “greater participation” will not ensure the success of co-management without being complemented by some forms of downward accountability. There is therefore a need for national and local policy makers to create the appropriate conditions and mechanisms to ensure the establishment of a systematic downward accountability in decentralization and co-management reforms.

The socio-economic studies reveal that poverty level is high in all the floodplains included in the project and that households engage in diverse livelihoods strategies in an attempt to reduce its impact. Many dimensions to poverty are prevalent in these areas (e.g. health, marginalization, gender etc.), besides income-related poverty.

Comparisons with national poverty prevalence statistics reveal however that households living in three of the four areas surveyed (Hadejia-Nguru wetlands, Yaéres and Kafue floodplain) are relatively better off than those in surrounding areas, probably because of a combination of cropping, livestock and fishery benefits provided by flooding. Within each area, fishing households are less poor than non-fishing households in the Hadejia-Nguru wetlands, Yaéres and Lower Shire, but are poorer in Kafue. Nevertheless, all studies show that fishing reduces the incidence of poverty, and further analysis in Hadejia-Nguru wetlands and Yaéres suggests this particularly pertains to a reduction in *chronic* poverty.

Amid this poverty and destitution, the analyses also illustrate the wide varieties of ways fishing contributes to the livelihood of households. Fishing is in fact part of a highly seasonal and diversified portfolio of activities the organization of which is closely determined by the natural flood cycle. Overall, the studies indicate that fishing make a significant contribution to the households’ total income in the four areas surveyed. In three of these areas fishing represents the second most important activity in terms of income.

15. Publications, Papers and Reports

Scientific Articles (peer reviewed) –alphabetical order

1. Béné C 2008. Assessing economic vulnerability in fishing communities. *Journal of Development Studies* 45(6): 911-933.
2. Béné C., Belal E., Baba M.O., Ovie S., Raji A., Malasha I., Njaya F., Na Andi M., Russell A., and Neiland A. 2010. Power competition, conflicts and alliances at local level: analysing ‘democratic’ decentralization of natural resources through the lenses of Africa inland fisheries. *World Development* (in press)

3. Chiwaula, L.S., R. Witt and Waibel H., 2010. An asset-based approach to vulnerability: The case of small scale fishing areas in Cameroon and Nigeria. *Journal of Development Studies* (in press)
4. Chiwaula L.S. and H. Waibel. Income shocks and their consequences on food and non-food consumption in fishery-dependent communities in Nigeria. Submitted to *Food Policy*
5. Lewins R., Neiland A.E., Belal E, Baba M., Na Andi M., Makadassou A., Abbagana M., Ovie S., Raji A. Njaya F., Donda S., and Béné C. African Inland Fisheries: Experiences with co-management and decentralisation. Submitted to *Development Southern Africa*
6. Njaya, F.J. 2008. Participatory fisheries management revisited. *Samudra* 49: 29-34.
7. Njaya, F.J., Donda, S.J. and Béné, C. Power analysis of fisheries co-management in Malawi submitted to *Society and Natural Resources*
8. Ovie S., Raji A., Ladu B, Tafida A. 2007. Characterization of key stakeholders in the Konadugu Yobe Basin of Lake Chad, Nigeria. *Journal of Arid Zone Fisheries* 2(2)
9. Witt, R. and Waibel H. Climate risk and farming systems in rural Cameroon. Submitted to the *African Journal of Agricultural and Resource Economics*
10. Witt, R., D.E. Pemsil and Waibel H., 2010. Collecting data for poverty and vulnerability assessment in remote areas in Sub-Saharan Africa. *Survey Methodology* (in press)

Book Chapter

1. Béné C., 2009. Governance and decentralization reforms in small-scale fisheries – an African perspective. In Wramner P., M. Cullberg and H. Ackefors (eds.): *Fish, Sustainability and Development*, The Royal Swedish Academy of Agriculture and Forestry, Stockholm, 253-266.

Working Paper

1. Chiwaula, L., 2007. Poverty dynamics and vulnerability in small-scale fishing communities of the Komadugu-Yobe Basin in Nigeria. Working Paper, Development and Agriculture Economics, University of Hannover, Leibniz, Germany, 27 p.
2. Lewins, R. and Neiland, A.E. 2009. African Inland Fisheries: A Review of Policy and Development Approaches since 1960. Working Paper. 31 p.
3. Lewins, R. and Neiland, A.E. 2009. African Inland Fisheries: Experiences with Co-Management and Decentralisation. Working Paper. 22 p.
4. Neiland, A.E. 2009. African Inland Fisheries: Towards Policy Reform. Working Paper. 30 p.
5. Chiwaula L.S. and H. Waibel (2009): "Impact of timing and frequency of surveys on the precision of vulnerability estimates: a case study from the Hadejia-Nguru Wetlands in Nigeria." Working paper, Leibniz University of Hannover, Germany
6. Chiwaula L.S. and H. Waibel (2009): "Assessing seasonal vulnerability to consumption poverty in the Hadejia-Nguru Wetlands in Nigeria". Working paper, Leibniz University of Hannover, Germany
7. Chiwaula L.S. and H. Waibel (2009): "Household livelihood choices in rural fishing communities: Insights from time allocation decisions in the Hadejia-Nguru Wetlands". Working paper, Leibniz University of Hannover, Hannover, Germany
8. Witt, R. and Waibel, H. (2009): "Lower Partial Moments as a Measure of Vulnerability to Poverty in Cameroon." Working paper, Leibniz University of Hannover, Hannover, Germany

Conference Proceedings

1. Béné C., Belal E., Baba M.O., Malasha I., Njaya F., Ovie S., Raji A., Na Andi M, 2008. Governance and decentralization in small-scale fisheries: an African perspective. Paper presented at the Bi-Annual Conference of the International Institute of Fisheries Economic and Trade (IIFET) in Nha Trang Vietnam (22-25 Jul 2008).
2. Chiwaula, L.S, Witt, R., Waibel, H., Béné, C. and Pems, D.E (2009): "Livelihood choices, diversification and poverty in fisheries dependent communities in Cameroon and Nigeria." Poster presented at Deutscher Tropentag 2009, October 6-8, Hamburg, Germany
3. Chiwaula, L.S. and H. Waibel, 2008. "Risks, shocks and their impact in small scale fishing communities of Hadejia-Nguru Wetlands in Nigeria". presented at the 6th European Development Research Network (EUDN) PhD Seminar at University of Goettingen, Germany, 17-18 October 2008
4. Chiwaula L.S. and H. Waibel (2009): "Risks, shocks and their impact in small scale fishing communities of Hadejia-Nguru Wetlands in Nigeria." Paper presented at Annual conference for Verein für Socialpolitik Ausschuss für Entwicklungsländer, Frankfurt, Germany, 26-26 June 2009.
5. Njaya F., Donda, S. and Béné C. 2008. "Power contestation and alliances: analysis of local actors' strategies to capture co-management reforms in Malawi". Paper presented at the Bi-Annual Conference of the International Institute of Fisheries Economic and Trade (IIFET) in Nha Trang Vietnam (22-25 Jul 2008).
6. Witt, R., Chiwaula, L.S., Béné, C., Waibel, H. and Pems, D.E (2006): "Methodology for Economic Valuation of Food Security and Vulnerability to Poverty for Inland Fisheries in Africa." Poster presented at Deutscher Tropentag 2006, October 11-13, Bonn, Germany
7. Witt R., Chiwaula L. and Waibel H. 2009. Vulnerability and household livelihoods in small scale fishing areas in Africa: An asset-based approach, submitted for presentation at the International Conference of Agricultural Economists, Beijing August 2009
8. Witt, R. Chiwaula, L.S. and H. Waibel (2009): "Vulnerability and household livelihoods in small scale fishing areas in Nigeria and Cameroon - An asset-based approach." Poster presented at the German Association of Agricultural Economists Conference, Sept 30 – Oct 3, Kiel, Germany
9. Witt, R. Chiwaula, L.S. and H. Waibel (2009): "Vulnerability and household livelihoods in small scale fishing areas in Nigeria and Cameroon - An asset-based approach." Paper presented at the Inaugural Conference of the Courant Research Centre 'Poverty, Equity and Growth', July 1-3, Göttingen, Germany
10. Witt, R., Pems D.E. and Waibel H. "Small-scale inland fisheries in Africa: How to collect data for poverty assessment?" Paper presented at the Annual Conference of Verein für Socialpolitik, Research Committee Development Economics, May 30-31, 2008 Zurich, Switzerland.

Project reports

Methodology

1. Béné C., Governance Analysis Preparatory document, WorldFish Center, April 2006, 6 p.
2. Béné C., Governance Analysis Framework, WorldFish Center, May 2006, 7 p.
3. Neiland A.E., Policy Analysis Framework, IDDRA, May 2006, 9 p.

Stakeholder Analysis – country level report

1. Na-Andi M.T. et Makadassou A. Rapport de l'enquête sur l'analyse des acteurs de la pêche dans la partie nigérienne du bassin du Lac Tchad. Ministère de

- l'hydraulique de l'environnement et de la lutte contre la désertification, direction de la faune de la pêche et de la pisciculture République du Niger, Avril 2006, 22 p. (Document in French)
2. Belal E et Baba M. Résultats de l'analyse des acteurs de la pêche dans le bassin du lac Tchad (Cameroun). Ministère de l'Élevage, des Pêches et des Industries Animales direction de la pêche et de l'aquaculture, May 2006, 8 p. (Document in French)
 3. S.I. Ovie, B.M.B. Ladu and A. A. Tafida. Characterization of Key Fisheries Stakeholders and the Impact of Fisheries on Livelihoods in the Komadugu-Yobe Basin of Lake Chad. National Institute for Freshwater Fisheries Research, New Bussa,, Nigeria, May 2006, 45 p.

Governance analysis – country level

1. Belal E. et Baba M., Etude sur l'analyse de la gouvernance des pêches au Cameroun. Ministère de l'Élevage, des Pêches et des Industries Animales direction de la pêche et de l'aquaculture, 36 p. (Document in French)
2. Makadassou A., Harouna G., Gonda M. et Na-Andi M.T. Rapport de l'enquête sur l'analyse de la politique et de la gouvernance de la pêche au niveau central. Ministère de l'hydraulique de l'environnement et de la lutte contre la désertification, direction de la faune de la pêche et de la pisciculture République du Niger, Oct 2006, 39 p. (Document in French)
3. Malasha I., 2007. The governance of small-scale fisheries in Zambia. WorldFish Center, Lusaka, Zambia, 26 p.
4. Njaya, F.J., Donda, S.J. and Banda, M. 2007. Fisheries governance in Malawi. Department of Fisheries, Mangochi, Malawi, 14 p.
5. Ovie S. I., Raji A. Fisheries Governance Analysis in Nigeria and in the Komadugu-Yobe Basin (KYB) of the Lake Chad Basin, Nigeria, Oct. 2006, National Institute for Freshwater Fisheries Research, New Bussa, Nigeria, 32p.

Policy analysis – country level

1. Belal E. et Baba O., Etude sur l'analyse des politiques des pêches dans le Bassin du Lac Tchad (Cameroun). Ministère de l'Élevage, des Pêches et des Industries Animales direction de la pêche et de l'aquaculture, 31 p. (Document in French)
2. Donda S., and Njaya F., 2007. Fisheries co-management in Malawi: analysis of the underlying policy process. Department of Fisheries, Lilongwe Malawi, 41 p.
3. Na-Andi M.T. et Makadassou A. Rapport de l'étude sur l'analyse de la politique de pêche dans la partie nigérienne du bassin du Lac Tchad, Ministère de l'hydraulique de l'environnement et de la lutte contre la désertification, direction de la faune de la pêche et de la pisciculture République du Niger, Oct 2006, 39 p. (Document in French)
4. Raji A. and Ovie S. I. Fisheries co-management in Nigeria: an analysis of the underlying policy process. National Institute for Freshwater Fisheries Research, New Bussa, Niger State, Nigeria, Dec. 2006, 41 p.

Training reports and Technical Guideline

1. Socioeconomic analysis and valuation of small-scale fisheries in the Lower Shire and Kafue floodplains. Report of the Training workshop organised in Liwonde Malawi 4-5 Dec 2008, 12 p.+ Annexes
2. Socioeconomic analysis and valuation of small scale fisheries. Report of the training workshop organized in Maiduguri, Nigeria 14-15 Nov 2008, 55 p.
3. Chiwaula L., and Witt R. 2010. Technical Guidelines for the Economic Valuation of inland small-scale fisheries in developing countries, with input from Béné C., Ngoma P., Turpie J. and H. Waibel. Report for the project "Food security and poverty alleviation through improved valuation and governance of river fisheries in Africa" (WorldFish Center, Penang, Malaysia, 40 p.

Synthesis reports and Policy Recommendation Document

1. Béné C., Russell, A, Belal E., Baba M.O., Malasha I., Njaya F., Ovie S., Raji A., Na Andi M, Governance reforms: a review of small-scale inland fisheries experiences in Lake Chad and Zambezi Basins. Synthesis Report. WorldFish Center Regional Offices for Africa and West Asis, Cairo Egypt, 35 p.
2. Neiland A.E., Lewins, R., Belal E., Baba M.O., Na Andi M, Ovie S., Raji A., Njaya F., Donda S. Policy Analysis: Lake Chad and River Zambezi Basin, Synthesis Report Final draft. IDDRA, Portsmouth UK, 78 p.
3. Béné C., Baba M., Belal E., Chiwaula L., Na Andi M., Neiland A., Ngoma P., Njaya F., Ovie S., Raji A., Turpie J., Waibel H., and Witt R. 2010. Small-scale inland fisheries in sub-Sahara Africa: a policy recommendation document to support their contribution to rural development and strengthen their integration in decentralized governance, WorldFish Center, Penang, Malaysia, 14 p.

PhD Thesis

1. Chiwaula L.S. (2009): "Poverty, vulnerability and livelihoods in small scale fishing communities in Nigeria. Submitted PhD thesis. Leibniz University of Hannover, Hannover, Germany.
2. Ngoma, P. (in preparation): "The Welfare Value of Inland Small-scale Floodplain Fisheries of the Zambezi River Basin" PhD Thesis. University of Cape Town, Rondebosch, South Africa.
3. Witt, R. (2009): "Assessing vulnerability to poverty in fishery dependent communities in Cameroon". PhD thesis. Leibniz University of Hannover, Hannover, Germany.

List of Appendixes

- Appendix 1: Policy Recommendation Document (Project Output 1)
- Appendix 2: Governance Analysis Report (Project Output 2)
- Appendix 3: Policy Analysis Report (Project Output 3)
- Appendix 4: Technical Guidelines for economic valuation of small-scale fisheries (Project Output 7)
- Appendix 5: Peer reviewed Papers (published or in press) (Project Output 10)
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**Appendix 1: Policy Recommendation Document
(Project Output 1)**

FOOD SECURITY AND POVERTY ALLEVIATION THROUGH
IMPROVED VALUATION AND GOVERNANCE
OF RIVER FISHERIES
IN AFRICA

**Small-scale inland fisheries in sub-Saharan Africa:
A policy recommendation document
to support their contribution to rural development
and strengthen their integration in decentralized governance**

Lessons from a Research Project
in Lake Chad Basin and Zambezi River Basin

February 2010

For further information, contact

Fish for All

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1. Introduction and background

Today, 56 million people (amongst which 54% are women) are directly involved in inland small-scale fisheries in the developing world. For these people, fishing and related post-harvest activities (i.e. fish processing and fish trading) can contribute in a critical way to their livelihood. Widely dispersed and easily accessible to marginal communities, inland fisheries provide in particular a vital source of income and nutrition to a large part of the rural population living in the vicinities of freshwater-bodies (lakes and reservoirs, rivers, seasonal and/or perennial ponds, floodplains and wetlands). In addition, small-scale inland fisheries have also been shown to be an essential component of the informal welfare mechanisms still widely functioning in African rural societies. When other local economic activities are collapsing or have been eroded by the general macro-economic context, small scale fisheries often provide a livelihood safety-net for the most vulnerable households. Finally, fish are a vital for the nutritional and food security of the low income households, as staples such as rice, wheat, maize and cassava, which constitute most of the food consumed by these low-income people, lack such nutrients as iron, iodine, zinc, calcium and vitamins A and B.

Despite these crucial roles in relation to such central issues as rural development, poverty alleviation, or food security, inland fisheries in Africa are largely neglected by existing government decision-making processes. This marginalization is especially acute for river fisheries for two main reasons: First, the lack of information regarding these fisheries, and in particular, data on their comprehensive socio-economic values; second, the geographical and political isolation that affect the majority of the rural communities living along Africa's rivers. In effect, all too often the majority of these communities are totally excluded from any involvement in policy-making processes or planning.

The main objective of the project "Food security and poverty alleviation through improved valuation and governance of river fisheries in Africa" was to address those key issues in two important regions of sub-Saharan African inland fisheries: the Lake Chad Basin and the Zambezi River Basin. The overall purpose of the project was to strengthen the capacity of local and national decision-makers in these regions to develop and implement improved governance and policy reforms that sustain river fisheries and enhance their contribution to poverty alleviation and national food security. Within this framework a particular theme of the project was to understand and assess how improved valuation information could contribute to this purpose. To reflect these objectives, the project was articulated around three main components:

- A **socio-economic** component, the objective of which was to document and quantify the various socio-economic roles that small-scale inland fisheries can play in the livelihood of rural local populations engaged in the activity.
- A **policy analysis** component, where the main objective was to review and assess the current national fisheries policy processes in the countries of the Lake Chad Basin and the Zambezi River Basin and to identify options for policy change and improvements.

- A **governance analysis** component, where the main objective was to explore and assess the changes that have been taking place in the recent years in fisheries governance, as a consequence of the implementation of increasing numbers of fisheries co-management and decentralization reforms.

2. Purpose and structure of the document

For each of these 3 components, the main findings and lessons have been documented and presented in various project documents and/or scientific articles. The purpose of the present report is to draw upon these different findings and to propose a set of concrete policy recommendations in line with the general objective of the project: reduce poverty in small-scale inland fisheries dependent communities.

These recommendations have been articulated in two parts; the first part presents both the main findings of the socio-economic analysis and the subsequent policy recommendations that are derived from these main findings. By the nature of the issues they address and the research from which they emerge, these recommendations concern policies directly relevant for household-level interventions (e.g., interventions aiming at reducing household vulnerability). The second section draws together the conclusions of the project's policy and governance research components, and offers a set of recommendations which are mainly relevant at a 'higher' level (i.e. communities, district, provincial, national, or sectoral and/or cross-sectoral).

The targeted audience for this policy recommendation report are government agencies and line-ministries involved in the decision-making process and planning of small-scale fisheries sectors at national, provincial and/or district/local level; national and international research organizations, universities, practitioners and non-governmental organizations engaged in interventions and/or research related to small-scale inland fisheries, but also more widely to rural development and poverty alleviation.

3. Socio-economic analysis

3.1. Background of the study and main results

The socio-economic studies were carried out in four major floodplains, two in the Lake Chad Basin: the Hadejia-Nguru wetlands (HNWW) in North-East Nigeria and the Yaéres floodplain along the Logone river in North Cameroon; and two in the Zambezi River Basin: the Kafue floodplain in southern province of Zambia and the Lower Shire floodplain (LSFF) along the Shire river in southern region of Malawi. The outcomes of these studies reveal some important similarities and differences in the socio-economic role of fisheries, analysis of which helps to understand the factors that determine their role in the livelihood of households and the policy direction that should be taken to improve these livelihoods.

Fishing contribution to household income

The four case studies illustrate the wide varieties of ways in which fishing contributes to the livelihood of households. In all four study areas, full time professional fishers are only one group linked to fisheries. In effect, the majority of households in HNWW,

Yaéres and LSF are primarily farmers who do fishing as a complementary activity whereas in Kafue, livestock rearing complements fishing activity. In all areas, the probability of fishing is influenced by proximity to water-bodies, and is inversely related to amount of land and livestock in Kafue and LSF.

Overall, the studies indicate that fishing makes a significant contribution to the total income of the households in all four areas, ranging from 16 – 29% of their total income. In Kafue, it contributes as much as 50% to total household income per month and is the main source of household income. In two of the four study areas (Yaéres and LSF) fishing represents the second most important activity in terms of income. Off farm activities are minor in most areas, except in HNW where they play the second most important role.

Fishing as a risk management strategy

A similar proportion of households engage in fishing in all four study areas (53-66%). Fishing is however part of a highly seasonal and diversified portfolio of activities the organization of which is closely determined by the natural flood cycle.

In HNW and Yaéres, more in-depth analyses suggest that fishing is done primarily for its income smoothing effect rather than its overall income effect. In fact households recognize that farming activity yields greater but highly volatile income (in particular due to large inter-annual variability) as opposed to fishing which yields lower but more continuous and predictable revenues. In Kafue, fishing is mainly carried out by disenfranchised people who have migrated to the area in search of livelihood opportunity, and is not traditionally carried out by the original inhabitants who are mainly pastoralists. In sum, fishing acts as a risk-spreading (income-smoothing) strategy in Yaéres, LSF and NH, whereas in Kafue it plays more of a safety-net role for households originating from beyond the area.

Role of fishing in poverty alleviation

Comparisons with national poverty prevalence statistics reveal that households living in HNW, Yaéres and Kafue floodplain are relatively better off than those in surrounding areas, probably because of a combination of cropping, livestock and fishery benefits provided by flooding. Within each area, fishing households are less poor than non-fishing households in HNW, Yaéres and LSF, but are poorer in Kafue. Nevertheless, all studies show that fishing reduces the incidence of poverty, and further analysis in HNW and Yaéres suggests that this particularly pertains to a reduction in *chronic* poverty.

3.2. Policy recommendations

From these various findings a series of lessons and recommendations have been drawn, that could help strengthening the contribution of the sector to the livelihood of rural populations.

Take a holistic, multi-sectoral approach to poverty alleviation and resource management. The four valuation studies reveal that poverty is high in all the 4 areas considered and that households engage in diverse livelihoods strategies to reduce their exposure to it. Many dimensions to poverty are prevalent in these areas (e.g. health, marginalization, gender etc.), besides income-related poverty. This finding has direct

implications on how rural development programs should be designed for poverty reduction. *Rather than focusing on a single sector such as fisheries alone, meaningful poverty reduction can only be realized with a multi-sectoral approach. There is therefore a greater need for fisheries departments to engage in effective coordination with other sectors.*

Define fishery objectives. When access to fisheries resource is *de facto* open access, fisheries can perform an important safety-net function, such as in the Kafue floodplain. In contrast when access is restricted, as it is the case in the Yaéres, fisheries may generate greater economic returns for those who are entitled to access the resource. Households from the surroundings areas who may expect to rely on these fisheries as a safety net option when they experience shocks (e.g., harvest failure due to drought or pest outbreak) will however not be able to do so, and may have to migrate to other areas in search of opportunities (e.g. as it was observed in the Yaéres). *There is therefore a trade-off between maximizing the aggregate revenues derived from fisheries through more restricted access and enabling use of the fishery as a safety net for vulnerable households through more permeable access arrangements. National policy needs to understand the need for this welfare function (the alternative being other forms of social welfare provision).*

The choice of the fisheries management objective influences the general policy actions required. If one opts for a social objective, (to maximise distributional benefits and opportunity to perform welfare roles) it is necessary to recognise that people may enter the fishery as a coping strategy, and this situation needs to be accompanied by mechanisms to help people out of that situation. On the other hand, if one opts for an efficiency objective (to maximise the revenue of the fishery) it is necessary to encourage alternative livelihoods in order to provide other options for those who do not have access to the restricted fishery. In both cases (welfare versus maximization) interventions supporting alternative livelihoods outside the sector are also necessary to reduce the pressure on the resource and conserve the stocks.

Support the accumulation of households' non-fishing assets to encourage livelihoods diversification. In small-scale fishing communities, most households are poor because they possess few productive assets, which limits their ability to diversify their livelihoods and to generate enough income to escape poverty. For example, in Kafue, many fishers who migrated to the area some years ago are still highly dependent on fishing, essentially because accumulation of land and livestock takes decades and requires social integration with indigenous communities. In other floodplains, livelihoods are already diverse, but lack of assets limits productivity. *It is therefore recommended that rural development policies should aim at facilitating productive non-fishing asset accumulation by fishing households.* Policy measures could for instance, include increased access to credit, such as micro-lending systems. In countries or areas where communal land use right systems have led to inequitable access, such as in HNW, such policies could include interventions aiming at increasing access to land by the poor and ensuring that existing land reform programmes reach the floodplain communities. The diversification of livelihoods can also be facilitated by promoting other income generating opportunities (see below).

Support fishing-related activities to add value. In areas where fresh fish fetches higher prices than dried or smoked fish, such as the Logone river area, fishers in remote communities cannot realize the full potential value of their catches. To add value to the fisheries in such areas, and thus to improve the wellbeing of the population, there is need to raise the ability of fishers to market fresh fish. This could be achieved by:

- Improving the infrastructure (thus significantly decrease travel costs and time)
- Introducing post-harvest losses technologies, for example more effective refrigeration techniques (e.g. supplying of ice boxes by traders).

In the vast majority of floodplains in Africa (including those in this research), access to electricity however is still limited. In those areas fish sun-drying and smoking are the only alternatives to conserve this highly perishable product. Processing facilities and techniques are however frequently inadequate or ineffective and often involve the application of pesticides (against insect attacks). *Interventions aiming at improving these processing techniques and reducing pesticides are required and would not only increase the value added of the fish commodity (and thus the income of the fishers/traders), but also help tackling food safety and health issues in these areas.*

Strengthen non-fishing livelihoods. Although floodplain households display diverse livelihood strategies, there is still a high reliance on primary natural resource-based incomes, which puts households at considerable risk of environmental shocks. For example households rely primarily on farming in HNW and LSF, and livestock or fishing in Kafue. Although fishing households are better off in some areas, if access is limited or resources over-stretched there may be limited opportunity for fisheries to improve the lot of non-fishing households. Moreover, in sub-Saharan Africa, particularly in the Sudano-Sahelian zone, climate conditions (mainly rainfall) have covariate effects on cropping, livestock and fishing: period of drought affects all these activities negatively. Hence, fisheries cannot adequately solve the intra-annual farming income variability problem. Inter-temporal management of financial and physical (non-fishing) capital is therefore a very central issue when dealing with dynamic welfare and risk analysis in these regions. Most households rely on liquidation of assets such as livestock to counterbalance the inter-annual variation in crop production. This coping strategy leads however usually to a substantial drop in the local (or even sometimes regional) livestock price, exacerbating the distress of these local populations. *Policy interventions should therefore aim to reduce the likelihood of crop failure in drought years through, for example, improved soil and water management, small-scale irrigation projects, or through the adoption of drought-resistant, early-maturing staple food crop varieties. These types of actions should be complemented by interventions that aim at offsetting or reducing the deflation of livestock prices during famine periods. In addition, alternative activities should be promoted to complement the seasonal and/or inter-annual income patterns of farming and fishing, in order to reduce the pressure on the resource, smooth income variation and increase income.* These could include:

- Non-agricultural employment. Increased returns to off-farm activities have been shown to reduce fishing effort and hence may help to alleviate the pressure on the exploited fish stocks;
- Introduction of aquaculture initiatives which may significantly improve the food security situation and reduce the inter-temporal variation in income through

constant supply of fish, independent of the inter-annual variation in precipitation and hence the water level in the water bodies.

Improve understanding of socio-ecological systems. Overall, the four socio-economic studies implemented in the project have improved substantially our understanding of the socio-ecological functioning of floodplain systems, but it also highlighted that there are still major gaps in information and understanding. These gaps include understanding of long term patterns and inter-annual variability and risks, and linkages between socio-economic systems, ecosystem functioning and management systems. A great deal of research is still necessary to reach a full understanding about the sustainability (and resilience) of these socio-ecological systems. *Efforts should be made to monitor people's livelihoods and wellbeing as well as the resource dynamics and its use. This should be done as a collaborative effort between fisheries and agricultural departments and statistical and planning offices that deal with welfare.*

4. Policy and Governance analyses

4.1. Background of the studies

The policy analysis and the governance analysis were both conducted in five countries across the two basins: Niger, Niger and Cameroon in the Lake Chad Basin, and Malawi and Zambia in the Zambezi River Basin. Although the two activities were conducted independently using two different analytical approaches, both policy and governance analyses eventually appear remarkably complementary and reveal in particular important similarities in their conclusions. Before moving on the detail of the policy implications of these results, two important preliminary clarifications need to be made.

Why decentralization in small-scale fisheries?

The whole project was conceived on the premise that 'decentralization' (taken in a broad, generic, sense) and sectoral co-management reforms are the way forward in small-scale fisheries if one wants these fisheries to contribute their full potential in terms of poverty alleviation and economic development in developing countries. However, the project also recognized that the rhetoric surrounding 'decentralization' reform has often disserved the initial genuine objective of these reforms. Decentralization has too often been advocated as the 'magic bullet' which would solve instantaneously and simultaneously poverty, environmental degradation, social and economic inequity. As the series of recommendation below will demonstrate, this assumption turns out to be painfully erroneous.

Decentralization in the fisheries, decentralization outside the fisheries

The process of devolving power and responsibility away from central authorities and ministries offices (decentralization) has been taking place both in the fisheries sector (often referred as co-management reform) and outside the fisheries, in other economic sectors such as education, health, public transport, other natural resource sectors e.g. forestry, etc. These different reforms have been implemented at different paces in different countries over the last 20 years. In Malawi for example, different sectors, including fisheries, are being decentralised slowly since the 1990s, creating a relatively

complex and ever-evolving institutional landscape. In Cameroon the constitutional amendment of 1996 made explicit reference to the principle of decentralization but the implementation process is effectively just starting. In Nigeria no formal decentralization policies have yet been considered in the fisheries sector except through donor-driven interventions supporting co-management projects.

One key element in the analytical framework adopted in the project was therefore the recognition of these various waves of ‘overlapping’ decentralization reforms in and outside the fisheries sector. This point represented a major breakthrough in the fisheries literature, where co-management reforms are usually analyzed in complete isolation from the wider political/governance environment. To make these distinctions between decentralizations inside and outside fisheries more explicit, we distinguished 3 major ‘types’ of governance reform:

- Devolution (devolutive decentralization) refers to the transfer of parts, or totality, of the rights and responsibilities from the Department of Fisheries to representatives of user groups at the local level, usually (fishers) organizations. In the more conventional natural resource management jargon, this is usually referred to as community-based and/or co-management arrangements.
- Deconcentration (administrative decentralization) in fisheries refers to governance reforms in which decision-making authority is transferred to provincial or district levels of the Department of Fisheries (DoF).
- Territorial decentralization refers to transfers of decision-making authority and financial responsibilities to decentralized territorial entities (District Assemblies, Provincial or District Development Committees, or ‘Collectivités Territoriales’ in francophone countries)). Four of the five countries considered in this review (Cameroon, Niger, Malawi, and Zambia) have been engaged in extensive decentralization reforms for several decades.

4.2. Policy recommendations

Improve policy coherence. The five national policy studies implemented in the project reveal that in countries where these different types of governance reforms are taking place, many challenges still remain both at the design and implementation level. In particular, issues of policy incoherence are common. The studies highlight many examples illustrating the difficulties of evolving new policies, and trying to integrate them within existing policy arrangements. In Malawi, for instance, decentralisation policy, local government reforms and national fisheries policy have not achieved a high degree of coherence, largely because they appeared at different times and did not refer to existing legislation.

Institutional coherence is a key factor and it extends beyond the issue of harmonization between government institutions. Policy and policy implementers such as technical line ministries should be clear about the role that these institutions have to play. Additionally, forming multi-sectoral working groups to develop and/or review decentralization policies should be encouraged.

Promote better integration of SSF sectoral devolution into decentralization. The country reviews evidenced how poorly integrated small-scale fisheries and co-management are in the decentralization process that are being implemented in parallel in the rest of the economy. The fishery sector (in particularly inland one) is often considered as the rest of a stagnant, informal and useless sector meant to disappear over the course of the normal economic development process. This view certainly contributes to the predatory behavior adopted by national and local government agencies whereby small-scale fisheries are often heavily taxed but notoriously neglected in terms of redistribution.

Local governments' reliance on fisheries-generated income should in contrary be seen as the evidence that a more balanced relationship could benefit all parties. *Better supported, small-scale fisheries would contribute more effectively to local economic development, thus strengthening local governments through the generation of direct revenue (taxes) and indirectly through the welfare functions provided by small-scale fisheries* such as employment for unskilled population (labor buffer, safety net), contribution to food security and economic empowerment of remote rural groups including women. This better integration of fisheries into the local planning process could (or should) be facilitated by the fact that local level of decision are known to be more effective in ensuring integrated planning than higher (national) levels. As such, the territorial decentralized institutions created through parallel decentralization processes (e.g. Districts Assemblies in Malawi, District Councils and District or Provincial Development Committees in Zambia, Collectivités Territoriales in Niger and Cameroon) should be in a much better position to integrate and account for the aspirations and needs of the small-scale fisherfolks than national planners operating from central Ministries' bureaus. *It is therefore the responsibility of the fisheries stakeholders (starting with the DoFs) to work closer with the decentralized governments' agencies in order to ensure a better integration of small-scale fisheries into the process of decentralized development, for the greater benefit of the resource, the local economy and the fisherfolks.*

Accounting for an increasing number of actors. The policy case studies reveal the importance of a wide range of actors in the policy process - in both policy formation and implementation. The number of actors involved in fisheries and other related policy is however likely to increase further in the future because: (1) national policy is intending to develop inclusive forms of government with suitable fora or "platforms for negotiation" at different levels, and (2) new interests are emerging (the private sector, civil society organizations, issues based coalitions, new local government structures etc.).

National decentralization policies in Niger and Cameroon are setting out to establish partnerships with new local and regional institutions such as civil society organizations and producers' organizations. In Malawi, relevant institutions such as Local Fisheries Management Authorities already exist but our analysis suggests that these bodies will need support and guidance in setting their geographic boundaries and level of authority. In Nigeria, the policy process has been very centralized but government has acknowledged new roles may be required of research institutes, producers' organizations and regional agencies.

Recognize the complexity of the local political game. One of the main observations of the reviews was that co-management reforms have complexified the already hybrid and composite local governance system prevalent in Africa. While decentralization in principle signifies increased procedural homogenization and transparency at the local level, in practice its implementation has led instead to greater fragmentation of the political arenas and greater complexity (*de jure* and *de facto*). Co-management has in particular increased the number of newly created, as well as traditional, political and institutional local actors who are now competing, conflicting or colluding to capture part of the power and revenues that fisheries resources can generate. This fragmentation and complexification of the local political game has led to the ‘accumulation’ of several layers of powers with no clear legitimacy and no longer any central institution capable of imposing its law and norms. This greatly reduces the clarity of the political processes and its chance to achieve its democratic promises.

The recognition of this situation calls for greater coordination and more resources made available for building capacity of actors at local level while strengthening the central government capacities for coordinating policy guidance and setting the appropriate policy environment. *Donor and international development agencies need to realize that decentralization (and co-management) reforms require usually more financial and human resources (and certainly not less). In this sense decentralization conflicts directly with the agenda of reduction of public services expenses generally adopted by governments.*

Account for the critical influence of traditional leaders. Although not an exclusivity of Africa -as many Pacific fisheries are in the same situation- small-scale inland fisheries in Africa are for their majority still under the strong influence of local traditional leaders. While co-management projects could have been one way to reduce this influence, the analysis revealed a totally different outcome. Because co-management projects were poorly prepared to face this issue, these traditional leaders have usually been one of the groups which almost systematically managed to strengthen their local power during the establishment of co-management reform. This situation means that a large part of the success (or failure) of these programs depends on these traditional leaders’ willingness to collaborate. In particular, trying to by-pass these local leaders would almost systematically trigger direct or indirect opposition from these powerful actors.

This resurgence of the traditional chieftaincies through the decentralization process is not, however, necessarily systematically negative. In effect several cases demonstrate that they can be one of the key-players ensuring the success of co-management projects. When this happens, however, it is essentially the result of their own integrity and commitment, and frequently depends on the extent to which the co-management process has actively engaged with them.

These observations suggest that governments should recognize and define much more precisely the roles and responsibilities of traditional authorities in the decentralization process, and in particular in relation to natural resources management, being aware of the potential issues observed under the current decentralization experiences. In particular those existing mixed experiences underline the importance of establishing mechanisms of downward accountability. Until a minimum level of downward accountability is effectively embedded into the

procedures, co-management projects will always depend on the personal commitment and capacities of few key actors, leaving the overall projects' fate –and its impact on the whole community- entirely in the hand of these actors.

Recognize the political economy of co-management reforms. In direct relation to the point above, it is crucial to recognize that decentralization is never introduced in a power vacuum at a local level. The socio-institutional landscape where governance reforms in general and co-management in particular are implemented is in fact the result of a constantly evolving political landscape which reflects the current distribution of power between different local actors and their struggle to control the natural, institutional, financial and political resources. In this context, the introduction of co-management often turns out to be a catalyst for political conflict and to intensify the battle for power among local people. In this continuous (open or more subtle) battle, the poorest and most marginalized of the fishing community have generally been the losers.

The recognition of this political economy dimension has strong implications on the way co-management should be planned and implemented. In particular it means that *a good understanding of the current political 'landscape' and of the current power configuration between the different groups susceptible to be directly or indirectly involved (or rejected) by the establishment of co-management is essential before the first step of the reform is actually initiated.* This preliminary ex-ante analysis should help in predicting the changes in the power landscape that are likely to occur as a result of the reform, and thus provide appropriate guidance and recommendations on how to limit the 'unexpected' negative outcomes.

Focus on implementation issues. Co-management –and more broadly governance reforms- are high in the agenda of most African countries. It would therefore be misleading to present the failure of co-management reforms as a consequence of lack of official political will. *Co-management problems come essentially from an inability to support all the processes needed to allow genuine devolution (democratic decentralization). There is therefore an urgent need for academics to turn their attention toward the 'nitty-gritty', 'on-the-ground', and context-specific aspects of co-management implementation.* While this has been highlighted many times, there is no 'one size fits all', and the success (or failure) of co-management programmes will essentially depend on local details: the integrity of the DoF local staff, the 'ethic' of the traditional leaders, the balance between the different groups of fishers (allochtone versus autochtone), the presence of local NGOs, and in particular the power relationship between all these different groups and individuals.

These observations clearly call for policies and interventions which would aim at strengthening the organizational and institutional capacity of identified stakeholders, based on local situations, to enable them carry out their new institutional roles and responsibilities while ensuring effective coordination of the process. These interventions should include sensitization and training of stakeholders on resource and environmental management; administrative, financial management and leadership skills; and funding mechanisms to generate their own revenue to support co-management activities.

Promote participation, but more importantly ensure downward accountability.

Enhancing the participation of fisheries end-users and other legitimate stakeholders in the decision making process of fisheries is a central element in these reforms. The involvement of these end-users is, in particular expected to increase their sense of responsibility and ownership, thus facilitating the self-enforcement of the management system and in principle the ‘sustainability’ and equity of the system.

But ‘participation’ is not the panacea and ‘greater participation’ will not ensure the success of co-management without being complemented by some forms of downward accountability. Since the involvement of every single fisherfolk (fishers, traders, fish processors, etc.) in the decision making process (that is, direct democracy) is not possible as it would increase *ad infinitum* the transaction costs of the political process, participation of those legitimate stakeholders in the decision making process can only be achieved through representative governance. This is indeed what has been done in the majority of co-management projects through the creation of community-based organizations. What our research showed however is that, until these representatives are downwardly accountable to the rest of the stakeholders, any devolution of power to these representatives is likely to become a source of misuse and abuse. *There is therefore an urgent need for national and local policy makers (but also NGOs and other project implementers) to focus on this issue of accountability and to create the appropriate institutional and legislative conditions and mechanisms to ensure the establishment of a systematic downward accountability environment in decentralization.*

**Appendix 2: Governance Analysis Report
(Project Output 2)**

FOOD SECURITY AND POVERTY ALLEVIATION THROUGH
IMPROVED VALUATION AND GOVERNANCE
OF RIVER FISHERIES
IN AFRICA

**Governance reforms:
a review of small-scale inland fisheries experiences
in Lake Chad and Zambezi Basins**

Main authors

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Introduction and background

Decentralized governance is now the overarching paradigm in development and public policy arenas (Piriou-Sall 1998, Litvack and Seddon, 1999, OECD 2003). Decentralization and community-involvement are in particular presented as necessary conditions for effective development (Rondinelli *et al.* 1989; Aiyar *et al.* 1995; Rahman and Westley 2001). As a consequence a large number of programmes and policy reforms, supported by international development agencies and NGOs, have been carried out recently in many developing countries with the explicit objective of decentralization. Applied to a wide range of situations and economic sectors, these reforms have also been described or labelled under a wide range of terms, such as democratic decentralization, participatory development, devolution, indigenous management, user-participation, co-management, etc.

Arguments in favour of participation and decentralization are not simply grounded on the basis of economic and administration efficiency. They are often associated with potential improvements in public accountability, environmental sustainability and empowerment of poor and vulnerable groups (Bass and Rouse 1997; World Bank 2002). Decentralization is therefore perceived as one possible solution for the improvement of rural population livelihoods and even as a means for poverty alleviation. The most common argument is that decentralization is by definition a mechanism of 'inclusion' and 'empowerment' (Piriou-Sall 1998; World Bank 2000). Because it involves bringing government closer to the governed, in both the spatial and institutional senses, it is argued that local governments will be more knowledgeable about, and hence more responsive to, the needs of the poorest and marginalized people. This mechanism of inclusion is, in particular, expected to lead to empowerment and pro-poor policies and outcomes (Crook and Sverrisson 1999).

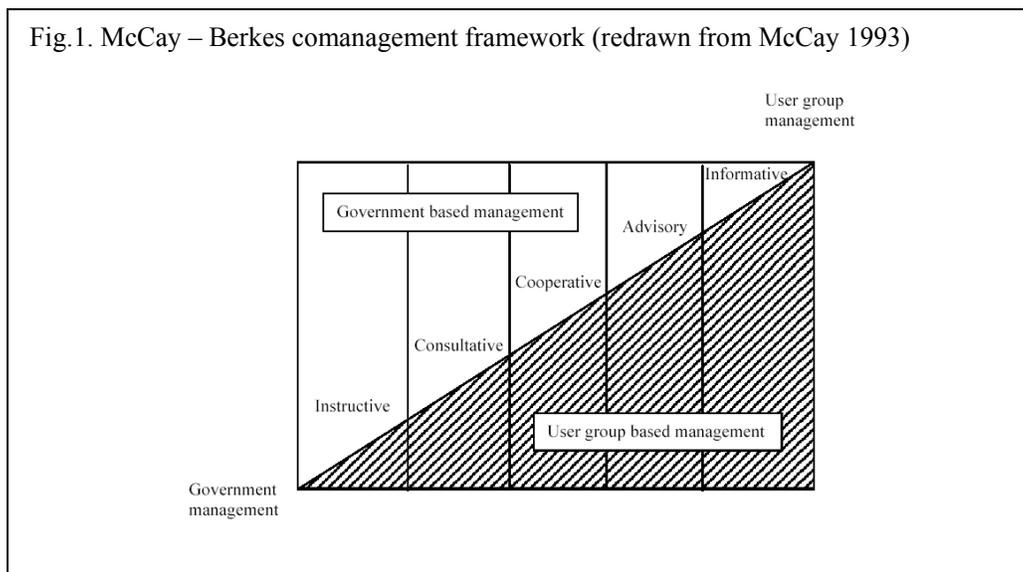
In small-scale inland fisheries, after several decades of a strongly-centralized management approach, 'decentralization' has also become the new paradigm (Berkes 1995; Pomeroy 2001, Viswanathan *et al.* 2003, Allison and Badjeck 2004). Following the view of influential scholars who advocated for governance reform, the policy consensus in favour of fisheries management decentralization (either as co-management or community-based fisheries management –CBFM) reforms is now prevalent in the policy discourse Norman *et al.* 1998; Pomeroy and Rivera-Guieb 2005). Hardly any country in the developing world does not explicitly include co-management or CBFM as one of its main fisheries national policy objectives.

As part of the research project “*Food security and poverty alleviation through improved valuation and governance of river fisheries in Africa*”, the objective of this paper is to explore and assess the changes in governance that these co-management and CBFM reforms induced in Sub-Sahara Africa inland fisheries. To do so, we draw upon the experiences of five countries: Cameroon, Malawi, Niger, Niger, and Zambia as documented in 5 country-level review documents commissioned by the project (Belal and Baba, 2007, Makadassou *et al.* 2006, Malasha 2007, Njaya 2007, Ovie and Raji 2007).

The need for a new analytical framework

The conventional approach: a plea for more participation

In the fisheries literature, the most frequently quoted framework used to analyze co-management is the framework proposed by McCay (1993) and Berkes (1994). The core idea of the framework is that co-management is defined by various partnership arrangements distinguished from one another by the degrees of information-sharing between 2 entities: the local fishing community and the centralized management authority –see **Fig.1**. Depending on this degree of information sharing and power devolution, five major generic types of co-management arrangements can be identified: Intrusive, Consultative, Cooperative, Advisory, and Informative.



One can argue, however, that this framework assumes that the degree of power devolved is *the* key factor, with the likely conclusion that co-management failure(s) will then be systematically ‘explained’ by “too little devolution/participation”. Following this interpretation, the solution clearly lies in more participation¹.

¹ Review of the literature reveals that indeed, most co-management studies argue that there is generally not enough participation in fisheries reforms and that too little responsibility has been passed down to the community. Pomeroy, for instance, asserts, “The devolution of fishery management authority from the central government to local level governments and organizations is an issue that is not easily resolved. Many attempts at decentralization have not delivered a real sharing of resource management power” (Pomeroy 2001, p.135). One reason for this perceived failure is that “Fisheries administrators may be reluctant to relinquish their authority, or portions of it, and governments are often opposed to decentralization” (Pomeroy 1993, p.14-15). Pomeroy is echoed by Sverdrup-Jensen and Nielsen, who comment, “Under the present management arrangements situation [in Africa], user groups will often be patronized in possible disputes with government. The latter seems generally reluctant to devolve power and bestow legal rights and authority in fisheries management to user groups” (Sverdrup-Jensen and Nielsen 1998, p.11). This is also the opinion of Jul-Larsen and his co-authors (2003), who conclude, “Generally speaking, management of freshwater fisheries [in Southern Africa] is still very much in control of governments, and the negotiating position of user groups versus that of governments is consequently comparatively low”. As Chirwa (1998, p.69) points out, “The FD’s [Fisheries Department’s] position of patronage means that the local user communities are the

The level of devolution is, however, only one dimension to consider within the process of participation per se. As emphasized by Cohen and Uphoff more than 20 years ago, many other important criteria should also be considered when evaluating a project, e.g. the kind of participation (participation in decision-making; in implementation; in benefits, in evaluation) or how the process occurs (the basis of participation, its form, its extent, its effects) (Cohen and Uphoff 1980). In other words, assessing the participation process – and in the present case the fisheries co-management process – through the degree of participation or the level of devolution is not sufficient.

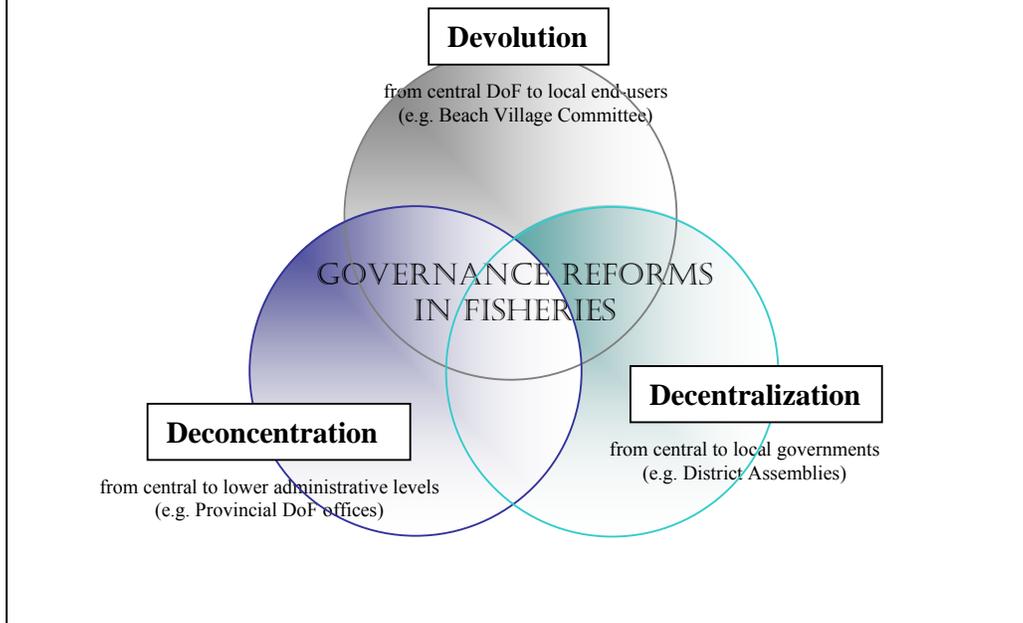
Conceptually, the problem arises from the fact that the McCay-Berkes framework attempts to characterize co-management mainly through the level of power devolution – i.e. the degree of stakeholder participation. In that case, the reference criterion is the gradient of power-sharing, running from one extremity (the central government) to the other (the community) –see **Fig.1**. This ‘mono-dimensional conceptualization’ of the process reduces governance reform to the degree of participation and does not necessarily capture the main factor(s) explaining the degree of success or failure of decentralization reforms.

This point was confirmed empirically by Neiland and Béné (2003). These authors conducted a review of 50 case-studies of fisheries across 39 countries. Using the information provided by the literature, they analysed the management systems of these fisheries and assessed in particular the performances of each of the 50 fisheries, using three criteria: economic efficiency, ecological sustainability, and social equity. At the same time, they categorized these fisheries by the degree of participation of their stakeholders in the decision-making process, using the seven categories of power-sharing as defined by McCay and Berkes –see Fig.1 above. Their analysis shows that there is no tangible correlation between the level of devolution of the responsibility in the fishery and the actual performance of the fishery. In other words, the degrees of participation did not explain the performance of the fisheries: in particular, some fisheries characterized by highly centralized management system were doing well, while other, more participatory, fisheries were not necessarily able to generate good management outcomes –and vice versa.

Focusing on the level of participation as the key element of success in co-management presents other potential issues. First, it tends to suggest that the stronger the participation, the more efficient and the more likely the co-management reform is to succeed (see footnote 1). However, as clearly demonstrated in the literature, strong participation is not without its limitations and dangers, especially in the context of natural resource management (Ribot 2001, Campbell and Shackleton 2002; Mearns and Bruce 2002, Dupar and Badenoch 2002). As Brett notes, “Maximum participation may not always be possible or efficient” (Brett 2000, p.1). In effect, as pointed out by Adams (1996), and confirmed by Neiland and Béné’s review, each fishery in each society has its own ‘balance point’ on the scale of management intervention. “Some fisheries are more effectively managed by governments or intergovernmental bodies and some are more effectively managed by local communities and non-government

recipients rather than the initiators of decisions. They, themselves, are managed, together with their resources, by the Fisheries Department.” (quoted in Jul-Larsen *et al.* 2003, p.92).

Fig.2. Governance reforms in fisheries as a combination of devolution, deconcentration and decentralization. Each of these types of reforms leads to different patterns of empowerment over natural resources



bodies, with various mixtures in between” (Adams, 1996, p.339). Thus, advocating for a systematic strong participation by the fishery community may not be the correct approach. In other words, the issue of how much power is shared may be the wrong question. Instead, issues of how this power is shared and through which accountability mechanisms may be more important.

Back to basics

From a political science perspective, a governance reform may take several forms, involve various agents and induce changes of different intensities at different levels. Broadly speaking, 3 main types of reforms are relevant to the discussion of co-management and governance reforms in fisheries: devolution, deconcentration and decentralization.

Applied to the fisheries context, each of these types of reforms leads to different patterns of empowerment over fisheries resources. *Devolution* reform in fisheries refers to the transfer of rights and responsibilities from the government to representatives of user groups at the local level (fisher organizations or alike) –see **Fig.2**. In contrast, *deconcentration* reform involves changes in governance where decision-making authorities are transferred to lower-level units of government line agency (i.e., provincial and/or district level of the Department of Fisheries). Finally *decentralization* of fisheries induces transfers of decision-making authority and

financial capacities related to fisheries to lower (provincial, district or communal) levels of government bodies².

In many instances such artificial distinctions may not reflect the empirical reality as fisheries governance reforms –as we will see below- appear often to be a combination of these 3 types of reform³. Overall, however, the distinction between these 3 types of governance reforms is useful as it provides a relevant analytical framework to ‘unfold’ some of the critical changes that are currently induced by fisheries governance reforms. In particular, it draws attention to the following key-question: which actors are empowered with natural resource uses and management decisions? As recalled by James Ribot, this question is critical since experience suggests that “whether the transfer of natural resource power within or into the local institution landscape promotes or undermines representative, accountable and equitable processes depends on which local actors are being entrusted with discretionary powers over natural resources” (Ribot 2003, p.55, emphasis is ours).

The three key issues to analyze governance

Using these 3 types of governance reforms as the background of our analysis, we now propose to look more specifically at the following three key-issues.

Nature and degrees of governance reforms

Do co-management and CBFM, as they are being implemented in Sub-Sahara Africa, fall under one of the 3 distinct categories of governance reforms commonly identified in the political science literature, or do they include some combination of 2 or even all of these different governance reforms? In other terms, is co-management mainly a devolutionary process as it is usually assumed to be –by which direct end-users (the fisherfolk) are empowered- or is it in reality more often a deconcentration process where power and decision-making processes are transferred down to lower levels (provinces, district) of the administration in charge of fisheries management? Or is it a combination of both? Where do the local governments stand in this process? Are provincial and/or local decentralized bodies (such as ‘district assemblies’ or the likes) involved in co-management? One particular issue in this series of questions is the role of the traditional leaders. Have these traditional leaders been involved in these co-management or CBFM reforms? Should they be? If they are, do they effectively

² From this distinction we see clearly that although devolution is sometimes called “democratic decentralization”, devolution and decentralization differ in two essential but related aspects. First as highlighted in the discussion above the direct recipients of the newly-devolved power are not the same under both reforms. In the case of devolution, these recipients are the end-users –i.e. the fishing communities-, either directly or more often through the fisheries associations or committees. In contrast the direct recipient of a decentralization reform is the local government. Secondly, a devolution is an intra-sectoral governance reform, while a ‘decentralization reform in fisheries’ would induce some transfer of responsibilities from institutions inside the sector (e.g. DoF) to institutions outside the sector (local government).

³ For instance, direct users (fisher representative and/or local DoF) may be invited to lead the new management commission created by the local government as part of the newly-decentralized management of the fisheries.

contribute to the ultimate objectives of these reforms (that is empowerment of the local community)?

Downward accountability and participation

Political science scholars agree that representation and accountability are critical if devolved power is to serve local needs efficiently and equitably (Brett 2000, Agrawal 2001, Ribot 2003). While the ‘participatory dimension’ of co-management or CBFM has been widely promoted, the concept of *downward accountability* has, so far, remained largely ignored by fisheries scholars. Political scientists, however, insist that participation alone will not ensure the success of the reform and that accountability, and in particular downward accountability is critical in this process (Ribot 1999, Francis and James 2003, Brett 2003, Devas and Grant 2003). Agrawal and Ribot, for instance, concluded that “the presumed benefits of decentralization become available to local populations only when empowered local actors are downward accountable” (1999, p.473 emphasis is ours). If this is the case, then an important question is to what extent the newly empowered local fisheries actors –whoever they are- are downward accountable to the people they represent (the fishing communities and more broadly the local populations).

Implementing governance reforms in small-scale fisheries in Africa: agenda setting or implementation issues?

Experience in developing countries has shown that in other sectors than fisheries, the problem is often not related to the policy content or its legislative support, but to the implementation process. For instance many developing countries have very comprehensive and adequate public sector ‘decentralisation’ policies but they lack the institutional, financial and/or organizational capacities at all levels to implement and reinforce these policies. Is this the case for co-management and CBFM reforms in fisheries? Or is there still an ‘agenda issue’ in the sense that ‘decentralization in fisheries is not yet well embedded in developing countries’ national fisheries policy frameworks? If implementation issues arise, are there some commonalities in these issues amongst the countries reviewed here and to what extent are these issues specific to small-scale fisheries –as opposed to other sectors where decentralization is also taking place?

By answering the questions above we are hoping to provide important new insights into the ‘decentralization’ process as it is currently taking place in Sub-Saharan small-scale fisheries, and hopefully propose some direction for on how to improve these governance reforms.

Nature and degrees of governance reforms

Devolution to end-users

When one looks at devolution processes in fisheries, the analysis of the 5 country reviews included in this project reveals some mixed results. While devolution to fishery end-users has been explicitly identified and pursued in national policies in some of these countries in recent years, devolution is still not on the fisheries policy agenda in others. For instance, no tangible evidence of any formal or apparent transfer

of authorities and/or responsibilities to fishing communities or professional groups was reported in Nigeria (Ovie and Radji 2007). Likewise, even in countries where multi-sectoral decentralization reforms have been implemented, fisheries is not necessarily included in these processes and very little devolution to direct end-users (fishers) is observed. Makadassou et al (2007) describe this situation in the case of Niger where, due to a lack of capacity and resources in the commune- and district-level governments, “[i]n the [Niger’s part of the] Lake Chad Basin, fishery planning is essentially the result of the central administration ... The view of the direct actors is rarely taken into account.”

Devolution in fisheries has been more actively pursued in other countries, however mainly on a project basis. In Cameroon for instance, participatory management has been promoted since 1991 through the Fisheries Master Plan, and then implemented since 2000 through three local projects supported by the DFID-FAO Sustainable Fisheries Livelihood Programme (SFLP). As a consequence, the establishment of formal management committees to ensure the sharing of the responsibilities between the fisheries administration (Département des Pêches) and the fishing communities is being administratively endorsed and the primary remaining need, legislative support for co-management, is reportedly in the process of being drafted (Belal and Baba, 2007).

Attempts at *de facto* devolution in fisheries in Zambia have also taken place, essentially through the implementation of various donor-funded projects. In Lake Kariba for instance Zonal Management Committees (ZMCs) were created with the objective of transferring management responsibilities of the fishery from the DoF to these ZMCs (Malasha 2007). Similar efforts were pursued in other major fisheries of the country (e.g. Luapula province). Conjointly, in an attempt to improve governance in the sector, in 1995 the Zambia fisheries administration had approached the FAO, seeking assistance with revisions to its national Fisheries Act. The draft Bill sought to ‘decentralize’ and devolve fishery management responsibilities from the Department of Fisheries to local communities in order to facilitate the participation of local fisherfolks in the formulation and enforcement of fishery management regulations⁴. In 1998 a draft was presented to parliament. However it was never ratified (Malasha 2007). Instead, a different set of amendments to the Fishery Bill were passed into law in September 2007 that completely reversed this initial move toward devolution of powers to fisherfolk: these amendments will result in the creation of Fishery Management Committees whose membership will be appointed by the minister responsible for fisheries, and whose powers will be limited to enforcement of pre-determined fisheries regulations.

In Malawi the 1997 Fisheries Conservation and Management Act provided the fisheries department (DoF) with a legal mandate to delegate fisheries management responsibilities to end-users. As a consequence a relatively large number of Beach Villages Committees (BVCs) and Fisheries Associations (FAs) were created in many water-bodies (Lake Malawi, Lake Chiuta, Lake Malombe and Upper Shire River, Lake Chilwa, etc., Njaya 2007). However, the creation of these entities did not systematically ensure the success of the devolution process as national policies failed

⁴ Note, however that this was the government’s objectives – not necessarily the communities’ ones. Communities are usually motivated by health, theft, conflicts resolution issues.

to address a variety of issues related to implementation. Many of these problems are discussed by Russell, Dobson et al (2007, p.x), and are exemplified below in the case of the Lake Malombe *chambo* fisheries:

- Unrepresentative/undemocratic BVCs: Some In several cases it has been reported that the monetary benefits of membership might have led the chiefs and Extension workers to select BVC members themselves, instead of using democratic mechanisms (e.g. elections).
- Conflicts between chiefs and BVCs⁵: In some cases, the BVCs were dominated by chiefs, and in other cases, the BVCs represented a threat to the authority and incomes of the chiefs, and were therefore resented and undermined by chiefs.
- Poor sense of stewardship/ownership: Much participation in the BVCs was motivated by the financial benefits associated with membership rather than a sense of local ownership. The high level of involvement of (European) donor agency personnel and the ability of the DoF to make appointments and unilaterally impose local management plans may also have diminished the sense of local ownership over the resource.
- Poor DoF commitment to participatory management: Although the DoF and donor agencies spoke in the language of participation, the fishing communities generally felt that the DoF rarely responded to their concerns. Worse yet, some BVCs were actively undermined by DoF staff when they attempted to enforce regulations (Dobson and Lynch 2003). This lack of democratic values in the field staff was modeled on the hierarchical bureaucracy in which they worked, and the DoF's short-term program goal orientation that defined the field staffs' interactions with the BVCs.

Deconcentration

The country-level review documents reveal that in terms of deconcentration, the overall situation portrays a mosaic of mixed outcomes. In Niger, three levels of deconcentration have been legislatively defined: region, province, and district⁶. But the deconcentration –which appears to be closely linked to the decentralization process (see decentralization section below)- concerns essentially the political and public administration mechanisms and not the technical services related to natural resources management. In practice, due to a lack of capacity at the deconcentrated levels of the DoF, and the central treasury's attempts to resist decentralization of control over scarce funds, the decentralized agencies have very little financial and decision-making autonomy, and are drastically limited in their capacity to engage with local users (Makadassou et al. 2007).

In Cameroon, deconcentration of the different administrations has been implemented since 1972, involving also three administrative levels: region, province (department), and district (commune), similar to the Niger model. The country review document reveals however, that the agents in charge of the deconcentrated fisheries offices receive only delegated power from the central authority and do not have much

⁵ As the traditional arbiters in village conflicts, chiefs were able to fine community members and keep the money or goods (paid in the form of cash or goods) collected for personal use. As the BVCs were now assigned the roles of fining offenders, the chiefs lost out financially and in prestige.

⁶ Translated from French. The exact terminologies of those three levels are “région”, “département”, et “arrondissements”.

autonomy of decision-making (Belal and Baba, 2007). Perhaps more problematically, they appear to also be primarily accountable to their direct hierarchy (Gouverneurs, Prefets, sous-Prefets) but not downwardly accountable to the direct users (see below).

In Zambia, there are severe constraints in terms of coordination within the DoF that are partly due to budgetary and personnel cut-backs imposed by the Structural Adjustment Programmes (SAP's). Additionally, where other agencies' (such as the Zambia Wildlife Authority) actions impact fisherfolk, the Fisheries Department has little legal basis for challenging them, and overall has poor communication with them (Petersen 2006). A somewhat similar situation is reported in Malawi where little of the capacity building that was pursued as part of an overall willingness to deconcentrate the DoF has focused on the DoF field staff in their remote living and working locations (Russell *et al* 2007). Although the District Fisheries Officers are supposed to transfer knowledge gathered at workshops to their field staff, due to financial constraints and a lack of administrative oversight, little training has been effectively conducted. This parallels the overall reforms in the Malawian government where several authors have documented the increasing gap between senior management and junior/local staff, whose access to workshops, promotions, and job-security is dependent on in-house patron-client relationships, a situation which has led to widespread misappropriation and abuse of government resources (Anders 2002; Chinsinga 2002, Englund 2002).

In Nigeria, the Federal Department of Fisheries (the apex Fisheries Policy-making body) and the States' Departments of Fisheries are empowered *de jure* (by law) to make management decisions regarding fisheries. The key informants in the field (officials of the DoF, Directors of fisheries of the three most important States where the survey was conducted i.e. Jigawa, Kano and Yobe) reported however, that little devolution, deconcentration or decentralisation of the fisheries decision-making functions takes place (Ovie and Raji 2007). The DoF has, or is expected to have, zonal offices in all the States of the federation while the States are also expected to have local staff at the local government areas with some level of deconcentrated powers. In reality, however, all of them lack logistics and independent authority. Rather they take directives from, and are accountable to, mainly the Director of Fisheries at the Federal agency. Most States' zonal offices at the local government levels also lack qualified staff.

Decentralization

The country review documents reveal that Cameroon, Niger, Malawi, and Zambia have all embarked on wide-ranging decentralization reform policies outside the fishery sector⁷. The country review documents, however, failed to identify any real

⁷ In Niger, for instance decentralization is as old as the independence itself as it was part of the governance changes that were introduced following the 1961 independence declaration. In Cameroon decentralization exists in the constitution since 1996 and in the legislation since 2004. Malawi has also engaged in the path of decentralization during the late 1990s as part of its process toward democratization and as an element of its strategy for poverty reduction (ref). In Zambia, most of the key benchmark documents that directed the country toward decentralization such as the Local Administration Act of 1980, the 1991 Local Government Act or the 1995 Cabinet Circular, were issued in the mid 1980s and 1990s. All these countries have therefore implemented decentralization reforms outside the fisheries sector, sometimes for decades.

inclusion of the small-scale fisheries sector in these decentralization processes. In Nigeria, decentralization has not at all entered into the political arena.

In Niger, one of the specificities of the decentralization is that traditional authorities have *de jure* been included in the decentralization process and hold positions in commune-level governments. From the country review, it appears that this development has the potential to further bolster an already powerful chieftaincy, thereby further marginalizing the fisherfolk themselves. In Cameroon, decentralizing reforms were applied to varying degrees under both British and French colonial administrations, as well as in the post-independence period. Political and administrative decentralization are explicitly included in the 1996 constitution and have been promoted through successive series of new legislations and laws. However, it is not clear from the country review document how and to what extent the aspirations, needs and conditions of the fishing communities or the constraints affecting the aquatic resources, are effectively integrated into the planning and actions led by the local decentralized entities ('collectivités territoriales')

Similar comments hold for Zambia and Malawi where decentralization has been influencing the politic landscape of these countries through the establishment of local level decentralized bodies (District Assemblies in Malawi and District Councils and District and Provincial Development Committees in Zambia). However, in a number of major Zambian water bodies (Lake Kariba, Mweru-Luapula, Lake Bangweulu), local governments' engagement with the fisherfolk appear to be primarily motivated by a desire to collect rents from the fishery, and providing few services in return. Future decentralisation will be pursued under the National Decentralisation Policy (NDP) of 2002, the aim of which is to improve participation, improve accountability and also lead to the design of locally specified plans for development purposes (Republic of Zambia, 2002:1-27). While this process of has not yet been initiated, it is expected that district councils will, among other functions, be responsible for the management and conservation of natural and wildlife resources. Under the NDP, however, the central government will retain core functions over essential national matters. The NDP is also silent on some of the initiatives such as those on Lake Kariba which have already led to a *de facto* devolution of some of the Department of Fisheries functions to the Zonal Management Committees.

In Malawi, devolution of fisheries management to Beach Village Committees preceded the passage of the decentralization legislation. As a consequence the Beach Village Committees appear to be poorly integrated into the various decentralised structures (Area Development Committees, Village Development Committees and District Assembly). Similarly, while the Fisheries Department is supposed to be decentralized, reporting directly to District Assemblies, these changes have not yet been implemented, and all decision making is done at the national level (Njaya 2007, Russell 2007). This situation is further complicates as the decentralization policy is effectively on hold at present, as the District Assemblies have not held elections for two years and are therefore lack a legal mandate. However, for the brief period that they were in session (2000-2005), there were indications of nascent conflicts between those District Assemblies and the DoF in particular in relation to the collection of license fees, and between the traditional authorities (who play key roles in the Area Development Committees and the Village Development Committees) and the BVCs (Russell et al, 2007, Njaya p.x).

While Nigeria has no formal decentralization process, the country review document indicates a significant *de facto* reliance by national and state agencies on the Traditional Authorities for the implementation of fisheries regulations and adjudication of conflicts in their local areas (Ovie and Raji 2007, see also Ita 1993). Miles (1994) has describes how these traditional authorities (TAs) attempt to refer to their hierarchy to resolve issues to the greatest extent possible, and Ovie and Raji (2007) indicate that they primarily bring issues to the state when their scale is beyond their jurisdiction. This practice is not new, but rather is an extension of British colonial policies in which the TAs were granted these powers (Miles 1987, 1994, Crowder 1964). Therefore, one might regard this as a highly decentralized fisheries management regime, but in a *de facto* sense.

The specific role of traditional authorities

In many countries in Africa, despite the recurrent effort made over the years by some⁸ central authorities to erode the sphere of influence of traditional authorities (TAs), these TAs are still very well established, and their influence on access and control of natural resources still effective through the role of key-personages such as village chief or village head-fishermen. Their spheres of influence and their interactions with devolved bodies or the government agencies are significantly defined by local and national institutional histories (see Russell draft for a review), however, they extend essentially to the local level.

Niger is a vivid example of the strong influence that TAs can have on local fisheries management and governance. Their roles are supported by several mechanisms. First as mentioned above, although their legitimacy was undermined during much of the colonial and post-colonial periods, TAs have now been included *de jure* in the decentralization process and are members of the different decision-making organs of the ‘collectivités territoriales’ at the local level in particular with important consultative roles (Makadassou et al. 2007 p.xx). Second, it has been reported that, in the absence of any real interaction between the deconcentrated DoF staff and the local fishing communities, the only cultural and institutional references for local fishers are these TAs, through, in particular, the ‘master of fishers’ (chef des pêcheurs). These authorities are thereby also reportedly able to monopolize access to training or educational opportunities. Third, despite the long history of decentralized administration in Niger, it turns out that only the lowest of the 3 levels of decentralization (the “commune”) is actually effective (where these traditional leaders are most influential)⁹. Therefore, the combination of empowering TAs who may lack in local legitimacy, receding central government roles, and weak regional governments, creates a context where these traditional leaders often become the primary interlocutor between the decentralized entities and the fishers, generating real risk of abuse and elite capture (Makadassou et al. 2007 p.xx)

⁸ Note the government’s reliance on the *de facto* empowerment of TAs in Nigeria, and the recent *de jure* empowerment of TAs in Niger.

⁹ In their geographical configuration the communes (cluster of villages) are often simply the contemporary heritage of what used to be the spatial distribution of the pre-independence TAs ‘territories’, thus reinforcing –or at least maintaining- the influence of the traditional leaders.

This risk of elite capture is also present in Cameroon where the role of the TAs has been institutionalized through their position as “administration auxiliaries” (Auxiliaires de l’Administration) in the decentralized systems. The *role* of these TAs in the local development has thus been increased –as compared to what it was just after the independence–, but not necessarily their power. This point is illustrated by the fact that this particular position as administration auxiliary gives them new responsibilities in the decision making processes at the local level (e.g. in conflict resolution), but also makes them essentially accountable to the administrative authorities (Gouverneurs, Prefets, sous-Prefets and Chef de districts). However, the TAs, by their own estimation, remain largely unaccountable to the local population (Belal and Baba 2007)¹⁰.

In Zambia, the situation seems relatively mixed. Some of the fisheries reviewed through this research have included significant involvement of TAs in the mobilization of fisherfolk (Kariba, Bangweulu), and in some these TAs are described as dominating the decentralized bodies (Mweru, Kariba). In others, the chiefs have intentionally been marginalized leading some to resist fisheries management initiatives (e.g. Bangweulu), while the Kafue fisherfolk have been able to prevent the chiefs from dominating the decentralised bodies through the use of secret ballots for committee elections, while retaining their support by giving them honorary roles of “patron”. This last experience echoes an approach used by Community Resource Boards (CRB) –the decentralized entities in charge of wildlife management at the local level- which seems to reduce the risk of elite capture by chiefs. While the village chiefs are also part of these CRBs, their status within them is that of ‘patron’, not chair. This status may help reduce abuses by chiefs’ in local level decision-making concerning wildlife management and the distribution of its benefits (Malasha 2007).

Russell et al’s (2007) documentation of fisheries co-management case studies in Malawi illustrates the array of roles that TAs can play with respect to fisheries governance. Some of the main factors that they highlight include: the TA personality, local institutional histories, the extent to which the Department of Fisheries’ BVC development program sensitized the chiefs as to the roles that they could play in supporting BVCs, and the extent to which the DoF encouraged dialogue between the BVCs and TAs. These leaders generally appear positively inclined to support the empowerment of local populations when their patronage of BVCs enhances their social standing and when they feel that their concerns over the need for sensitivity to local livelihoods are incorporated into BVC regulations. However, other case studies clearly show that where chiefs are excluded from this new devolution process, and where they feel that their traditional roles as “owners” of the village are being undermined (ex. by no longer being paid tribute by visiting fisherfolk) they almost systematically become highly disruptive.

The Nigeria review confirms the central role that TAs can play in fisheries governance. While there are no formal policies of devolution of management authority to traditional institutions by the central government, they are generally recognized by the Fisheries Departments as the *de facto* managers. At the fishing community levels, the “Head Fishers” (or *Sarki Ruwas*) are empowered by custom to

¹⁰ As illustrated by the fact that the election of new traditional leaders very often follows the preference of the administration.

manage fisheries resources, and they are accountable to the community chiefs (or *Bulama/Wakili*). The influence of these traditional authorities does not seem to have been impacted in any apparent way by the absence of this formal mandate, and are the products of a legacy of British colonial policies of Indirect Rule and a strong pre-existing chieftaincy. The current powers and authorities of these traditional institutions are described by the Director of Fisheries of Jigawa State:

“The institutional position and influence of the Bulama (District Head) or the Sarkin Ruwa (Head fishermen) is very strong and is dictated by existing traditional norms, culture and values. Existing informal local management system allows the Bulama or the Sarkin Ruwa to determine when (closed season) and where (closed area) to fish and when to stop fishing as well as the type of equipment (gear restriction) to use. While these powers are formally vested with the federal minister or the State Commissioner by existing laws, I cannot send my staff to any water body for any official work without first writing to or informing the Bulama or Sarki Ruwa in charge of the area” (Ovie and Raji 2007, p.x).

Participation and downward accountability

Participation

The degree of participation of end-users and stakeholders in the decision-making process and implementation of fisheries management should closely reflect the degree of devolution sought through co-management or CBFM programmes. However, as highlighted earlier in this document, while devolution to fishery end-users has been explicitly identified and pursued in national policies in most of the countries included in this research (except Nigeria), effective devolution leading to true empowerment of the legitimate fisheries stakeholders is yet to be achieved in most of these countries.

In Cameroon the term ‘participatory management (“gestion participative”)’ has indisputably become one of the official ‘corner-stones’ of the DoF agenda. As a consequence, representatives of the primary stakeholders have been invited to contribute to the planning and decision making process at several occasions (e.g. elaboration of the 1991 Fisheries Master Plan, elaboration of the MINEPIA Sectoral Strategy). Overall, however the country review document reveals that this participation remains mainly bound temporally or spatially to co-management projects such as these initiated by the SFLP in Maga and Mape lakes and Garoua markets.

The agenda-setting role of donor-agency sponsored projects is not specific to Cameroon and is also observed in many other places. In Lake Kariba or Mweru-Luapula projects (Zambia) for instance, donor-sponsored projects spurred the active engagement of end-users in the management process through the creation of local management committees such as Zonal Management Committees (ZMCs) at the sub-district level, or Integrated Village Management Committees (IVMCs) at the village level. Similarly, though not as successfully, GTZ funded and provided significant guidance to the establishment of the first government-led co-management projects in Malawi (Lakes Malombe and Chilwa). The ‘inclusiveness policy’ of these programmes can be accepted as genuine in intent. However, the situation on the ground is more ambiguous as is illustrated in the following example from the Kariba fisheries co-management programme in Zambia:

The institutional framework created by the co-management was limited to a number of actors. These included the DoF, the local authorities, and the TAs. The fishers, especially immigrants, [were] participants by virtue of the fact that the whole process was designed to control their operations. As a result of this set-up, participation in ZMC and IVMC meetings was usually dominated by TAs, the semi-commercial fishermen and DoF officials. For instance, a meeting called to discuss the modalities of the new co-management arrangements in 1994 attracted 56 participants. These consisted of Tonga chiefs and headmen, staff from DoF, representatives of government and local authorities along the lake shore. Out of a total of more than 2000 fishers who were active in the fishery at the time only 10 were invited. (Malasha 2007, p.x)

Even where the participation of legitimate groups of end-users seems to have been more effectively achieved, a more thorough analysis reveals however that the level of participation is often reduced to an ‘instrument for implementation’ rather than an effective and empowering involvement of those end-users in the decision making process. The situation on the Mweru-Luapula fishery in Zambia is one example. There Malasha (2007, p.x) observes that the ZMC’s and IVMC’s have been given responsibilities, but no decision-making powers. In essence, the deconcentration process might have improved the participation of fishers and others in management – through their involvement in the ZMCs and IVMCs- but the process is still very much embedded under the umbrella of the Fisheries Act of 1974 which gives ultimate responsibility to DoF. It appears that this situation will remain the same even under the new amendments that have been made to the Fisheries Act.

In other fisheries the overall level of participation may also be reduced to its minimal dimension where fishers are simply invited to contribute to the management tasks. In Niger for instance, Makadassou et al. (2007) report that fishers may be called to participate in the removal of water hyacinth or sometimes contribute to the collection of fishery statistics (e.g. landings), but that this system is in effect based on in-kind or cash incentives, or even donation of fishing equipment. Otherwise, they have no influence on how fisheries are to be managed, and have no recourse to any formal institution in order to question or challenge the government’s and traditional authorities’ actions.

This phenomenon has led several authors to make use of the concept of ‘instrumental co-management’ as defined by Viswanathan et al. (2003, p.8) –as opposed to ‘empowering co-management’ or ‘transformational’ co-management- to describe these situations. Chinsinga (2002) argues in the case of Malawi that despite the official devolution discourse widely publicized, the paradigm of centralized management remains deeply entrenched in the DoF mentality. This has made the whole governance reform tend toward instrumentally participatory programs (i.e. in which local communities participate in projects that are predefined by the government or donors) rather than transformational governance reforms (in which the communities’ priorities define the development projects), thereby diminishing any local empowerment objectives (Njaya, p.x, Russell et al. 2007, p.35).

Finally in countries where participatory management has not been introduced to the general fisheries policy agenda (e.g. Nigeria), one is not surprised to observe a low level of participation in fisheries management, especially from those in the primary and secondary stakeholder groups (**Table 1**). From Table 1, it is evident that the DoF is the dominant actor in the formal agenda setting process to the exclusion of other stakeholders. Instead, traditional leaders maintain *de facto* management powers over

the resource, and Ovie and Raji (2007) report that these traditional authorities are highly sensitive to community sentiment.

Table 1. Matrix of major fisheries policy development processes and stakeholder participation in Nigeria

Process Stakeholders	Planning	Design	Implementation	Enforcement	Evaluation	Licensing	Ext. services
DoFs	++	++	++	++	++	++	+
Fish. Inst.	+	+	+ -	-	+ -	-	+
NGO e.g. FISON	+	+	-	-	+	-	-
N.P.C	-	-	-	-	-	-	-
Dams Auth.	-	-	-	-	-	-	-
MFI	-	-	-	-	-	-	-
Fishers	-	-	+ -	+ -	-	-	-
Processors	-	-	-	-	-	-	-
Fish traders	-	-	-	-	-	-	-
Boat builders	-	-	-	-	-	-	-
Comm. Agents	-	-	-	-	-	-	-
Transporters	-	-	-	-	-	-	-
Ancillary	-	-	-	-	-	-	-
Trad. Instn.	-	-	+	+	-	-	-

++ = V. High participation; + = High participation; + - = Weak participation; - = No participation. Source: redrawn from Ovie and Raji (2007)

Table 2. Matrix of major fisheries policy development processes and stakeholder participation in Cameroon

Process Stakeholders	Conception	Planning	Implementation	Enforcement	Monitoring	Ext. services
Fishers	x	x	x			
Processors	x	x	x			
Transporters		x	x			
Retailers			x			
Intermediaries		x	x			
Local buyers		x	x			
Women process.						
Boat builders			x			
Outboard mechan.			x			
Fish porters			x			
Ice resellers						
Trad. institutions		x	x			
NGOs	x		x			
MFI	x	x	x			
Fish. Admin.	x	x	x	x	x	x

Source: redrawn from Belal and Baba (2007)

More surprising is that in countries where ‘participation’ is now entered in the lexicon of fisheries policy -as in Cameroon-, the analysis does not show any fundamental difference in the extent of fisherfolk participation (**Table 2, above**). Belal and Baba (2007) note that this situation may be related to the low organizational capacities of the majority of the stakeholders at the local level and the fact that local populations are still considered by development agencies and NGOs as ‘beneficiaries’ rather than ‘actors’.

Downward accountability

In contrast to participation, accountability is rarely mentioned in the fisheries literature beyond the allusion to its contribution to good governance. Yet political scientists and governance experts agree that accountability should be considered as the critical variable in social empowerment and emancipation (Agrawal and Ribot 1999, Francis and James 2003, Brett 2003, Devas and Grant 2003). In the words of Agrawal and Ribot (1999, p.478):

“...downward accountability of those who receive powers from the central state on the behalf of a constituency is the primary dimension of decentralization since it can broaden the participation of local populations and enhance the responsiveness of the empowered actors” (our emphasis).

The poor attention paid to this issue of (downward) accountability seems to have affected the decentralization processes in the countries included in this review. In Cameroon for instance, Belal and Baba (2007, p.x) acknowledge that while the staff of the deconcentrated agencies at various levels (provincial, district, and sub-district levels of DoF) are accountable to their upward hierarchy, no administrative or legislative mechanisms have been put in place during the fisheries co-management reform to hold these DoF staff accountable to the fishing communities and other direct stakeholders. In these conditions there is no real incentive for the agents of these administrations to engage with the local population beyond the consultation stage.

While some may argue that this lack of accountability from the lower level of the administration is actually the very reason why ‘co-management’ was introduced in the first place, it may be more ‘disturbing’ for these co-management advocates to realize that this lack of downward accountability can also be observed in the case of the newly empowered local entities. In Zambia’s Luapula co-management programme for instance, the frameworks for co-management did not address how the various members of the VCMs, (Fisheries Officers, traditional leaders, representative of the Local Authority, FA members and other interest groups such as fish traders) were supposed to be accountable to their own constituencies. The frameworks merely spelled out the roles that these different actors should play in the new management arrangement. In these conditions, it is not surprising to read that these VCMs often fail to account for the fishers’ real aspiration (Malasha 2007). Similarly, in the case of the Lower Shire (Malawi), Njaya (2007, p.x) argues that

“there is minimal or lack of downward accountability” of these newly empowered entities. Many BVCs are [led] by a few individuals who in most cases are related in one way or another to traditional leaders, making them accountable to the traditional leaders [or to the larger gear owners] and not to the fishers. At the same time, the District Fisheries Officers’ reports are routed to Fisheries Department Headquarters and not to District Commissioners or District Assembly Chairs, making the[m] accountable to their Director and not to the fishers or even the decentralized district assemblies (local governments).”

The question of the accountability of TAs appears critical in this context, given the role that they seem to play (whether through *de jure* or *de facto means*) in the large majority of small-scale fisheries in Africa. These TAs suffer a relatively bad reputation in the rural development literature where it is argued that they are not necessarily the best promoters of equal, gender-balanced and pro-poor reforms (Devereux 1996, Johnson 1997, Moore and Putzel 1999, Leach *et al.*, 1999, Luckham *et al.* 1999). In contrast, no real consensus seems to have emerged from the five country review documents considered here. In Niger the review document emphasizes the real risk of power abuse that exists due in particular to the pre-eminent position enjoyed by the TAs in the new ‘decentralized’ context (Makadassou *et al.* 2007). In contrast, in the case of Nigeria –where TAs have also been recognized to play a critical role in the control of access and use of natural resources and fisheries in particular (refs)-, Ovie and Raji (2007, p.x) argue that traditional community leaders, are more easily held accountable for their decisions or actions by their subjects as compared to formal institutions. According to these authors, unpopular informal policies of TAs are often resisted or rejected outright¹¹. In extreme cases, this form of accountability can result in outright dethronement and replacement of such traditional leaders. In Malawi, the potential for abuses of power by TAs, highlighted by Njaya (2007) are balanced with the analysis of a variety of fisheries co-management experiences by Russell *et al* (2007) that illustrates both how useful the support of TAs is for successful co-management and how the roles played by TAs appears to reflect significantly the manner in which co-management is introduced by the government.

Implementing governance reforms in small-scale fisheries in Africa

The five country reviews highlight various issues in the implementation of fishery governance reforms. None of those issues, however, is fundamentally new and most of them have already been described in the fishery co-management literature.

Reluctance to alter the existing status quo

There is little doubt that the political will exists and is indeed present at different levels in many countries to implement fisheries co-management reforms. In Cameroon for instance the three SFLP co-management projects launched in 2001, prior to the promulgation of the 2004 laws on decentralization, is the vivid evidence

¹¹ For example, mismanagement or embezzlement of community funds such as those collected on behalf of the people for ‘communal interest projects’ attracts heavy resentment from community members.

of this political will at the highest level¹². However as pointed out by Belal and Baba (2007), a reluctance to fully engage in, and support, co-management reforms has also been observed in many instances amongst certain actors from the deconcentrated administration or the traditional institutions. For these local actors, co-management is seen as a threat to their (perceived or real) present control over the fishery sector resources.

Similarly, in the Luapula fishery in Zambia it was reported that while some TA's were supportive of the co-management initiative others made deliberate efforts to frustrate the VMC's in their areas. In most of the Zambian fisheries reviewed, TA's criticized and undermined the operations of VMC's when these threatened to undermine fishers' traditional practice of paying tribute to them (Kapasa, 2004). Similarly, however, most local governments have resisted devolution of power to VMCs and in both the Mweru-Luapula and Bangweulu fisheries have reneged on agreements to share fishing-related revenues with them. Finally, this reluctance to devolve power is clear in the recently (in Sept. 2007) enacted amendments to the Fisheries Act, that demonstrate a clear political retreat from empowerment of VMC to instrumental use of them.

This issue of reluctance to renounce power by some of the actors previously in control of the fishery resource is not necessarily a new element in the analysis. It is one of the main reasons identified in a large number of past and recent papers to explain the failure of earlier co-management programmes (e.g., Berkes 1995, Pomeroy 2001, Hara *et al.* 2002). As highlighted in the first part of this report, this diagnostic is not surprising. By adopting the McCay-Berkes model, one has the tendency to over-emphasize these issues of (lack of) power-sharing to the exclusion of other factors.

Lack of legal recognition

Another issue which is often mentioned in a relatively large number of papers on co-management is the issue of absence of legal backing for fishery governance reforms. Many examples exist around the world and in particular in developing countries where co-management and/or CBFM reforms were missing the necessary legal support, at least in the first years of their implementations (Jentoft 1989, Pomeroy 1995, Sverdrup-Jensen and Raakjaer Nielsen, 1998). While the political will within the fishery sector might have been genuine and sincere, it was not systematically supported by adequate legislative reforms that would empower the newly created devolved entities through a *de jure* framework. While this problem tends to get resolved in countries where co-management experiences have been implemented for more than 10 years, there are still situations where this is yet to be the case. Zambia, as the example of the Kafue floodplain fisheries by-laws confirms is one of them. In this fishery the by-laws drafted by the village management committees still have no legal recognition. As a result, these village committees do not have legal right to enforce these by-laws. In the cases of the Mweru-Luapula, Lake Kariba and

¹² In fact, a revision of the national fishery law (Law 94/01) is being considered and a new law being developed that will include several dispositions supporting co-management and other reforms related to devolution reforms in fisheries.

Bangweulu fisheries, local governments use this absence of a legal framework to avoid sharing fishing-related revenues with VMCs (Malasha 2007).

In Malawi this has similarly been an issue. While the policy frameworks provide for the legal recognition of BVCs and Fisheries Associations through their registration with the National Registrar's Office, the Fisheries Department has appeared hesitant to give the BVCs such empowerment. Consequently, as is the case in Lake Chiuta, the Fisheries Associations are being challenged in courts for their lack of legal standing by corrupted chiefs (Russell *et al.* 2007). Prior to the dissolution of the District Assemblies (DA) in 2005, the Mangochi DA was looking into passing by-laws for Lake Malombe and southern Lake Malawi that would give legal recognition to BVCs and Fisheries Associations within this district through a by-law outlined in the Local Government Act. Unfortunately, it looks as if such measures will not be passed before the next DA elections, however, probably slated for 2009.

In Cameroon, fisheries co-management in the SFLP-sponsored Mape and Maga water bodies have struggled due to a lack of official recognition. This was addressed eventually by the passage of by-laws by the local government. The legitimization of these co-management committees and the by-laws is scheduled for January 2008. For the rest of the country, however, the absence of policies that empower fisherfolk as that which has been given to forest- and wildlife-dependent communities remains a significant obstacle to real devolution. A significant reason for this may be the reluctance among some deconcentrated agency and decentralized governments representatives to protect their own fisheries-related interests.

Lack of capacity

As the literature has shown, lack of stakeholder capacity is a limiting factor that can greatly affect the chances of success of any interventions (Abraham and Platteau 2000). Fisherfolk are particularly likely to be affected by this as fishing and fish-related activities such as fish processing and fish trading are known to attract mainly unskilled labour (refs). Additionally fishing communities are often forced to live at least temporarily in remote, isolated areas (especially inland fisheries such as those on floodplains, river and/or lakes) where access to education and/or other institutional supports is not easy. In these conditions it is not surprising that several of the country reviews highlighted this issue of lack of capacity. In Niger for instance (Makadassou *et al.* 2007, p.x) and in Cameroon (Belal and Baba 2007, p.x) the lack of organizational capacity, illiteracy and lack of support are presented as some of the reasons for the poor level of effective engagement by some of the primary stakeholders into the new decision making process. In Niger, though legally empowered to manage local resources, a lack of capacity and funding are primary reasons for the inabilities of decentralized district agencies to manage resources, resulting in their dependence on the central government agencies. Similarly, in Zambia, district-level agencies lack the human resources and financial base to effectively manage fisheries, and rely heavily on central authorities.

Rent-seeking behaviour by Governments and Traditional Authorities

More than 2 decades of governance reforms in various economic and public administration sectors have demonstrated that decision-making process and transfer of responsibilities to lower levels is not a sufficient condition to ensure the success of decentralization reforms (Shackleton and Campbell 2001, Ribot 2002). Ensuring the effective delegation of financial means to support the new decentralized system is also necessary. Fisheries are no exception to this rule. As they are rent-generating sectors, natural resource such as fisheries or forestry are in theory in better position than other sectors (such as, education or health) to generate these necessary financial resources. However, experience reveals that in practice part or the totality of these rents are often appropriated by the central or decentralized government(s), who regard fisheries primarily as a source of revenue to support their budgets (through collection of fish trading or landing taxes, boat or fishing gear licensing, etc.) In Cameroon for instance taxes extracted from the fisheries sector are collected by the tax administration at the local and central levels, transferred to the ministry of finance, which then redistributes 70% of those to deconcentrated technical administrations related to MINEPIA. However no share is redistributed directly to the end-users¹³.

Zambia offers another illustration of this rent-seeking behaviour through the case of the Bangweulu fishery. In this fishery the local government derives most of its revenues from fish-levies. Soon after the launch of the co-management plan for the Bangweulu fishery, the newly-created VMCs started to question the manner in which the local authority had been utilizing the levy. In particular, the VMCs insisted that the local authority account for all the monies that it collected, as the fishers reportedly did not derive any benefits. The local authority reacted by making various efforts to undermine the VMCs. In 1998 the government dissolved the local authority for ‘corruption and mismanagement’ but the new one did not perform any better either (Til and Banda, n.d). In particular, the new local authority did not resolve the issue of levies as there were no legal amendments compelling them to do so (Malasha 2007, p.x).

This case is not an exception and similar situations occur in many other places. In Nigeria the bulk of the revenues (not necessarily taxes) are generated from the fishery sector through licensing of fishing boats. A small amount of revenue is also derived from fish trade but only in well-organised fish markets such as Doro-Baga on the Eastern side of the Nigerian shores of the Lake Chad (Ovie and Raji 2007). While the collection and control of such revenues is legally vested in the offices of the Federal and State Departments of Fisheries (as explicitly stated in Federal and State fisheries laws and Edicts, respectively, the redistribution mechanisms of such revenues are not stipulated by the laws. Thus Ovie and Raji (2007) report numerous complaints from different stakeholders interviewed during their review:

“All [of] our field respondents agreed that once such collected revenues are paid into government treasury, they can hardly be withdrawn even to facilitate the work of the government officials in charge of such collections” (Ovie and Raji 2007, p.x).

¹³ In that respect the situation in the forestry sector in Cameroon is different. In that sector, part of the forestry taxes (the ‘redevance’) is redistributed by the States directly to the lower level of decentralised political entity (the ‘commune’) as part of the institutionalised national decentralization reform.

Additionally, the traditional authorities in Nigeria collect funds from fisherfolk for the purpose of financing “communal interest projects”, and a portion of this money is typically given to the local Imams and Emirs.

In some other cases it is not the initial rent generated by the fisheries which has led some elites to seek control of the fisheries, rather the benefits attached to membership/participation to the new system. This issue applies in Malawi where it was reported that participation in many BVCs seemed largely motivated by the financial gain derived from the anticipated participation in workshops, privileged access to loans, and the distribution of “sitting allowances” to BVC members, (Donda 2000, Hara 2002, Russell et al 2007). A good example is the case of the Lake Chilwa and Mpoti Lagoon fisheries where the BVCs and FAs are composed of chiefs and their appointees, most of whom were not actual fisherfolk, who also don't live near the lakeshore, and who have little direct knowledge of the fishery (Wilson 2004, 2006). Fisherfolk are therefore highly resistant to these BVC's regulations (Njaya, 2007).

Lack of financial independence

The lack of financial resources is another central issue abundantly described in the literature on decentralization (Minor 1999, Lind and Cappon 2001, Dupar and Badenoch 2001). In NRM this shortage of revenue may not only impede the operational capacity of the decentralized entity, it may eventually lead the latter to seek to maximize the rent extracted from these NRM in order to generate revenues. The implications may be disastrous for the natural resources. Recent reviews of decentralization in forestry in Cameroon, Indonesia, and Uganda, for instance, reveal that transferring use rights to local bodies has resulted in overexploitation of timber, primarily due to the needs of local governments and local people for income (Oyono 2002, Resosudarmo 2002). In fact, as pointed out by Ribot (2002), there is no reason to expect that local authorities will not try to convert natural wealth into financial wealth, especially where cash is in short supply and is viewed as more valuable than standing forests.

While such an extreme situation has not been explicitly identified in any of the 5 countries reviewed in this research, there are often tensions between national-level conservation agendas and local poverty reduction and food security ones. In Cameroon, for example, there have been conflicts between the DoF and local fisherfolk over issues such as closed seasons (such as in Lake Maga, where fishing is closed three months of the year). In Nigeria, while local and national institutions agree in theory on the need for conservation efforts to sustain the fisheries, local fishing communities rely on the fisheries for their livelihoods and often cannot afford to prioritise conservation over satisfaction of their basic needs. In the Komadugu Yobe Basin, for example, when reminded of the harmful impact of the use of undersized mesh in beach seine fishing, the respondent agreed, but explained that it would be difficult to abandon such productive gear in order to avoid catching undersized fish (Ovie and Raji 2007, p.x).

Several country reports also make allusions to the problem of revenue shortage faced by the newly created local bodies, due to either the lack of mechanisms to ensure the

financial ‘decentralization’ or due to the reluctance of the central government to redistribute the revenue generated by the fisheries. This lack of financing can create a further incentive to overexploit natural resources.

In Zambia for instance, the new ZMCs and IVMCs were supposed to be financially supported through the establishment of a revolving fund. Initial contribution to this fund would be made by donor. The DoF would then lobby for the amendment of the Fisheries Act to legalise the operations of the new management plan so as to legitimise the contribution of 60% of the money it collected from fishing licences to the ZMC’s and IVMC’s. Similarly, the amendments to be made to the Fisheries Act would also compel the local authority to pay 40% of the money it collected from fish levies to these committees. However, the local authority refused to give part of the fish levies to the ZMC’s and IVMC’s on the grounds that these organs did not have legal recognition as was the requirement under the Local Government Act (Malasha, 2003). It was only after the ZMC’s and IVMC’s had been registered as voluntary organizations and also after the personal intervention of the Traditional Authority in the area did the local authorities begin to give part of the levy to these institutions.

In Cameroon, co-management activities have so far been entirely supported through the SFLP project. In the rest of the country, revenues generated through fishing licenses and fish product certification are levied by district-level tax collectors and ‘recentralized’ at the level of the ministry of finance, which then redistribute 70% of these revenues to 3 deconcentrated parastatal agencies in charge of fisheries management¹⁴. No redistribution is directed to the communes or to fishery stakeholders groups (e.g. fisheries professional organizations, local fisheries committees, etc.).

The case of Niger raises a different –but strongly related- issue. In Niger, several direct and indirect taxation mechanisms coupled with State subsidies and loans have been set-up –at least in theory- to ensure the financial autonomy of the new decentralized authorities (collectivités territoriales). In practice however, the extreme poverty in which a large majority of the population lives (in particular in rural areas) raises the question of the real capacity of these populations to pay these taxes and thus to support the decentralized entities (Makadassou et al. 2007). Additionally, the central treasury actively resists any allocation of resources to these governments. As a consequences, most of these ‘collectivités territoriales’ are actually not operational, reducing all the efforts made to set up a ‘democratic’ decentralized decision making process to almost nothing.

Elite capture

Elite capture is probably the most frequent pitfall described in decentralization reform literature. Both ‘grey’ and published literatures provide many examples of how local elite groups have captured the benefits of decentralization projects for their own use, thus considerably reducing the potential positive effect of the reforms for the rest of

¹⁴ Those are North Livestock Development Authority in Adamaoua, North and Far-North Provinces, the Marine Fisheries Development Authority and the North-West Livestock Development Authority for West and North-West Provinces.

the local population (Moore and Putzel 1999; Dreze and Sen 1995; Abraham and Platteau 2000; Crook and Sverrisson 2001). Chiefs, headmen and other so-called “customary authorities” are often targeted by central governments, donors, and NGOs as appropriate local authorities in decentralization efforts. However, as highlighted by Devereux (1996), Johnson (1997), Moore and Putzel (1999) Leach *et al.*, (1999) Luckham *et al.* (1999) and many others, customary authorities are not necessarily supportive of democratic principles. They often inherit their positions, and their degree of local accountability depends on their personalities and local social and political histories. Furthermore, customary authorities are notorious for entrenched gender inequalities and for favoring divisive, ethnic-based membership (Zufferey 1986; Colchester 1994; Baland and Platteau 1996; Pretty and Ward 2001).

TAs are not, however, the only local elites who may use their existing privileged status to ‘hijack’ part of the newly-devolved power and reinforce or extent their political, social or economic situation. In the case of Niger we have discussed that in a context where fishing communities are particularly isolated and lack organizational and institutional capacities, devolved power often ends up in the hands of the local agents of the deconcentrated administration, the TAs and/or their the fishermen chiefs. Unfortunately as recognized by Makadassou et al. (2007, p.x) “this type of unbalanced relationship is often a source of abuse”. These forms of elite capture are not unique to circumstances where literacy is an initial limitation, however. Given a new opportunity to expand their influence (such as the introduction of devolution or decentralization), various elites motivated by short-term economic interests may compete to establish control over resources, and less powerful groups (due to their caste or classifications of “non-residency” risk being marginalized (Nijenhuis 2003). Such elite capture by TAs or the larger gear owners, frequently in collusion with local Fisheries Department or decentralized local government staff have been documented in Malawi (Russell et al. 2007, Njaya 2007), Zambia (Malasha 2007), Cameroon (Belal and Baba 2007), and Niger (Makadassou et al. 2007).

Overall Assessment of co-management experiences in Africa

Co-management: Mainly deconcentration, some devolution (at least on paper) but little decentralization.

One of the initial points made in this report is that in order to improve our capacity to analyse governance reforms in fisheries it might be useful to go beyond the original distinction between levels of participation proposed by McCay and Berkes and try, instead, to ‘disentangle’ the different types of reforms that are usually described in the fisheries literature under the broad term ‘co-management’. In that respect we proposed to make an explicit distinction between the three main generic forms of governance reforms: deconcentration, devolution and decentralization¹⁵, while recognizing at the same time that co-management as observed on the ground is likely to involve some combination of these.

¹⁵ See p.3 for definition.

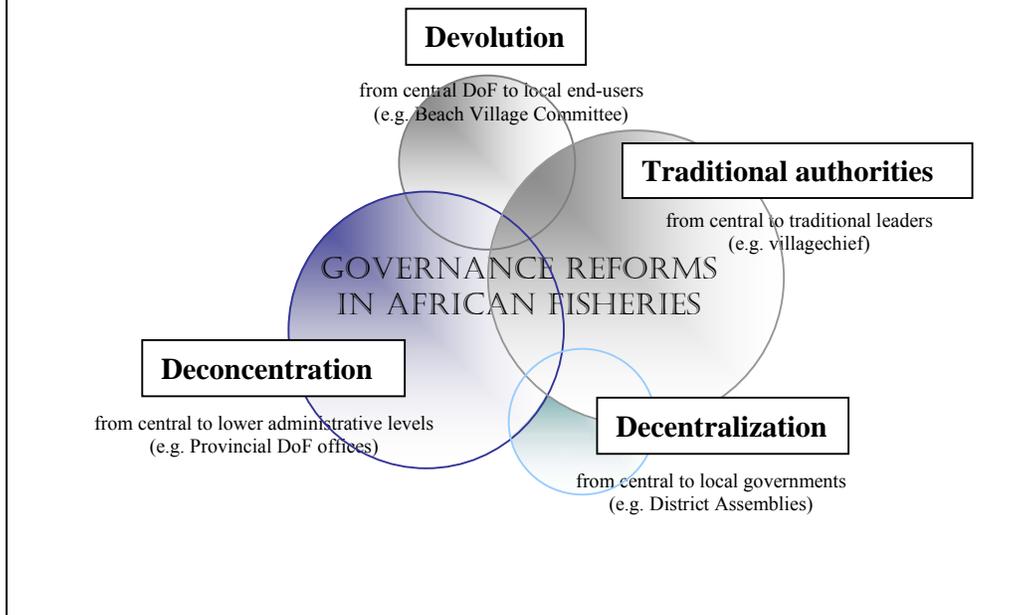
Overall it seems that, although co-management has been presented by many as the way to devolve power towards the end-users, the reality is that the ‘balance’ is still in favour of some form of centralised government control. What the review suggests, however, is that this ‘centralised’ system is becoming increasingly deconcentrated, - resulting essentially in a redistribution of power toward the local (provincial/district) level of the central authority- probably as a result of the continuous pressure imposed on the governments to show some forms of governance reforms. But accountability remains essentially upward, allowing the top level of the hierarchy to maintain overall control other the decision making process.

The analysis of the country reports also shows that another type of players has benefited from these governance reforms. In particular, with the withdrawal of the central government from the rural areas, and the inability of decentralized governments to gain access to sufficient resources and capacities, local power brokers, such as the traditional local authorities are given greater freedom to pursue their agendas. In some cases this resulted indirectly from constitutional or legislative changes induced by the decentralization process that was taking place conjointly with the co-management reforms, which gave some traditional authorities *de jure* roles as part of the decentralization process. In other cases, they simply were freed from oversight to continue or expand on their pre-existing *de facto* local roles as adjudicators and resource ‘managers’ and attempted to capture part of the financial and/or political power that was being delegated through the co-management process. In many cases, the poor capacities of sector ministries and decentralized governments led them to depend outright on the TAs to implement their regulations.

Finally the other important result that the review highlights is that although decentralization has been widely promoted across sectors in all of these countries (with the notable exception of Nigeria), there is very little evidence in the country reports of any positive interactions between small-scale fisheries and the local governments established through these decentralization. At its ‘worst’, there is little effective integration of small-scale fisheries in the agenda of local governments; at its ‘best’ the only relationship is based on the decentralized government’s or sector deconcentrated agencies’ motivation of extracting some of the rent generated by the sector.

Revisiting the framework presented in Fig.2 with these different conclusion conclusions leads to a totally different representation (**Fig.3**) of governance reforms as they have effectively been taking place in fisheries in Africa. At the present time the bulk of the *de jure* power still remains with the DoF but has been partially delegated to lower levels of its hierarchy. This new arrangement is beneficial for the top level of the administration as it has managed to transfer the load of the monitoring and enforcement to its lower-level representatives, but keeps the responsibility of the decision-making and maintains overall control through strong upward accountability mechanisms. The other major beneficiaries of these reforms are the traditional leaders and other elites at the local level who have received part of this ‘decentralized’ power through *de jure* decentralization legislation or *de facto* coercion or collusion with the local DoF staff. The real ‘losers’ are the end-users (fisherfolk) who have only gained limited control over the resources, and may possibly be compelled to implement regulations that are poorly suited to local ecological realities or contrary to their own livelihood needs.

Fig.3. Share of power in fisheries co-management in Africa. The bulk of the new power remains with the DoF but has been partially transferred to the lower levels of hierarchy. Another major player are the traditional authorities



Conclusion

Synthesizing the findings of the five country review documents into one single message is difficult, as the overall outcome is rather complex and ‘patchy’. Some would certainly like to emphasize the few success stories that have occurred. Some would be tempted to underscore the other, less successful, results. They all would probably be correct as many different criteria could be used to ‘evaluate’ co-management reforms. Ultimately however, the core issue is about governance and the central question remains the same:

Have co-management projects as they have been implemented so far in Africa improved the governance of inland fisheries?

From the information collected in the five country documents reviewed in this research it seems that the answer to this question is: “not necessarily”. One can hardly dispute that the new governance system introduced by co-management was –at least partially- genuinely intended to improve the governance in fisheries. The previous ‘model’ of governance in operation in the fisheries (centralized governance) was one where all decisions, power and responsibilities were concentrated with the DoF top level’s hands. The new governance system introduced by co-management through its objective of devolution of some of these decision-making processes and responsibilities to the end-users, was therefore in principle aimed at improving this governance.

In practice, however, as was outlined in several of the previous sections in this report, the outcome was not systematically positive. As a starting limitation, in many of the countries reviewed, co-management policies either, were not accompanied with necessary legal frameworks (Zambia, Cameroon), such legal supporting mechanisms were effectively blocked from being used (Malawi), and extension services were generally poorly sensitized, educated or empowered to design locally accountable devolved institutions (Malawi, Zambia, Cameroon, Niger). Therefore, in the majority of the cases reviewed here the newly introduced co-management programmes failed to *improve* governance, they simply *modified* the status quo by altering the distribution of power and responsibility amongst the main fisheries stakeholders. If one accepts that the 5 countries included in this review provide a reasonable representative ‘sub-sample’ of African inland fisheries, it seems that the (mainly-donor funded and often top-down implemented) fisheries governance reforms in a large number of African countries over the past 2 decades have indeed been successful in challenging the previous (centralized) governance system. However, contrary to their intent of empowering primary resource users and local governments, the inabilities of local governments, deconcentrated agencies, and fisherfolk to take up their newfound mandates has frequently resulted in the division of influence among local power brokers and/or the ‘instrumentalization’ of the co-management process. This result provides some complexity to the claim in the literature that DoF and other local or national powerful stakeholders who controlled the fisheries sector prior to the co-management reign have been ‘dragging their feet’ in an attempt to preserve the old status quo. What the reviews reveal instead is a very dynamic institutional landscape where poorly designed and empowered co-management programs have enabled a variety of actors and institutions to protect their individual interests.

It should be recognized that the ultimate beneficiaries of these governance reforms have only in few occasions been the ‘genuine’ end-users of the fisheries, that is the small-scale (migrant and local) fishers and small-scale (usually local) fish processors. As evidenced through this project, the process of weakening the centralized authority opened an ‘window of opportunity’ for other actors (mainly at the local level) to reshape the institutional landscape in ways that allowed them to pursue their own agendas or reinforce their own socio-political or economic power, often to the detriment of other groups, in particular the allochtonous fishers. In essence this is not surprising as it simply reproduces the usual social process through which one or a combination of groups of actors shape the institutional landscape to create a new status quo favorable to their own interests.

Recommendations

A series of recommendations emerges from this analysis.

Moving beyond the co-management paradigm

One of the most fundamental (and urgent) challenges for the academic and donor fisheries communities will be to move beyond the co-management narrative and to

recognize that the existing approach (crystallized in the McCay Berkes framework) does not provide the adequate framework to identify and tackle the major issues facing the fisheries sector in its current attempt to improve governance. As we saw “More participation” is not the panacea and cannot be achieved through the introduction of new policy frameworks. Such a view tends to reduce the issues to a too simplistic one-dimensional problem, while governance reforms in fisheries are in fact a complex process related to many issues. Over the last twenty years, academics engaged in the design of policies for natural resources management in the developing world have increasingly espoused and promoted the co-management narrative, gradually giving it the status of a scientific paradigm. Adopting a critical view on the current paradigm has always been difficult for the scientific community and will definitely represent a major challenge for many of us.

Participation, yes but more importantly accountability

Ensuring or enhancing the participation of the end-users and other legitimate stakeholders in the decision making process is important -as correctly pointed out many years ago by Berkes, Pomeroy, Ostrom, and others (Berkes 1989, Ostrom 1990, Pomeroy 1995, 2001). The involvement of these end-users is, in particular expected, to increase their sense of responsibility and ownership, thus facilitating the self-enforcement of the management system and in principle the ‘sustainability’ and equity of the system.

But participation cannot work without accountability. As the involvement of every single fisherfolk in the decision making process (that is, direct democracy) is not possible as it would increase *ad infinitum* the transaction costs of the political process, one has to rely on the system of representatives. What recent political and social sciences research on ‘decentralization’ has shown however, is that unless these representatives are strongly accountable to the rest of the stakeholders who they are supposed to represent, any devolution of power to these representatives is likely to become a source of misuse and abuse (Ribot 2001, Campbell and Shackleton 2002; Mearns and Bruce 2002, Dupar and Badenoch 2002) –see also paragraph on traditional leaders below. Additionally, as discussed above, there are no assurances that “local” elites or local governments, if not held accountable, are motivated to act in the common interest.

Focusing on implementation issues

Co-management –and more broadly governance reforms- are high in the agenda of most African countries. It would therefore be misleading to present the failure of co-management reforms as a consequence of lack of ‘official’ political will¹⁶. Co-management failure comes essentially from an unwillingness and inability to support all the processes needed to allow its implementation. There is therefore an urgent need for academics to turn our attention toward the ‘nitty-gritty’, ‘on-the-ground’, and context-specific aspects of co-management implementation. While this has been highlighted many times, there is no ‘one sizes fits all’ and the success (or failure) of a

¹⁶ Although the lack of political will, or more particularly political weakness can still explain in some specific cases why national or even local legislation have not been amended to support co-management. Zambia is a typical example, as may be Malawi.

co-management programme will essentially depend on local details: the integrity of the DoF local staff, the ‘ethic’ of the traditional leaders, the balance between the different groups of fishers (allohchtone versus autochtone), the presence of local NGO, and in particular the pre-reform relationship between all these different groups and individuals, etc. Note that very little in these failures / successes has to do with the resource itself. Most of the issues are institutional.

Recognizing the political economy of co-management reforms

In direct relation to the point above, it is crucial to recognize that the socio-institutional landscapes where governance reforms in general and co-management in particular are implemented are not ‘empty’. These landscapes are in fact the result of a constantly evolving status quo which reflects the current distribution of power between different actors (essentially at local level) and their control over the resources. The introduction of co-management have been perceived –and transformed- by these different actors as new opportunities for them to continue to shape the socio-institutional landscape in such a way that allows them to pursue or even increase their political, social or economic advantages. In this continuous (open or more subtle) struggle, the poorest and most marginalized of the fishing community have generally been the losers as they ‘started the game’ with some disadvantages.

The recognition of this political economy dimension has strong implications in the way co-management should be planned and implemented. In particular it means that a good understanding of the current ‘landscape’ and of the current interactions between the different groups susceptible to be directly or indirectly involved (or rejected) by the co-management is essential before the first step of the reform is actually initiated. This preliminary analysis should help in predicting the changes in the landscape that are likely to occur as a result of the reform, and thus provide appropriate guidance and recommendations on how to limit the ‘unexpected’ / negative outcomes.

The unavoidable traditional leaders

Although this situation is not an exclusivity of Africa -as many Pacific fisheries also seem to be in the same case- African small-scale inland fisheries are for their majority still under the strong influence of the local traditional leaders. While co-management could have been one way to reduce this influence (if one wished to do so), these reports reveal that its poor implementation has in some cases actually had the opposite effect. Because co-management projects were usually poorly prepared to face this issue¹⁷, these traditional leaders have usually been one of the groups which systematically managed to strengthen their local power during the establishment of the co-management arrangement. This situation means that a large part of the success (or failure) of these co-management reforms depends on the *bon-vouloir* (good will) of these traditional leaders. In particular, trying to pass-by these traditional leaders would almost systematically be followed by direct or indirect opposition.

¹⁷ We recall that this issue of traditional leader was totally absent from the initial McCay-Berkes framework. Interestingly it has emerged in the African literature (see, e.g. Sverdrup Jensen and Nielsen 1998, or Mafaniso *et al.* 2002).

The influence of these traditional leaders is not, however, necessarily always negative. In effect several cases demonstrate that they can be one of the key-players ensuring the success of the project. When this happens, however, it is essentially the result of their own integrity and commitment, and frequently depends on the extent to which the co-management process has actively engaged with them. Regardless, until clear downward accountability mechanisms are embedded into the process, co-management projects will always depend on the personal commitment and capacities of few key actors, leaving the overall projects' fate –and its impact on the whole community– entirely in the hand of these few actors.

Reconsidering the balance between decentralization and devolution

As evidenced in the country level reports, but also through other literature (e.g. Satria and Matsida 2004, Hara 2006) co-management in fisheries has been poorly integrated with decentralization reforms. Several reasons may be brought forward to explain this situation. Historically co-management has been promoted –at least in its early development– independently from the decentralization narrative (Berkes 1989, Pinkerton 1989). The fishery literature is also known to be usually remarkably sectoral in its analysis and links to broader rural development issues, political or political ecology sciences are generally poor (Béné and Neiland 2004, Allison and Badjeck 2004,). On the other 'side' of the equation, small-scale fisheries are usually not considered as an important or relevant sector by national and local planners and decision-makers. This has certainly contributed to the predatory-behaviour adopted by national and local government (or their agencies) whereby small-scale fisheries are usually heavily taxed but receive few services in return.

The collection of taxes from fisheries is not the central criticism here, however, and governments' predatory dependence on fisheries-related income can be harness to benefit all (Ross 1999). This simply requires a more 'equitable' relationship where both parties (the fishery sector and the local government) could benefit from one another through a more strongly integrated approach. Better supported small-scale fisheries could contribute more effectively to local economic development, thus supporting the objective of the local government through revenue generation but also –perhaps more appropriately– through employment (labour buffer), food security and women economic empowerment. This might be supported by the fact that local levels of decision/planning are known to be much more favorable to integrated approaches than higher (national) levels and, should therefore be in a much better position to integrated and account for the aspirations and needs of the small scale fisherfolks than national planners (Ribot 2002, Satria and Matsida, 2004; Hara 2006). It is therefore the responsibility of the fisheries stakeholders (starting with the DoFs) to effect this integration for the mutual benefit of the resources and end-users.

References

- Adams, T. 1996. Modern institutional framework for reef fisheries management. In Polunin N. and Roberts C. *Reef Fisheries*. (pp.337-360). Chapman & Hall, London.
- Abraham, A. and J-P. Platteau. 2000. The central dilemma of decentralized rural development. Paper presented at the Conference on New Institutional Theory, Institutional Reform, and Poverty Reduction. London School of Economics, London. 7-8 Sept 2000.
- Agrawal, A. and J. Ribot. 1999. Accountability in decentralization – a framework with South Asian and West African cases. *Journal of Developing Areas* 33(4):473-502.
- Aiyar, S., A. Parker and J. van Zyl. 1995. Decentralization: A new strategy for rural development. Agriculture and Natural Resources Department Dissemination Note No.1, World Bank, Washington DC.
- Allison, E. H. and Badjeck, M. C. 2004. A review of inland fisheries co-management experiences. Rome: Sustainable Fisheries Livelihoods Programme (GCP/INT/735/UK) Food and Agriculture Organization, 118 p.
- Anders, G. 2002. Freedom and Insecurity: Civil Servants between Support Networks, the Free Market and the Civil Service Report. A Democracy of Chameleons: Politics and Culture in the New Malawi. H. Englund. Blantyre, Malawi, Christian Literature Association in Malawi (CLAIM/MABUKU): 43-61.
- Baland, J.-M. and J-P. Platteau. 1996. *Halting Degradation of Natural Resources - Is There a Role for Rural Communities?* Clarendon Press, Oxford.
- Bass, S. and Rouse, J. 1997. Poverty alleviation: the role of rural institution and participation. Land Reform Report 1997/1, Rome: Food and Agriculture Organization, Rural Institutions and Participation Service, 75-85 .
- Belal E. and Baba M., 2007 Analysis of fishery governance in Cameroon. Ministry of Livestock, Fisheries and Animal Industries, Fisheries and Aquaculture Directorate [document in French], Country report for the Research Project on Food Security and Poverty Alleviation through Improved Valuation and Governance of River Fisheries, 36 p.
- Béné, C., A. Neiland, T. Jolley, B. Ladu, S. Ovie, O. Sule, O. Baba, E. Belal, K. Mindjimba, F. Tiotso, L. Dara, A. Zakara and J. Quensière. 2003. Inland fisheries, poverty and rural livelihoods in the Lake Chad Basin. *Journal of Asian and African Studies* 38(1):17-51.
- Béné, C. and A. Neiland. 2004. Empowerment reform, yes... but empowerment of whom? Fisheries decentralization reforms in developing countries: A critical assessment with specific reference to poverty reduction. *Aquatic Resources, Culture and Development* 1(1):35-49.
- Berkes F (ed) 1989. Common Property Resources; Ecology and community-based sustainable development. London: Belhaven Press .
- Berkes, F. 1994. Property rights and coastal fisheries. In Pomeroy, R.S. (ed.) Workshop on Community Management and Common Property of Coastal Fisheries and Upland Resources in Asia and the Pacific: Concepts, Methods and Experiences. (pp.51-62). ICLARM. Silang, Cavite, Philippines, 21-23 June 1993.
- Berkes, F. 1995. Community-based management and co-management as tool for empowerment. In Singh N. and Titi V. (eds.), *Empowerment, towards sustainable development*. (pp.138-146) Zed Books.
- Brett, E. 2000. Participation and accountability in development management. Paper presented at the Conference on New Institutional Theory, Institutional Reform, and Poverty Reduction. London School of Economics, London. 7-8 Sept 2000.
- Campbell, B. and Shackleton, S. 2002. The organizational structures for community-based natural resources management in Southern Africa. *African Studies Quarterly* 5(3), [on-line] <http://web.africa.ufl.edu/asq/v5/v5i3a6.htm>.
- Chinsinga, B. 2005. "District Assemblies in a fix: the perils of the politics of capacity in the political and administrative reforms in Malawi." *Development Southern Africa* 22(4): 529-548.
- Chirwa, W. 1998. The Lake Malombe and Upper Shire River fisheries co-management programme: An assessment. In Norman, A.K., J. Raakjaer Nielsen and .S. Sverdrup-Jensen. (eds) *Fisheries Co-management in Africa*. Proceedings from a regional workshop on fisheries co-management research. Fisheries Co-management Research Project ICLARM, IFM. Mangochi, Malawi, 18-20 March 1997.
- Cohen, J. M. and N.T. Uphoff. 1980. Participation's place in rural development: Seeking clarity through specificity. *World Development* 8(3):213-235.
- Colchester, M. 1994. Sustaining the forest: The community-based approach in South and South-east Asia. *Development and Change* 25(1):69-100.

- Crowder 1964, Indirect Rule - French and British Style. *Africa: Journal of the International African Institute* 34(3): 197-205.
- Crook, R. and Sverrisson, A. 1999. To what extent can decentralised forms of government enhance the development of pro-poor policies and improve poverty-alleviation outcomes? World Bank background paper for the 2000 World Development Report, Washington DC: World Bank, 58 p.
- Devas, N. and Grant, U. 2003. Local government decision-making - citizen participation and local accountability: some evidence from Kenya and Uganda. *Public Administration and Development* 23(4), 307-316.
- Devereux, S. 1996. Fuzzy entitlements and common property resources: Struggles over rights to communal land in Namibia. IDS Working Paper 44, Institute of Development Studies, University of Sussex, Brighton, UK.
- DFID 1999. Sustainable Livelihoods Guidance Sheets. Department for International Development, London.
- Dreze, J. and A. Sen. 1995. *India: Economic Development and Social Opportunity*. Oxford University Press, Delhi
- Dupar, M. and N. Badenoch. 2002. Environment, Livelihoods, and Local Institutions - Decentralisation in Mainland Southeast Asia. World Resources Institute, Washington DC. 77 p.
- Englund, H. 2002. Introduction: The Culture of Chameleon Politics. A Democracy of Chameleons: Politics and Culture in the New Malawi. H. Englund. Blantyre, Malawi, Christian Literature.
- Hara, M., Donda, S. and Njaya, F. 2002. Lessons from Malawi's experience with fisheries co-management initiatives. In Geheb K. and Sarch M.-T. (eds.), *Africa's inland Fisheries: the Management challenge*. (pp.31-48). Kampala, Uganda: Fountain Publishers.
- Hara, M. 2006. Nesting participatory fisheries management within district decentralisation: the case of Mangochi District, Malawi. *paper presented at "Survival of the Commons: Mounting Challenges and New Realities," the Eleventh Conference of the International Association for the Study of Common Property*. Bali, Indonesia, June 19-23.
- Ita, E.O. 1993, Inland Fishery Resources of Nigeria. CIFA Occasional Paper No 20. Rome, FAO. 120 p.
- Jentoft, S. 1989. Fisheries co-management: delegating government responsibility to fishermen's organisations. *Marine Policy* 13, 137-154.
- Johnson, C.A. 1997. Rules, norms and the pursuit of sustainable livelihoods. IDS Working Paper 52, Institute of Development Studies, University of Sussex, Brighton, UK.
- Jul Larsen, E., J. Kolding, R. Overa, J.R Nielsen and P. van Zwieten. 2003. (eds) *Management, Co-management or No Management? Major Dilemmas in Southern African Freshwater Fisheries*. Food and Agriculture Organization, Rome.
- Leach, M., R. Mearns. and I. Scoones. 1999. Environmental entitlements: Dynamics and institutions in community-based natural resource management. *World Development* 27(2):225-247.
- Lind, J. and J Cappon. 2001. *Realities or Rhetoric? Revisiting the Decentralisation of Natural Resources Management in Uganda and Zambia*. ACTS Press, Nairobi.
- Litvack and Seddon, 1999 Association in Malawi (CLAIM/MABUKU): 11-24.
- Luckham, R., A.M. Goetz and M. Kaldor. 1999. Democratic institutions and politics in contexts of inequality, poverty and conflict: A conceptual framework. IDS Working Paper 104, Brighton: Institute of Development Studies, University of Sussex, Brighton, UK .
- Malasha I. 2003. Fisheries Co-management: A Comparative Analysis of the Zambian and Zimbabwean Inshore Fisheries of Lake Kariba. Unpublished PhD dissertation, University of Zimbabwe, Harare.
- Malasha I. 2007. The governance of small scale fisheries in Zambia. Lusaka, Zambia, WordFish Center Lusaka Office, Country report for the Research Project on Food Security and Poverty Alleviation through Improved Valuation and Governance of River Fisheries, 25 p.
- Makadassou A., Harouna G., Gonda M. et Na-Andi M.T. 2007. Report on the survey of fisheries governance and policy. Fauna, Fisheries and aquaculture Directorate, Republic of Niger [document in French], Country report for the Research Project on Food Security and Poverty Alleviation through Improved Valuation and Governance of River Fisheries, 39 p.
- McCay, B. 1993. Management regimes. Property rights and the performance of natural resource systems. Background paper prepared for the September 1993 Workshop, Beijer Institute of Ecological Economics. Sept. 28-29, Stockholm.
- Mearns, R. and J. Bruce. 2002. *Natural Resource Management and Land Policy in Developing Countries: Lessons Learned and New Challenges for the World Bank*. International Institute for Environment and Development, London.

- Miles, William 1987. Partitioned Royalty: the Evolution of Hausa Chiefs in Nigeria and Niger. *The Journal of Modern African Studies* 25(2):233-258.
- Miles, William 1994. *Hausaland Divided*. Ithaca: Cornell University Press.
- Moore, M. and J. Putzel. 1999. Thinking strategically about politics and poverty. IDS Working paper 101. Institute of Development Studies, University of Sussex, 32, Brighton, UK.
- Neiland, A.E. and C. Béné. 2003. A review of fisheries management performance in developing countries, with particular reference to issues of policy and governance. A report prepared for the ACP Fish II Programme Feasibility Study, Support Unit for International Fisheries and Aquatic Research (SIFAR), Department of Fisheries Food and Agriculture Organization. 76 p.
- Nijenhuis, K. 2003 Does decentralization serve everyone: The struggle for power in a Malian village. *European Journal of Development Research* 15 (2): 67-92.
- OECD 2003. Synthesis study on supporting decentralization and local governance - lessons learned
- Njaya F. 2007. Fisheries governance analysis in Malawi. Mangochi, Malawi, Fisheries Department, Country report for the Research Project on Food Security and Poverty Alleviation through Improved Valuation and Governance of River Fisheries, 22 p.
- Norman, A.K., J.R. Nielsen and S. Sverdrup-Jensen. (eds). 1998. *Fisheries Co-management in Africa. Proceedings from a Regional Workshop on Fisheries Co-management Research*. Fisheries Co-management Research Project ICLARM, IFM. Mangochi, Malawi, 18-20 March 1997. good practices and emerging issues. *Working Party on Aid Evaluation*. DCD/DAC/EV(2003)3,
- Organization for Economic Co-operation and Development, Paris. 73 p.
- Ostrom E 1990. *Governing the Commons: the evolution of institutions for collective actions*. Cambridge: Cambridge University Press.
- Ovie S. I., Raji A. 2007. Fisheries Governance Analysis in Nigeria and in the Komadugu-Yobe Basin (KYB) of the Lake Chad Basin, Nigeria. National Institute for Freshwater Fisheries Research, New Bussa, Nigeria, Country report for the Research Project on Food Security and Poverty Alleviation through Improved Valuation and Governance of River Fisheries, 32 p.
- Oyono, P.R. 2002. Infrastructure organisationnelle de la gestion locale des forets au Cameroun. *Eléments de sociologie des ressources naturelles pour la théorie sociale et les politiques publiques*. Quoted in Ribot (2002), World Resources Institute, Washington DC.
- Petersen, C. 2006. An assessment of project progress and suitable training and capacity building interventions for the WorldFish Center's Kafue Flats project, Zambia. The WorldFish Center, Cairo, Egypt, 71 pages.
- Pinkerton, E. (Ed.) 1989. *Cooperative management of local fisheries. New directions for improved management and community development*. Vancouver: University of British Columbia Press.
- Piriou-Sall, S. 1998. Decentralisation and rural development: a review of evidence.
- Pomeroy, R. 1993. A research framework for coastal fisheries co-management institutions. *NACA ICLARM Quarterly*, January, 14-16.
- Pomeroy, R. 1995. Community-based and co-management institutions for sustainable coastal management in Southeast Asia. *Ocean and Coastal Management* 27(3), 143-162.
- Pomeroy, R. 2001. Devolution and fisheries co-management. In Meinzen-Dick, R., Knox, A. and Di Gregorio, M. (eds), *Collective Action, Property Rights and Devolution of Natural Resource Management: Exchange of Knowledge and Implications for Policy*. Deutsche Stiftung für Internationale Entwicklung / Zentralstelle für Ernährung und Landwirtschaft (DSE/ZEL), Feldafing, Germany.
- Pomeroy, R. and Rivera-Guieb, R. eds. 2005. *Fishery co-management: a practical handbook*. CABI/IDRC.
- Pretty, J. and H. Ward. 2001. Social capital and the environment. *World Development* 29(2):209-227.
- Purvis, J. 2001. *Floodplains, Fisheries and Livelihoods: Fisheries in the Floodplain Production System on the Eastern Floodplains, Caprivi, Namibia*. Ministry of Agriculture, Water and Rural Development Namibia, 51 p
- Rahman, A. and Westley, J. 2001. The challenge of ending rural poverty. *Development Policy Review* 19(4), 553-562.
- Resosudarmo, I. 2002. Closer to people and trees: Will decentralization work for the people and the forest in Indonesia? Paper presented at the World Resources Institute's Workshop on decentralization and the environment. World Resource Institute. Bellagio, Italy 18-22 Feb. 2002.
- Ribot, J. 2001. Local actors, powers and accountability in African decentralizations: a review of issues. to be published by the United Nations Research Institute for Social Development (UNRISD)

- Final Draft, Washington DC, USA: World Resources Institute, Institutions and Governance Programme,104.
- Ribot, J. 2002. Democratic Decentralisation of Natural Resources - Institutionalizing Popular Participation. World Resources Institute, Washington DC. 30 pp.
- Rivera, R. and G.F. Newkirk. 1997. Power from the people: A document of a non-governmental organization's experience in community-based coastal resource management in the Philippines. *Ocean and Coastal Management* 36(1-3):73-95.
- Rondinelli, D., J. McCullough and R. Johnson. 1989. Analyzing decentralization policies in developing countries: A political economy framework. *Development and Change* 20:57-87
- Ross, M. 1999. The political economy of the resource curse. *World Politics* 51, 297-322.
- Republic of Zambia. 2002. The National Decentralisation Policy: towards empowering the people. Cabinet Office. Lusaka.
- Rahman, A. and Westley, J. 2001. The challenge of ending rural poverty. *Development Policy Review* 19(4), 553-562.
- Resosudarmo, I. 2002. Closer to people and trees: Will decentralization work for the people and the forest in Indonesia? Paper presented at the World Resources Institute's Workshop on decentralization and the environment. World Resource Institute. Bellagio, Italy 18-22 Feb. 2002.
- Ribot, J. 1999. Decentralization, participation and accountability in Sahelian forestry: legal instruments of political-administrative control. *Africa* 69(1), 22-65.
- Ribot, J. 2002. Democratic decentralization of natural resources - institutionalizing popular participation. Washington DC: World Resources Institute,30 p.
- Ribot, J. 2003. Democratic decentralisation of natural resources: institutional choice and discretionary power transfers in Sub-Saharan Africa. *Public Administration and Development* 23(1), 53-65.
- Rondinelli, D., McCullough, J. and Johnson, R. 1989. Analysing decentraliation policies in developing countries: a political economy framework. *Development and Change* 20, 57-87.
- Russell, A.J.M., Dobson T., and J.G.M. Wilson. 2007. Fisheries Management in Malawi: a patchwork of traditional, modern, and post-modern regimes unfolds. In Taylor, Schechter and Leonard (eds.) *International Governance of Fisheries Ecosystems: learning from the past, finding solutions for the future*. American Fisheries Society, Bethesda, MD.
- Russell, A.J.M. (draft). A review of major institutional processes likely to impact fisherfolk livelihood resilience in Mali and Nigeria. Report for CP-Resilience project.
- Satria, A. and Matsida, Y. 2004. Decentralization policy: an opportunity for strengthening fisheries management system? *The Journal of Environment Development* 13, 179-196.
- Shackleton, S. and B. Campbell. 2001. *Devolution in Natural Resources Management: Institutional Arrangement and Power Shifts. A Synthesis of Case Studies from Southern Africa*. Center for International Forestry Research (CIFOR), 79 pp.
- Shackleton, S., B. Campbell, E. Wollenberg and D. Demunds. 2002. Devolution and community-based natural resource management: Creating space for local people to participate and benefit? *ODI Natural Resource Perspectives* 76.
- Sverdrup-Jensen, S. J.R. and Nielsen. 1998. *Co-management in Small-Scale Fisheries: A Synthesis of Southern and West African Experiences*. Institute for Fisheries Management and Coastal Community Development, Denmark.22 pp.
- Viswanathan, K., Raakjaer Nielsen, J., Degnbol, P., Ahmed, M., Hara, M. and Abdullah, M. 2003. Fisheries co-management policy brief: findings from a worldwide study. Penang, Malaysia:WorldFish Center, 26 p.
- World Bank 2000. World Bank Public Expenditure review for Guyana (Re-orienting Public Expenditures to Serve the Poor). World Bank, Washington DC.
- Zufferey, F.S. 1986. A study of local institutions and resource management inquiry in Eastern central district. Research Paper No.88. Land Tenure Center, University of Wisconsin-Madison,.

**Appendix 3: Policy Analysis Report
(Project Output 3)**

**FOOD SECURITY AND POVERTY ALLEVIATION THROUGH
IMPROVED VALUATION AND GOVERNANCE
OF RIVER FISHERIES
IN AFRICA**

**Policy Analysis:
Lake Chad Basin and River Zambesi Basin**

Synthesis Report

February 2008

For further information, contact

Fish for All

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SUMMARY

This report focuses on the policy process for natural resource management, and specifically fisheries management, in the countries of the Lake Chad Basin (LCB) and the Zambesi River Basin (ZRB) in Africa. It represents a contribution to the BMZ-funded project 'Food Security and Poverty Alleviation through Improved Valuation and Governance of River Fisheries in Africa' (2006-08).

There are seven main sections as follows:

First, the **Introduction** highlights the importance of effective policy and policy-making for sustainable development. The current report represents a synthesis of the policy research which was undertaken in the initial phase of the project. It represents one component of this project (the other major components included governance analysis and valuation assessments). The overall objective of the work was to establish a better understanding of the national policy processes in the countries of the two hydrological basins (LCB and ZRB), with particular reference to fisheries. The main thrust of the policy research would be to review the current national fisheries policy processes and the identification of options for change and improvements.

Second, the **Study Approach** aimed to establish a better understanding of the policy process in the LCB and ZRB countries by undertaking a set of national studies. Using both primary and secondary data, the studies attempted to understand the link between sector characteristics and policy, to characterise the policy process (using co-management / decentralisation as a case-study) and to analyse this with reference to five main areas: governance context, policy narratives, actor relations, policy spaces and options, and policy coherence. To complement the empirical analysis of the policy process at national level, three other studies were also undertaken – a review of issues relating to the policy process in a range of natural resource sectors – forestry, wildlife, water, rangeland and fisheries, an overview of the general development context in each basin, and a review of the relationship between national poverty reduction strategies and natural resources and fisheries.

Third, under **Policy Analysis and Natural Resources in Africa: Conceptual and Empirical Perspectives** the findings of the first review study (above) are presented. The studies from the different sectors (forestry, wildlife, water, rangeland, fisheries) highlighted a series of key findings. Policy formation in recent years has been the result of pressure (and narrative development) from a range of different actors (international, national, local), often working in combination. Policy approaches were modified over long periods of time in an on-going process, which often lacked transparency. Policy performance in NR sectors is often weak and the reasons have roots in the past (colonial legacy). Designing and implementing new policy, coherent with other policies and bringing about institutional change takes time and political commitment. Policy related to decentralisation infers new roles for government and non-government stakeholders, and this requires capacity-building. Information and feedback is essential to create the right focus and to establish a dynamic and responsive process. Overall, the case-studies included in this section revealed the non-linear character of the policy process, especially the 'messy' character of policy formation and the unexpected outcomes of implementation (or partial implementation). They also highlight the opportunities and problems relating to

policy change which present themselves, and the importance of understanding and developing appropriate institutions relevant to policy objectives.

Fourth, in this section **The Lake Chad and Zambesi Basins – Development Context Reviewed**, the general characteristics of the national and regional settings were reviewed. All of the riparian States are relatively youthful (about 50 years old) and despite possessing a significant portfolio of natural resources, national development performance has been weak (resulting in small undiversified economies, high levels of debt and a significant level of poverty). To a large extent this can be explained by policy inadequacies and government mis-management. However, other factors are also important including – weak governance, political upheavals and war, highly variable climatic conditions, remoteness from international markets and limited trade, and high HIV incidence rates.

Fifth, the section **Understanding the Policy Process (Decentralisation of Fisheries Management)** presents the results of the four national studies from Cameroon, Niger, Nigeria and Malawi. These studies reveal much about the history, objectives and performance of fisheries policy in each country. Although there is no doubt that the policy process (and the underlying politics) is difficult to understand in many situations, it is possible to identify some policy ‘spaces’ and places where ‘win-win’ outcomes might be achieved with reference to decentralised NRM. Of the four countries, only Malawi has a national policy on fisheries co-management. Niger and Cameroon have a general policy on decentralisation, but fisheries co-management has operated only through donor-funded projects. Nigeria does not have a formal policy on decentralisation, but there are examples of donor-funded fisheries co-management projects. In Cameroon, Niger and Malawi, it is intended that positive changes in fisheries management will occur as new roles and responsibilities are established for regional and local government. These policies are associated with the new national PRSPs and the international narratives which link inclusive local government with pro-poor changes. Apart from Malawi, there are no special arrangements for fisheries, and it is assumed that the decentralisation process will have a positive impact on all sectors in the long-run.

Overall, the decentralisation approach and its relationship to fisheries is a new one, and it faces certain constraints to implementation and opportunities (policy spaces) to address them over time. For example, in Malawi, the different sectors, including fisheries, are decentralising slowly and at different rates – this could be addressed by ensuring that District Development Plans also include NRM; in Cameroon, there are concerns that new arrangements for fisheries management are not taking the views of all stakeholders into account, especially the poor – there is an opportunity to work with new civil society organisations within the context of the regional planning process to address this issue; in Niger, there has been some uncertainty as to the role of existing (traditional) authorities within new decentralised government arrangements – CSO have been successful in negotiating new arrangements and partnerships and could be further supported in this role in the future; and in Nigeria, the fact that senior government officials (Federal Department of Fisheries) have acknowledged that fisheries policy-making still overtly centralised within their administrations – there is an opportunity to work through new national programmes (e.g. NEEDS programme) to change the governance arrangements to address these perceived limitations to policy formation and implementation.

Sixth, the penultimate section **The National Poverty Reduction Strategies, Policy Coherence and the Projected Role of Natural Resources and Fisheries** presents the results of a set of national reviews. The PRSPs provide a broad overview of the national economy in each country and together are intended to provide a basis for international comparison in terms of development challenges, performance and strategies. For the countries of the LCB and the ZRB, they focus on agriculture, industry and trade, and the potential for these sectors to contribute to economic growth and development. The PRSPs do link poverty with environmental degradation and economic activities in the rural sector, but they do not consider the major characteristics of the production systems and their links with rural livelihoods. The Cameroon PRSP is the only paper of the four (Cameroon, Niger, Nigeria and Malawi) to acknowledge the close link between poverty and agro-ecological regions, implying that poverty and vulnerability are closely associated with economic options related to the natural resource base. However, the strategies outlined in all four papers place government agencies as sole agents of change and development, largely through capacity-building and enforcement. In the case of fisheries, it can be argued that the PRSPs are simply re-emphasising the technological/production and command and control narratives that have been central to government policy for nearly 50 years. Alternative approaches to poverty reduction, that might also be included (such as institutional development and livelihoods enhancement) are hardly considered. Finally, questions remain as to how the growth strategies in the PRSPs relate to a greater national commitment to participation and decentralisation and the possibilities for pro-poor growth. There is a risk that future policy-related investments and programmes (and the associated benefits) will be monopolised by the rich and powerful members of society, and that opportunities to build upon and enhance rural livelihoods for a much wider proportion of society (especially the poor) will be overlooked and foregone.

The Seventh and final section, the **Discussion and Conclusions**, draws together and re-iterates many of the major points highlighted in earlier sections. By looking at the four national policy studies, which focused on de-centralisation, in the context of the complementary reviews (concepts and theory, development context, PRSPs), it is possible to consider the main findings under five key themes as follows:

(i) Policy narratives:

A wide range of policy narratives relating to national development and natural resources have emerged (and persist and overlap) over the past 50 years. The initial emphasis focused on production increases, technological development and large scale investment, plus government control. More recently, there has been an increased interest in local (community) level management and activity, and good governance (accountable democracy, subsidiarity and rights). The national studies within this report reveal how government policies in the LCB and ZRB countries have evolved, using the narratives to varying degrees, and culminating in the most recent PRSPs. However, despite this progression in policy, there are concerns including the difficulties of attempting to integrate and then operationalise different narratives (economic growth vs. local level development), the possibility that livelihoods relationships with natural resources and NRM are not being fully taken into account (lack of knowledge, understanding) and the danger that new narratives (decentralisation, co-management) are perceived as a panacea for past policy failures.

(ii) Coherence

The extent to which policy coherence is achieved has a major impact on policy performance overall. The national policy studies reveal many examples of the difficulties of evolving new policies, and trying to integrate them within existing policy arrangements. In Malawi, for example, decentralisation policy, local government reforms and national fisheries policy, have not achieved a high degree of coherence, largely because they appeared at different times and did not refer to existing legislation. All the studies show the importance of policy coherence with reference to objectives and implementation approaches, and the need to ensure that there is harmonisation between relevant institutions. The national PRSPs encapsulate some of the major policy coherence challenges which all the countries must face, but unless the coherence issue is addressed the anticipated development impact will be compromised.

(iii) Actors

The national policy studies reveal the importance of a wide range of actors in the policy process – in both policy formation and implementation. There are two emergent and important issues for the future – the number of actors is increasing (for example, as decentralisation policy demands new ways of operating, and also, as new economic opportunities arise within expanding economies), and the roles and responsibilities for both new and existing actors will have to be carefully defined and formalised if policy implementation is to be successful.

(iv) Spaces and opportunities

The apparent success of policy development and reform in some NR situations (e.g. Forestry policy in Ghana) is related to the ability to make ‘policy space’ for implementation at local and regional levels. There are at least five important issues involved also – the ability of government to support a transfer of real power (to local level), to back this up with appropriate institutional capacity-building, to adapt policy declarations at national level into operational management systems at local level, to capitalise on incentives for participation and in making NRM work effectively (e.g. securing rights to long-term resource use), and for government in general to support the overall process of policy development and implementation over an extended period of time (it can be argued that ‘quick wins’ tend to be rare). There is no doubt that ‘policy spaces’ will also open up over time and represent real opportunities for positive interventions involving government, civil society actors and international partners (donors). Although the current PRSPs place emphasis on the role of government and the private sector, other actors (principally civil society organisations) are not considered. New policy approaches will need to be inclusive of all actors, even if some threaten the existing governance arrangements of certain countries.

(v) Understanding the performance of decentralised NRM policies

Policy assessment and evaluation is often problematic. In the case of ‘decentralisation’, this broad term can include a wide range of scales and processes, which are often country specific. However, there is no doubt that policy implementation, which has often been weak and unpredictable, needs to be underpinned by a greater understanding of the factors likely to affect it. Through more knowledge and feedback, both policy formation and implementation can be improved

over time. Three important lessons for improved ‘decentralisation’ – but which can be generalised - include the need for stepwise and coordinated implementation strategy, the fundamental need to address governance weaknesses and the advantages of making the policy implementation process a ‘dynamic’ one which can respond to local opportunities and challenges (e.g. by integrating research and information systems into step-wise policy implementation).

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1. INTRODUCTION AND OBJECTIVES

The Lake Chad Basin (LCB) and the Zambesi River Basin (ZRB) are two of the major hydrological drainage basins of Africa. They are comprised of significant water resources (lakes, rivers, wetlands and groundwater) and associated aquatic habitats. In turn these provide a wide range of ecosystem goods and services – fresh water, agricultural land, fishing opportunities, food, fuel etc - for the countries and people living within their boundaries.

However, despite the apparent abundance of natural resources (natural capital) in these two regions, which have the potential to make an important contribution to sustainable development, the riparian countries in each case (Table 1 below), are classified as ‘developing countries’ or ‘least developed countries’. In other words, these countries tend to be characterised by a low level of economic development and growth, with a large proportion of the population vulnerable to poverty.

Table 1. Countries of the LCB and the ZRB compared					
	Area (000s sq km)	Population (millions)	GDP per capita	Poverty (% below PL)	HDI (score) (world rank)
Lake Chad Basin					
CAR	623	4.3	1,200	n.a.	n.a.
Cameroon	475	16.1	2,400	53.3	0.506 (144)
Chad	1,284	8.6	1,500	64	0.368 (171)
Niger	1,267	11.8	1,000	63	0.311 (177)
Nigeria	924	136.5	1,500	43	0.448 (159)
Total	4,573	177.3	..	..	..
Mean	..	..	1,520	56.1	0.408
Zambesi River Basin					
Angola	1,247	13.5	4,500	n.a.	0.439 (161)
Botswana	582	1.7	10,900	n.a.	0.570 (131)
DRC	2,345	53.2	700	n.a.	0.391 (167)
Malawi	119	11	600	54	0.400 (166)
Mozambique	802	18.8	1,500	70	0.390 (168)
Namibia	824	2	7,500	n.a.	0.626 (125)
Zimbabwe	391	13.1	2,100	69.2	0.491 (151)
Zambia	753	10.4	1,000	25.8	0.407 (165)
Total	7,063	123.7	..	..	..
Mean	..	..	3,600	54.75	0.464
Other Countries					
USA	9,629	282	43,800	13	0.948 (8)
UK	243	59	31,800	17	0.940 (18)
India	3,166	1,016	3,800	29	0.611 (126)
Korea	100	47	24,500	15	0.912 (26)
Malaysia	330	23	12,000	15	0.805 (61)
S. Africa	1,221	44	13,300	50	0.653 (121)
Source	CIA World Factbook (2006)	CIA World Factbook (2006)	CIA World Factbook (2006)	World Bank (2006) World Development Indicators	World Bank (2006) World Development Indicators

There can be no doubt that for most countries, the quality of the national governance framework and the policy process has a great influence on national development.

Good governance and effective policy will underpin national development, as borne out by the Asian Tiger economies over the past 20 years. Conversely, without appropriate and effective governance and policy, the potential for growth and development will not be realised.

For sectoral development, it is also important that governance and policy arrangements are strong and coherent with national arrangements. In the case of the countries of the LCB and ZRB, which share important water and aquatic resources, there will also be a need for coherent governance and policy at a regional level (basin-wide).

In this context, therefore, for the countries of the LCB and the ZRB – one of the key questions is how to bring about improvements in governance and policy? And secondly, how does this relate to the future usage of natural resources for national development.

The BMZ Project ‘Food Security and Poverty Alleviation through Improved Valuation and Governance of River Fisheries in Africa’ (2006-08) will address these and other key questions by focusing on one particularly important sector and resource – river fisheries. The overall purpose will be to strengthen the capacity of national and regional decision-making to develop and implement improved governance and policy mechanisms that sustain river fisheries and enhance their contribution to poverty alleviation and national food security. A particular theme of the project was to understand and assess how improved valuation information could contribute to this purpose.

The current report represents a synthesis of the policy research which was undertaken in the initial phase of the project and which represents one component of this project (the other major components included stakeholder analysis, governance analysis and valuation assessments). The overall objective of the work was to establish a better understanding of the national policy processes in the countries of the two hydrological basins (LCB and ZRB), with particular reference to fisheries.

The main thrust of the policy research would be to review the current national fisheries policy processes and the identification of options for change and improvements.

There are six sections of this report to follow. First, a brief outline of the study approach used in the policy analysis component of the project to date. Second, to provide some background to the subsequent work, a range of conceptual and empirical perspectives are provided on policy analysis and natural resources in Africa. Third, the development context for the policy analysis provided by the countries of the LCB and ZRB is reviewed. Fourth, the results of a set of detailed studies of the national policy process in each country, with reference to fisheries, are presented. Fifth, the relationship between fisheries and the national poverty reduction strategies in each country is analysed. Sixth, the final section presents a discussion and set of conclusions based on the earlier sections.

2. STUDY APPROACH

2.1. Introduction

The study approach for the initial phase (Phase 1) of the Policy Analysis component of the project focused on trying to establish a better understanding of the policy process in the countries of the LCB and the ZRB. Initially the work was focused on three LCB countries – Cameroon, Niger and Nigeria, and in one ZRB country – Malawi. The study teams in each country agreed a common methodology and using a combination of both primary and secondary data. The results of the national studies were summarised and synthesised, subsequently, and set within a wider context provided by a set of conceptual and empirical perspectives on policy analysis, and reviews of the development status of the LCB and ZRB regions. In addition, the relationship between fisheries policy and national poverty reduction strategies were also considered.

2.2. Methodology

Part 1: National studies

The methodology developed and agreed by all members of the study team is given in Appendix 1 (below).

To summarise the methodology, there were six steps:

- Step 1: Focus on the definition of ‘policy’ and ‘policy analysis’;
- Step 2: Consideration of the importance of policy analysis for the project;
- Step 3. Review of the methodology given in the original project proposal;
- Step 4. Proposed timing and milestones;
- Step 5: Policy analysis outline and report structure;
- Step 6: Assessment of the methodology proposed.

There were three key dimensions to content of the policy analysis:

- understanding the link between sector characteristics and operation and policy;
- a focus on fisheries co-management (or decentralisation) as a means of characterising the policy process;
- understanding the policy process in five main areas: governance context, policy narratives, relations between actors, policy spaces and options, and policy coherence.

Part 2: Wider contextual analysis

To inform and complement the empirical analysis of the policy process at national level, three other sub-studies were also undertaken:

- a review of conceptual and empirical perspectives on policy analysis and natural resources in Africa (as well as important considerations for the policy process in general, issues which have been identified in other sectors, other than fisheries, were also considered including wildlife, forestry, rangeland and water management);
- a review of the wider development context of the LCB and ZRB;
- an analysis of the relationship between national poverty reduction strategies and the projected role of natural resources and fisheries.

The two parts of the methodology (1+2) have been brought together in the final section – discussion and conclusions.

2.3. Implementation

The phase 1 Policy Analysis was implemented during 2006-07 by the team members, including both the national studies (part1) and the overview analysis (part 2).

3. POLICY ANALYSIS AND NATURAL RESOURCES IN AFRICA: CONCEPTUAL AND EMPIRICAL PERSPECTIVES

3.1. Introduction

In this section, policy and policy analysis will be considered with reference to natural resources in Africa. A range of both conceptual and empirical perspectives will be provided. The conceptual themes presented will help to understand the nature and operation of the policy process. The empirical examples given from a number of different sectors (wildlife, forestry, water and rangeland) will further help to illustrate the reality of the policy process and its analysis.

3.2. Policy process and policy analysis – an overview

Firstly, policy can be defined as

‘a course of action proposed or adopted by those with responsibility for a given area (in government) and expressed as formal statements or positions’.

However, while the above definition presents policy as a static entity, the term “policy process” better represents the dynamic nature of policy formation, implementation and performance. “Policy analysts” recognise that policy is not formed and implemented in a linear manner but that it is the result of numerous stakeholders (policy actors) and repeated arguments (policy narratives) that change over time. As such, policy making tends not to follow simple and formal procedure but is influenced by current and past narratives and influential actors. In short, policy tends to be a “chaos of purposes and accidents”.

Analysing policy is essential because policy outcomes dictate the potential for sustainable or pro-poor development and natural resource management (NRM). Learning from past policy and policy processes may help shape more suitable policy in future. Keeley (2001) has developed a systematic way to analyse and represent the policy process by deconstructing the “narratives” and “actors” that shape the process and considering the policy “spaces” that represent opportunities for change. This approach is used in the policy analysis studies within this project (below).

- *Policy narratives* - The work of government in managing the affairs of the nation is difficult and complex but some arguments may outlive others or dictate the direction of policy. Policy stakeholders are impelled to develop narratives for several reasons –

“Rural development is a genuinely uncertain activity, and one of the principal ways practitioners, bureaucrats and policy makers articulate and make sense of this uncertainty is to tell stories or scenarios that simplify this ambiguity” (Roe, 1991).

These narratives can become accepted and well-used explanations of the world. In the case of fisheries, for instance, an earlier narrative was built around the concept of maximum sustainable yield with government enforcement and effort control. More recently, and in the light of disappointing policy performance, various “counter-narratives” have emerged that placed less emphasis on biological approaches and more on other dimensions such as economic incentives and use rights. As Roe (2000) says:

“Story telling is the pre-eminent way people stabilise decision-making in the face of complexity”.

Finally, according to Leach and Mearns (1996) narratives, or “received wisdom”, may be very resistant to change because they can be associated with established scientific approaches and institutions or with social and cultural perspectives that are simply transferred to new generations of stakeholders.

- *Policy actors and actor networks* - Individuals and organisations interact to shape the policy process. These actors include government and public stakeholders affected by policy, those directly involved in policy formulation and those needed to implement policy. Actor networks may include the policy machinery of government but also coalitions of actors in civil society such as issue-based pressure groups comprising NGOs and producer organisations, for instance.
- *Policy spaces* – It is possible to influence the policy process strategically. The “policy space” for change may open up with the emergence of professional producer organisations able to adopt new roles and responsibilities, for instance. Or local government reform may develop new opportunities for policy change by building local management capacity and local public demand for new sector-specific policy.
- *Policy coherence* - Finally, policy analysis should review how policy is supported or undermined by overarching political objectives. Does a sector-specific policy help deliver other national objectives with respect to human development, trade and the environment, for instance?

3.3. Ten important considerations for policy analysis

In this sub-section, a range of important considerations for policy analysis will be outlined. The topics presented will build upon the preceding section and contribute to an ‘aide memoire’ of the types of issues and themes that the policy analyst should be routinely thinking about in undertaking a policy analysis exercise.

(1) The importance of effective policy

Policy is important. Policy influences all aspects of people’s lives by attempting to manage the workings of the nation state – political policy, economic policy, environmental policy, social policy etc. The development record shows that one of

the main determinants of success (e.g. nations that have shown good levels of economic growth and development) is the ‘quality of policy-making’ (and the resultant quality of policies).

(2) Policies interact with other policies

For any country, there can be a long list of policies covering a wide range of topics and areas, reflecting the complexity of government and societal interactions. As a result policies interact with one another (e.g. economic policy to promote efficiency in a particular sector may be counter to policies to promote maximum employment for social reasons in the same sector). One of the functions of government is to try to smooth out these interactions, and to promote coherence between policies. A high level of policy coherence is reflective of good government and good governance. Policy interactions (and the need for coherence) can also occur at regional and international levels (e.g. within river basins).

(3) Policy objectives

The stated objectives define what policy wants to achieve. This is a critical decision and must be decided carefully for it will lead onto courses of activity and investment which cannot be easily changed in the short-term and which can have a major impact on development performance. With hindsight, policy objectives can sometimes be inappropriate or conflicting or overambitious (when there are multiple objectives) leading to weak performance.

(4) Policy formation

The formation (or design) of policy often varies greatly between countries and between sectors or domains. Effective policies can only be achieved through an effective policy formation process – one which is underpinned by good governance principles (transparency, participation and accountability) and the effective use (and feedback) of relevant information and analyses. In most countries, however, the policy formation process tends to be dominated by political agenda (dominating over rational and technical assessments and choices based on particular policy narratives). Successful policy formation needs a balance and blend of the two elements.

(5) Policy implementation

The implementation of policy requires careful decisions over the implementing organisations, policy instruments (mechanisms) and financing. Policy may be implemented in phases over time.

(6) Policy performance assessment

The outcome of policy implementation will need to be assessed. A key question is ‘has the policy objective been achieved?’ This will require relevant information to make this evaluation.

(7) Policy evaluation

The level of performance of a specific policy over time once established (assessed) should be evaluated. This will enable a better understanding of the reasons and factors for this outcome. In the future, the policy formation process will be able to use this knowledge to improve policy design.

(8) Policy and research

Research can make an important contribution to policy design by providing relevant information, helping to focus policy narratives and also contributing to policy implementation. In the latter case, in some situations research can be integrated within the implementation process, for example, within an adaptive learning approach (as opposed to a more conventional role, whereby researchers and research systems are not directly engaged).

(9) Policy change

While it is often recognised that policy needs to be changed in order to improve policy performance this can be very difficult and usually depends on the political and governance setting. In the extreme case of a country with dictatorial rule and weak governance, the majority of stakeholders or actors may have very little opportunity (or policy space) to bring this about. In other situations, policy change requires working within the existing political set-up, acknowledging the importance of political will and support, and looking for opportunities to influence key actor networks and narratives. In situations of weak governance, specific strategies for change will need to be considered by particular stakeholders, for example, by using ‘champions for change’, improving information flows, consider actor-incentive relationships and promoting constituency formation within the political arena.

(10) Policy and time

The policy process – how it works, who it effects and how it changes – will vary in time between countries. In general, policy changes cannot be accomplished very quickly and there is a need to consider how incremental changes for the better can be brought about over long time periods (20-30 years).

3.4. Experiences of decentralised natural resources management

3.4.1. Introduction

In order to better understand the policy process in each of the study countries (LCB – Cameroon, Niger and Nigeria and ZRB – Malawi), the empirical research (below) has focused on a specific policy area – fisheries co-management and decentralisation. The analysis involved does not set out to review the effectiveness of co-management and decentralisation in fisheries management *per se* but rather to analyse the policy processes associated with them. To start, a brief overview of co-management, centralisation and the related issues of de-concentration and devolution are presented, followed by an historical perspective on natural resource management (NRM) and a series of case-studies from different NR sectors.

3.4.2. Overview

Co-management

In the 1980s there was great interest in the capacity of community-based natural resource management (CBNRM) to control the use of local resources in a rational and equitable manner. CPR theory was combined with empirical examples of apparently

sustainable traditional NRM and tenure arrangements (see for example, Dahl (1988) or more generally, Berkes (1989)) to make a strong case for devolution of NRM responsibilities to communities. The concept of co-management then emerged in the 1990s to acknowledge that the state must play an important role in supporting devolved NRM and must retain some key functions and roles. Existing fisheries co-management arrangements represent a wide range of models – from site-specific projects with proscribed roles for fishery stakeholders to national policies of decentralised fisheries management under wider programmes of rural development with supporting legislation.

Decentralisation

Decentralisation has become an attractive political objective, especially for development agencies and donors, because it infers more responsive, transparent and accountable government. Since the 1980s, the interest in decentralisation has moved beyond its possible contribution to NRM to its broader potential contribution to social development, rights and democratisation (Ribot, 2001).

It is important to make the distinction between decentralisation and devolution. Decentralisation involves the dispersal of certain functions and powers to the regional or local level along with suitable decision-making powers. Devolution is more radical and involves the wholesale transfer of authority and responsibility from government to other organisations. Governments are less likely to do this and there are fewer examples of devolved NRM in the literature (Borrini-Feyerabend et al, 2004). In reality, many decentralisation programmes actually transfer very little authority and these processes are more accurately described as “deconcentration”. The process of deconcentration involves transfers of responsibility to local branches of government such as technical line ministry staff at village level (see Figure 1). In Africa, most countries underwent a process of deconcentration in the early colonial period to consolidate national cohesion and government control.

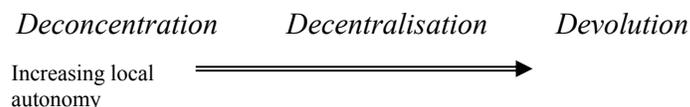


Figure 1. Decentralisation retains overall responsibility with the state and central government but cedes certain powers to the regions.

3.4.3. The historical perspective of decentralisation and NRM in Africa

Since the 1980s the process of decentralisation in Africa has reflected a broad international narrative which promotes citizen participation, democratisation and good governance through subsidiarity (decision-making at the lowest possible administrative level). The World Bank Structural Adjustment Programmes (SAPs) have fuelled the drive to decentralisation with the widespread support of international donors. In turn, African governments have viewed decentralisation as a potential strategy to meet donor demands and cut public spending.

However, the decentralisation process threatens many actors and experience to date reveals variable performance with respect to institutional sustainability, participation

and empowerment. This section briefly describes the historical context of decentralisation efforts.

Policy is a product of multiple actors and their interests but it also has a strong historical dimension. Demand for more appropriate policy will reflect the performance of existing NRM institutions and legislation often established to meet political objectives that may no longer appear relevant or desirable. The formal structures that relate to policy like constitution, law, the structure of national and regional government, are largely a legacy of past political objectives.

This section briefly outlines broad trends in the history of NRM policy in Africa and how they relate to current policy trends in decentralised NRM and co-management.

It is widely recognised that NRM has an important local component that operates in parallel or irrespective of policy. A combination of local interests such as customary authority, local government and other local elites, work together to influence access to resources and how these resources are exploited. However, the relationship between the state and local forms of NRM underwent a major change with the arrival of colonial government. The impact of these colonial structures has had a lasting effect and the role of local or customary NRM has been underestimated in relation to the role of central government and the relevance of policy in subsequent years. However, over the last two decades African countries have entered into a new phase where the decentralisation of NRM powers and responsibility are a component of both national development strategies and many sector-specific policies for agricultural land, forestry and fisheries. The ‘actor network’ that has driven this change has been broad, including both international agencies and donors and national political bodies and civil society.

In the pre-colonial era, NRM in Africa probably comprised a mixture of local, private and common property arrangements that operated with little or no involvement from a central state (although it can be argued that some ‘states’ exerted significant influence over its ‘citizens’ at particular periods in history e.g. Songhay state and the Sokoto Caliphate in West Africa). The European colonialism that followed at the end of the 18th century purposely set out to extend the reach and power of the state and to appropriate land and resources. The political structures that were established in this period were based on European models of authority and control¹⁸. Government resource management agencies were developed with no acknowledgement of existing informal institutions associated with NRM such as arrangements based on territory and ethnicity, reciprocity or other rules of use.

According to Runge (1985), these governments disrupted pre-existing and traditional modes of management but did not introduce alternative arrangements at the local level. These strongly centralised colonial states lacked the human and financial capacity to police change and to fulfil local NRM in remote areas. However, as Lawry (1989) highlights: “...*the state’s principle objective in centralising control was to assert its political authority over local interests, not to impose a new resource management regime.*” The greatest NRM changes in this period would have resulted

¹⁸ According to Murombedzi (1998), the British colonies applied the concept of the “King’s Game” to legislation, while the French colonies regulated natural resources with reference to the French Forest Code.

from land reforms based on discriminatory forms of tenure, sometimes through forced relocation and the annexation of land as protected wildlife areas.

However, these governments did operate efficiently at the local level for other purposes. Local chiefs were empowered to collect taxes for the state or to make by-laws in a process the British termed “indirect rule” and the French “association” (Mamdani, 1996). The Portuguese devolved powers to traditional leaders to collect fees and taxes from fishing communities (Lopes *et al.* 1998)¹⁹.

In the post-colonial era, it took time for many of these NRM policies and approaches to be challenged or modified by new government. Early in this period, natural resources were seen as an essential source of foreign revenue to support government function and programmes were established to exploit these resources with logging and fishing contracts provided to private companies and legislation passed to further strengthen state control over fisheries (Hviding & Jul-Larsen, 1995). The existing colonial structures and policies were well suited to this task.

According to Hyden (1993) the policy narrative that has affected NRM in most of Africa since the 1950s has passed through four key cycles whereby the emphasis changed from economic development to human development:

The *modernisation phase* (1955-65) saw governments place great emphasis on economic growth and industrialisation. Government para-statal were set up to develop the exploitation of resources and the bureaucratic machinery of government expanded. The development narrative was based on the perceived benefits of a technocratic and scientific approach to production, a desire to adopt European models for NRM and to improve international standing. Indigenous land tenure systems were seen as outmoded and virtually all sub-Saharan African countries set out to systematically redistribute rights to land. Bruce (1998) explains how a variety of strategies were adopted, ranging from the state ownership and collectivisation of production (Tanzania, Ethiopia and Mozambique), state ownership and household leases (e.g. Nigeria, Zambia and Sudan) to private ownership in isolation (e.g. Malawi, Kenya, Uganda and Guinea).

The *dependency phase* (1965-75) continued to promote natural resource use for development but changed the emphasis to agricultural and rural development through national programmes and central support. Although the rural economy was expected to drive development there was little awareness of rural issues, either by government or the international agencies that funded many of the Integrated Rural Development Programmes. Government focussed on the disbursement of loans and the provision of education and agricultural training through extension services. This phase represents a move away from enforcement to the “accommodation” of rural people. Wildlife conservation projects were promoted by funding local infrastructure and eliciting local support but no attempt was made to link NRM with local revenues and livelihoods (Murombedzi, 1998).

¹⁹ The British used a similar system in East Bengal whereby feudal Zamindar landlords were used to collect revenues and manage estates on behalf of the government.

The *popular participation phase* (1975-85) developed at a time when the economies of most African countries had gone into decline and large rural programmes had contributed to increasing national debt. As Murphree (1996) said, “*the state’s reach had exceeded its grasp*” and government performance was criticised domestically and from abroad.

The World Bank and International Monetary Fund (IMF) established strict Structural Adjustment Programmes (SAPs) that cut back central bureaucracy and created a further financial incentive for the decentralisation of many government functions. The participation and community-based NRM narrative that evolved as a response, was a convincing one and it continues to influence the approach of policy makers, donors and international agencies.

The *enabling environment phase* (1985 -)

Decentralisation was seen by international development agencies and donors as both a means to help achieve human development goals (rights to voice and democratic participation) and sustainable NRM through local incentives. Simultaneously, government was apparently keen to delegate greater responsibility to resource users. Prior to the 1980s, however, the decentralisation process in Africa could be more accurately described as “deconcentration” (Ribot, 2001). Rather than transferring power to downwardly accountable institutions, this deconcentration retained NRM powers within local departments of government agencies.

From the early 1990s the international emphasis on CB-NRM was tempered by a growing realisation that the state must play a key role in providing a supportive framework for participation whilst retaining certain key NRM functions through co-management arrangements. Local stakeholder participation in managing “their” resources had already been promoted (for instance, WCED, 1987). Globally, binding international environmental agreements were developed in parallel with international and national commitments to fight poverty. The livelihoods narrative (Chambers & Conway, 1992) that then followed influenced many donors and agencies. The livelihoods approach stressed the role of people’s participation as a means to influence and shape management objectives rather than to implement management. By encouraging a multi-dimensional analysis of poverty, the livelihoods narrative also questioned the suitability of sector-specific policy and management in isolation. A greater awareness of local processes and institutions associated with NRM has, in some cases, led to policy that actively incorporates pre-existing forms of NRM that operate outside government²⁰.

In summary, NRM policy in Africa has undergone several key changes with respect to the role of the state and the role of regional and local or “community” institutions. The colonial state was concerned with centralising power or, in some cases, co-opting local institutions to carry out certain tasks of government. Post-colonial policy later attempted to boost rural production but poor economic performance led to international pressure to decentralise. A widening array of actors began to influence NRM narratives and policy approaches from the early 1980s onward and a pro-poor

²⁰ Bruce (1998), for instance, explains how the failure to replace existing tenure arrangement in Africa led to a new “adaptation reform” model that accommodated local rules or customary authority, rather than attempting to introduce new institutions.

and rights agenda drove pressure for decentralisation from abroad. In the next sections, a number of case-studies from different NR sectors in Africa will be examined to highlight the reality of the policy process and its impact.

3.4.4. The Forestry Policy Process in Ghana

As elsewhere, the policy process in Ghana reflects more than just policy pronouncements and formal objectives. It also reflects the commitment and intentions of a wide range of actors, each operating in a context set by previous policies and present day economic pressures.

The following case study draws from Kotey *et al* (1998) as an output of the project “*Policy that works for forests and people*”, supported by the UK Department for International Development and the Netherlands Ministry of Foreign Affairs.

The political and historical setting

Colonial government in Ghana developed legislation to invest “waste” lands in the Crown and to set provision for government to manage forestry exploitation. Traditional authorities and chiefs were co-opted to perform some of these regulatory functions through “indirect rule”.

Post-colonial leaders in Ghana, as in other emerging countries in Africa, Latin America and Asia, were influenced by the rise of socialism and the image of the state as protector of the people. A drive for top-down and centralised planning ensued, further undermining the role of traditional authority and introducing a local dependence on central patronage. This period was accompanied by great faith in the role of science, technology and mechanisation to overcome poverty.

The evolution of the forestry “sector” – international features and actors

The Forestry Department, established in 1909, was mandated to develop Ghana’s forests for timber production. Forest management would have been based on the German-French forest management model mixed with recent British experiences in the teak forests of Burma and India, whereby the trees and soils are manipulated to maximise timber outputs.

Post-independence, Ghanaian foresters would have perceived themselves as applied scientists and forestry institutions developed a “technocratic arrogance”.

Prior to World War II, global demand for Ghanaian timber was insignificant but the emergence of a global market for cocoa provided the Forestry Department with a new objective and helped to extend its reach and influence. Reservation forests were protected in order to preserve the humid growing zone for commercial cocoa plantations. World War II and the European reconstruction that followed shaped forestry policy again so that timber production and export now became the objective.

The next major political change in forestry occurred in the 1980s and 1990s when the “community” and “participation” narratives emerged internationally. The World Bank became an influential actor in forestry policy in the early 1980s. Ghana has since

pursued its own policies for “collaborative management” such as the Forest and Wildlife Policy (1994).

Several “extra-sectoral” policies have impacted on forest management in Ghana. National trade policies to maximise cocoa revenues and exports led to disease in over-aging cocoa stock and the loss of huge tracts in the bushfires of 1983. This led to migration and the attempts by farmers to diversify and produce food crops.

The adoption of the structural adjustment programme in 1983 had a similar impact on forests. The World Bank’s Export Rehabilitation Project invested US\$ 140 million in the timber industry with the intention to promote value-added processing. This increased demand for timber beyond the capacity of Ghana’s commercial forests and led to unsustainable practise in off-reserve areas. The international market for iron ore and bauxite also impact the forest sector and there have been particular concerns that gold surface mining has destroyed important reserves in the past.

In summary, land use changes impacting forests have largely been a result of private decisions in response to macro-economic factors, as much as the result of national policy.

Policy

There have been only two formal forestry policy pronouncements in Ghana. The 1948 Forest Policy lasted nearly fifty years and was influenced by indirect rule and the establishment of forestry reserves against the will of local people. The promotion of cocoa as a cash crop and, later, timber were central objectives.

In the 1980s, the Forest Policy was openly criticised by commentators who questioned its relevance to communities, its lack of integration with other sectors and its view of forests as commodities. Interestingly, much of this criticism came from within government or from “*insiders that had gone outside*”. In addition to certain key individuals who drove the process of policy reform (see below) international drivers of change such as World Bank also played a part, encouraging a review process away from the control of the Forestry Department and within an independent and expert-led Forestry Commission.

This Commission entered into an extended consultative phase with government agencies and, to some degree, traditional landowners leading to Ghana’s 1994 Forest and Wildlife Policy. This policy represented a fundamental shift in emphasis, from production without replacement of forest, to a focus on rights to local natural resources, participatory management and links to wildlife resources.

The emergence of a new forestry policy narrative

In the 1980s and early 1990s many developing countries were experimenting with “social forestry” or “rural forestry” that placed the emphasis on replicating village level institutions for sustainable practice. The greatest successes appeared to have occurred in countries such as Thailand, Nepal, the Philippines and some states in India where the policy merged with concerted efforts to introduce new village level institutions. This never happened in Ghana but the Forestry Department did recognise

the need for some form of “collaborative management” with local people because: 1) central government did not have the capacity to enforce forestry rules; 2) there was genuine concern relating to the erosion of local rights and the emergence of a new anti-Forestry Department culture; 3) international, national and civil society interests demanded participation; 4) growing research-based evidence of the contribution of local knowledge to NRM and; 5) donor support to follow a “leaning approach”.

The consultative process that helped formulate the 1994 Forest and Wildlife Policy marked a new direction for policy development in Ghana²¹.

Lessons for understanding (and influencing) the policy process

Although forestry policy in Ghana has changed to become more inclusive and to acknowledge non-timber aspects of forest management, Kotey *et al* (1998) state that there remained a need to formalise roles for the range of stakeholders and continue the process of feedback and adaptation. The main breakthrough has been the emergence of a dynamic policy process that can react to demand and can change emphasis when required to do so by actors.

Many of the problems with forestry management had their roots in previous policy processes and approaches to implementation. These included:

- *Passive or disenfranchised stakeholders* – the state attempted to control all aspects of forestry management, removing the incentive (and so capacity) for landowners and others to direct management.
- *The monopolisation of information* – the Forestry Department developed a paternalistic relationship with primary stakeholders whereby the results of research or policy evaluation were retained between themselves and central government. When the Department made policy mistakes, there was no mechanism to query or correct them.
- *Poorly communicated policies* – the objectives of policy decisions have not often been clearly expressed to implementers of policy or other stakeholders. Forestry officers had sometimes lacked training, up to date manuals, or an understanding of forestry management objectives, for instance.

The breakthroughs that enabled the development of collaborative forestry management through the Forest and Wildlife Policy included:

- *Negotiation with key stakeholders* – government developed model by-laws but local stakeholders had the capacity to modify them (“*native authorities developed a proprietary interest in the laws and the reserves*”). The development of the Forest and Wildlife Policy drew from a series of national and regional stakeholder workshops that could debate issues in an open-ended manner and helped ensure the policy would be implemented.
- *Good information flows* – information regarding the status of resources, current management trends and the effects of these trends on forests and people is

²¹ A similar process was later adopted to produce Ghana’s National Land Policy.

essential. A good information base has been one of Ghana's relative strengths. Several socio-economic studies in the 1990s helped to update this knowledge.

- *Institutional structures for adaptive learning are linked to the policy process* – central government institutions like the Ministry of Lands and Forestry and operational level agencies like the Forestry Department have demonstrated the ability to learn from past successes and failures – they have flexibility but do not compromise strategic objectives. The positioning of the Forestry Department Planning Branch allows it to demonstrate the results of pilot initiatives direct to central government.
- *A mixture of complementary instruments* – effective policy depends on coherence between incentives and regulation. For example, government provided enforcement personnel to landowners free of charge but it retained the right to enforce reservations if landowners refused to do so themselves.
- *Conflict management* – policy will generally introduce some conflict but if widely-accepted mechanisms for negotiation are provided major problems can be overcome. During the formation of the forest reservations, local chiefs chose to resolve disputes through the established court system. These stakeholders had more faith in existing conflict resolution mechanisms than in new processes offered by the Forestry Department and the result was broad agreement and compliance.
- *The role of key actors as champions of change* – the 20th century provided numerous individuals who were impelled to change forestry in Ghana and to make the political space required for that change. Sometimes these individuals are “outside” the system and are unrestricted by departmental politics or bureaucratic issues but the main drive for recent policy change in Ghana has come from within government and from a diverse range of sources.

The future

The policies that impact forests are diverse and some of the most powerful actors that influence forest policy are situated outside the sector. Coherence is required and there must be attempts to balance different sector objectives. Other sectors are likely to complement forest policy when there are gains to be had (a “win-win” scenario). In the case of forests the main cross-over with other agencies and policies occurs “off-reserve” and the Forestry Department must help establish a climate for forest-friendly economic activity in these areas without over-reaching or contradicting government elsewhere.

Kotey *et al* (1996) believe that the process by which negotiation and consultation takes place between policy actors is as important as the content of these discussions. In other words, now that policy calls for collaborative management it is crucial that this process is promoted by establishing recognised roles for stakeholders and systems by which their opinions are collected and shared. The challenge is to install a more permanent inclusive process that can continually refresh policy. It will be important that government learns from the performance of the various management arrangements (incorporating civil society, land owners and district government, for example) that emerged in the 1990s. However: “*Understanding is growing that participatory forestry is unlikely to flourish in a non-participatory society.*”

Finally, this case study is representative of the diversity of interests that shape policy and policy performance. The forest policy process in Ghana has not been a linear one but it has been possible to trace the key stages and highlight key actors. The policy process cannot be isolated from the wider political economy, however, and issues relating to governance will impact policy direction and especially policy performance:

“Forest policy change in Ghana has hardly ever been the direct result of “rational” analysis. It is almost always the result of compromises and trade-offs among and between various and diverse interests and players. The outcome of these power relationships is often due to the formation of alliances and other factors in the political economy. Forest policy is therefore a product of the wider political economy.”

3.4.5. Zimbabwe’s Communal Areas Management Programme for Indigenous Resources – CAMPFIRE.

The Campfire programme is today an important component of Zimbabwe’s policy for wildlife management but its development was a response to previous policy shortcomings and the strong CB-NRM narrative that emerged in the 1980s. Campfire attempts a co-management arrangement at the interface of the state, private land and traditional authority. The following outline draws from Martin (1986), Metcalfe (1994) and Arnold (1998).

The political and historical setting

With the advent of colonialism all communal land in Zimbabwe was transferred to a system of mixed state and private ownership governed by the British. Within the settler administration (1890-1980) wildlife was always regarded as an important resource for government. An initial phase of intense exploitation was replaced by a period when Africa’s wildlife was regarded as “exotic recreational goods”.

A narrative emerged in the 1960s that linked conservation and sustainability with the ability of local people to enjoy revenues from wildlife. The Zimbabwe government acknowledged a problem with wildlife policy when the Department of National Parks and Wildlife Management questioned the role of state ownership. The 1975 Parks and Wildlife Act that resulted was intended to provide private commercial ranchers an incentive to protect wildlife in private or marginal lands that appeared under threat from over-exploitation.

However, the history of top-down management has had a lasting impact. Initial attempts to devolve management responsibility resulted in passive participation, at best.

The evolution of Campfire - actors as policy formers

Zimbabwe, unlike many other African countries in the 1960s and 1970s, possessed professional research institutions with expertise in applied ecology. The changes to wildlife policy that culminated in the Campfire programme can be traced to a handful of dedicated and influential actors within the research wing of the National Parks Department.

These professionals highlighted that the 1975 Parks and Wildlife Act emphasised the role of landowners in wildlife management but provided no management incentives for stakeholders in Communal Areas. The Campfire programme developed as direct attempt to introduce a social component to the economic and ecological objectives of the Act.

Campfire's objectives are:

- 1) to initiate a programme for the long term development, management and sustainable utilisation of resources in the Communal Areas;
- 2) to achieve management of resources by placing the custody and responsibility with the resident communities;
- 3) to allow communities to benefit directly from the exploitation of natural resources within the Communal Area and;
- 4) to establish the administrative and institutional structures necessary to make the programme work (Martin, 1986).

When district councils and communities have successfully applied for Campfire status they receive training in wildlife and fire management and are supported in the process of forming committees.

The core element is the generation of revenues through hunting concessions and trophy fees. The greatest successes have occurred in areas where livelihoods options are very limited and where membership and roles have been thoughtfully and patiently negotiated between communities and local government. In these cases, Campfire has generally increased household incomes, reduced poaching and strengthened local conservation practices.

Coherence

Existing legislation meant that the original Campfire concept could not be fully implemented - decentralised wildlife management was only permissible down to the level of District Councils, not directly to communities – and no government agencies were willing to support the concept financially.

Campfire was promoted by a coalition of national NGOs and international agencies such as WWF that could attempt the approach without national policy change. A series of prototype projects followed. Campfire became an established programme within national policy in 1989 when the responsibility for wildlife was formally granted to two Districts.

Government acceptance of the Campfire concept was a significant achievement because it placed wildlife, communities and NRM at the centre of the debate about tenure and land reform. In addition, Campfire envisioned a role for local people in rural development, generally, rather than as passive custodians of “buffer zones”.

The issue of policy coherence has been a key factor in implementing Campfire. The scope for communal wildlife is determined by policy in other sectors, all of which have a direct or indirect impact on wildlife. Some cross-cutting legislation conflicts

with wildlife conservation (legislation to promote and protect beef production from commercial herds, for example) and formal decentralisation policy is yet to reach the level required to make Campfire fully representative of local interests. In addition, the cross-over between the responsibilities of “modern” government structures and “traditional” authority is blurred and migration in and out of administrative areas makes it difficult to demarcate management areas and set boundaries. However, Campfire does attempt to actively include local wildlife users and has avoided conflict and management problems experienced in the wildlife sector in many other countries (Box 1).

Botswana has a relatively well-established decentralisation policy relating to NRM which includes the Wildlife Conservation Policy (1986), the National Conservation Policy ((1990), the Tourism Policy (1990) and a national policy for CB-NRM (1990). In addition, suitable structures such as democratically elected District Councils and the Land Boards are already in place and undertake NRM functions and decision-making. A number of special CBNRM Trusts for the management of wildlife have been established but their roles have been quite rigidly defined by the Department of Wildlife and National Parks. Unfortunately, the management skills required means that village level government is excluded and it is foreigners that successfully bid for these Trusts. The Trusts often fail to employ local people and the relationship between them and local communities and traditional huntsmen is often marked by friction (Twyman, 2001). There are no formal mechanisms by which wildlife-generated revenues from tourism and hunting are channelled to other local stakeholders. This is perhaps a process of privatisation of NRM responsibility rather than decentralisation.

Box 1. CBNRM Trusts for wildlife management in Botswana. Local government does not currently have the capacity to implement CBNRM in line with policy (Source: Blaikie, 2006).

Other, non-NRM, policies also impact on Campfire. District Councils have tended to attempt to capture wildlife revenues before they reach community stakeholders. Arnold (1998) suggests that national fiscal policy and structural adjustments strategies are forcing local government to develop rent seeking behaviour and capture community revenue.

Current Campfire stakeholders – actors as policy implementers

Campfire has been promoted by a network of government and NGO partners called the Campfire Collaborative Group (CCG) that has assisted district councils and communities to develop and implement their management plans. The success of the CCG owes as much to the dedication of its members as to its structure but it has included the Department of National Parks and Wildlife, the University of Zimbabwe, the community-elected Campfire Associations at district level, the national NGO Zimbabwe Trust and WWF.

Policy spaces

Up-scaling Campfire and other CBNRM in Zimbabwe requires flexibility on the part of both government and traditional authority. All previous externally-driven CBNRM in the country had failed because local people had neither the power nor motivation to develop new institutions. It is possible that collaboration in the future can create a win-win outcome for both government and communities.

Finally, Campfire was developed for wildlife management but there are indications that the principal approach (legal partnership between communities and the government at district level) could be applied to forestry resources or to rural development policy more generally.

3.4.6. Reforming and decentralising Zimbabwe's water management policy

Narratives do not only influence the design and formulation of policy, they also extend to impact policy performance. The following case study examines how the range of local water stakeholders in rural Zimbabwe have their own narratives of management which have affected the performance of new policies for integrated water resource management (IWRM). It draws from Mtisi and Nicol (2003): an output of the Sustainable Livelihoods in Southern Africa Programme funded by the UK Department for International Development.

The regional and national context

The sustainable and equitable management of water resources in the developing world has been a key international development objective since the late 1990s when the Global Water Partnership published the Framework for Action (FFA). The global aim has been to seek ways to maximise economic and social development through devolving responsibility to water users within IWRM (GWP 2000).

The IWRM concept has been promulgated in Southern Africa by several policy drivers (including the German Technical Cooperation, the UK Department for International Development and the Global Water Partnership Technical Advisory Committee) and it has directly influenced water policy and planning in Zimbabwe, Mozambique and South Africa. In turn, these countries were receptive to new inclusive policy because they had recently undergone rapid political change or democratisation. These changes brought with them greater public demand for access to natural resources and demand for participation.

Zimbabwe is a semi-arid country prone to droughts which can result in severe local and national economic effects. There have been five serious droughts in the last 30 years but the drought of 1991-92 was particularly severe and has accelerated the pace of water policy reform²².

Water policy in Zimbabwe developed from the political economy of the settler colony. From 1920 to 1998 the legal and administrative structures associated with water ensured exclusive access only to commercial farming, mining and manufacturing interests. According to Mtisi and Nicol (2003), successive colonial legislation ensured that Africans were totally denied access to water for irrigation. This process culminated in the 1976 Water Act (1976) which required rights to all secondary uses of water (irrigation and commercial uses) to be granted formally by a

²² Kinsey *et al* (1998) estimate that annual household maize production dropped from about three tonnes in 1991 to less than half a tonne in 1992. Nationally, more than 40% of the population was affected, GNP fell by 12% and inflation reached 48%.

central administrative body, the Water Court. These rights were permanent and linked to land so that only landowners could apply for water rights. These rights entitled landowners to drill boreholes and extract water with no central controls on extraction rates or usage. During water shortages, priority was given to those who had acquired rights first – the “first in right, first in time” principle. River Boards were set up to provide technical support to commercial farmers and manufacturing industry. Despite new policy and legislation, the Water Act continues to influence current water use in Zimbabwe.

Water policy reforms

During the 1990s the political debate in Zimbabwe focussed on issues of land reform and addressing historical injustice. The water sector was closely linked with these issues and the demand for change. The bad drought of 1991-92 emphasised the need for reform while increasing demand, and the substantial costs of national water programmes, required a new self-financing component of national water management. The Zimbabwe National Water Authority (ZINWA) was set up specifically to rationalise water management and reduce the cost of supporting multiple institutions with similar objectives but with little or no horizontal integration between them. An attempt was made to completely overhaul the system, in effect removing preferential rights of use to White commercial farmers and making water accessible to all Zimbabweans (Box 2).

The Water Act (Government of Zimbabwe, 1998 & 2000) set out to remove or modify the previous system of water rights.

- All water was to be considered State water and rights were no longer to be granted in perpetuity. The concepts of private water and the “first in right, first in time principle” were abolished.
- A much wider range of stakeholders would be required to arbitrate decisions – communal and small-scale farmers would join commercial farming and industry interests in formal platforms. Catchment and Sub-Catchment Committees would comprise these stakeholders and manage water on the basis of catchment, irrespective of administrative regions. Seven Catchment Councils were to be established in the major hydrological zones of the country.
- The environment was to be perceived as a legitimate “user” of water resources and the polluter pays principle was to be adopted.
- A new parastatal was established – the Zimbabwe National Water Authority (ZINWA) – with a remit to develop, manage and conserve water along IWRM lines.

Box 2. Zimbabwe’s major water management reforms of the 1990s (Source: Mtisi and Nicol, 2003).

The key actors and their narratives

In 2002 Mtisi and Nicol undertook an analysis of the impacts on the new policy in Save Catchment, eastern Zimbabwe. Consultation with a wide range of water actors revealed a series of persistent narratives which appear to have ongoing consequences for policy performance.

- *Commercial farmers/irrigators* – 90% of recorded water rights in the study area were allocated to White commercial farmers but were undergoing conversion to permits under the new Water Act. These stakeholders view water as the limiting constraint to agricultural production and have historically constructed dams on their land to conserve and regulate their own supply. Many of these commercial farmers view communal farming practices and the behaviour of new settlers to have serious negative impacts on the environment (soil erosion, siltation and the loss of rivers). There is a commonly held conservation narrative amongst the commercial farmers and many private companies view the use of water by newly settled farmers as “theft”.
- *Local authorities* – The Rural District Councils previously considered their main role to be sellers of water to residents and industry but with the new Water Act their perceived role has been transformed to one of facilitation and coordination. Their formal remit is now to provide drinking water, rehabilitate the infrastructure, establish local management and coordinate projects. However, along with commercial farmers, the local authorities have a long history of access to water and great influence in its management. Mtisi and Nicol found that the new institutions intended to deliver the Water Act, such as the Catchment Councils, were still strongly influenced by these groups and their long-established views (narratives) based on conservation and the criminalisation of new settlers (see later).
- *Cultural/traditional narratives* - Perspectives on water and its management also have a cultural dimension. A large proportion of Save District is occupied by the Ndaou people who worship the supreme-being, Mwari, through an elaborate system of ancestral land spirits. Traditional leaders dictate land and water management practice on behalf of these spirits and access to natural resources is gained by adherence to these systems and beliefs. Water has huge religious significance and can only truly be owned by the ancestral spirits. The concept of charging for access to water completely contradicts this narrative.
- *Small-scale farmers*: This group emerged as a result of the land alienation process that took place during the colonial period. As land was partitioned and classified on behalf of the ruling class, some Africans were given the option to purchase marginal land. These farmers have a history strongly linked to the missionaries and the Christian church but they may also retain aspects of the traditional belief system in relation to nature and water. With the land, the small-scale farmers also inherited associated water rights and a similar agricultural production narrative to the commercial farmers. Since the new Water Act these stakeholders have demonstrated great willingness to participate in planning and they could represent a new voice in water management. Unfortunately, the purpose of the new Act has been poorly communicated by government and the local charges for water management have been resented and sometimes resisted by the small-scale farmers. Finally, some small-scale farmers are not converted Christians and will utilise traditional conflict resolution institutions or modern institutions depending on circumstance.
- *War veterans*: The war veterans are a prominent political force that gained strength from the land reform discussions of the 1990s. Their access to land (in compensation for their role in the 1970s war of liberation) is extremely symbolic

and politicised and as newly settled farmers the war veterans have emerged as another important water stakeholder. Water does not have the same political resonance as land for this group but along with small-scale farmers, they represent a new entrant to the politics of water management via the new Water Act.

In summary, the stakeholders have adopted one of two basic responses to water management and the new water policy since the late 1990s. The commercial farmers, industry and local government authorities have retained their production/conservation narrative which views new entrants as environmentally irresponsible. The small-scale farmers and water veterans have expressed a desire for more information and to engage with new institutions – what Mtisi and Nicol call “narratives of involvement”. Historically, these groups were denied formal land and water right and lacked formal representation but crucially they did possess their own informal institutions for water management based on cultural/traditional narratives²³.

Participation in water management

The Water Act demonstrates the difficulty of instituting effective participation in a context where decision-making was historically confined to a narrow range of interests. Although participation was to be a cornerstone of the Act, there were no strategies to support wide representation and engagement with the management processes. Those actors with no previous formal role in the management process were still somewhat sidelined. The Catchment Councils operated an outreach programme to publicise the effects of the new Act (with respect to water charging) rather than its potential for small-scale farmers and settlers. The Councils used this programme as an opportunity to expand charging and an attempt to legitimise it.

In addition, the Water Act has introduced another series of institutions that confuse and overlap other national processes of decentralisation. The newly formed Local Government Councils did not coincide with the Catchment Councils based on hydrological units. The overall effect of this new institutional complexity was to inadvertently reduce the prospects of new stakeholders participating in water management.

The opportunity costs of participation often restricts the breadth of representation and the IWRM paradigm here was requiring people to engage with new individuals and institutions like the Catchment Councils often very distant from their homes. Those stakeholders with the ability to meet the opportunity and transport costs of participation (commercial farmers, industry and government stakeholders) remained best represented.

Summary

This case study highlights the importance of understanding the role of pre-existing institutions and narratives based on power and access to natural resources. It demonstrates how a range of actors align themselves with new policy and management institutions according to their pre-held view (narrative) of water management. In the case of water-specific policy, it highlights the problems of

²³ Mtisi and Nicol (2003) discuss these rules of use in detail.

introducing new resource management units based on hydrology with little regard to modes of linkage with existing structures and administrative units. With respect to fisheries, a similar strategy based solely on hydrological units is also unlikely to coordinate well with government bodies and social institutions linked with resource management.

Finally, as in the case of Ghana's forestry policy process, policy that promotes participation must include strategies and mechanisms that pro-actively support access to the decision-making process. In many respects, real participation will complicate the process of natural resource management and government facilitators must have the capacity (motivation, skill and time) to accommodate this:

“Resource governance issues may be bound up closely with existing and new narratives on water and access to other forms of natural capital as well as past political and economic legacies, the influence of which is found in contemporary policy directions. Removing the “segmented” approaches of past water management models, and trying to bring broader concepts of management and governance to the fore, in fact instils greater decision making complexity on a broader (though possibly less technically adept) set of managers than in the past. The clear need is for far greater support to the institutional environment, and the knowledge-based functional strength of participation in these new institutions.”

3.4.7. Common rangeland in Africa

In the following sub-section, based largely on a review by Toulmin, Hesse and Cotula (2003), the impact of policy trends, including decentralisation, on rangeland management and utilisation in Africa is examined.

Regional and national significance and context

There are significant expanses of rangeland in many parts of the world including Sub-Saharan Africa, typified by the savanna grasslands. Several studies show that rangeland provide a valuable resource of especial relevance to poor people's livelihoods. For example, it is estimated that 70% of the world's poor rely to some extent on livestock, the total number of poor livestock keepers is between 800 million and 1 billion (LID, 1999; Thornton *et al* 2000). Both livelihood and rangelands in general provide multiple outputs – food, fertiliser, draught power, pasture, gathering of wild produce etc (many of which are difficult to quantify or value). However, in many parts of the world, common rangeland has been transformed through a succession of policies.

Policy and narratives

In Africa, colonial policy viewed rangelands as ‘unoccupied’. In fact, they had been used by both settled and migratory cattle-herders and others for centuries as ‘commons’, with rights and management systems developed locally to control access and exploitation. The colonial administration expropriated the rangeland for other uses, primarily agriculture and commercial ranching, backed up by new concepts of land ownership. In Eastern and Southern Africa, controls on livestock movement and

marketing were often imposed to protect the interests of settler farmers, while much pastoral land was also lost to wildlife reserves and game parks as a result of a string conservationist lobby. In West Africa, given the lack of settlers, rangelands and pastoralists were largely ignored, unless constituting a threat to colonial authority.

Post-independence governments have engaged more substantively to try and 'modernise' the pastoral livestock economy through technical interventions and property rights reform. Much past and current debate regarding pastoral rangelands continues to make reference to Hardin's 'Tragedy of the Commons' (1968). The use of pastoralism as an example was arbitrary, but unfortunately policy makers have subsequently used it to justify the need to privatise the commons in many countries. In the 1970s and 1980s, pastoral development policies were heavily influenced by negative perceptions of both pastoralism and customary tenure systems based on communal forms of management – the main thrust was to control rangeland degradation through the regulation of herders and the numbers of animals based on Western concepts of carrying capacity. Policies and initiatives developed to focus on capital investments and infrastructure (fencing, markets etc), stratification of production, intensification through sedentarisation and herd size control. Unfortunately few if any of these policies contributed to sustainable rangeland management or improved pastoral livelihoods. They were western-inspired and technologically-driven, seeking to control the vagaries of dryland environments rather than adapt to them.

New narratives and decentralisation

Over the past twenty years, extensive research on common property resource management and the dynamics of dryland ecosystems, coupled with the evident failure of past policies to deliver, has helped the development of alternative narratives and approaches. Opportunistic management, allowing pastoralists to respond rapidly to changing grazing conditions and fodder availability through mobility or the opportunity to off-load or re-stock livestock, is now recognised as a key requirement for the sustainable management of rangelands in dryland areas. In recent years, many Sahelian states have sought to clarify access and tenure rights to rangelands within the broader context of decentralisation and the devolution of management rights and responsibilities from the State to local communities.

De-centralisation problems

Although decentralisation offers great potential for the sustainable management of rangeland, there are still many problems of a conceptual and practical nature to overcome:

- the allocation of tenure rights over the commons to local groups and individuals has paid little attention to issues of equity and the fact that rural communities are often highly differentiated;
- by failing to take account of the political and economic complexity of local situations, new initiatives can threaten livelihoods, expose resources to overexploitation and produce social conflicts;
- questions remain as to how much control over common property resources should be transferred from the State to local communities, and what should be the role of the government in mediating between interests;

- although many governments are committed in theory to devolve powers to locally elected government bodies, in practice the process is very slow, with foot-dragging and unwillingness by state structures to transfer powers which would mean effective disempowerment, and loss of rent-seeking opportunities.

Key factors for success in rangeland management, including decentralisation

There are at least ten issues that appear to be important in establishing successful policy approach and rangeland management arrangements, particularly using a decentralised approach as follows:

- include all actors in agreeing the arrangements for management;
- develop strategies to avoid elite capture of management organisations (transparency of procedures, good information flows, external champions, promote inclusion in decision-making);
- ensure legal recognition of use rights;
- build local capacity to manage resources and to manage conflicts between groups;
- ensure that the management institution (or group) retains control over revenue flows from the resource;
- clarify the relationship between devolved rangeland management and the broader decentralisation process (who is in charge?);
- consider the impact of privatisation on the management of rangeland, and with respect to the poor, herder mobility and conflict levels;
- consider rangeland management as part of a broader livelihoods picture;
- important lessons concerning success and how these enable systems to adapt should be shared between actors and used by government in policy development;
- use appropriate technical concepts and approaches (e.g. building on local concepts where appropriate).

Summary

The management of rangeland in Africa, if this can be done successfully, offers important possibilities for contributing to sustainable development in many countries. In common with other resource sectors (forestry, water etc), approaches tried under the colonial and ‘modernising’ eras of the past have now been replaced by approaches derived from new thinking and narratives, focusing on local level management. For new rangeland management initiatives pursued under new decentralised arrangements, there are many institutional complexities to resolve. But there have been some success stories, and lessons and guidelines are emerging, particularly on the role and interaction of the different actors involved, the incentives involved in participating in new management arrangements and the rules and practices needed to cope with highly variable resource systems and multiple users.

3.4.8. Fisheries Co-management in Africa

The links between CPR management and poverty are complex but there is now national and international awareness that the range of activities described as

“marginal” or “subsistence” perform important economic functions to millions of vulnerable people. In the case of small-scale fisheries, there is a strong relationship between poverty, vulnerability and the sub-sector and much research has centred on the function that fisheries provide with regards livelihoods mobility and the issue of access for the vulnerable (see Bene *et al*, 2002). Although the relationship between vulnerability and fishing livelihoods is complex, small-scale fishers are often amongst the poorest groups in society, often economically, socially and politically isolated, lacking access to capital (cash, land and inputs) and enduring exposure to risks and shocks associated with health, the economy and the environment (Box 3).

The African HIV/AIDS pandemic was first identified in 1982 in the Kasensero and Lukunyu fishing communities of Rakai district in Uganda and the rates of infection in fishing villages remain consistently higher than in surrounding agricultural areas (Allison, 2003). According to Bishop-Sambrook & Tanzarn (2003) there are three characteristics of fishing communities that make them susceptible to HIV infection:

Neglect – government and foreign support in Uganda has tended to focus on improving infrastructure and facilities in line with international processing and handling standards rather than the social conditions associated with production.

Mobility of fishers – fishery opportunities attract transient populations of poor including the young and there are daily flows of men and women into and away from landing sites and distribution points.

Lacking social cohesion – the transitory nature of many fishing communities means that: *“the ethos is very much one of independence, with individuals relying on their ability to raise cash when needed and return to their villages in the event of a calamity (for example, AIDS-related sickness)”*. This dispersal makes continual monitoring, assessment and health support extremely problematic.

Box 3. Susceptibility and vulnerability of small-scale fishing communities to HIV/AIDS in Uganda (Source: Bishop-Sambrook & Tanzarn, 2003).

Policy pronouncements may acknowledge the role fisheries play in providing national sources of protein, foreign exchange and employment but the local context is often overlooked (see Section 6 review of selected Poverty Reduction Strategy Papers). However, many of the often donor-led experiments with fisheries co-management in Africa have implicitly sought to channel the benefits derived via rational management to local poor users.

A range of fisheries co-management projects and policies operate throughout Africa but, as with other forms of decentralised NRM, their character and purpose is often shaped by other features like rural development policy, government institutions and constitutional factors²⁴. Most countries in Africa though have promoted some form of

²⁴ In South Africa, the right to participate in the management of natural resources is enshrined in the Constitution of 1996 and has been supported with several policies that have emerged since democracy in 1994 (Hauck & Sowman, 2001). Local NR stakeholders in South Africa are obviously learning new relationships with government structures since the revision of apartheid-era laws. In other countries the linkage with government is well-established through “villagisation” in socialist states like Tanzania and

decentralised fisheries management and have revised their Fisheries Acts and developed legislation that supports the transfer of power downwards (Hara & Nielsen, 2002). There are few examples of co-management in industrial fisheries of Africa, however, and it appears that the contribution of small-scale fisheries to the livelihoods of the poor has been the key political driver for co-management on the continent.

Key Issue	The problem	Example and sources
<i>Conservation vs economic subsistence</i>	Co-management policy often bolted on to previous policy objective to limit exploitation of wildlife. In fisheries, the assumption remains that effort must be controlled to prevent “ruin” but there needs to be understanding of the socio-economic (livelihoods function) of fisheries.	Lake Malombe (Hara et al. 2002) Lake Victoria (Geheb & Crean, 2000)
<i>Property rights & exclusion</i>	Establishing exclusive rights of use is well meaning but in reality it often presents elites an opportunity to exclude the poor or “part-time” users.	Gulf of Guinea (Horemans & Jallow, 1998) The Malawi Lakes (Hara et al. 2002)
<i>Levels of participation</i>	Primary stakeholders take part in “implementation” rather than “design”. Government sees co-management as an opportunity to achieve agency objectives. Communities may be unwilling to adopt enforcement role.	Lake Malombe and Upper Shire River, Malawi (Chirwa, 1998)
<i>Role of traditional authority</i>	Traditional authorities may be legitimised by government to the detriment of transparent & democratic processes or.... Government may work independently of traditional authority (informal institutions) and lose local legitimacy / create conflict as a result.	Lake Kariba, Zimbabwe (Jackson et al 1998) Lake Malombe (Hara et al. 2002)
<i>Capacity of community and government</i>	Facilitating agencies are trained in natural sciences but often lack social sciences expertise. Communities may lack the skills, capacity, time or incentive to take on new roles.	The Malawi Lakes (Donda, 2001)

Table 2. Key issues of fisheries co-management in Africa (adapted from Hara & Nielsen (2002)).

Donor-supported projects have been instrumental in establishing fisheries co-management in Africa – in some cases by establishing working resource management

Mozambique or it has evolved through established programmes associated with decentralised rural development such as Campfire.

structures and institutional arrangements in projects and then handing these on to government, but principally through influencing the NRM policy narrative²⁵.

Although most examples of fisheries co-management in Africa have only been established in the last ten years or so, it is possible to derive some key observations on performance in this time. Hara and Nielsen (2002) consider five key characters of co-management policy and projects in Africa: 1) conservation versus economic subsistence; 2) property rights and exclusion; 3) levels of participation; 4) the role of traditional authority and; 5) the capacity of community and government (see Table 2).

One of the key problems in co-management relates to the issue of participation. The participation narrative convinces many policy actors and is one of the key drivers of co-management policies and projects. However, there appears to be a tendency for co-management in Africa, as elsewhere, to pursue sector-specific models for project implementation (the “blue-print” approach). Stakeholder roles may be predefined, representing a type of “passive participation” (Pimbert and Pretty, 1994) whereby local fisheries stakeholders are directed rather than consulted.

Many constraints can broadly be termed “institutional”. The normal role of elites and traditional authority, for instance, should be acknowledged by facilitating agencies rather than ignored or directly challenged. Although their role remains controversial, these institutions can support or block the change required for decentralisation and co-management.

3.5. Conclusions

Policy formation in the case studies (above) was a product of international, national and, in the case of forests, commercial sector pressure. Policy approaches were modified over a long period of time and are still undergoing change. In none of the cases presented was the formulation of policy an open and transparent process. In Ghana, for instance, it took the concerted efforts of a few individuals within government and research institutions to develop and maintain narratives that built pressure for change.

The studies demonstrate well how NRM problems and constraints to policy performance often have roots in the past. Implementing new policy, coherent with other management objectives, and changing previous institutions (“ways of doing things”) takes time and political commitment.

Policy related to decentralisation infers new roles for government and public stakeholders and all stakeholders will take time to develop capacity in these new roles. In the case of the Forestry Department in Ghana, it took field staff some time to switch from a paternalistic and technocratic stance towards a flexible way of working that looked for opportunities for “collaborative management”.

²⁵ There are several serious constraints to operationalising co-management, especially at local level. These include the focus on “building” new institutions with western characteristics of “success” (transparency, participation etc.), the disenfranchisement of existing institutions and actors, including traditional authority and technical government staff (see Lewins, 2004 and Blaikie, 2006), and the inadvertent exclusion of the poor.

The Ghana case study demonstrates how information flows, evaluation and feedback to policy makers, can keep the policy process dynamic and responsive. In this case, a research and planning arm of the Forestry Department was given the responsibility to pilot collaborative management projects and relay progress direct to central government.

In Zimbabwe, rangeland policy was intended to protect the interests of land owners and commercial farmers but there were few incentives for wildlife management in the communal areas. However, Campfire is a co-management policy of central government that actively brokers new partnerships between district and local government, traditional authority and local people. Although central government set the right conditions in 1989 (transferring formal responsibility to district level), Campfire requires all these actors to take on new roles. The uptake of Campfire has been restricted by the lengthy negotiations between these parties.

Attempted changes to Zimbabwe's water management policy demonstrate the critical role of a broad range of factors which can be broadly termed "institutional". The obstacles to policy change here relate to the lack of fit between new management institutions and pre-existing formal and informal (or social) institutions. With respect to formal institutions, new water management bodies replicated the remits of existing structures or failed to link with local government or existing bodies representing other sectors - largely because water catchment units spanned administrative units. In the case of informal institutions, the setting comprised resilient narratives based on the past economic roles and belief systems of the various water stakeholders. The "world views" of the stakeholders have a huge impact on policy implementation (who participates fully in planning and has real power) and performance (perverse incentives for government officials or non-compliance by users, for example).

In the case of fisheries co-management initiatives in Africa, albeit this is relatively youthful, the role of external actors (donors) has been significant in advocating greater local participation through co-management. However, it is increasingly apparent that increased 'real' participation is not so easily achieved in many situations where the existing political and institutional architecture is resistant to such changes. There is a need to develop sophisticated strategies to enable a realistic change to co-management over time, incentivizing and accommodating the full range of stakeholders. Such a process needs to be carefully and adequately supported at all levels, and new capacities established to manage the process within national institutions.

Together the case studies represent the non-linear character of the policy process, especially the "messy" character of policy formulation and the unexpected outcomes of implementation (or partial implementation). Historic features of NRM continue to influence management and so policy outcomes. These case studies are representative of the problems and opportunities associated with NRM in the development context and they highlight the need to fully understand institutional setting. Institutionalising participatory processes with new roles for stakeholders requires government facilitators to look beyond entrenched positions and to attempt to understand and accommodate the interests and motivations of the various stakeholders.

4. The Lake Chad Basin and the Zambesi River Basin – Review of Development Context

4.1. Introduction

The countries of the Lake Chad (LCB) and Zambesi River (ZRB) Basins represent some of the least developed nations in Africa with at least 40% of the total population of the region living below the poverty line. Despite a considerable resource base featuring mineral reserves, oil and hydro-electric power, over 50% of the population lack access to basic health and education services with the majority of the poor living in remote rural areas. Mozambique and Zambia represent two of the poorest countries in the world with approximately 70% of the population living below the poverty line and an average life expectancy at birth of 41 and 36 years respectively.

4.2. The Lake Chad Basin Countries

The countries with territory most associated with the LCB (Cameroon, Chad, Niger, Nigeria and, to a lesser degree, the Central African Republic) all demonstrate poor performance in relation to world indicators of economic and social development (see Table 3). With the exception of Nigeria and to a lesser extent Cameroon, the economies are strongly dependent on the agriculture sector and at least 50% of the population are classed as rural. Chad and Niger represent 73% of the total LCB by area and exhibit the greatest shortfalls in global indicators of social and economic development. Niger has an adult literacy rate of only 17.6% and in both countries the total population below the poverty line is about 64%, for instance.

Multi-lateral water management structures and commitments

About 20% of the total area of the LCB (the “Conventional Basin”) is under the mandate of the Lake Chad Basin Commission (LCBC). The LCBC was created in 1964 by Cameroon, Chad, Niger and Nigeria with the overall policy objective to exploit and improve the management of the LCBC water resources for the welfare of the people (Magomna and N’Gaba Tchéré, 1999). This includes: 1) the regulation and control of water and other natural resources in the Basin; 2) the promotion and coordination of research and development projects in the Basin and; 3) the promotion of regional cooperation and conflict resolution (Neiland *et al*, 2002).

The role of the LCBC with respect to regional and national fisheries policy is limited and the past focus has largely been the coordination of water projects.

Country profiles²⁶

- Cameroon

Cameroon has enjoyed relative stability since independence in 1960. Regionally, it has one of the broadest primary resource bases in sub-Saharan Africa that includes oil and a strong agriculture sector and this has supported modest economic growth and

²⁶ Source: World Bank Country Briefs (<http://web.worldbank.org>) and the CIA World Factbook (<https://www.cia.gov/cia/publications/factbook>).

diversification. The national economy is strongly linked to international coffee, cocoa and oil prices, however. Cotton, rubber and timber are other important commodities and the processing sector is relatively well developed. Desertification, deforestation and overgrazing are the key environmental concerns.

As with Nigeria, the country has significant urban centres like Douala and Yaoundé and less than 50% of the 16 million population is in rural areas.

Although 53% of the population are below the poverty line, Cameroon shows some of the more positive social and economic development characteristics in the region with relatively high literacy (79%), life expectancy (48%) and apparently lowest levels of national inequality in the LCB (Gini index 44.6).

- Chad

Chad has endured several decades of conflict since independence in 1960. The civil war subsided before the first democratic elections were held in 1996 but the eastern border with Sudan remains unstable and lawless with the humanitarian crisis in Darfur resulting in mass movement of refugees across the border.

		Cameroon	Central African Republic	Chad	Niger	Nigeria
<i>Government (independent)</i>		Multi-party republic (1960/France)	Republic (1960/France)	Republic (1960/France)	Republic (1960/France)	Federal republic (1960/UK)
<i>Constitution (legal system)*</i>		French civil law, revised 1996	Ratified by referendum 2004, French law	2005 referendum removed constitutional term limits	Adopted 1999, based on French law	Adopted 1999, English common law & Shariah law in 12 states
<i>Demography</i>	Population	16.1	3.9	8.6	11.8	136.5
	% rural	49	51	75	78	53
	% Agric. emplmnt.*	70	-	80	90	70
<i>Poverty & Vulnerability</i>	% below poverty line	53.3	-	64	63	43
	% Child labour	22	27	36	43	23
<i>Education</i>	% spending eductn.	17.3	-	-	-	-
	Av. school yrs (m / f)	10 / 8	-	-	3 / 2	-
	Adult literacy %*	79	51	47.5	17.6	68
<i>Health</i>	Life expectancy	48	42	48	46	45
	Access improved water %	63	75	34	46	60
	Undernourished %	25	43	34	34	9
	HIV prevalence %	3.9	13.5	4.8	1.2	5.4

Table 3. The Chad Basin countries – political, social, economic and environmental development indicators (source: World Development Indicators, 2005 and * CIA Fact Books)

		Cameroon	Central African Republic	Chad	Niger	Nigeria
	Total GDP	12,491	1,198	2,608	2,731	58,390
	% GDP agriculture	44	61	46	40	26
<i>Economy</i>	% GDP industry	17	25	13	17	49
<i>(see text for economy overview)</i>	Inequality (Gini index)	44.6	61.3	-	50.5	50.6
	Total external debt	9,189	1,328	1,499	2,116	34,963
	Aid dependency	884	50	247	453	318
<i>Environment</i>	% arable or permanent cropland	15.4	3.3	2.9	3.5	36.3
	Renewable freshwater (billion cu. m)	273	141	15	4	221
	Environmental strategies / action plans	-	-	1990	-	1990
	Biodiversity strategies / action plans	1989	-	-	1991	1992

Table 3. continued

Chad is heavily reliant on the agriculture sector with about 80% of the workforce engaged in livestock and subsistence farming activities. However, the agriculture sector suffers from its poor communications, its landlocked setting, limited surface water and recurrent drought. Despite domestic oil revenues since 2003, the country remains strongly dependent on foreign investment for public and private sector infrastructure projects. Cotton, beef and gum arabic are the key non-oil exports. Agriculture is extensive, with only 2.9% land areas dedicated to permanent arable or cropland. Industry contributes just 13% of national GDP.

Chad performs very poorly in relation to many social and economic development indicators. Of the LCB countries, Chad has the highest proportion of people below the poverty line (64%) and 34% of the country are classified undernourished and with no access to potable or improved water supplies. As with Niger, approximately 34% of the population is classified as undernourished.

- Niger

Despite military coups in 1996 and 1999, Niger has had a relatively stable political history since independence in 1960. Now a multi-party democracy, it unfortunately remains one of the poorest countries in the world. The country ranks last in the United Nations Development Fund index of human development. Infrastructure is poor and access to basic government services is severely limited (a literacy rate of 17.6%). Eighty percent of the country lives within the Sahel zone and the agrarian economy, comprising livestock and subsistence agriculture, is severely hampered by drought cycles.

Extensive livestock and agriculture supports as much as 90% of the national population and 78% are classed as rural. Only 17% national GDP is derived from the industry sector and nearly half the national budget originates from foreign donors (approximately \$453 million). It is hoped that recent debt relief may free up revenue to develop oil, coal and gold reserves.

- Nigeria

Nigeria gained independence in 1960 but experienced an extended period of political instability until 1999 when a new democratic constitution made way for civilian government. Nigeria has now been through its longest period of civilian rule and takes a lead role in international bodies such as NEPAD and ECOWAS.

Nigeria is the most populous and densely populated country in Africa with about 136 million people in less than a million sq km. The country is also the most industrialised in the region but although oil resources contribute a major part of domestic GDP, inequity is a major challenge to social development in Nigeria - GDP per capita is \$1,400 but about 45% of the population lives below the poverty line. 37% of the population live in extreme poverty.

The largely subsistence agriculture sector has failed to keep up with population growth and Nigeria is no longer a net exporter of food. Desertification is major environment concern in the north of the country where there are serious water management issues with demand from urban centres and hydroelectric power

impacting agriculture and fisheries systems in the Lake Chad Basin. The Niger delta area has suffered serious damage from oils spills and other pollution associated with the industry.

4.3. The Zambesi River Basin Countries

The countries of the ZRB are principally Malawi, Mozambique, Zambia and Zimbabwe although Namibia, the Democratic Republic of Congo, Angola and Botswana also have territory inside the Basin. About 32 million people live within the Basin, employed mainly in agriculture, fisheries or industry associated with minerals and the region is characterised by low economic growth. As with the LCB, the ZRB countries rank poorly with respect to indicators of social and economic development (Table 4).

Zimbabwe, Democratic Republic of Congo and Angola have undergone significant political upheaval since 2000 and although the region's 3.4% aggregate growth in GDP is comparable with Africa as a whole, political uncertainty has reduced inward investment and the growth rate is below the UN target of 6% required for sustainable development in Africa (Danida, 2005).

Multi-lateral water management structures and commitments

The eight riparian countries in the ZRB are members of the SADC which established the protocol for Shared Watercourse Systems in 1995. The protocol, which became operational in 1998, is intended to provide a framework for the establishment of river basin institutions in Southern Africa and a forum for dispute settlement (Bourgeois, 2003). In 1987, SADC adopted an action plan for the Zambezi River Basin (ZACPLAN), for rational environmental planning and management of the water and related resources and consisting of 19 projects including the formation of a commission for the Zambezi River Basin (ZAMCOM).

From a regional planning perspective, the Zambezi Action Plan Project 6 (ZACPRO 6) of 1991 is the most important of the ZACPLAN projects. The first phase of the project (1995-2000) established a database for water resources information and the second phase (2001-2008) is intended to establish an institutional framework for managing the shared water resources of the ZRB and the formulation of an integrated water resources management strategy for the basin.

The Zambezi River Authority (ZRA) was founded by the governments of Zambia and Zimbabwe in 1987. The core functions of the ZRA are: 1) to operate and maintain the Kariba Dam Complex; 2) make recommendations on the suitability of new dams on the Zambezi River; 3) construct and operate other dams of the Zambezi River; 4) monitor hydrological processes of the River and; 5) provide recommendations to ensure the wise use of water and other resources of the Zambezi River.

Country profiles

- Malawi

The independent nation of Malawi was founded in 1964 and after three decades of one-party rule the country became a democratic republic when multi-party elections were held in 1994.

Malawi has a sub-tropical climate and about 20% of the country is comprised of arable land dedicated to commodities for domestic and international markets include tobacco, tea, and sugar cane. As much as 90% of the labour force is associated with agriculture (the highest proportion in the ZRB) and the sector contributed 36% of GDP and 80% of export revenues in 2005. Malawi's land is amongst the most fertile in the region but ownership of land is concentrated in the hands of relatively few.

Malawi is one of the poorest countries in the world and qualified for relief under the Heavily Indebted Poor Countries (HIPC) Programme in 2000. GDP per capita is extremely low (\$600) with as much as 54% of the population living below the poverty line. Malawi depends on significant economic support from the IMF, the World Bank and international donors. Development assistance, excluding debt relief, currently stands at approximately \$498 million per year and although recent fiscal policy has been commended, the serious droughts of 2005 and 2006 have heightened pressure for additional government spending.

Major national issues include high levels of government corruption, the spread of HIV/AIDS (which as an infection rate of about 14%) and the threat to agricultural from population pressure. Water and land use issues are interlinked with deforestation, irrigation, agricultural run-off and industrial pollution damaging the aquatic environment and impacting fisheries livelihoods.

- Mozambique

Mozambique has endured prolonged instability since independence in 1975 but in 1990 a multi-party constitution partly abandoned Marxism and helped set the ground for an end to the civil war (1977-1992). Fiscal reforms and donor assistance have since helped control inflation and increase growth but Mozambique remains one of the poorest countries in the world with at least 69% of the population living below the poverty line. Mozambique qualifies as a HIPC but its broad resource base suggests potential for economic growth based on transport, mining and energy.

		Angola	Botswana	DRC	Malawi	Mozambique	Namibia	Zambia	Zimbabwe
<i>Government (independent)</i>		Multi-party democracy & republic (1975/Port.)	Multi-party democracy & republic (1996/UK)	Dictatorship (1960/Belgium)	Multi-party democracy (1964/UK)	Republic (1975/Portugal)	Republic (1990/ S. Africa)	Republic (1964/UK)	Parliamentary democracy (1980/UK)
<i>Constitution (legal system)*</i>		Portuguese civil law, revised 1992	Roman-Dutch law since 1996	Belgian civil law / tribal law since 2003	English common law, 1994	Portuguese civil law, since 1990	Roman-Dutch law since 1990	Based on English common law since 1991	Roman-Dutch & English law since 1979
	Population	13.5	1.7	53.2	11	18.8	2	10.4	13.1
<i>Demography</i>	% rural	64	50	-	84	64	68	60	63
	% Agric. emplmnt.*	85	-	-	90	81	47	85	66
<i>Poverty & Vulnerability</i>	% below poverty line	-	-	-	54	69.4	-	69.2	25.8
	% Child labour	26	13	28	29	32	15	15	26
	% spending eductn.	-	25.6	-	-	-	-	-	-
<i>Education</i>	Av. school yrs (m / f)	-	11 / 11	-	-	-	12 / 12	7 / 7	10 / 9
	Adult literacy %*	66.8	79.8	65.5	62.7	47.8	84	86.8	90.7
	Life expectancy	47	38	45	38	41	40	36	39
<i>Health</i>	Access improved water %	50	95	46	67	42	80	55	83
	Undernourished %	40	32	71	33	47	22	49	44
	HIV prevalence %	3.9	37.3	4.2	14.2	12.2	21.3	15.6	24.6

Table 4. The Zambesi Basin countries – political, social, economic and environmental development indicators
(source: World Development Indicators, 2005 and * CIA Fact Books)

		Angola	Botswana	DRC	Malawi	Mozambique	Namibia	Zambia	Zimbabwe
	Total GDP	13,189	7,530	5,671	1,714	4,321	4,271	4,335	17,750
	% GDP agriculture	9	2	58	38	26	11	23	17
<i>Economy</i>	% GDP industry	65	45	19	15	31	26	27	24
<i>(see text for economy overview)</i>	Inequality(Gini index)	-	63	-	50.3	39.6	70.7	52.6	56.8
	Total external debt (\$ million)	9,698	514	11,170	3,134	4,930	-	6,425	4,445
	Aid dependency (\$ million)	499	30	5,381	498	1,033	146	560	186
	% arable or permanent cropland	2.6	0.7	3.5	25.9	5.7	1	7.1	8.6
	Renewable freshwater (billion cu. m)	184	3	900	16	99	6	80	14
<i>Environment</i>	Environmental strategies / action plans	-	1990	-	1994	1994	1992	1994	1987
	Biodiversity strategies / action plans	-	1991	1990	-	-	-	-	-

Table 4. continued

Agriculture provides employment for 81% of the workforce but foreign exchange is increasing with recent new investments in the aluminium, titanium and garment industries. Industry actually provides a greater proportion of national GDP (31%) than it does in the other principal ZRB countries. Social development indicators reveal a very high incidence of poverty and limited access to basic health and education services – 47% of the population is considered undernourished, only 42% have access to improved water, life expectancy is only 41 years and Mozambique has the lowest level of adult literacy in the region at less than 50%. Poverty in the rural areas and the north, where women and children especially suffer from limited access to basic services, is particularly pronounced (Danida, 2005).

- Zambia

Since independence in 1964, Zambia's political climate has been rather more stable than other nations in the region. A series of elections followed the removal of one party rule in 1991 but the country has suffered from extended periods of drought in the 1980s and the 1990s and depressed global markets. Zambia is extremely reliant on world copper prices and recent collapses have damaged the economy and had repercussions for the poor. Over 69% of the population live below the poverty line and Zambia also qualifies for debt relief under the HIPC initiative.

The mining industry has caused air and soil pollution and reduced water quality. Only 55% of the population have access to safe potable water.

Although industry (largely associated with copper, cobalt zinc and lead) contributes more to national GDP, about 85% of the population are employed in the agriculture sector. Social development indicators reveal a high incidence of poverty and of the main ZRB countries Zambia has the highest proportion of its population classified "undernourished" (49%) and the lowest life expectancy at 36 years.

- Zimbabwe

Free elections in 1979 led to full independence a year later but the multi-party system has been controlled by Robert Mugabe since 1987. Zimbabwe is classified as a low-income, rather than a least developed country (LDC), but it is currently undergoing a political crisis which is having severe economic impacts on its people and threatens to reduce the country to LDC status. Zimbabwe's commercial agriculture sector is well developed and provided a major proportion of export revenues but the chaotic and violent land reform programme started in 2000 has damaged the sector and undermined its function in rural employment (400,000 were directly employed in the sub-sector). According to the UN Office for the Coordination of Humanitarian Affairs inflation in 2007 has been excess of 3500% and the UNDP estimate that the proportion of the population now living below the poverty line may be as high as 70% (Danida, 2005).

Regionally, Zimbabwe's performance in relation to many social and economic development indicators is relatively good but there are indications that the pace of recent negative change will have long term impacts on the prevalence of poverty in the country. Of particular concern is the high incidence of HIV (24%) which will have long lasting social and economic consequences for Zimbabwe.

4.4. Summary

All the countries of the two basins – LCB and ZRB – are relatively youthful, having gained independence from colonial rule around 1960. Despite possessing a significant portfolio of natural resources, in general, national economic and social development has shown a low level of performance due to policy weaknesses and mismanagement. The outcome has been relatively small and undeveloped economies, high levels of external debt and significant levels of poverty.

Many of the LCB and ZRB countries have also experienced political upheaval, with numerous changes of government and some serious wars. The level of political development is also low in most countries with a tendency towards political hegemony and weak governance conditions, which limits democratic government.

Both regions are also susceptible to highly variable climatic conditions which impact agriculture and fisheries production. In the absence of well-developed and diversified economies, many rural people rely on livelihood diversification (often based on a combination of farming and use of common pool resources [trees, grazing, fisheries], where access allows) to reduce poverty vulnerability and risk. Both water and fisheries resources are important in both the LCB and the ZRB in this respect.

Rural development constraints in both regions relate to remoteness from markets and uncertainty in relation to production. In addition, the prevalence of HIV in the ZRB is particularly serious and this will have long-term impacts on social and economic development in the region by limiting the productive workforce and increasing inequality.

More generally, the SADC countries as a whole (including middle-income Botswana and South Africa) have experienced a decline in per capita food production over the last two decades with the greatest hardship endured by the 70% of the region's population people living in rural areas. Although intraregional trade in the SADC accounts for only 1% of total exports, the stimulation of intraregional and international trade is seen a potential mechanism to support small-scale producers in the region (www.fao.org/spfs/pdf/fact_sadc.pdf - accessed 15/5/07).

5. Understanding the Policy Process – National Studies

5.1. Introduction

The following section draws on the key observations provided by the country reports and offers a synthesis of the main themes. The full reports are presented in Appendices 2-5.

5.2. Cameroon

- *Policy and administrative setting*

Although there are no policies for decentralised fisheries management in Cameroon, government has embarked on a process of decentralisation as part of broader, national and rural development programmes.

After independence in 1960, Cameroon adopted a planning and development approach based on five-year plans. The first two of these (1960-1971) focused on the promotion of exports. The industrial fishing sub-sector was modernised and artisanal fisheries overlooked. The third to fifth five-year plans (1971-1986) extended this modernisation process in the sea fishery, developed administrative capacity and promoted aquaculture and marketing.

Although Cameroon's economy had benefited from oil production from the mid-1970s, the country was hit by massive recession from 1985-1989 when the value of exports suddenly fell. The government developed SAPs with the IFM and World Bank to rationalise public finances and used the opportunity to promote a broader process of reform which included market liberalisation and price deregulation. Cameroon's Fisheries Master Plan (1992) was developed at this time and reflected the national emphasis on production, export and capacity-building in order to achieve self-sufficiency.

Cameroon experienced an economic recovery in the early 1990s but it was recognised that national growth would not sufficiently support rural development and poverty alleviation. Cameroon joined the Heavily Indebted Poor Countries (HIPC) initiative in 1999 and went on to develop a PRSP emphasising an integrated approach to supporting livelihoods.

The 1996 Constitution set the foundation for both the central administration and local government institutions to drive a new process of decentralisation.

Cameroon has possessed legal instruments to regulate forest, fauna and fisheries but a mixture of top-down implementation and low levels of participation has limited their performance and relevance. In 2005, a consultation process between government agencies, the private sector and fishers helped to modify these texts and bring them into line with the FAO Code of Conduct for Responsible Fisheries (CCRF).

The policy case study

A participatory approach has been encouraged within all sectors since 1990 and the 1992 Fisheries Master Plan was developed with input from the full range of stakeholders. However, it was not until 2000 that the fisheries administration adopted a proactive position towards participation. The Sustainable Fisheries Livelihoods Programme (SFLP) has supported *three co-management projects* in Cameroon since 2002.

Co-management projects were established at the dam reservoirs of Mape and Maga where overfishing and serious ethnic conflict between fishers had led the fisheries department to present the case to SFLP. The projects started with a broad consultation phase, including direct fisheries stakeholders, sector agencies, local government, traditional authority and the police, before training and supporting management committees and facilitating stakeholder meetings. In both cases the projects have

relieved social tensions and reduced conflict, increased collaboration with local government and increased responsible practice. Reservoir management agreements have been established and signed by all stakeholders.

A third co-management project – “*Project for the Support of the Association of Northern Female Fishsellers*” - was established in 2003 at the two Garoura fish markets where sanitation and hygiene had become a serious issue. The project was an opportunity to develop capacity at the markets by improving freezing and smoking facilities. The early phase included a stakeholder analysis, committee formation and the development of a management agreement with the main local stakeholders. The project has succeeded in delivering better facilities and improving health and working conditions in the markets.

- *Narratives*

A key factor that seems to have encouraged policy associated with decentralisation in Cameroon is the international and regional (NEPAD, for example) demand for “good governance”. Internationally, a narrative has evolved that argues policy and management failures relate to the quality and accountability of decision-making processes. Decentralised democracy, it argues, is more likely to identify and implement pro-poor and sustainable policy. The President of Cameroon implemented the National Governance Programme (PNG) in 1995, eventually leading to a UNDP-supported strategy (2001).

As elsewhere, sectoral policy has been influenced by other global and donor objectives and concerns. The PRSP process is shaped by an international consensus that national government must provide conditions for pro-poor sustainable growth. In the case of Cameroon, the PRSP emphasised rural sector strategies and the need to maintain rural livelihoods.

Other international narratives have influenced the structure of Cameroon’s government. The formation of ministerial departments responsible for environmental issues and an advisory national commission for environment and sustainable development, for example, was influenced by the Rio Summit of June 1992 and the “sustainable development” narrative that resulted.

Many development partners made participation a prerequisite for project funding. The participation narrative has influenced Cameroon’s fisheries sector since the 1990s.

Specifically with respect to fisheries, policy has reflected the “production” (1960-1976), “regulation” and “income generation” scenarios identified by Neiland *et al* (2002). The “ecology or environment” scenario is becoming stronger with greater awareness of the seriousness of water management issues in the LCB and its impact on human and economic development.

- *Actor networks*

Policies related to decentralised fisheries management have been driven by an international narrative promoted by international donors and development agencies. As in other countries in the region, the SAP and PRSP process was driven externally

but went on to influence national policy related to decentralisation and the fisheries sector.

The case studies presented here also show that civil society can demand change from below - the concerns of fishers and women traders were articulated to donors and government via local government institutions.

In future a new set of actors will be important in implementing decentralised fisheries management. These actors include civil society organisations such as emerging producers' organisations and GIC and other actors within the new decentralised local authority (CTD).

- *Coherence*

Policy coherence is greater now in Cameroon since the PRSP of 2000. Prior to 2000 there were particularly marked inconsistencies between the fisheries, livestock and agriculture sectors associated with development projects linked with dams, for instance (each sector contradicted the objectives of the others).

The PRSP was formed through a process of consultation with key stakeholders and this has set a precedent for each sector to repeat similar processes and to establish policies and approaches that can meet rural development objectives, generally. The strategies of each sector have been compiled by the ministries in charge of rural development to formulate the Document for the Strategy for Rural Sector Development (DSDSR).

The decentralisation process supported by the 1996 Constitution requires supportive legislation and institutional change. Three new laws passed in 2004 (concerning decentralisation, the rules applicable to districts and the rules applicable to regions) represent an important advance in this respect.

- *Policy spaces and opportunities*

Significant advances were made by Cameroon in the area of governance during the first four years of the PNG. Greater support for the rule of Law and public administrations was accompanied by increased transparency in public institutions and three new laws to promote decentralisation. The new PNG programme (2006-2010) is more realistic and should help meet international community demand for public sector reforms, support to business and citizen participation.

During the colonial period and up to 1996, government in Cameroon had followed a process of deconcentration whereby functions of the state were passed to local departments. The new constitution of 1996 offers the prospect of future decentralisation through the recognition a new administrative level – the CTD.

As elsewhere, however, there are discrepancies between government policy pronouncements and policy outcomes. There remains a need to take a cross-sectoral perspective and to understand the role of policy, governance and society. The formulation of a regional strategy to reduce poverty via the PRSP, the rural sector and

sectoral strategies of most of the LCB countries will provide this opportunity (Neiland *et al* 2002).

Government, to date, has tended to examine the role of stakeholder groups in relation to the market rather than their potential role in participatory planning and policy implementation. The three co-management case studies also suffer from this problem with the most powerful business interests having the greatest influence in decision-making.

The primary and secondary actors organised as the Common Initiative Group (GIC) represents a major opportunity for more inclusive policy and planning. GIC and civil society organisations are increasingly involved in fora concerned with the formulation of fisheries development policies organised at local, regional and national levels (but less so at a regional level). These actors are also active in the implementation of measures and associations and federations like this are trying to set up a network in order to influence government. These groups are supported by government, the donor agencies and NGOs. A national producer organisation network for agriculture, husbandry and fisheries held its first meeting in Yaoundé in June 2006, for instance.

With respect to the LCB, the LCBC could become a more significant actor in the policy process. Fisheries development process in the LCB must involve the range of actors but in order for LCBC to contribute further it will be necessary to reinforce its expertise in fisheries and to create, within it, a structure or a body which would work with member countries on a programme with the following objectives: to harmonise fisheries policies in the LCB, monitor and collect information on the fisheries policy performance of each country, improve fisheries policy performance and information sharing. This body would need to develop a framework with which to engage with actors at local and regional levels and could be supported by international organisations (FAO, WorldFish Center, etc.).

5.3 Niger

- *Policy and administrative setting*

Appropriate policies and strategies to provide a solid basis for the development of the fisheries sub-sector do not exist in Niger. However, all economic and social policies in the rural sector are shaped by the Poverty Reduction Strategy (PRS) adopted in 2002. The development of the fisheries sector is defined in the Rural Development Strategy (SRD) adopted by the government in 2003 and created in response to the PRS. This document was the result of a participatory and iterative process lasting around two years involving a large range of actors including administrative services at national and local levels, professional organisations and NGOs. The general objective assigned to SRD is to: “*reduce the level of rural poverty from 66% to 52% by 2015*” by creating the conditions for sustainable economic and social development which would guarantee food security for the people and sustainable management of natural resources. This general objective is a direct consequence of the global objective pursued by the PRS - to reduce poverty below 50% for the whole Niger population.

The policy case study

The *SDR* does not focus on agriculture and fisheries production but recognises the wider socio-economic role of NR and non-agricultural activities to rural populations. The first strategic axis of SDR is: “*to promote the access of rural people to economic opportunities in order to create the conditions for sustainable economic growth in the rural area*”. The aim is economic development through secure production conditions and livelihoods down to household level. The second strategic axis of the SDR is to: “*prevent risks, improve food security and manage natural resources in a sustainable way in order to guarantee greater security for people’s livelihoods*”. The third strategic axis of SDR, which overlaps the first two, is to: “*strengthen the capacities of public institutions and rural organisations in order to improve the management of the rural sector*”.

The SDR aims to meet the objectives of the National Policy for Local and Community Development (PNDLC): to strengthen local government and make district and community levels the main centres of actions; to promote development which will meet the expectations of stakeholders; to reinforce local governance resulting from decentralization and State reform and; to reinforce the social sustainability of these achievements.

Although there is little direct reference to fisheries, the implication is that fisheries development would centre on the transfer of skills and management capacity to local people and through support to processing and marketing. Fisheries are regulated by several laws and decrees that stipulate ownership and the rights of use to the state. A licensing system grants these rights to fishery operators for one year.

Since 2002, new government structures have been created at district and local level. The Law n° 2002-12 establishes the fundamental principles underlying the autonomous running of the regions, the departments and the districts, in addition to their competencies and resources, with skills transferred from the State to the region, the department and the district. Local authorities should benefit from the transfer of skills in the fisheries sector and the district will be able to develop, implement and monitor community action plans for fisheries in accordance with guidelines defined by the departmental council.

In summary, the State is the supervising authority for fisheries resources and defines management through policy and law but decentralisation means that many roles have now been passed to local authorities and departments. Since the municipal elections of July 2004, the districts have also taken on fisheries responsibilities regarding regulation and revenue collection.

- *Narratives*

The SRD reflects the global narrative that promotes decentralisation for better government and sustainable and democratic NRM. Rather than promoting production, the policy stresses building capacity within existing government and traditional institutions for democratic decision-making. This reflects national and international demand for integrated rural development and the assertion that natural resources provide a crucial function for the poor.

- *Actor networks*

With respect to fisheries management and the implementation of decentralisation policy, the key actors are the State authorities, traditional authorities and the stakeholders that work within projects and programmes associated with local governance such as the Support Projects for Local Development (PADL/N'guigmi and PADL/Diffa) and the Community Action Programme (PAC/Diffa).

Other important stakeholders for implementation include the technical departments concerning Environment, Customs and Excise, Justice and administrative managers, prefects and members of the Government Cabinet. They are the enforcement agencies for policies and legislation, with an advisory role concerning the management of fisheries resources. In addition to these formal agencies are traditional leaders and the territorial administrations based on traditional authority and boundaries. This integration means that traditional leaders have become actors in the management of fisheries resources particularly with respect to tenure and access rights and the management of conflicts.

This specific support has involved institutional and technical areas and has led to the formulation and the implementation of suitable local statutory frameworks (systems of participatory planning and prevention/management/resolution of conflicts associated with access).

- *Coherence*

The main issue of coherence here relates to the mismatch between traditional authority and new local government agencies and primary fisheries stakeholders. The decentralisation process in Niger is not without problems and traditional authorities and government administrations are causing conflict by both collecting extra rents and illegal payments²⁷.

To date, local government structures still lack the necessary power and resources to play an effective role because the transfer of management capacity has not yet been accompanied by a concomitant transfer of financial and human resources. Local government councils are unable to define equitable development plans and to formalise the rights of all users of natural resources. They are also unable to negotiate with State representatives for new systems with the consensus of the full range all stakeholders. In this regard, the PADL and PAC programmes stress the need to develop the roles and functions of local institutions over time. This would involve consolidating existing institutions and those emerging through policy (new district committees for rural development, natural resource management and planning, for instance).

- *Policy spaces and opportunities*

In addition to local capacity building, projects and programmes supporting local development (PADL/N'guigmi and PADL/Diffa, PAC/Diffa) have contributed to the decentralisation of fisheries management through initiatives relating to information,

²⁷ According to Ribot (2003) this is a common problem with decentralisation in Sub-Saharan Africa. Roles and responsibilities must be made clear from the outset (see Section 5).

awareness-raising and training of administrative actors and the managers of fish producer organizations.

This specific support has involved institutional and technical areas and has led to the formulation and implementation of appropriate local statutory frameworks (systems of participatory planning, consultation; prevention/management/resolution of conflicts linked to the access to productive resources). The dissemination of best practice resource management to fishers has been accompanied by initiatives in organization and provision of fisheries inputs to primary producers.

It can be argued that against the background of changing institutional arrangements and local level jurisdiction, the fisheries sector could be an entry-point for genuine local level development. The sector has a range of important assets – large potential for aquaculture, a high demand for fish, good know-how in fishing and high potential to generate employment, income and food security (which can be evaluated). Once the decentralisation process is properly underway – it is expected that there will be renewed interest by both government and non-government actors in this sector which could represent a driver for the local economy. There is a good chance that emergent opportunities will be supported by Niger’s bilateral and multi-lateral partners.

5.4 Nigeria

- *Policy and administrative setting*

The political landscape of Nigeria has been shaped by a series of unstable phases since independence in 1960. The British parliamentary system was replaced by a series of military governments interspersed with relatively short-lived periods of democratic government. This instability has worked against both the emergence of stable institutions and a policy environment whereby policy actors are impelled to respond to civil society concerns.

Aspects of Nigeria’s geography, its religious and ethnic diversity, have an impact on bureaucratic structures and the way they interact with other political stakeholders. The tendency is for government institutions to try to defend the status quo, reducing the prospects of decentralisation or the development of cross-sectoral initiatives. In the case of Nigeria’s fisheries, policy objectives are set by the Federal Department of Fisheries (FDF) within the Ministry of Agriculture. It is the function of FDF to both set and implement fisheries policy but the “defence of territoriality” within government structures like FDF does not represent a suitable environment for transparent, responsive and representative policy. This political isolation also has important consequences for developing legislation required to support and implement new policy.

The British colonial government established the FDF for the purposes of marine stock assessment and survey but direct efforts to control and regulate fishing activity were introduced much later in the 1970s. The Inland Water Fisheries Decree (1992) was a significant milestone in Nigerian fisheries policy because it drew on empirical research linking declining catch to demographic and technological change (see Annex 5; Section 3.1 for a timeline of the main fisheries related policies).

The fisheries policy process in Nigeria has not moved out of the “sectoral boxes” that constrain inclusive policy-making processes (Keeley, 2001).

The policy case study

Although there have been no policies for fisheries co-management on a national basis there have been project-based experiments with community-based management. The *Nigerian-German Kainji Lake Fisheries Promotion Project* (NGKLFPP) from 1993 to 2001 was intended to address declining fish catches and to improve the welfare of the communities in the basin. The Nigerian project partners that comprised the implementing committee cross-cut fisheries, planning and agriculture and included Federal and State level agencies in addition to fisher representatives.

The project aimed to rationalise fishing activity (the “regulation narrative” - see below) in the Lake based on licensing and bans on destructive gears and to this end the project was successful during its lifespan. Post-project, however, the Kainji Lake Fisheries Management and Conservation Unit has failed to meet regularly or to implement the Community-Based Fisheries Management Plan. The period since project end has seen a doubling of the use of the beach seine and a reduction in catches of 30% because there has been inadequate financial support for monitoring and enforcement.

- *Narratives*

Drawing from Neiland *et al* (2002), there appear to have been four dominant narratives that have shaped policy in the Lake Chad Basin (LCB).

The National Accelerated Fisheries Programme of 1971 represented the “*production narrative*” whereby government tried to increase fisheries production through subsidised inputs. Fish was recognised as a vital food for local populations, the national markets and international trade but elites were best placed to exploit this government support.

The “*regulation narrative*” was built on the apparent need to constrain irrational and unsustainable practice. In Nigeria this resulted in a range of decrees stipulating gear types and went on to shape the Inland Water Fisheries Decree (1992).

In parallel, a “*revenue-generation narrative*” worked to develop the capacity to license and tax fishing stakeholders. The purpose was to raise funds for central government rather than to support fisheries management functions.

Climatic factors and major water projects have had obvious visible impacts on the LCB and meant that the “*environment narrative*” has dominated in recent years. Water and water management is seen as the unifying factor for NRM and livelihoods in the region.

Counter-narratives are now shaping NRM and participatory projects supported by international agencies. An international narrative has evolved that views fisheries as just one component of rural livelihoods that support millions of poor people and this may affect future policy in Nigeria. In addition to this livelihoods narrative, there is a

new agenda relating to participation and governance. There is demand for inclusive policy processes from both international and African stakeholders. The New Partnership for Africa's Development (NEPAD) states that "*a new policy process must begin with an announced goal that is clear, publicly debated and well accepted for public sector intervention.*" In Nigeria, donors such as the UK Department for International Development are attempting to promote such transparency through support to Federal and State programmes and are highlighting the role of CSOs as potential "Drivers of Change". Governance issues such as these are now seen to influence all NRM-related policy and performance.

- *Actor networks*

Ideally the range of primary, secondary and tertiary stakeholders outlined in Ovie *et al* (2006) would be expected to inform policy and to participate in policy implementation. However, the fisheries policy process in Nigeria is very centralised with central government line ministries such as the Federal Ministry of Agriculture, Water Resources and Rural Development (FMAWRRD) and FDF and the State Ministries of Agriculture apparently monopolising the policy process. Interviews conducted for the above report reveal that many of the agencies mandated to undertake fisheries development have little awareness of participatory planning and the FDF admits that fisher or industry participation has been poor. The same problem is true of other actors such as the Dams Authority the National Planning Commission (NPC) and, crucially, traditional authorities.

There are several key stakeholders that could perhaps be more influential policy actors and more closely linked to policy formulation. These include the research institutes, the State level fisheries departments and agencies such as the Fisheries Society of Nigeria (FISON).

- *Coherence*

The problems of NRM within the Komadugu-Yobe Basin (KYB) represent well the lack of policy coherence and institutional linkage. The absence of policy coherence between the water, environment, fisheries and agriculture sector has exacerbated environmental problems associated with climate and dam construction and has restricted the capacity to confront them.

- *Policy spaces and opportunities*

Ovie *et al* (2006) found that the FDF recognised the policy process was too centralised and that planning needed to become more decentralised and participatory. There is need to incorporate the full range of fisheries interests that includes traditional authority and new commercial interests and other CSOs.

The "Drivers of Change" principle places a strong emphasis on the media as a platform for civil society to present its concerns to government and to publicise key issues. This is seen as one potential mechanism to restore the "social contract" whereby government is impelled to address public demands.

Better communication between the various sectors would allow a more inclusionary policy process and ensure that proposals “..would have been argued and thoroughly thought through before enactment or pronouncement.” (Keeley, 2001). There are signs that there is some political support for more inclusionary policy processes. NEPAD states that “all proposed policies must be publicly announced and debated before enactment.” Supporters of participatory planning argue that the quality of these processes and the likelihood of consensus (win-win) outcomes increases if planning is public and transparent and open to a diverse range of interests i.e. potential policy actors.

5.5. Malawi

- *Policy and administrative setting*

In the years after independence in 1964, policy development in the one-party republic drew from research, development theory and sectoral profiles and attempted to identify suitable data collection strategies to update the Annual Sector Policy Statements. These Statements were intended to ensure that sector performance was on target and in line with National Development Policy across all sectors. However, some of the sector-specific policies did not adapt to use new knowledge or react to trends in other sectors and macroeconomic policy.

The centralised policy development process meant that there was little transparency, few direct policy stakeholders and little consultation beyond the technocrats of the concerned ministries.

Since 1994, the multi-party era has developed current policy in a political environment where transparency has been strongly advocated. In the case of fisheries, the policy development process drew on information from the Fisheries Bulletins, Research Papers, National Development Documents, cross-sectoral documentation and stakeholder consultations with care to avoid conflicting strategies and to ensure harmonisation. The output of these consultations was the production of an Annual Sector Policy Statement which identified priority objectives and strategies. This went through a process of formal Policy Review and relevant changes were made in the preparation of the policy.

A new drive for decentralisation was intended as a strategy to consolidate democracy and meet national development and poverty reduction goals and a new role for district government was established with the National Decentralisation Policy (1998).

Formally, policy strategies are shaped by the National Strategy for Sustainable Development (NSSD) drafted since the World Summit on Sustainable Development (WSSD) 2002, Malawi’s Vision 2020 and the national PRSP. These have influenced the strategic plans and policy content of the Malawi Growth Development Strategy, the Fisheries Policy, the Fisheries Act, the Community-Based Natural Resource Management (CBNRM) strategy, the National Environmental Action Plan (NEAP) and the Fisheries Strategic Plans.

The policy case study

The primary objective of the National Fisheries and Aquaculture Policy (1999) is “to enhance the quality of life for fishing communities by increasing harvests within safe, sustainable yields” from the national waters of Lakes Malawi, Malombe, Chilwa, Chiuta, and Shire River and other smaller river systems and small natural and man-made water bodies. As a secondary objective, it aims to improve the efficiency of exploitation, processing and marketing of fish and fishery products. The policy has sub-policies in extension, research, participatory fisheries management, training, enforcement and riverine and floodplain fisheries.

Co-management is legislated for by the new Fisheries Conservation and Management Act of 1997. The overall goal of the *Participatory Fisheries Management Sub-Policy* (approved in 2001) is to establish and sustain the co-management of fisheries resources between DoF and key stakeholders (e.g. fishing communities, traditional leaders) in order to achieve sustainable exploitation of aquatic resource management for the artisanal fisheries. The sub-policy aims to promote the formation of local fisheries management authorities and harmonise their strategies with other community committees, such as those for forest or agriculture management. The strategy is to establish distinct boundaries for local fisheries management authorities (LFMAs) such as Beach Village Committees (BVCs) and to provide legal support and procedures for participation. DoF is intended to develop suitable fisheries management plans and by-laws with the LFMAs and support them in enforcement, research, and monitoring.

In addition, to formal co-management projects there have been several independent initiatives since the mid-1990s which have attempted to control fishing effort in the Lower Shire. There are strong local level institutions such as the BVCs and associations representing traditional leaders. Experiences from Lake Malombe, Lake Chiuta and Lake Chilwa (Annex 2; Box 2) demonstrate how co-management initiatives established in the mid-1990s have benefited from the greater powers and legal recognition provided by the PFM sub-policy since 2001. The initial focus of these schemes was to publicise the negative impact of illegal practices and to establish local committees to enforce new rules. Early problems related to BVC function and legitimacy - local stakeholders challenged the need for effort control and power struggles occurred with traditional leaders. Since the formal decentralisation policy of 2001 and an increased emphasis on the role of District Assemblies, however, there is far greater capacity to design and enforce local by-laws that incorporate the interests of traditional authority and BVCs.

- *Narratives*

Fisheries policy in Malawi, as elsewhere, was strongly guided by the conservation paradigm and achieving MSY. This shaped the first fishing regulations under colonial rule in 1930 where the focus was effort control, established by central government and based on knowledge of stocks and catches.

A counter narrative for decentralised government emerged in the 1990s and was seen as a means to accelerate a national drive for democratisation and to meet poverty reduction goals. This influenced NRM policy and led to a new emphasis on participation and co-management for fisheries resulting in a series of community-based development projects on Lakes Malombe, Chilwa and Chiuta in the mid-1990s. The conservation paradigm was being superseded by the social/community paradigm

that placed faith in resource users to design and implement local rules for sustainable NRM. This narrative and realignment in approach drew from common property resource (CPR) theory and was supported externally by donors.

The existing fisheries policy was amended and given a new emphasis and, relative to the Fisheries Management and Conservation Act (1997), the National Fisheries and Aquaculture Policy (1999) reflects this greater awareness of socio-cultural and socio-economic features of fisheries management. A focus on participation is worked into each of one of its eight sub-policies.

Finally, in parallel with the increased focus on local level management, there has been increasing awareness of the potential role of existing, traditional, institutions in supporting co-management.

- *Actor networks*

Globally, international development agencies, donors and research stakeholders have expressed the need to connect direct NRM beneficiaries to the management process and to understand the role NR provides for the poor.

Co-management in fisheries is promoted as a means to establish compliance through locally legitimate rules of use and to reduce the transaction costs of management, normally incurred by the state. In the case of co-management, DoF has been the key policy actor and driven participatory fisheries management as an opportunity to reduce or control fishing effort in the lakes.

However, the process of policy formulation and implementation has not draw on the full range of management stakeholders (see *Policy Spaces* below).

- *Coherence*

Key policy declarations in other sectors generally complement fisheries management objectives. The National Environmental Policy (1996) and National Forestry Policy (1997) aim to reduce pollution and soil erosion and to maintain biodiversity while the Water Resources Policy (1994) aims to enhance riparian habitats, for instance. The Fisheries Conservation and Management Act (1997) also recognises the need for departmental cooperation in fish resource management.

However, while all sectoral policy should be influenced by the Decentralisation Policy (1998) some ministries are currently centralised and may be less likely to decentralise management responsibilities than others in future (see *Policy Spaces* below). The National Parks and Wildlife Policy actually works to centralise control over established protected areas, for instance.

The FCMA of 1997 and the NFAP that followed in 1999 emphasised the role of the state in managing fisheries: “...*orientation* [previously] *was mainly focused on the needs of the fish resources themselves and the Department of Fisheries was seen as the guardian of those resources.*” (DoF, 1999).

Both relate awkwardly to decentralisation. FCMA was passed before the Local Government Act and NFAP does not explicitly link to the decentralisation programme started in 1998. As such, there is still no formal role for District Assemblies. Recently, however, the policy has become less centralised and better integrated with the involvement of the Departments/Ministries of Agriculture and Irrigation, Marine and Wildlife and Forestry. The FCMA needs stronger statutory support to legally demarcate BVCs and requires new legal instruments (establishing formal roles for traditional authorities etc.) to be pushed through for its operationalisation, however. In addition, the Local Government Act (1998) is silent on sectoral law enforcement but should perhaps stipulate a formal role in some NRM functions.

The Fisheries Conservation and Management Regulations (2000) support the PFM sub-policy by promoting local enforcement and establishing models for BVCs (constitutions and registration etc.).

Finally, although there are provisions relating to international relations in the FCMA, the PFM sub-policy does not sufficiently acknowledge trans-boundary issues (Malawi and Mozambique) in Lake Chiuta.

- *Policy spaces and opportunities*

Project or policy impacts on the Lower Shire (drought or flood) will require an integrated approach to planning and project management at the regional level in future. The District Development Plans are normally focussed on education, health and other infrastructure rather than NRM but these Plans should attempt to meet the needs of fishing communities. The Area Development Committees (ADCs) and the Village Development Committees (VDCs) offer a potential space for this, communicating the BVC issues to District Assemblies (as has been done in the case of Lakes Malawi and Malombe). There may need to be further clarification of BVC powers in the legislation.

It is important to link with other sectors and their initiatives instead of repeating the committee formation process and capacity building at district level can support the transfer of some NRM responsibilities to resource user committees for fisheries, wildlife, forests and water issues.

There is much greater scope for stakeholder representation in the policy formulation process and Seymour (2005) suggests a more active role for DoF in providing guidance for new for co-management arrangements and for establishing standards by which to monitor them. The policy development process should ideally draw on consultations with other sector agencies and engage more fully with fishing stakeholders.

Finally, the Southern Africa Development Community (SADC) Protocol (Article 7) calls for community participation in the management of shared resources. If ratified, Article 7 could provide the framework for a coordinated strategy to support the communities that share the Lower Shire River fisheries from both Malawi and Mozambique.

5.6. Summary

The four policy studies reveal much about the history, objective and performance of fisheries policy in the countries. Policy formation is difficult to understand because it is rarely transparent or linear and the “politics of policy” (Borrini-Feyerabend et al, 2004) mean that there are rarely obvious strategies to influence the policy making process. It is possible to identify policy “spaces”, however, and places where “win-win” outcomes may be achieved (Table 6 and Section 6).

Of the four countries here, only Malawi has policy specifically intended to decentralise fisheries management or support forms of co-management on a national basis. Local fisheries management institutions are already established and new decentralisation policy may see these institutions given further capacity and the autonomy to undertake greater fisheries management roles in the future. In Nigeria and Cameroon, fisheries co-management has only operated within donor-funded projects. Nigeria is alone here in lacking formal policy for decentralisation.

In Cameroon, Niger and Malawi, however, it is intended that positive changes in fisheries management will occur as new roles and responsibilities are established for regional and local government. The majority of these decentralisation policies are associated with national PRSPs and the international narrative that links inclusive forms of local government with pro-poor change. Apart from Malawi, however, there are no special arrangements made for fisheries. It is assumed that a process of decentralisation will naturally extend to local and inclusive fisheries management institutions. Political and legal support to the decentralisation process in these countries covers broader rural development objectives such as education and health, as much as NRM. However, there is a danger that decentralisation without capacity building can introduce NRM conflict and erode existing institutions for management.

The Cameroon and Niger reports show these two countries have detailed rural development and decentralisation policies. The reports indicate that these policies should incorporate fisheries management but, especially in the case of Niger, sufficient financial support for local government institutions is lacking and the decentralisation process is slow.

The Malawi report demonstrates the problems of enacting several policies relating to decentralisation - each developed by a different range of actors and for slightly different purposes. In this case, new policies have not always acknowledged the “spaces” provided by previous policy or legislation. Coherence is just one of many constraints to policy implementation.

Transboundary issues relating to fisheries and natural resource management are obviously significant in both the LCB and the Zambesi Basin. Where the country reports have highlighted this issue they have stressed the role of existing institutions and regional agreements for improved management. In the case of the LCB, the LCBC may be the best positioned agency to oversee coordinated management across the four countries but this would require greater capacity and sharing of information. Neiland et al, (2002) propose support to a new platform - the LCB Fisheries Forum - that would allow feedback between all fisheries stakeholders in the region.

In the case of the ZRB, the Malawi report suggests that Article 7 of the SADC Protocol can provide the basis to promote policy coherence between Malawi and Mozambique.

The narratives that underpin formal policy pronouncements and strategies are largely internationally driven and this is in part a reflection of the PRSP process. The fisheries content of the study country PRSPs were broadly consistent with existing policy. The fundamental difference between the governance-based agenda for Nigeria and the decentralisation narrative of Niger, Cameroon and Malawi is clear (Table 5). In this latter case, the agriculture sector is seen by international actors to represent the greatest potential for growth, especially in Niger.

	Nigeria	Niger	Cameroon	Malawi
		Increasing progress in decentralised NRM 		
Dominant narrative	<i>Good governance (accountability, due process) will enable development via national wealth & resources</i>	<i>Decentralisation & participation will provide fully representative & democratic processes useful in NRM</i>		
PRSP fisheries strategy	Non-specific but commits to water management for the full range of users	Technical, human & financial investment in production eg. Stocking	Technical, human & financial investment in production eg. stocking	Increased production with greater community input & professionalism

Table 5. The dominant development narratives shape fisheries-related policy.

<i>Policy setting (for decentralisation of fisheries)</i>	<i>Political constraints to implementation*</i>	<i>Opportunities & potential “win-wins”</i>
<u>Cameroon</u> <ul style="list-style-type: none"> • National Constitution (1996) • National Governance Programme (1995) • PRSP (2000) <p><i>No policies for fisheries decentralisation or co-management specifically</i></p>	<p>There is still a requirement for more cross-sectoral approaches at regional and local level</p> <p>New fisheries management institutions must be more inclusive of poorer interests</p> <p>Greater regional collaboration needed</p>	<p>Implementation of new law (2004) supporting district & regional government & use of the new “Decentralised Local Authority”</p> <p>Regional planning with new CSOs such as GIC and developing consensus building role of government agencies</p> <p>Strengthen role of LCBC</p>
<u>Niger</u> <ul style="list-style-type: none"> • PRSP (2002) • Rural Development Strategy (2003) • National Policy for Local & Community Development • Three programmes for local governance <p><i>No policies for fisheries decentralisation or co-management specifically</i></p>	<p>Policy pronouncements have not been supported with sufficient capacity building at local government level – both human and financial resources are lacking.</p> <p>Unclear role for traditional authorities leads to local conflict</p>	<p>Local statutory frameworks and fisheries best practice is emerging as a result of slow capacity building through the three governance programmes.</p> <p>CSOs have negotiated new partnerships & management arrangements & could be supported further in local planning & consensus building</p>
<u>Nigeria</u> <ul style="list-style-type: none"> • Inland Water Fisheries Decree (1992) • PRSP <p><i>No policies for fisheries decentralisation or co-management specifically</i></p>	<p>Lacking policy coherence and collaboration between fisheries, water and agriculture sectors</p> <p>Lacking policy accountability to public and other government administrations</p>	<p>Encouraging input of CSOs such as FISON could meet governance (donor) concerns and help sustainability of local arrangements (for Fisheries Department)</p> <p>Key government stakeholders such as FDF acknowledge a serious problem exists</p>
<u>Malawi</u> <ul style="list-style-type: none"> • National Strategy for Sustainable Development (2002) • National Decentralisation Policy (1998) • PRSP (2000) • Participatory Fisheries Management Sub-Policy (2001) - Fisheries Department to work with local fisheries authorities to develop by-laws, monitoring arrangements etc. 	<p>Sectors decentralising slowly and at different rates.</p> <p>Multiple resource user institutions with limited capacity</p> <p>Transboundary issues (Mozambique) not tackled.</p>	<p>District Development Plans could include NRM.</p> <p>Fisheries Department can reduce fishing effort while promoting participation and local democracy.</p> <p>Ratify SADC Protocol 7 to set framework for shared resource management</p>

Table 6. The policy setting for decentralisation of fisheries management in the four countries. Observations are those of the NARS partners. *Many constraints to achieving sustainable decentralised or co-managed fisheries relate to “institutional” issues at local level and the political economy of decision-making (governance).

6. The Poverty Reduction Strategies – policy cohesion and the projected role of natural resources and fisheries

6.1. Introduction

This section outlines the key components of the Poverty Reduction Strategy Papers (PRSPs) of the four study countries and discusses their relevance with respect to fisheries policy pronouncements and current political objectives in the sector.

In general, the PRSPs do not fully acknowledge or address the function of the range of natural resource-based economic activities to national populations and their role for the poor. The socio-economic role of freshwater fisheries is not represented by quantitative and global economic performance indicators and strategies aimed to improve macro-economic performance could compromise the current role of fisheries with respect to the poor.

6.2. Cameroon

The Cameroon Poverty Reduction Strategy Paper (2003) identifies the paradox between an improved macro-economic performance, resulting from structural reform, stabilisation and a more attractive foreign business environment, and increasing poverty in the rural population. According to the paper, approximately 80% of the population live in rural areas where the incidence of poverty is twice that in the cities²⁸. The paper outlines how poverty reflects the agro-ecological characters of the regions and how poverty has increased markedly in the northern savanna provinces.

The main focus is to create the conditions for macro-economic growth and as with Niger and Malawi the rural sectors are seen as the key sources of wealth and employment opportunities. There are four components to the Integrated Rural Development Strategy: 1) modernising overall production strategies (including improved access to viable land; 2) institutional restructuring and continued support to ongoing agriculture and forestry programmes; 3) incentives for private partnerships in services and regulation and; 4) the coordination of multiple stakeholders for sustainable local NRM.

Fisheries, especially the artisanal sub-sector, has a more prominent role in the Cameroon PRSP text than the other study countries but again this does not extend to identifying detailed fisheries-specific interventions. The importance of fish protein to the national diet and the fact that the artisanal sub-sector loses 30-35% product (three times total industrial fishery production) due to poor infrastructure is discussed but the paper also stresses the important role the sector currently provides in distributing food from land-locked areas to collecting centres and in meeting demand in other national and international markets. Given existing demand (production shortfalls are only partially met by fish imports) the paper suggests that the prospects for increased production are good and that training and equipment can boost national production. However, the sub-sector is seen as one characterised by “low professionalism” and as with the other PRSPs, fisheries development emphasises technological capacity,

²⁸ Douala and Yaoundé represent about 20% of the population but only 11.8% of the nation’s poor, for instance.

training and skills and financial support. A similar approach is envisioned for aquaculture. The paper suggests a possible role for community-based fisheries management and urges that lessons are learned from successful projects in countries like Ghana and Senegal.

The Cameroon PRSP discusses the pressing need for action on environmental degradation and proposes greater adherence to international conventions such as Agenda 21.

Coherence with fisheries policy

The Cameroon PRSP is the only paper to make specific reference to the national economic contribution from artisanal fisheries and it acknowledges the scale of the associated distribution network and its role in domestic and international trade.

There are two aspects of the PRSP that particularly relate to fisheries and fisheries policy in Cameroon: the effort to decentralise and the attempt to support production through technical and human capital development. The policy case study suggests that both approaches may focus attention on the potential of the private sector with possible negative consequences for representation of less influential groups of poor such as fishers.

With respect to rural development strategies, more broadly, the PRSP has influenced the strategies of the various line departments, helping to coordinate their planning through the Document for the Strategy for Rural Sector Development.

It is unclear whether new laws associated with the decentralisation process (2004) will help “the coordination of multiple stakeholders for sustainable local NRM” or whether greater attention must be given to enabling local planning and management.

6.3. Niger

The Niger PRSP²⁹ acknowledges the environmental, economic and political features that make poverty in the country a particularly rural phenomenon, as reflected in social and health indicators like child malnutrition. The paper highlights the four decades during which rural development and agricultural production has been a priority policy area. The sector represents about 40% national GDP with 85% of the population classified rural and as such the paper identifies agriculture as the key “growth engine” for Niger in the short and medium term.

There are four basic aspects to Niger’s strategy for rural areas: increased production within the agro-sylvo-pastoral sector; the control of desertification; support to natural resource management and; the provision of associated revenue generation opportunities. The action plan projects increased total expenditure on these four priority areas but total government expenditure in the rural sector is modest in relation to other sectors.

²⁹ Full Poverty Reduction Strategy (Republic of Niger, 2002)

Water management is identified as a critical and cross-cutting issue in relation to production, poverty and the environment. Technical considerations (management of underground reserves, irrigation etc.) are stressed, rather than local institutional or planning options like increased user participation or new conflict management roles, however.

The focus is on access to technological support for increased production and “opening up remote production areas”. Fisheries are highlighted only in respect to stocking (the action plan states 180 ponds to be stocked each year).

Decentralisation is a key aspect of the paper and the overall strategy makes a connection between participation, good governance, democracy and sustainable NRM. The decentralisation process is to be supported mainly through institutional and human capacity building within local government.

In addition to the benefits derived from decentralisation and additional technical support to the rural production sectors, the poor will be given greater opportunities to develop new revenue generating activities such as processing and marketing with the aid of credit schemes (decentralised financial systems – DFS).

A key component of the paper is a strategy to develop a Poverty Reduction Information System (SIRP).

Coherence with fisheries policy

Natural resources policy, especially with respect to local and regional management, is closely associated with Niger’s PRSP. The Rural Development Strategy (SRD) was developed in response to the paper and prioritises poverty reduction and food security through sustainable NRM. The role of natural resources to the poor in providing options and reducing vulnerability is central to the Strategy and this is a reflection of Niger’s predominantly rural population and economy.

However, the PRSP focus is on national performance measures and as such the rural sector is seen firstly as a key growth engine in macro-economic terms. The focus is on increased production through finance, technical inputs and human capital and this is reflected in the paper’s only reference to fisheries: the commitment to stock ponds in aquaculture schemes.

Legislation in 2002 has established new district and local government structures but there is no reference to their potential role in fisheries management in the PRSP. According to the policy case study (section 5.3) there is potential for these local authorities to develop and monitor community management plans but the PRSP does not propose a strategy to support this in relation to the fisheries sector. In summary, despite a focus on rural areas and the decentralisation process, neither the PRSP nor national fisheries policy seems to acknowledge an important role for small-scale fisheries within the rural economy.

6.4. Nigeria

Given the country's significant natural resource base and oil revenue, donors have targeted corruption and waste as the starting point for delivering economic and social development. The key PRSP³⁰ differs from the other country papers because its overall objective is to tackle poor governance and to improve government performance through the National Economic Empowerment and Development Strategy (NEEDS). The rural economy is not covered in great detail and the paper's focus is the NEEDS strategy for reform and associated budgetary, legal and institutional requirements (Box 4).

NEEDS focuses on four key strategies: reorienting values, reducing poverty, creating wealth, and generating employment. It is based on the notion that these goals can be achieved only by creating an environment in which business can thrive, government is redirected to providing basic services, and people are empowered to take advantage of the new livelihood opportunities the plan will stimulate.

NEEDS sets out far-reaching public reforms that will make clear that corruption and graft will be punished. The National Orientation Agency and its state-level counterparts will be strengthened to lead a campaign to re-instill the virtues of honesty, hard work, selfless service, moral rectitude, and patriotism. The campaign will draw on resources from a variety of government agencies, nongovernmental organizations (NGOs), and community-based organizations, including schools colleges, universities, and private sector, religious, social, cultural, and traditional organizations.

Box 4. Nigeria's National Economic Empowerment and Development Strategy (Source: Nigerian National Planning Commission, 2005).

Despite the focus on government performance, the paper acknowledges that the rural population (53% of the national total) are particularly prone to poverty as a result of seasonality in production and income, lacking infrastructure, out-migration, and limited access to agriculture inputs. The paper makes the link between the environment, vulnerability and livelihoods:

“Empirical evidence shows that poverty and environmental degradation are inextricably linked in Nigeria, because 75 percent of rural people depend on natural resources for their livelihood. Environmental degradation reduces opportunities for poor people to earn sustainable incomes. Left with no other viable options, they engage in extractive activities, contributing to the vicious cycle of poverty and environmental degradation. Rural dwellers are also more vulnerable to environmental disasters and hazards and have few or no strategies for coping with these stresses.”

However, the main policy thrusts target quantifiable national objectives relating to health, housing, employment and a stronger role for the private sector. Many of these objectives appear to relate to government commitment to international performance measures and this is also the case where environmental management objectives are made explicit (pollution control, impact on health, conservation of biodiversity etc.).

The “rural poor” are discussed in relation to access to credit and land, participation in decision-making, agricultural extension services and improved farm inputs. The paper states that “rural communities” must have access to water, rural roads, electricity, schools health facilities and communications.

³⁰ Meeting Everyone's Needs – National Economic Empowerment and Development Strategy (Nigerian National Planning Commission, 2005).

Water management is recognised as a critical area requiring reform and as an issue that cross-cuts sectors (health, agriculture, security and trade) and the paper commits to institutional change that can link the diverse range of interests. However, there is particular emphasis on a command and control approach that positions the private sector as a key player in auditing, enforcement, compliance and quality control and the paper's focus is on domestic water supply and sanitation rather than livelihoods functions and social issues relating to scarcity and environmental change.

The paper pledges support to the River Basin Development Authority and the National Water Resources Management Strategy.

In relation to fisheries, the paper overlooks the significant economic contribution of freshwater fisheries, particularly in the rural context and with respect to poverty: *"The country's fishery resources are small, concentrated in the coastal area."* Although the environment is acknowledged as an important feature of the national economy, there is no reference to the hidden socio-economic role of the range of production systems, including small-scale fisheries: *"It is a glaring paradox that despite the contribution of the environment to the national economy, environmental considerations are rarely mainstreamed into national development planning in Nigeria."*

There is limited reference to supporting "community-based development approaches" and a stronger focus on developing regulatory structures of the state and the capacity to monitor and enforce.

There is acknowledgement that environmental legislation is required to support and implement NEEDS: The National Forestry Bill (reform to include sustainability and equitable distribution of benefits) and the National Environmental Management Bill (to update existing laws).

In summary, NEEDS focuses on the bureaucratic and formal structures of government and as such targets national political, rather than regional or rural, issues.

Coherence with fisheries policy

The limited reference to fisheries in the PRSP reflects the narrow range of fisheries-specific policy pronouncements from government. The Nigerian PRSP (and the Nigerian Federal Government) differs from the other case study countries in that it does not identify decentralised government and decentralised NRM as an objective. In this regard, the lack of government-led local NRM programmes reflects this (the co-management case study at Kainji Lake was a donor-led and isolated project currently unlikely to influence national policy).

However, the PRSP does highlight the need for a cross-sectoral approach to water management and acknowledges that this could deliver improved macro-economic performance on a wide number of fronts. However, the emphasis here is on data collection and enforcement of central policy and capacity building within existing institutions such as the River Basin Development Authorities is seen as an important

step in delivering rational management. The potential role of participation in NRM planning is not addressed.

While NEEDS will attempt to impact the performance and behaviour of fisheries-related government institutions such as FMAWRRD, it will not deliver greater horizontal integration. With regards international strategies, international donors are attempting to establish a more inclusive political environment that incorporates CSOs, the private sector and other positive drivers. This extends beyond the PRSP action plan and, in the case of natural resources, apparently the policy objectives of Federal Government.

6.5. Malawi

The Malawi Growth and Development Strategy³¹ (MGDS) is intended to build on the experience of the 2002-2005 PRSP and to accelerate the process of decentralisation. The central objective of the MGDS is to achieve rapid broad-based growth and increase the economic benefits derived from agriculture. The MGDS attempts to incorporate the MDGs and reduce poverty by 8% but it makes clear that this assumes a stable political environment and continued annual growth in GDP.

Approximately 85% of the country's population is based in rural areas and the rural economy is seen as the key opportunity for boosting national economic growth.

There are six priority areas: 1) agriculture and food security; 2) irrigation and water development; 3) transport infrastructure development; 4) energy; 5) integrated rural development and; 6) the prevention and management of nutrition disorders, HIV and AIDS.

The MGDS intends to boost national macro-economic performance, particularly in the agriculture and related trade sectors, and its key approach is to develop extension and business opportunities in production and processing. Overall the aim is to increase production and exports with improved linkages to the sea. Malawi is dependent on narrow range of commodities and the strategy will aim to diversify national and international trade. Direct government spending on the agriculture and food security strategies is projected to reduce by half between 2006 and 2011, however.

Water management strategies include the development of new dams to maximise electricity production while reducing "over dependence on rain-fed agriculture". The integrated rural development strategy aims to reduce the negative consequences of continuous rural-to-urban migration and focuses on "rural growth centres" as potential "engines of national growth".

Environmental policy is addressed in relation to increased compliance with conservation objectives, especially with respect to forestry, wildlife and "fish species". Fisheries are mentioned in relation to Lake Malawi and its particular

³¹ Malawi Growth and Development Strategy – From Poverty to Prosperity 2006-2011.

contribution to protein in the national diet. The MGDS identifies low productivity, over-exploitation, lacking enforcement and poor preservation as the key constraints to the sector's performance and overall contribution. The medium-term goal is to maintain stocks and fishery-related incomes but the strategies include the construction of 500 new stocked ponds, improved enforcement of existing legislation and the provision of modern techniques. Community-capacity building is intended to increase small-scale aquaculture operations.

Finally, the vulnerability of the rural poor is approached in relation to national economic performance. Social protection programmes (such as Public Works Programmes) are intended to enable the vulnerable to contribute to economic growth while new private investment will provide additional opportunities to the poor to participate in national wealth creation.

Coherence with fisheries policy

The MDGS overall perception of agriculture, forest, wildlife and fisheries is broadly consistent with the National Fisheries and Aquaculture Policy (1999) and the Participatory Fisheries Management Sub-Policy (2001) that preceded it. Both the MDGS and the fisheries policies focus on increased production as a means to support national economic growth. This equates to technical and training support at the local level in order to increase harvests "within safe, sustainable yields". Local fisheries stakeholders are intended to play a role in implementing this by planning enforcement measures, community monitoring etc.

Although the rural sector is seen as priority (both in terms of the demographics of poverty and potential agricultural production), with the exception of Nigeria, there is perhaps less emphasis on the role of decentralisation and participation than in the PRSPs of the other study countries³². In the case of fisheries, the emphasis seems to be on better implementation of existing policy and the case study suggests that the strategy is to strengthen the capacity of agencies such as the Department of Fisheries rather than to devolve responsibility.

One of the six priorities of the MDGS is integrated rural development but the case study suggests that local management plans are unlikely to be conducted across sectors and line departments – they are unlikely to identify the linkages and "win-win" opportunities associated with agriculture, water management and fisheries, for instance. However, the Participatory Fisheries Management Sub-Policy is aiming to promote integration between the sectors and prevent replication.

Because the MDGS focuses on macro-economic performance and growth there is no acknowledgement of the role of fisheries in reducing the vulnerability of the poor. The MDGS fisheries strategy is to maintain fisheries-related incomes but there are no measures to ensure continued access to the poor and other existing users. The plan is to professionalize the sector and diversify production, especially through aquaculture.

³² The MGDS does however commit to consolidating the process of decentralisation (given the poor rates of progress under the previous PRSP) and explicitly refers to the Decentralisation Policy (1998) and the Local Government Act (1998).

6.6. Summary

The PRSPs focus on macro-economic indicators such as financial contribution to the national economy by sector. The intention here is to provide consistent generic markers of progress that allow international comparisons of performance and a benchmark for national government. The PRSPs provide a broad overview of the national economy and together are intended to provide a consistent indication of international standing but they do not provide detailed analysis of the dynamics of poverty in the countries – where, how and why some sections of society are made vulnerable, their current coping mechanisms and recent trends or developments in this regard.

The focus is on agriculture, industry and trade and as a result there tends to be a narrow analysis of the rural economy. The PRSPs do link poverty with environmental degradation and economic activities in the rural context but they do not highlight the overall functions of the various production systems and their interconnectedness. More importantly, they do not contain plans to directly support the livelihoods functions of these systems.

It is the range of production systems that provides opportunities and resilience to the poor in times of stress and hardship (predictable or seasonal trends and erratic shocks). Artisanal fisheries perform a particularly important socio-economic role when and where the vulnerable must rely on occupational mobility and the option to spread risk.

These socio-economic functions of artisanal fisheries are difficult to quantify but they are likely to remain important in the future, both with respect to local and national food security, social development and even peace. Recent world events have highlighted the link between resource scarcity, NRM institutions and serious conflict in remote areas in sub-Saharan Africa and globally. These remote areas are often both geographically and politically marginalised, often lacking government or social institutions to mediate resource management decisions (see Box 5).

A combination of environmental, economic and demographic change means that the local function to the poor of this *range* of production systems in rural areas, including freshwater fisheries, is likely to increase.

Bird (2002) has defined four basic 'remote rural areas' according to their development constraints:

- Areas with 'extreme ecologies' where infrastructure and communication is limited and difficult e.g. mountains, swamps, deserts, islands and wetlands;
- Low-potential areas such as semi-arid areas, areas lacking topsoil, water resources and/or are degraded (polluted, saline, with landmines etc.)
- Poverty pockets where social-political exclusion on the basis of language, identity (caste, religion, ethnicity etc.) or gender maintain significant proportions of the population in poverty
- Areas experiencing long-term conflict where violence and dislocation has undermined the resource base and the capacity of poor people to secure reliable livelihoods.

Box 5. Characteristics of remote rural areas

The PRSP demand for increased growth through fisheries production, improved marketing and distribution etc. does not necessarily link well with greater national commitment to participation and decentralisation for pro-poor development in Cameroon, Niger and Malawi. Institutionalising truly representative and sustainable participation is difficult and if fisheries are perceived solely as an underutilised development opportunity, and the socio-economic function of fisheries to the poor is overlooked, there is a danger that government projects and programmes will result in preferential access to the entrepreneurial and influential.

- The documents recognise that poverty is multidimensional and multi-causal but tend not to pay attention to livelihood strategies or to social dimensions of anti-poverty strategies.
- The IPRSPs disaggregate the poor to some extent but whilst the *analysis* of poverty usually accommodates disaggregation, the pro-poor *strategies* themselves do not.
- The documents generally exaggerate the reliability of income and consumption measures as proxy indicators of well-being.
- PRSPs suggest there are opportunities to scale up participatory learning strategies from grassroots to national level. However, sufficient engagement between government, civil society, and the private sector is yet to develop and consultations have yet to feed into the political activity of prioritising among a range of policy options.
- Sectoral priorities are expressed in terms which are broad and standardised, and potentially evasive, including: 'social,' 'rural' and 'informal' sectors. Priorities within these broad categories must be disaggregated.
- More tightly defined sub-categories are essential for prioritising pro-poor activities and investments. The concept of a so-called 'social sector' is not useful in identifying pro-poor strategies and resource allocations.
- International debt figures prominently in causal explanations. But debts owed within countries, which are major causes of poverty – such as debts owed by the poor to money-lenders – are usually ignored.
- Livelihood analysis is either rudimentary or (more often) non-existent in the documents. The term 'livelihood' is not in general use and is generally applied to agriculture.
- PRS documents do not exhibit an appreciation of the multidimensionality of livelihood strategies and the 'rural sector' is seen as a priority in all documents.
- Agricultural growth is seen as essential for poverty reduction. The emphasis is on productivity and income. Food security is mentioned but with little or no attention to the trade-offs between productivity and long-term income stability, security, and sustainability.
- The emphasis on productivity does not tend to be matched by an adequate discussion of consumption - there is little attention to the ways in which produce is used, and to ways of guaranteeing that improved production will benefit the poor.
- It is recommended that future PRS processes should be encouraged to show how the interventions proposed are underpinned by information on poverty and by analysis of opportunities for specific kinds of improvement among specific categories of people.

Box 6. Key findings from a review of Sub-Saharan Africa Interim Poverty Reduction Strategy Papers (Source: Thin et al, 2001)

The Cameroon PRSP is the only paper of the four to acknowledge the close link between poverty and agro-ecological regions, implying that poverty and vulnerability are closely associated with economic options based on the natural resource base. However, the strategies of all four papers place government agencies as the sole agents of change through capacity building and enforcement. These strategies overlook the significant rural economic activity that takes place irrespective of government programmes and support. As a result, the strategies propose improvements to delivery of existing government services and functions such as training and monitoring e.g. Niger's pond stocking strategy and Poverty Reduction Information System. In the case of fisheries, the PRSPs are re-emphasising the technological/production or command and control narratives that have had limited positive impact with respect to poverty alleviation in the past.

A review of 19 Sub-Saharan Africa Interim Poverty Reduction Strategy Papers (IPRSPs) by Thin *et al* (2001) found similar limitations with respect to the disaggregation of "the poor" and of livelihoods (Box 6).

7. Discussion

It is possible to draw themes from the four country case studies and the international literature on the policy process and decentralisation. This discussion distils these key themes with respect to the partners' working methodology (i.e. a discussion of narrative, coherence, actors and spaces).

Narratives

The CBNRM narrative that has evolved over the last three decades is a persuasive one, linking empirical observations of apparently sustainable local management arrangements with the common property resource (CPR) theory that outlines the precursors for success³³. In addition, it has influenced national and donor NRM and development policy for a surprisingly long period of time.

The international narrative of decentralisation and participation has been driven by NRM and non-NRM concerns such as rights and human development, generally. While international policy actors had previously placed great emphasis on the "community" to manage natural resources, the international development agenda has now expanded to incorporate the issue of governance and institutions. A narrative has developed that suggests that good governance (accountable democracy, subsidiarity, rights to "voice" etc.) will not just enable sustainable NRM and livelihoods but will deliver success on the whole range of human development targets. Poverty Reduction Strategies articulate these narratives and attempt to put them into practice.

These global narratives influence the national policy process and it is possible to see how sectoral policy objectives and strategies have evolved in response in the four country reports (Sections - "*Policy and administrative setting*" and "*Narratives*"). The emphasis has changed from technical support, effort control etc. in the sector to decentralisation and integration between sectors. The country reports show that

³³ The most influential of which have been Ostrom's (1990) eight "design principles".

national decentralisation policy in Niger, Malawi and Cameroon are intended to support local and regional NRM and fisheries management in the future. In Nigeria, donors are changing their emphasis from NRM project support to governance programmes that promote transparency (“due process”) and local government capacity. In the case of fisheries, government has recognised that the environment and livelihoods issues in the LCB are based on regional water management, cross-cutting departmental responsibilities and capacity, so making an integrated approach essential.

However, there are dangers that the international emphasis on decentralisation and participation is perceived as a panacea for past management failings. The decentralisation narrative incorporates the entire range of attractive development outcomes (rights and equality, environmental sustainability, social and economic development) but there remains a need to critically assess the performance of decentralisation policy with respect to the poor. Ultimately, decentralisation and participation must serve a tangible development function, as must the parallel narrative that prioritises economic growth.

Coherence

Coherence with existing policy, and with the remit of existing institutions, appears to have a very large effect on policy performance and the level of implementation. In South Africa, for instance, national policy is generally very supportive of local NRM but policy is hampered by fragmentation across departments and a lack of complementary legislation for land reform (Isaacs and Mohamed, 2000).

In Malawi, decentralisation policy, local government reforms and national fisheries policies were not well integrated because they were staggered and did not refer to existing legislation. There also needs to be greater sectoral integration in Malawi. Established local NRM institutions such as those involved in forestry, or the BVCs, are probably well placed to undertake broader NRM roles without having to attempt to establish new management bodies, for instance.

Institutional coherence is a key factor and it extends beyond the issue of harmonisation between government institutions. The informal institutional context is often overlooked but can include resilient and locally-legitimate institutions related to traditional authority and that influence NRM. Policy and policy implementers such as technical line ministries and their staff should be clear about the role these institutions have to play. The example from Niger suggests that traditional authority and local government can both gain rent-seeking opportunities from this confusion over roles and responsibilities.

There are interesting questions relating to coherence and compatibility of objectives between the various strands of the PRSPs. Macro-economic growth through increased agricultural production is viewed as the basic driver of social and economic development and envisioned decentralisation in the PRSPs preserves a strong local function for the state in technical capacity building etc. This deconcentration may do little to develop participation.

Finally, NRM and decentralisation policy must also be in line with public spending projections. In Niger, Nigeria and Cameroon, policy pronouncements are not matched by the release of sufficient funds.

Actors

The policy case studies and the country reports demonstrate the importance of a wide range of actors in the policy process - especially with respect to implementation and policy performance. The range of actors involved in fisheries and other related policy is likely to increase in the future because: 1) national policy is intending to develop inclusive forms of government with suitable fora or “platforms for negotiation” at different levels and; 2) new interests are emerging (the private sector, civil society organisations, issues based coalitions, new local government structures etc.).

Donors attempt to shape decentralisation policy and projects to make them accountable to local people. NGOs may be an important partner in this process but donors often lack a full awareness of local “processes” – the *real politik* of rural life and the expression of power within “communities”.

Traditional leaders were found to play a key part in most decentralisation case studies taken from Africa and often chiefs exerted disproportionate power. Removing these actors from management, however, can prove counterproductive and undermine public legitimacy and support for new NRM arrangements. It seems most productive to allow local stakeholders to make a proactive decision whether to include or exclude traditional authority from decision-making.

Alliances and people’s organisations such as coalitions of NGOs and civil society have proved effective in promoting regional or local interests to government (as has been the case of umbrella groups in State level policy in India, for instance). These professional groups may not be representative of the poor, however, and are often most expert at expressing their own agenda.

Sometimes NGOs operate as brokers between the local level and government or are formally appointed project/policy implementers. NGOs are often granted extension and training roles but their influence can be negative, sometimes developing dependency rather than empowerment.

Existing local government structures are key actors but their performance is variable. Where these structures have existing planning and rural development roles and experience (e.g. the Indian *Panchayats*) they represent a useful interface between government sector agencies and the public. In other cases local government can attempt to block new NRM arrangements driven by government or local stakeholders.

The private sector can interfere with policy objectives and is often better placed to exploit or intercept new opportunities intended for poor beneficiaries. Mobile entrepreneurs may pose a great threat to schemes based on territory and local rules of use (e.g. illegal hunters and Campfire).

Local “community” power interests mean that new democratic processes are challenged or manipulated by local elites. Previous ways of doing things (informal institutions) cannot be ignored by facilitators of decentralised NRM but it is very difficult to introduce procedures that restrict this influence.

Box 7. The typical range of actors in the implementation of decentralisation policy (adapted from Shackleton *et al* 2002).

National decentralisation policies in Niger and Cameroon are setting out to establish partnerships with new local and regional institutions such as civil society organisations and producers’ organisations. In Malawi, relevant institutions such as

LFMAs already exist but the country report suggests that these bodies will need support and guidance in setting their geographic boundaries and level of authority. In Nigeria, the policy process has been very centralised but government has acknowledged new roles may be required of research institutes, producers' organisations and regional agencies such as the LCBC. However, in each country, new formal roles for traditional authority will not emerge simply because this may challenge the status quo, government and the constitution.

Shackleton et al (2002) have reviewed the typical actors that are critical in influencing the outcomes of decentralisation policy (Box 7).

Spaces and opportunities

The apparent success of the reform of Ghana's forest policy seems to relate to the ability to make "policy space" for implementation at the district and local level. In this case, local technical staff were encouraged to interpret the generalised resource management rules of state bureaucracy (the Wildlife and Forest Policy) and shape it with local stakeholders to make it site-specific, relevant and widely supported. Implementation will require similar support and guidance to agencies in other settings.

The Campfire, Zimbabwe water management policy and Cameroon studies reveal that formal policy declarations for decentralisation need to be backed up by capacity building and real transfers of power at regional and local level. Despite that "*the subsidiarity principle is not followed in any African environmental decentralisation*" (Ribot, 2003), the multitude of actors at local level and the emergence of new interests can be seen as a pool of potential new forms of government especially with respect to NRM:

"Decentralised natural resource management and decisions can...be a fulcrum for democratic change. Natural resources are revenue-generating as opposed to other important public services, such as infrastructure, health and education, hence they can provide revenues needed to make local government more independent and can give local government allocative powers over lucrative opportunities, both of which can help build local government legitimacy."

Ribot (2003)

However, the PRSP commitments do tend to overlook the potential role of civil society actors. Although the private sector is expected to help deliver greater technical efficiency, new markets and diversification in the rural context, no equivalent roles for CSOs in social development (e.g. health) are considered. The difficulty for government here is that such groups have played an important role in the past but precisely because they challenge the state or provide alternative services.

International actors will continue to be an important influence and have an important role to play. Project-level experiments with decentralised NRM and co-management can influence and reinforce policy narratives and shape policy objectives on into the future (Mosse, 2001). The success or failure of these projects or programmes can influence successive interventions because donor-led initiatives remain such a key part of NRM policy and government reforms in many countries.

The performance of decentralised NRM policies

Reviewing the performance of decentralisation is problematic. The term “decentralisation” is used to describe a wide range of processes and scales, from local government reform and transfers of authority to project-specific experiments in co-management. In addition, each sector may relate to national policy rather differently in each country. According to the literature, however, the main weaknesses of the overall policy process are most often poor implementation and feedback of performance.

Ribot (2003) highlights that case study experience indicates NRM capacity can be undermined and conflict introduced if the process of decentralisation does not follow a step-wise and coordinated strategy. Strategies to implement policy are rarely well developed. In the case of broader rural development policy, it appears that decentralisation must unfold in a controlled manner - following distinct phases of: 1) establishing democratic local institutions; 2) engaging local people by transferring power before management burdens and; 3) building management capacity.

Crucially there is always a discrepancy between policy pronouncements and policy outcomes. Most constraints to policy implementation broadly relate to “governance” i.e. the way power is distributed and the way decisions are made within society and the political economy. Government agencies may obstruct change and wish to protect the status quo, for example, but these factors are no less significant locally. Formal and informal institutions at the local level tend to interact to provide unexpected and often undesirable management outcomes (Cleaver and Franks, 2005 for example). Co-management and decentralisation policies have applied a wide range of local resource management institutions (Box 8) with varying degrees of success but it is often the local context, interacting with these structures, that influences outcomes.

One way to overcome this problem is to attempt to make the policy process more dynamic and able to respond to local performance, problems or new opportunities. The Ghana cases study demonstrates the role of research in this regard when it is situated within the policy making structure. National decentralisation policies require departmental strategies for evaluation and reporting back as expressed in the Niger and Cameroon reports. Because co-management and decentralisation concerns the quality of “process” (transparency, consensus, equity etc.) the role and expertise of technical line departments may have to evolve, as it appears to have done in Ghana’s forestry sector.

One of the most useful contributions policy analysts can make is to uncover the way in which policy performance is influenced by political and institutional features. Without an understanding, or acknowledgement, of the ways in which policy is shaped by a diverse array of actors, past failures or partial successes will be repeated. Issues relating to governance and the way formal and informal institutions mediate decision-making and the ways in which power is exerted are key to understanding the differential impact of policy and its relevance to groups of poor.

The types of organisations that exercised 'local' authority (through decentralisation) and the direction and degree of their accountability had a strong influence on whether the outcomes of decentralisation policies were favourable for local people or not. The following organisational models were identified:

- **District organisations.** These include local government organisations such as Rural District Councils in Zimbabwe and panchayats in India, and multi-stakeholder district structures aligned to line departments such as Wildlife Management Authorities in Zambia and forest farms in China. The measure of downward accountability vary from very little (CAMPFIRE and Zambia) to modest (as among panchayats in some parts of India).
- **Village committees** facilitated by government departments, e.g. Village Natural Resource Management Committees in Malawi and Forest Protection Committees in India. Here, accountability related to the degree of control transferred by the state (in Malawi and Tanzania many committees can formulate their own by-laws, while committees in Zimbabwe and much of India and the Philippines are weak and largely controlled by forestry officials) and the extent to which local élites capture the process.
- **Corporate, legal organisations** composed of all rights holders and/or residents, e.g. Trusts (Botswana), Conservancies (Namibia), Communal Property Associations (Makuleke, South Africa), Villages (Tanzania), and Range Management Associations (Lesotho). Since the foundation and legitimacy of these organisations derived from the community itself, interference by the state was less pervasive than in the preceding arrangements, but it still retained ultimate authority and continued to make decisions with negative impacts on local interests.
- **Household-based and individual management** in China and the Philippines, where individuals exercised varying degrees of authority over species selection, harvesting practices, sale and consumption, and the distribution of benefits. The state maintained its control through providing access to processing technology, permit systems, planning requirements and fees and taxes.
- **Self-initiated organisations** that operated outside the state hierarchy. Cases range from traditional leaders to Residents' Associations in South Africa (e.g. Fish River), and share-holding schemes in China. Self-initiated schemes often were accountable to disadvantaged resource users (e.g. Orissa, India), but were co-opted by elites or officials in the absence of a supportive policy and legal framework. Where these organisations were representative and accountable, a lack of official support often limited their effectiveness in achieving sustainable and equitable NRM.

Box 8 .The organisational foundations of decentralisation (Source: Shackleton *et al*, 2002)

8. References

- Allison, E. (2003) *Linking National Fisheries Policy to Livelihoods on the Shores of Lake Kyoga, Uganda*. LADDER (Livelihoods and Diversification Directions Explored Research) Working Paper No.9, University of East Anglia: Overseas Development Group.
- Allison, E. and Badjeck, M.C. (2004) *Fisheries co-management in inland water: a review of international experience*. Sustainable Fisheries Livelihoods Programme. March 2004.
- Arnold, J.E.M. (1998) Managing forests as common property. FAO Forestry Paper 136. FAO, Rome.
- Béné, C., Neiland, A.E., Jolley, T., Ladu, B.M.B., Ovie, S.I., Baba, M.O., Belal, E., Mindjimba, K., Tiotsop, F., Dara, L., Zakara, A. and Quensiere, J. (2002) Contribution of Inland Fisheries to Rural Livelihoods in Africa: Empirical Evidence from the Lake Chad Basin. Appendix 3. In: Neiland, and Béné (eds.) Sustainable Development of African Continental Fisheries: A Regional Study of Policy Options and Policy Formation Mechanisms for the Lake Chad Basin. EU-INCO Project. Third Annual Report.
- Berkes, F. (ed.). (1989) *Common Property Resources: Ecology and Community-based Sustainable Development*. Belhaven Press, London.
- Bishop-Sambrook, C. and Tanzarn, N. (2003) The susceptibility and vulnerability of small-scale fishing communities to HIV/AIDS in Uganda. Sector project funded by Policy Advice for Sustainable Fisheries, Deutsche Gesellschaft für Technische Zusammenarbeit (GTZ) GmbH and undertaken by FAO HIV/AIDS Programme, Rome.
- Blaikie, P. (2006). Is small really beautiful? Community-based Natural resource Management in Malawi and Botswana. *World Development* 34, No. 11, pp. 1942-1957.
- Borrini-Feyerabend, G., Pimbert, M.P., Farvar, M.T., Kothari, A. and Renard, Y. (2004) *Sharing power: learning by doing in co-management of natural resources throughout the world*. Tehran, Iran. IIED and IUCN.
- Bourgeois, S., Kocher, T. and Schelander, P. (2003) Zambesi River Basin. ETH Seminar: Science and Politics of International Freshwater Management Swiss Federal Institute for Environmental Science and Technology.
- Bruce, J. (1998) Learning from comparative experience with agrarian reform. Paper presented at International Conference on Land Tenure in the Developing World, Cape Town January 27-29, 1998.
- Chambers, R. & Conway, G. (1992). Sustainable rural livelihoods: practical concepts for the 21st century. IDS Discussion Paper 296. Brighton: IDS.
- Chirwa, W.C. (1998) The Lake Malombe and Upper Shire River fisheries Co-management Programme: An assessment. In Normann et al. pp.61-77.
- Cleaver, F. and Franks, T. (2005) *How institutions elude design: river basin management and sustainable livelihoods*. Bradford Centre for International Development, Research Paper No 12, University of Bradford.
- Coupe, S. and Lewins, R. (2007) *Negotiating the Seed Treaty*. Practical Action Publications, UK.
- Dahl, C. 1988. Traditional marine tenure: a basis for artisanal fisheries management. *Marine Policy*, January, 1988.
- Danida (2005) Rapid Programme Support: Environmental assistance to the Southern Africa region on IWRM.
- Donda, S. (2001) Theoretical advancement and institutional analysis of fisheries co-management in Malawi: Experiences from Lakes Malombe and Chiuta. Unpublished PhD thesis, University of Aalborg.
- Geheb, K. and Crean, K. (2000) The co-management survey report: an executive summary. In *The Co-management survey: co-managerial perspectives for Lake Victoria's fisheries* edited by Geheb, K. and Crean, K. Lake Victoria Fisheries Research Project Technical Document No. 11. LVFRP/TECH/00/11. Jinja: The Socio-economic Data Working Group of Lake Victoria Fisheries Research Project.
- Global Water Partnership (2000) *Towards Water Security – A Framework for Action*. Global Water Partnership, Stockholm.

- Government of Zimbabwe (1998) "Water Bill". Draft, Ministry of Rural; Resource and Water Development. In N. Mudege (ed) Rural Water Supply and Sanitation – Review of the IRWSSP, Vol. II Evolution of the Integrated Rural Water Supply and Sanitation Programme in Zimbabwe: A Background Report to the IRWSSP Sector Evaluation, IWSD and World Bank WSP, March.
- Government of Zimbabwe (2000) National Action Committee for GOZ (1999) Zimbabwe National Water Authority Bill, Draft, Ministry of Rural Resources and Water Development.
- Hara, M. and Nielsen, J.R. (2002). A decade of fisheries co-management in Africa: Going back to the roots? Empowering fishing communities? Or just an illusion? Occasional paper 20. Programme for Land and Agrarian Studies, School of Government, University of Western Cape, Cape Town, South Africa.
- Hara, M.M., Donda, S.J. and Njaya, F.J. (2002) Lessons from Malawi's experience with fisheries co-management initiatives. In *Africa's inland fisheries: the management challenge* edited by K. Geheb and M-T Sarch. Kampala: Foutnatin Publishers.
- Hauck, M. & Sowman, M. (2001) Coastal and fisheries co-management in South Africa: an overview and analysis. *Marine Policy* 25: 171-185.
- Horemans, B. and Jallow, A. (1998) Current state and perspectives of marine fisheries resources co-management in West Africa. In Normann, et al. pp.233-254.
- Hviding, E. and Jul-Larsen, E. (1995) *Community resource management in tropical fisheries*. Windhoek: University of Namibia.
- Hyden, G. (1993) Shifting perspectives on development: Implications for research. In *State and Locality* edited by M. Masst, T. Hylland Eriksen and J. Helle-Valle. Proceedings of the NFU Annual Conference. Centre for Development Studies, University of Oslo.
- Isaacs, M. and Mohamed, N. (2000) Co-managing the commons in the "new" South Africa: room for manoeuvre? Paper presented at the 8th Biennial Conference of the International Association for the Study of Common Property entitled, *Constituting the Commons*, May 31 – June 4, 2000
- Jackson, J., Muriritirwa, W., Nyakahoadzoi, K and Sen, S. (1998) Analysis of emerging co-management arrangements in Zimbabwe inshore fisheries of Lake Kariba. In Normann et al. pp.99-124.
- Keeley, J.E. (2001) *Influencing Policy Processes for Sustainable Livelihoods: Strategies for Change. Lessons for Change in Policies and Organisations*. Brighton: Institute of Development Studies.
- Kinsey, B, et al (1998) Coping with drought in Zimbabwe: survey evidence on responses of rural households to risk. *World development* 26(1): 89-110.
- Kotey, N.A., Francois, J., Owusu, J.G.K., Yeboah, R., Amanor, K.S. and Antwi, L. (1998) Falling into place. Series No. 4. International Institute for Environment and Development, London.
- Lawry, S.W. (1994). Structural adjustment and natural resources in the sub-Saharan Africa: the role of tenure reform. *Society and Natural Resources*, 7:383-387.
- Leach, M. and Mearns, R. (eds) (1996) *The Lie of the Land: Challenging Received Wisdom on the African Environment*. Oxford: James Currey.
- Lewins, R. (2004) *Local Resource Management Institutions & Floodplain Management – common problems & potential solutions* Discussion Paper 2. Output of the DFID NRSP Project R8195 (www.nrsp.org.uk/database/documents/1463.pdf).
- LID (Livestock in Development) (1999) *Livestock in Poverty-Focused Development*. LID, Crewkerne.
- Lopes, S., Puisse, E., Wilson, J.L., Manuel, L., Cululo, C. and Pinto, M.A.R. (1998). From no management towards co-management? A case study on artisanal fisheries in Angoche district, Nampula Province, Mozambique. In Normann et al. pp. 125-153.
- Mamdani, M. (1996). *Citizen and subject: Contemporary Africa and the legacy of late colonialism*. Princeton: Princeton University Press.
- Magomma O. and N'Gaba Tchéré D. (1999) Country review: Chad. A first Phase report of the project Sustainable development of continental African fisheries, a regional study of policy options and policy formation mechanisms for the Lake Chad Basin. Lake Chad Basin Commission, N'djamena, Chad. 44 p.

- Martin, R. B. (1986) Communal Areas Management Programme For Indigenous Resources 'CAMPFIRE'. Working Document 1/86, HARARE.
- Metcalf, S. (1994) CAMPFIRE: Zimbabwe's Communal Areas Management programme for Indigenous Resources in *Natural Connections: perspectives in community-based conservation*. (ed. D. Western and M. Wright.) Island Press, Washington D.C.
- Mosse, D. (2001) "People's knowledge", participation and patronage: operations and representation in rural development. In B. Cooke & U. Kothari (Eds.), *Participation: the new tyranny* (pp.16-35). London: Zed Books.
- Mtisi, S. and Nicol, A. (2003) Caught in the Act: New Stakeholders, Decentralisation and Water management Processes in Zimbabwe. *Sustainable Livelihoods in Southern Africa Research Paper 1*, Institute of Development Studies, Brighton.
- Murombedzi, J.C. (1998) The evolving context of community-based natural resource management in Sub-Saharan Africa in historical perspective. Plenary Presentation, International CBNRM Workshop, Washington D.C., USA, 10-14 May 1998.
- Neiland, A. E., Béné, C., Jolley, T., Ladu, B.M.B., Ovie, S., Sule, O., Baba, M., Belal, E., Tiotsop, F. Mindjimba, K., Dara, L., Zakara, A. and Quensiere, J. (2002) The Lake Chad Basin Fisheries: A strategic analysis of key policy issues affecting aquatic resource management, stakeholder livelihoods and economic development. Appendix 2.
- Ostrom, E. (1990) *Governing the commons: Evolution of institutions for collective action*. Cambridge: Cambridge University Press.
- Pimbert, M.P. and Pretty, J.N. (1994) *Participation, People and the Management of National parks and Protected Areas: Past Failures and Future Promise*, United Nations Research Institute for Social Development, Geneva.
- Ribot, J.C. (2001) *Local actors, powers and accountability in African decentralisations: a review of issues*. Paper prepared for International Development Research Centre of Canada Assessment of Social Policy Reforms Initiative.
- Ribot, J.C. (2003) Democratic decentralisation of natural resources: institutional choice and discretionary power transfers in Sub-Saharan Africa. *Public Administration and Development* 23, 53-65.
- Roe, E. (1991) Development narratives, or making the best of blue print development. *World Development* Vol. 199 No.4.
- Roe, E. (2000) Policy analysis and formulation for sustainable livelihoods. Mimeo. (www.undp.org/sl/documents)
- Runge, C.F. (1985) The "Tragedy of the Commons" and resource management in Botswana. Paper No. 124, Land Tenure Centre, University of Wisconsin, Madison.
- Shackleton, S., Campbell, B., Wollenberg, E. and Edmonds, D. (2002) Devolution and community-based management: creating space for local people to participate and benefit? *Natural Resource Perspectives* 76. Overseas Development Institute, London.
- Shankland, A. (2000) Analysing policy for sustainable livelihoods. IDS Research Report. No. 49. Brighton: IDS
- Thin, N., Underwood, M. and Gilling, J. (2001) Sub-Saharan Africa's Poverty Reduction Strategy Papers from social policy and sustainable livelihoods perspectives. A report for the UK Department for International Development. Oxford Policy Management.
- Thornton, P.K. et al. (2000) Assessment of Priorities to 2010 for the Poor and the Environment. ILRI Impact Assessment Series No. 6. Nairobi: ILRI.
- Toulmin, C., Hesse, C., and Cotula, L. (2003) Common Range and Grazing Lands. Report for the DFID Project on Common Pool Resources. Portsmouth: IDDRA.
- Twyman, C. (2001) Natural resource use and livelihoods in Botswana's Wildlife Management Areas. *Applied Geography* 21, 45-68.
- Weiss, Carol, 1977. 'Research for Policy's Sake: The Enlightenment Function of Social Research'. *Policy Analysis* vol 3, no 4, p.531-545.
- World Commission on Environment and Development (1987) *Our common future*. Oxford and New York: Oxford University Press.

**Appendix 4: Technical Guidelines for economic
valuation of small-scale fisheries
(Project Output 7)**

FOOD SECURITY AND POVERTY ALLEVIATION THROUGH
IMPROVED VALUATION AND GOVERNANCE
OF RIVER FISHERIES
IN AFRICA

**Technical Guidelines for Economic Valuation of
Inland Small-Scale Fisheries in Developing
Countries**

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Fish for All

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Introduction

Aims and Scope of the Guidelines

These “Technical Guidelines for Economic Valuation of Inland Small-scale Fisheries in Developing Countries” are one of the outputs of the project on “Food security and poverty alleviation through improved valuation and governance of river fisheries in Africa”. The guidelines draw upon research results and experience gained during the course of the project. The project was coordinated and implemented by the WorldFish Center and was carried out in cooperation with the National Agricultural Research Institutes (NARs) from the participating countries: the Nigeria Institute for Freshwater Fisheries Research, the Departments of Fishery of Niger, Malawi and Zambia, and the Cameroonian Ministère de l’Elevage, des Pêches et de l’Industrie Animale; and three advanced research institutes (ARIs): the Leibniz University of Hannover in Germany, the Institute for Sustainable Development and Aquatic Resources in UK, and the University of Cape Town in South Africa.

The rationale for these guidelines is the pressing need for data and information on the value of fisheries, particularly their contribution to the livelihoods of rural households (Béné 2006). Currently, there is an acute lack of relevant research and data about the socio-economic value of small scale fisheries to fish-dependent households and communities. As a result, communities depending on small-scale fisheries are often marginalized or ignored in national and regional development policies due to a relative dearth of information about the conditions of poverty, the specific elements contributing to it, and the factors governing vulnerability to poverty. Up to now, very few studies on fisheries have been conducted at household level, the majority mainly focusing on macroeconomic and market analyses. Organizations (e.g. FAO, DFID, WorldFish Center) have therefore repeatedly called for the generation of adequate information on and assessment of the extent, nature, causes and dynamics of poverty in fishery-dependent communities (Macfadyen and Corcoran 2002, FAO 2005, 2006, Béné 2009).

Several issues have to be addressed in order to assure reliable and adequate results when conducting valuation of fisheries worldwide. Methodological improvements need to be adapted to the conditions of institutions in fisheries and should be harmonized to the degree possible. Of particular concern is the clarity and practicability of the methods. Achievements in desk-based methodological development and their adaptation to fisheries, as well as the approach to survey design and methodology have to be accurately documented and made available to national and international research community and policy makers.

The Technical Guidelines presented here constitute a “handbook” on the economic valuation of small-scale fisheries in developing countries. Applying the tools and techniques described in these guidelines can help to make the contribution of small scale fisheries to the well-being (for e.g. risk mitigation, poverty reduction and food-security) of households clearer.

The targeted audience for this document includes national and international research organizations, universities, practitioners and non-governmental organizations engaged

in research and intervention related to small-scale inland fisheries. The guidelines may also be useful for experts dealing with broader development issues in natural resources management, poverty reduction, food and nutrition security, policy and governance issues.

The core of the document is a methodological toolkit for economic valuation of small scale fisheries. This includes an overview of techniques of valuation of natural resources, as well as practical issues in design and implementation of household surveys for economic analysis, including sampling issues, questionnaire design and interview methodology. A basic introduction to the analysis of quantitative household data is also given at hand, so that the user may benefit from the experiences and lessons drawn during the course of the project.

The Project Framework

The goal of the project within which these guidelines were developed was to sustain and improve the livelihoods of the rural poor who depend on fisheries for their employment, income and food security along the rivers of the Lake Chad and Zambezi river basins, and at the same time strengthening the capacity of national and regional decision-makers to develop and implement improved governance and policy mechanisms that sustain river fisheries and enhance their contribution to poverty alleviation and national food security (WorldFish Center 2004).

The project started in January 2006 and was sub-divided into three phases. The first phase focuses on policy and governance in small scale fisheries. It looked at how the existing policy and governance arrangements in small scale fisheries can be improved to strengthen the contribution of small scale fisheries to household livelihoods. In the second phase, the contribution of small scale fisheries to the wellbeing of households and communities were assessed. The phase was implemented in two locations in the Chad Basin: the Hadejia-Nguru Wetlands in North-East Nigeria and the Yaéres floodplain along the Logone river in North Cameroon; and two in the Zambezi Basin: the Kafue floodplain in central Zambia and the Lower Shire floodplain along the Shire river in South Malawi. In the course of implementing this phase, methodologies of collecting and assessing poverty and vulnerability of households have been adapted to small scale fishing communities.

This approach was intended to lead to the development of an adapted portfolio of methodologies for inland fisheries valuation, presented in these Technical Guidelines, which will specifically account for the contextual and institutional constraints of developing countries fisheries: strong interaction and interdependence between fishery and other rural activities, incomplete markets of the activities (high degree of subsistence), and lack of institutional capacities for a large number of NARS of the African continent.

Phase three of the project was about scaling up and dissemination of the methodologies that have been developed. These Guidelines are therefore an output of the third phase of the project.

Structure of the Guidelines

The document is organized as follows. Chapter two presents the state of the art in evaluation techniques. It is divided in two sections. At first, the general principles of economic valuation are reviewed. In the second section, important conceptual issues in economic welfare indicators, such as income, consumption and assets, are introduced. This section also includes a brief description of vulnerability assessment. In chapter three data collection techniques and sampling procedures are presented. This includes country-specific examples. Chapter four presents data management issues. The guidelines are concluded with a summary in chapter five.

Methods of Valuation

To better understand the methods used in economic valuation of fisheries resources, it is useful to begin by presenting what economists mean when they talk of 'economic value'. Economic value is a measure of what the maximum amount of resources an individual is willing to forgo in order to obtain some good and/or services (Lipton, et al., 1995). This definition of economic value is derived from the fact that resources are limited but the demands for those resources may be unlimited. As such, individuals and societies make trade-offs on which commodities (goods, services, or state of the world) they should spend their few resources on and they reveal their valuation of the commodity by their willingness-to-pay (WTP). The money an individual pays for a commodity is the market price. The market price is not always equal to the economic value of the commodity. An individual buys a commodity when his/her willingness-to-pay for the commodity (i.e. the value the individual places on the commodity) is equal or greater than the market price. This difference between market price and economic value of a commodity is illustrated in Figure 1 below.

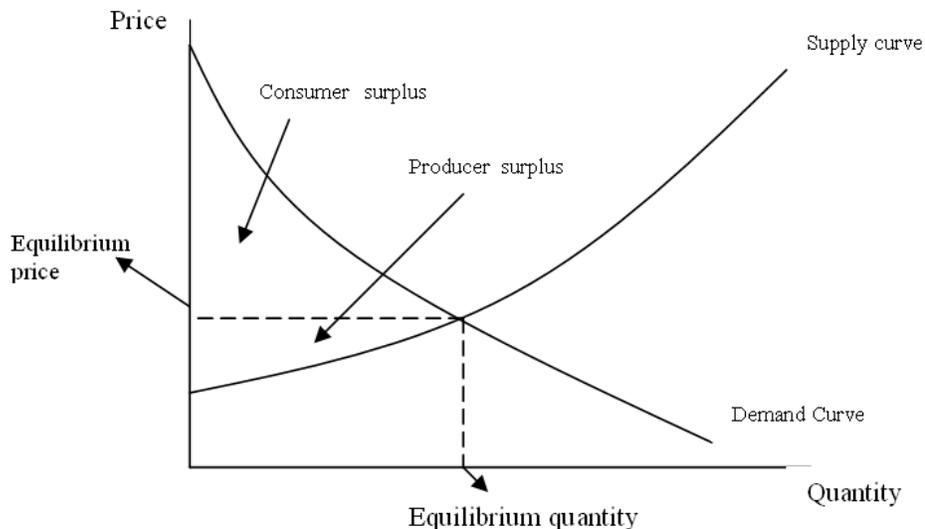


Figure 1: Illustration of consumer and producer surplus

The demand curve maps out the consumers' willingness-to-pay at different quantities and the market price (or equilibrium price) is equal to the point where the demand curve intersects with the supply curve. When consumers value a commodity more than its market price, they will buy the commodity. On the other hand, if the market price of a commodity is greater than the consumer valuation, the consumers will not buy. The excess of what consumers are willing to pay over what they actually pay for the total quantity of a good purchased is called consumer surplus and this reflects the good's value to the consumers in terms of net WTP. Consumer surplus is presented by the area below a good's demand curve and above the equilibrium price line.

General principles

Valuation of fisheries resources is a sub-component of environmental and natural resource valuation. In general, this involves the quantification of the benefits of the resource. Economic valuation studies in fisheries can be categorized into conventional economic valuation techniques and socioeconomic and livelihood analysis (Neiland and Béné 2003).

Conventional economic approaches involve measuring the monetary value a society/community attaches to a natural resource. These values are classified into use and non-use values. When both use and non-use values of the resource are considered in a valuation, the valuation exercise is said to capture the total economic value (TEV). Estimating the total economic value of a natural resource poses a challenge because of the benefits of the natural resource that are not traded in the market and do not have a market price. Figure 2 below gives an illustration of the concept of total economic value.

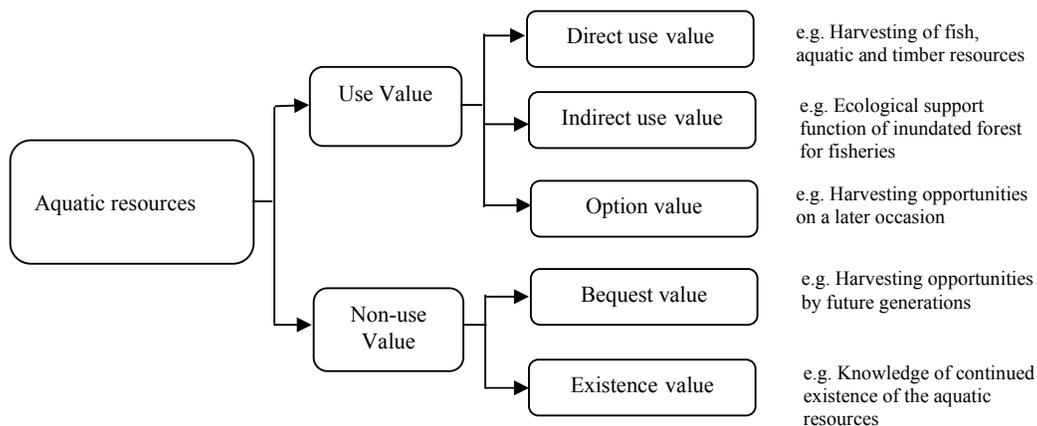


Figure 2: Components of the Total Economic Value (TEV) of an aquatic resource, such as a river system and its adjacent wetlands (Redrawn from Béné and Neiland 2003)

Direct use values relate to direct utilisation of the resource such as harvesting of fish. These are relatively straightforward to measure, and usually involve market value of production gains (Bann, 2002). In small scale fisheries, this involves the valuation of

total fish catch at market prices. Indirect use values relate to indirect utilisation of the resource which is comprised of the environmental and ecological functions and benefits provided by the coastal marine system. Option values on the other hand are values perceived by the people in terms of their ability to use the resource at present and in the future, including use options that may go beyond small scale fisheries (Kronen, 2007).

Non-use values on the other hand comprise of the continuous existence of the coastal fisheries system and its value for future generations. This might include the value associated with the desire to maintain a river fishery intact for future generations (bequest value) or simply the satisfaction of knowing that a particular aquatic habitat has been preserved in perpetuity (existence value) (Béné and Neiland, 2003).

The methods that are used to measure these values are broadly categorised to market based approaches, revealed preference approaches and stated preference approaches (OECD, 2002; Bann, 2002).

Market based approaches

Market based approaches involve the observation and use of market prices to value the resource. These are grouped into (1) observed market value approach; (2) productivity approach; and (3) cost based approach.

The observed market approaches are applied where the market prices of the resource exist and the prices are combined with quantity of the resource to estimate the value. In fisheries valuation, this involves multiplying fish catch with market price of the fish to find the value of the catch. This is a straight forward way of valuating fisheries resources and provides relatively cheap and quick estimates of value. This method may however undervalue the resource if the market price is less than the consumer willingness to pay.

The market-based approach has been used in a number of valuation studies. Yet there are still some unanswered questions. One of the questions is: which price should we use? Should it be the price the fisher receives for his catch, or should it be the final price the consumer pays? Use of the fisher's price shows the income fishers obtain from fishing. On the other hand, the consumer's price includes the utility addition activities such as place, time, and utilities of the fish processing form. The choice of the price depends therefore on the type of policy that initially drives the value exercise.

One of the major disadvantages of this method is that it uses market values that do not necessarily reflect non-use values. The approach may also require large data to correctly estimate the resource value (see below).

The second approach under market-based approaches is the production function approach. A production function relates output of a commodity to different levels of inputs or factors of production (land, labour, capital, raw materials). More formally the production function of a single output may be given by:

$$Y = f(X, Z) \quad (1)$$

where Y is the output, X is a set of factors of production and Z is the input of un-priced environmental resource. It is assumed that output Y that has a market price can be measured. If prices of inputs are not expected to change when supply of environmental resource (Z) changes, then the economic value of the change ΔZ in the supply of Z is the value of the production change ΔY associated with the change in Z at constant inputs of the other factors (X) (Pearce and Moran, 1994). This method, which can be data intensive, ignores non-use values. Additionally, a more complex view of the market structure may be needed if the environmental changes have sizeable impact on the market. The application to fisheries valuation is limited because fish is not used as an input in a production system.

Finally, cost-based valuation techniques assess the costs of different measures that would ensure maintenance of the benefits provided by the environmental goods or services being valued. Cost based approaches include opportunity cost-based approaches, and approaches that measure environmental values by examining the costs of reproducing the original level of benefits (e.g. replacement, restoration, and relocation cost methods). This is a practically difficult approach and is usually considered as the second best valuation techniques.

Revealed preference approaches

Revealed preference approaches include a set of conventional economic valuation approaches that do not require observation of market prices. They are sometimes known as the indirect techniques. These methods make use of observable behaviours of individuals to deduce how much an individual values something even if the commodity is not traded in the market. The methods are designed to estimate demand curves and consumer surplus. These approaches are favoured by many economists and policy makers because the values are revealed in real rather than hypothetical markets as we will see below with stated preference approaches. A disadvantage of these approaches though is that they are unable to account for non-use values and they require a lot of data. Examples of revealed preference methods include travel cost models of recreation, random utility models, hedonic models, and averting behaviour models. The travel cost method is presented succinctly below as it is easily understood.

The travel cost method (TCM) can be used to estimate recreational values of the fisheries and other natural resources. The cost of travelling to the site where the resource is located (which includes time and travel expenses) is used to proxy the value of the site to the individual. The idea is that if the individual spent a given amount of money to travel to a site, then the travel cost should reflect the lower bound of the value of the resource for the individual. By observing the characteristics of individuals visiting the site, it is possible to estimate the derived demand for the site. That is for any given price of the site, the derived demand relationship will determine the number of visits consumers will “purchase” at a price. The TCM is applicable when the study site is accessible for at least part of the time and people spend a significant time, or incur other costs to travel to the site (Bann, 2002). Figure 3 below is the illustration of the travel cost demand curve.

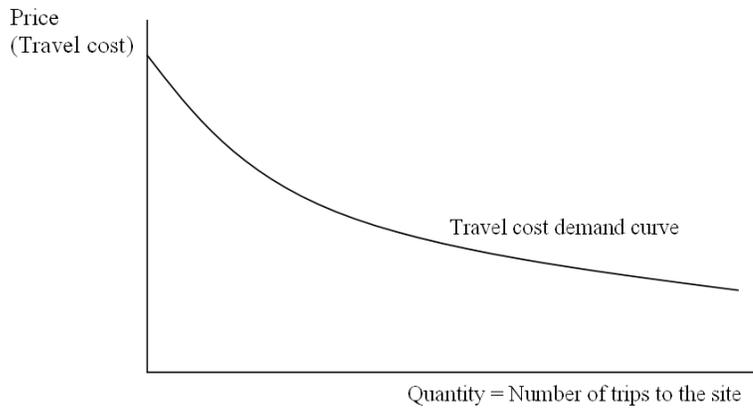


Figure 3: Travel cost demand curve

To derive this curve, one has to conduct a survey of individuals who visit the site. The cost of travelling to the site can then be plotted against the number of trips made to derive the travel cost demand curve. The consumer surplus which measures the value of the resource to the society can then be derived from the demand curve. The application of the TCM in small scale fisheries in developing countries is limited because many times individuals do not go to the small fisheries just for site seeing.

Stated preference

Under stated preference methods people are directly asked to state their values, rather than these values being inferred from actual choices, as in the “revealed preference” methods. The contingent valuation method (CVM) is an example of the stated preference technique that is commonly used to estimate economic values for all kinds of ecosystem and environmental services. The method allows valuation of a wider variety of non-market goods and services than is possible with any other non-market valuation technique. It is used for both ‘use’ and ‘non-use’ values, and it is the most widely used method for estimating non-use values. The method involves directly asking people in a survey, how much they would be willing to pay (WTP) for specific environmental goods and services. In some cases, people are asked for the amount of compensation they would be willing to accept (WTA) to give up specific environmental goods and services. It is called “contingent” valuation, because people are asked to state their willingness to pay, contingent on a specific hypothetical scenario and description of the environmental service. In small scale fisheries, individuals for example can be asked how much they are willing to pay to maintain a certain status of the fisheries. An alternative can be a case when a dam is about to be constructed upstream which is expected to affect the small scale fisheries. Before the river is dammed, the population that is deriving their livelihood from the fisheries can be asked how much they are willing to accept (WTA) to be paid for them to allow the productivity of the fishery to be affected by the dam. The individuals are given full information of the changes that are expected. The money they are willing to accept shows how much they value the fishery.

Household welfare analysis

The household approach

The type of information collected for the evaluation of fisheries can be categorized in two basic approaches: (1) the market (or sector) approach, and (2) the household approach. The market approach can be summarized as a “value chain” approach, where the different steps in the value adding process are analyzed from producer (fisher) to the final consumer. This involves a detailed analysis of all the steps in-between, such as processing, trade etc. Previous studies on SSF have mostly focused on the analysis of the sub-sector, i.e. applying the market approach. While this approach is particularly attractive for value chain analyses, it has a number of weaknesses if it comes to the valuation of non-market benefits of SSF. Market analyses are unsuitable for the assessment of welfare among a given population, since only a fraction of total welfare is considered. Hence, the relative importance of a sub-sector can only be shown in aggregated market values but not at the household level. As it has been argued before, such figures systematically ignore the benefits that accrue outside the market economy such as nutritional security, stability within the rural environment, or the value of SSF in providing protection against external economic variations, thus reducing risk and vulnerability to poverty. In addition, market approaches ignore the interrelationships between different activities. Comparing the market value of SSF with other sectors often implies a conflictive relationship. However, different activities performed by the household with the goal of income generation and risk mitigation suggest rather a complementary relationship between fisheries and crop production, for example.

In contrast to the market approach, the household approach has a different objective. It is particularly practical for the analysis of social welfare in general. Data on all economic aspects of a household allow the assessment of household well-being by use of different welfare indicators, e.g. consumption, income or assets, and hence a detailed analysis of different activities and their interrelation. As such, the household approach concentrates on all the activities that are performed by a household for income generation. In a simple framework four basic types of inputs can be assumed as factors of production: land, labour, capital, and knowledge (Figure 4). Each household undergoes a decision-making process that results in the allocation of production factors to different activities or processes, such as crops, fishing, livestock and off-farm enterprises. In making decisions on how to allocate their inputs in producing one or more products, households have to make decisions that involve using their knowledge to come as close as possible to fulfilling the goals for which they are striving. These goals may vary from household to household (e.g. maximizing their income, producing enough food to feed the family, etc.). Livelihood strategies are comprised of the range and combination of activities and choices that people undertake in order to achieve their livelihood goals. The resulting combination (portfolio) of products they are producing with their inputs depends on the production system they have adopted.

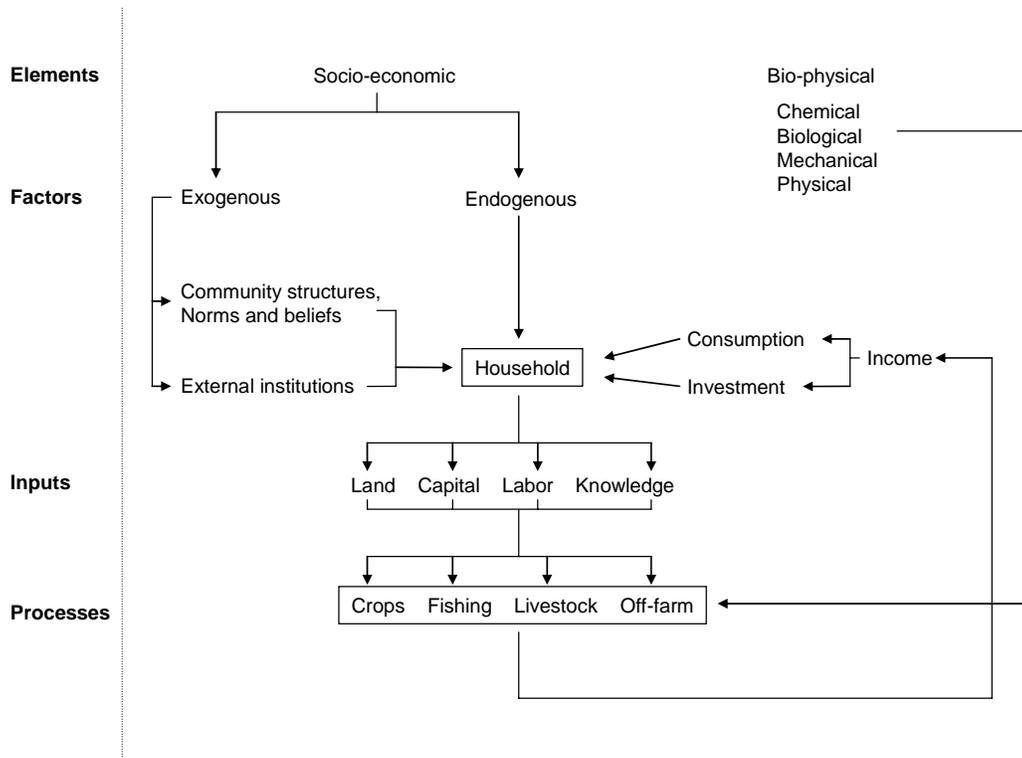


Figure 4: Schematic presentation of the household system (Source: adapted from Norman et al., 1995)

Hence, there is a clear difference between the two approaches. While the market approach focuses on one economic activity from producer to consumer, the household approach combines all different activities (not just fishing) – no matter where the household finds himself on the value chain. Very often households are producers, processors, traders and consumers at the same time.

The decision making on the production portfolio has to be understood as a dynamic process in which people combine activities to meet their various needs at different times and on different geographical or economical levels. Their direct dependence on asset status and transforming structures and processes becomes clear through the position they occupy within the framework. A changing asset status may strengthen or hinder other strategies depending on the policies and institutions at work. For example, imagine a household with 10 members. They have now to decide what to do during the cropping season. For illustration purposes we assume two activities, rice production and fishing. The household has a limited labor supply, and limited capital, and these input factors have to be allocated between the activities. The different combinations of the two activities are depicted on the production possibilities curve, which is a result of the input allocation (Figure 5). The input-output relationship illustrates that no activity should be regarded alone, because all activities are interrelated and interdependent. If a household chooses a specialization strategy, e.g. only rice production, it has its reasons. If somebody pursues a diversification strategy, doing many activities at the same time, he or she also has its reasons. A household model can explain these decisions assuming rational behavior.

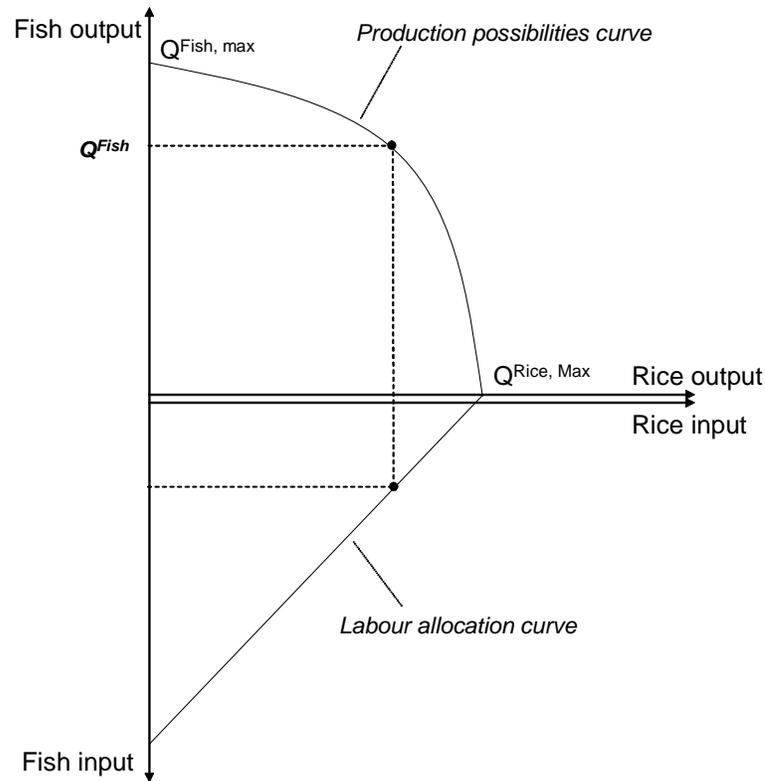


Figure 5: Input-output relationship in a rural production system

In order to demonstrate the strength of the household approach, an illustrative example of two households is presented. Both are real households who live in the Logone floodplain in Cameroon. Household 1 is from the village of Galazi, which is located at the Lorome Mazra River, a tributary of the Logone River. The second household lives in Kalang, a village at the border of the Maga Lake. To assure comparability, the two households have almost the same demographic structure. The household heads are of similar age, each has one wife and a grown-up but unmarried son.

Looking at fishing income only (Figure 6), we could conclude that the second household is better off. It has the opportunity to fish 9 months in the year and has a much higher income from fishing than the first household.

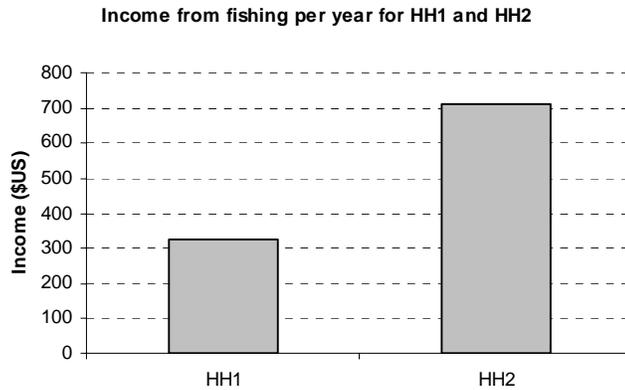


Figure 6: Two household illustrative example: Income from fishing

However, this picture is misleading. Looking at income from other activities (Figure 7) it becomes obvious that household 1 is in reality much better off. This is the strength of the household approach: It shows the relative importance of one activity, e.g. fishing, within the total activity and income portfolio of a household.

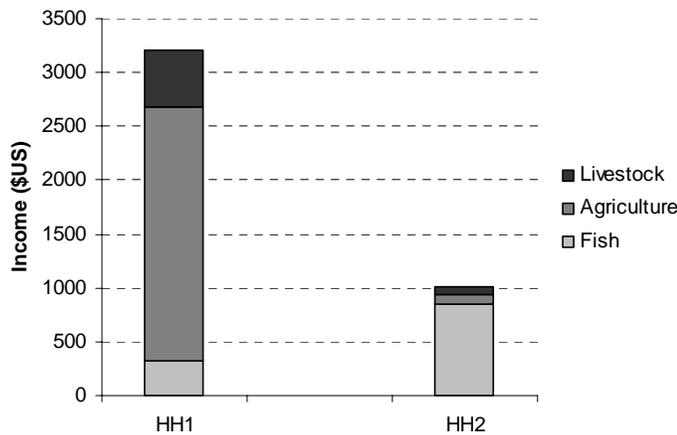


Figure 7: Two household illustrative example: Total household income

Box 1 summarizes the advantages and disadvantages of the market and household approaches.

We can conclude that the household approach is more appropriate to assess the economic value of fishing. Using the market approach it is possible to derive the “market value” which has its advantages for value chain analyses. However, the market value of fisheries does not sufficiently show the economic value of this sector. We shall see below that the household approach goes beyond that market value and captures the manifold contributions of fisheries to the local economy (e.g. food security, poverty reduction or risk mitigation).

Box 1. Comparing Market and Household approaches

Market approach

Advantages:

- yields information of the value adding process from producer to consumer
→ Value chain analysis possible
- yields a value for a certain “market” in a region, e.g. the fish market
- allows the identification of weaknesses in the system, e.g. access to markets (input and output), prices, regulations, property rights etc.

Disadvantages:

- fails to assess the welfare of the target group, i.e. single households or communities
- ignores the interrelationships between different activities, e.g. fishing, farming, livestock
- does not show the relative importance of a certain activity for the local economy

Household approach

Advantages:

- suitable to assess household economics by use of different welfare indicators, e.g. consumption, income, assets
- allows a detailed analysis of different activities and their interrelation
- allows optimization solutions (portfolio optimization)
- allows the assessment of economic value (not just the market price)

Disadvantages:

- requires a large amount of primary household data
- fails to incorporate all value adding processes, because they are limited to the household/farm level

Welfare indicators

Welfare indicators are measures used to estimate the level of household or individual wellbeing. Household wellbeing can be measured by different variables such as consumption expenditure, income, food security, education, assets, health, etc. Some of the most commonly used measures are presented and discussed here.

1. Consumption

Consumption expenditure is usually categorized as food consumption and non-food consumption.

Food consumption - food consumption is comprised of both food that is produced by the household (crops, livestock products, fish, and other natural resources), and food that is purchased at the market. Valuing food purchased from the market is straight forward because the information about the quantities that were purchased and the prices can be easily obtained. The product of the two provides a value of total expenditure on those items.

To value the food consumed from home production (auto consumption), one needs to obtain information about quantities that were consumed and the market prices. In valuing auto consumed commodities it is assumed that the household would have bought the commodity from the market if it did not produce it on its own. One of the challenges of valuing auto consumption is to choose the price of the commodity. Many of the commodities have different prices along the value chain (the route it

takes from the producer to the final consumer). Use of local market price is more realistic even if the commodities are not always sold to final consumers in the local market.

Non-Food Consumption - non-food consumption constitutes items such as expenditures on education, clothing, housing, health care, water, electricity, body care, etc.

2. Household Income

All the inflows (monetary and non-monetary) that are obtained from all activities in a livelihood/production system are referred to as total household income. In a typical farm household in the floodplains, this will be comprised of income from agriculture, livestock sales (including livestock products such as milk and eggs), fishing, other natural resources, remittances, and off-farm activities.

Gross revenue (Gross income) – this is total monetary value of an output without considering costs. For crops this is the monetary value of total yield (auto consumed or sold). For fish, this is the monetary value of total catch (auto consumed or sold) while for livestock this is equal to the revenue obtained from livestock and livestock products plus the value of livestock and livestock products auto consumed. Note that a cow in the grazing field is not an income unless it is sold while crops in the storage may be considered as an income.

Production costs – the expenses incurred in production processes are referred to as production costs. Total production costs are the sum of total fixed costs and total variable costs.

Fixed costs - the costs that do not vary with the level of production e.g. rent for a piece of land or a dugout canoe. When a household rents a fixed piece of land, say one hectare, or one dugout canoe, the cost of rent will not increase or decrease with respect to the level of crop production or fish catch.

Variable costs - the costs that vary depending on the level of production e.g. cost of labour. If the usage of labour is increased, output is also expected to increase.

Opportunity costs – these are defined as the costs of any course of action as compared to alternatives. These are referred to as forgone benefits and they reflect the real cost of a resource.

Net revenue (net income) - this is computed when the production costs are subtracted from the gross revenue. The net revenue shows the profitability of an enterprise (activity). This is illustrated in Figure 8.

Both gross income and net income can be used to assess the welfare of a household. Net income is a better measure because it shows the amount of income that is available to the household.

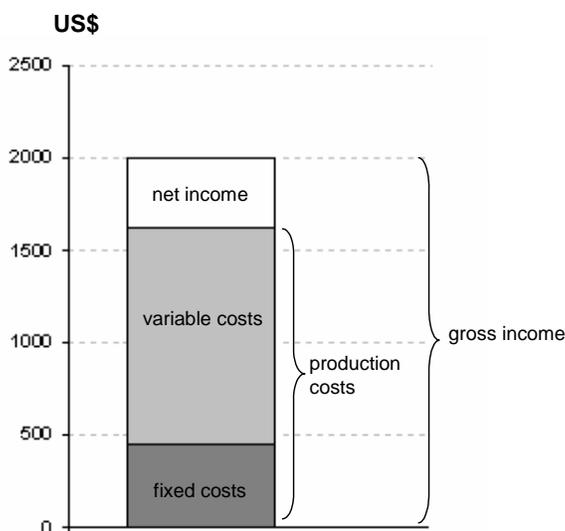


Figure 8: Illustrative calculation of net income

3. Assets

Broadly, an asset can be defined as a tangible or intangible holding that can be converted to cash and/or used for production. In most rural settings tangible assets matter most and these can be categorized as productive assets and consumptive assets.

Productive assets – assets that are used for productive purposes such as land, fishing gear, ploughs, irrigation engines, etc.

Non-productive assets – assets not used for production such as furniture, housing facilities, etc

Livestock – livestock is also a form of an asset that is used for consumption and production

The ownership of these assets can also be used to assess household welfare. Assets can be measured in different ways. One possibility is to count them (e.g. number of cattle owned by the household, which is often used as an explanatory variable in econometric estimations). Another possibility of measuring assets is to find the monetary value of the asset by taking the market price (sale price). In the cases where it is difficult to quantify/monetize the asset, a way of accounting for the asset holdings of a household is to simply categorize households as having or not having a certain asset.

Static analysis

Livelihood outcomes are the achievements of livelihood strategies. They help us to understand the 'output' of the current configuration of factors within the livelihood framework. They demonstrate what motivates households to act as they do and what their priorities are. They might give an idea of how people are likely to respond to new opportunities and which performance indicators should be used to assess support activities.

Livelihood outcomes can also be called welfare measures. Total expenditure on consumption or total income over some period are the mostly used welfare measures but other indicators such as food security, life expectancy, infant mortality, and literacy are also used in some studies. The use of either income or consumption expenditure has raised debates mainly in developing countries where measurement of both indicators is problematic. Presently, consumption expenditure is a more preferred welfare measure than income mainly because it is much difficult to measure income than consumption expenditure. In terms of practicalities, at least three factors make household income more difficult to measure than household consumption expenditures. These difficulties are likely to impair the accuracy of the income data gathered and are especially apparent in developing and transition countries.

First, survey questions on income typically require a longer reference period than is needed for questions on expenditures because income estimates for periods less than a year will be affected by seasonal variation, especially for agricultural households. While there may be seasonal and other short-term temporal patterns in consumption expenditures, they will normally be less marked if households have access to consumption-smoothing devices such as savings, credit, storage, and exchange networks. Longer reference periods needed for measuring income introduce greater problems of recall error. Second, household income is harder to construct for self-employed households and those working in the informal sector because of the difficulty in separating out business costs and revenue. Frequently, arbitrary assumptions are needed to measure the income streams from assets such as agricultural and livestock, and there can be difficulties in valuing the receipt of in-kind payments and self-produced items. These problems are less severe, although not absent, when household consumption is measured. Moreover, in developing and transition economies, the sources of household income are more diverse than the categories of household consumption so it is harder to design and implement questions for all of these sources. Third, questions about consumption are usually viewed as less sensitive than questions about income (although alcohol, tobacco and narcotics, and sexual services are usually viewed as sensitive and so expenditure on these is unlikely to be reliably measured), especially if respondents are concerned that the information will be used for tax collecting purposes or where illegal or barely legal activities provide a substantial portion of household income (Gibson, 2005).

Although household income is a less favoured welfare measure in poverty assessments, it should be said that income provides a different dimension of the contribution of fisheries to household livelihood. Comparisons of incomes from different livelihood strategies to total income would show the contribution of the livelihood strategy more directly than comparing household consumption of households that have different livelihood strategies. There are a lot of decisions and processes that are just implied if consumption is used as a welfare measure. Apart from own consumption of fish catch, it is very difficult or impossible to trace consumption of other goods and services to incomes from fishing. That is why looking at income from fishing itself is a more direct way of looking at the contribution of this activity to household livelihood outcomes.

After understanding the different measures that are used to assess welfare, there is need to know how we can use these to assess the value of small scale fisheries. Household income will be used for illustrations.

Different ways can be used to conduct a simple static welfare analysis. In the following example some possible approaches to data analysis are presented.

1. Assessing the contribution of income from fishing to total household income. This shows how important fishing is to the household economy. For example, Figure 9 shows that for the groups of households considered, fishing contributes 20% on average to total income.

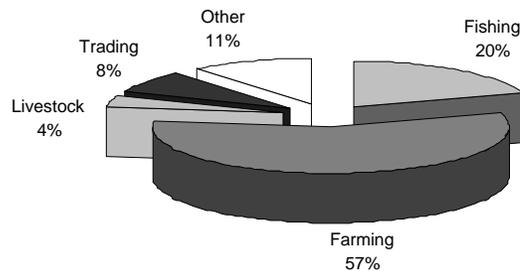


Figure 9: Pie-chart of household income, by income source

2. Fishing income can further be divided into the different fishery-related activities, such as fishing, fish trade, fish processing, boat construction etc (Figure 10). This helps identifying the type of fishing activity that is more important to the households.

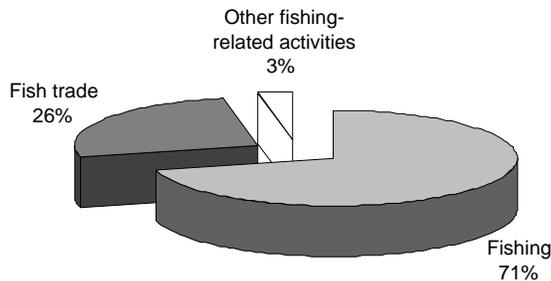


Figure 10: Pie-chart of income from different fishing-related activities

3. In order to disaggregate households depending on their major livelihood activities it is possible to compare total household income for fishing and non-fishing households. This method begins by dividing households into fishing and non-fishing groups and then computing mean incomes for the two groups. This method is less direct but it may capture the outcomes of some of the contributions that are

difficult to assess directly. Figure 11 shows the income from different activities for two groups of households. This offers some insights into the production system of fishers as compared to other livelihood groups.

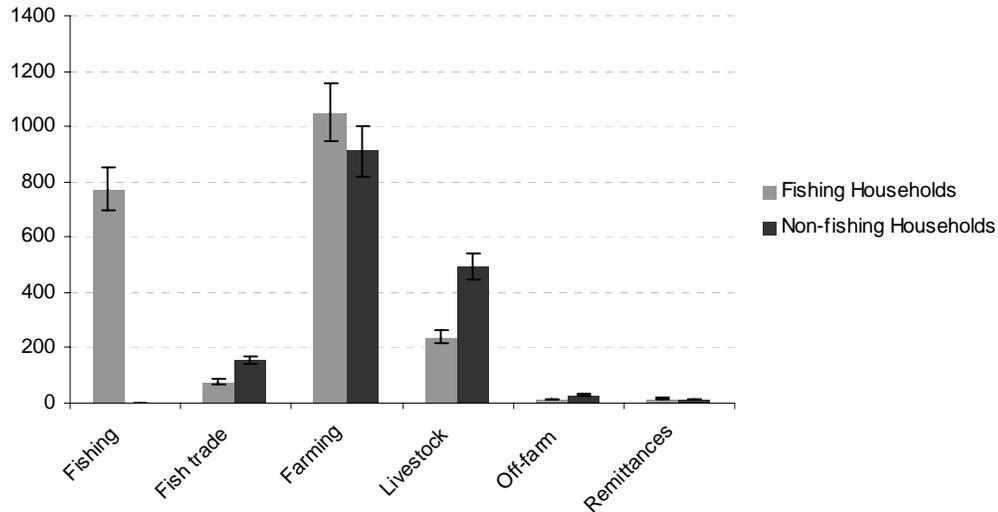


Figure 11: Bar-chart of income from different sources, by fishing and non-fishing households

4. Comparing contribution of fishing households to externally defined welfare groups. This may involve the use of a welfare benchmark that defines better off and worse off households. In terms of the assets for instance, comparisons can be made between households that have a given asset such as a plough and others that do not have it.
5. In terms of income and consumption, percentile analysis or poverty line can be used. In a percentile analysis, the households are ranked with respect to the welfare measure from the household with the lowest value to the household with the highest value. The households are then grouped into equal sizes which are known as quantiles. The researcher can decide on the number of groups depending on the size of the sample. In using this approach, it is possible to assess the income for different intensities of fishing. In Figure 12 households were classified in quartiles, i.e. each percentile contains 25% of the sampled households. The variable for categorization is “cash income from fishing”, where 1 is the lowest and 4 highest quartile. If the households in the highest quartile obtain the highest income, then there should be something with fishing that makes most of the households belong to that group.

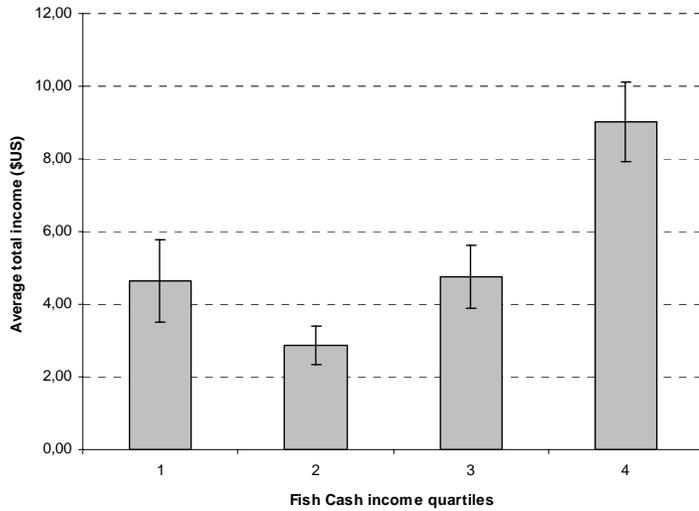


Figure 12: Total household income by quantiles of fish income

6. Poverty analysis applies a poverty line, which is a threshold below families or individuals who are considered to be lacking the resources to meet the basic needs. Families or individuals whose income or consumption is below the poverty line are said to be poor while those that have their incomes or consumption above the poverty line are said to be non-poor. Finding the proportion of the poor and non-poor for the different groups (fishing versus non-fishing) is therefore another option for assessing the value of small scale fisheries (Figure 13).

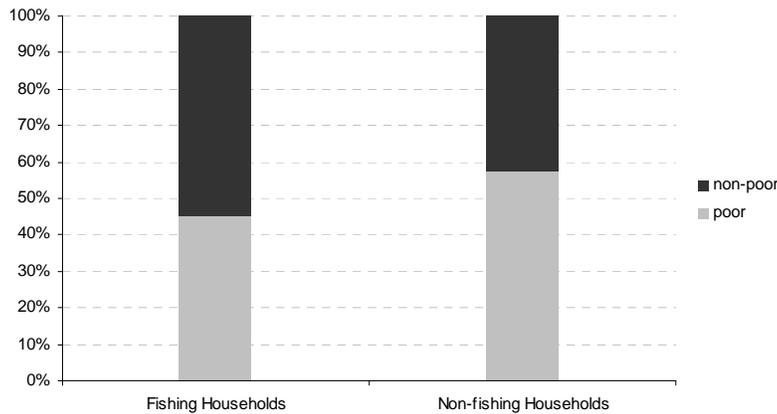


Figure 13: Share of poor and non-poor households among fishing and non-fishing households

Dynamic analysis

Welfare measures are subject to fluctuations over time. Increasingly in the literature, the necessity to account for this fluctuating nature is recognised (Christiaensen and Subbarao 2004), suggesting the need for a dynamic welfare analysis. These dynamic

welfare analyses consider the changes in household or individual welfare over time. For example, if a given household was surveyed in two years say, 2007 and 2008, the points on the vertical dotted lines in Figure 14 would represent the household specific welfare levels for these two years.

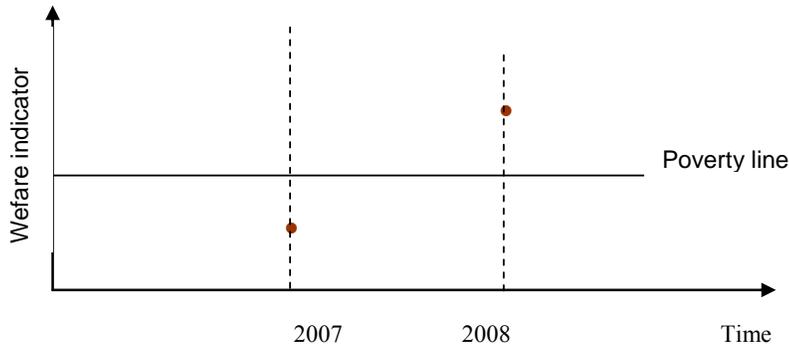


Figure 14: Illustration of variation in household welfare levels at different times

When this household was surveyed in 2007, it was categorized as poor, while in 2008 it was categorized as non-poor. The question is: which information should be trusted, 2007 or 2008? The answer is: both. Observing the household over a long period of time to understand changes in its welfare position is the best way to capture these dynamics.

This dynamic consideration leads to important distinctions between transient and chronic poverty. Transiently poor households or individuals are households that are temporarily poor due essentially to stochastic events. In opposition, the chronically poor are households who are observed to be permanently under the poverty line. Figure 15 assists in showing these important distinctions in dynamic poverty.

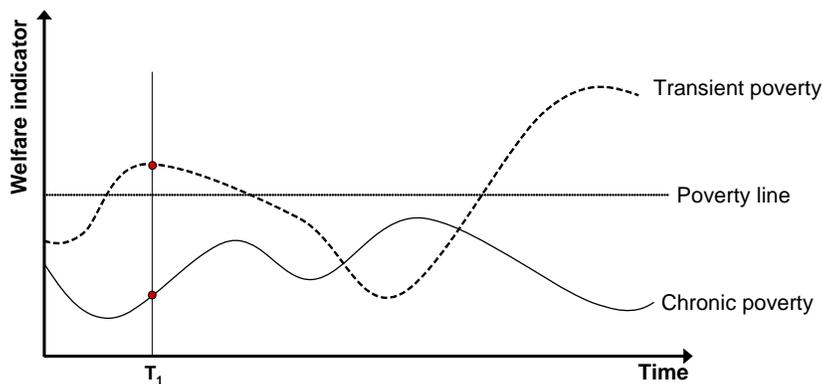


Figure 15: Illustration of dynamic poverty concepts

Households that are chronically poor do not have the capacity to get out of poverty and require policies that favor asset accumulation to help them getting out of their

poverty trap. On the other hand, transiently poor households need to be protected from negative income shocks through safety nets and similar interventions to reduce the effects of risks and shocks.

Both short term fluctuations and longer term fluctuations (e.g. over life cycle) can be important for household or individual. Long term changes in welfare are mostly due to asset accumulation or de-accumulation, while short term changes are mainly due to shocks and seasonal changes. Inter-temporal variations in welfare mean that different levels of welfare can be observed for a given household. Short term variations are huge in communities where income sources are very sensitive to seasonal changes and this can have serious implications on the characterization and profiling of households in welfare groups. For example, if we consider in a farming-fishing community, a household that is involved more in farming is expected to be better off during harvesting period while a household that depends more on fishing is expected to be better off during peak fishing period. If a single cross section survey is conducted, the results will not give a true picture of welfare profile of the households in the area. If the surveys are conducted at different times of the year the researcher will manage to classify the households at least in that year but this does not say anything about long term changes in welfare which is also important in understanding welfare dynamics. Assessment of livelihood outcomes should therefore be conducted at different times of the year to capture short term variations and it should also be done for a number of years to understand the long term fluctuations. This however may constitute a major challenge in terms of survey as some of these fishers may live in very remote areas or may even be migratory.

The concept of dynamic welfare measurement accounts for uncertainty about future level of welfare. In the presence of risk and uncertainty, it is possible to differentiate between the observed welfare status and the expected welfare status. The expected welfare status is dependent on household resource endowment while the observed welfare status depends on both household resource endowments and stochastic events. A simple illustration using the two-household example from the previous section can assist in elaborating this concept (Figure 16).

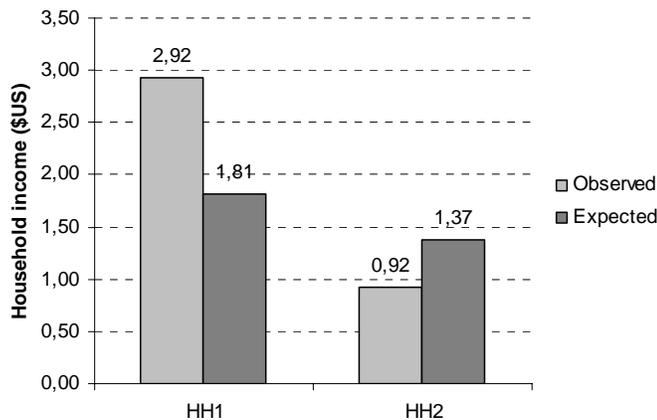


Figure 16: Illustration of difference between observed and expected poverty

For household 1, the expected income is greater than the observed income, which suggests that household 1 may have experienced positive income shocks (such as, e.g., very good rains) and this helped the household have an income greater than what it was expected (based on its assets endowment). Household 2 on the other hand has an expected income higher than the observed one. This may be the result of a negative shock that reduces its actual income below the expected one.

This difference between expected and observed incomes shows another important dimension of dynamic poverty analysis, namely vulnerability to poverty. In economic literature vulnerability to poverty is defined as the probability that at a given time in the future, an individual will fall to a level of welfare below some norm or benchmark. The risk of falling below poverty line is computed by considering the expected income level and its variance. Figure 17 is a simple illustration of the concept of economic vulnerability.

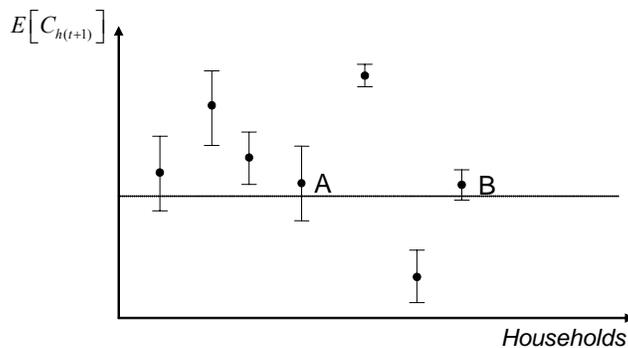


Figure 17: Illustration of vulnerability concept (Source Hoddinott and Quisumbing 2003)

In this figure the vertical axis represents the expected levels of consumption at some point in the future, $t+1$; the horizontal axis represents households with different expected levels of consumption. Households differ in their exposure to shocks and their ability to cope with these shocks. The expected (mean) levels of consumption are denoted by the filled circles along the vertical lines. The variability of consumption around these mean levels is shown by the vertical rule that passes through these circles. In the above illustration, household A is more vulnerable than household B (although the two households have the same expected consumption level in period $t+1$) as its consumption variability is greater than that of household B. Indeed, some individual or even groups of households may be more sensitive to shocks than others (for example, they may live in localities more prone to natural disasters or their livelihoods depend on commodities with especially volatile prices) or have less ability to manage these shocks; such groups are characterized by consumption with greater variance (see Hoddinott and Quisumbing, 2003).

The predicted probabilities of falling into poverty can be calculated as a function of the mean and the variance of consumption. An example of probabilities to be poor for households 1 and 2 is presented in Figure 18:

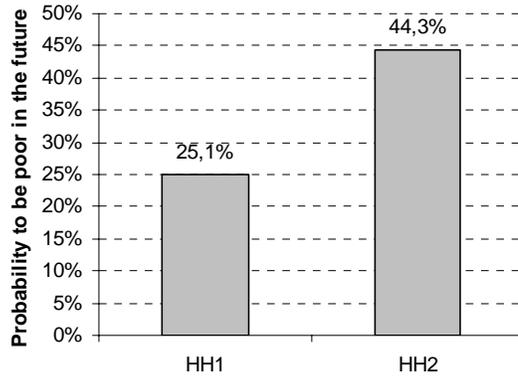


Figure 18: An example showing vulnerability levels of two households

Analyzing vulnerability of individuals and households does not only involve the estimation of the probability of becoming poor in the future but also the identification of factors that are responsible for increasing or reducing this probability. Additionally, the analysis looks at what households do when they are faced with negative income shocks to cope with the impact. The value of fishing can therefore be either in reducing the probability of falling into poverty or in providing coping means to households when the households are faced with shocks. For example, the probabilities of falling into poverty can be computed for households with different livelihood strategies. An example is presented in Figure 19.

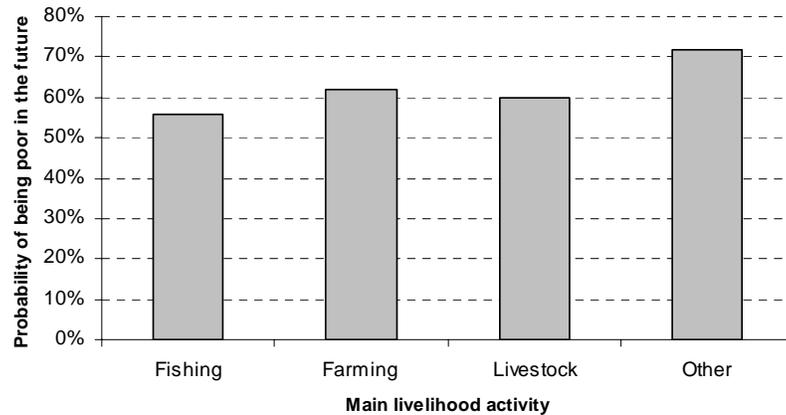


Figure 19: Assessing the role of livelihood strategies to household vulnerability

The econometric procedures used to estimate these probability values are beyond the scope of these guidelines and they will not be discussed. For an overview of different methodological approaches to vulnerability estimation see Hoddinott and Quisumbing (2003). For researchers that do not have adequate econometrics knowledge, assessing the contribution of small scale fisheries may involve assessing the relationship

between fishing and vulnerability. For example, a researcher can use variations in incomes to infer to household vulnerability and relate it to different livelihood activities. Other variables such as asset level and accumulation, land holding size, and household demographic characteristics can also be used to infer about the vulnerability level. In the presence of household observations over a long time, researcher can compute the expected income and variance directly from the observations. These can be used to compute probability measures.

An asset based approach to vulnerability can yield insights into the nature of poverty, i.e. whether poverty is chronic, structural-transient or stochastic transient. The theoretical framework for such analysis is presented in Figure 20. The figure shows that if a household has assets equal to A and its structural income equals C which is less than the income poverty line, it implies that this household is expected to be poor. However, due to risks and shocks, the household's income is expected to be varying between E and B which means that the household can still experience some episodes of non-poverty (as E is above the income poverty line) due to positive shocks such as good weather or increased fishing opportunities, although on average the household is expected to be poor. Since there are some prospects of non-poverty for this household, its vulnerability level is less than one but greater than zero because it is expected to be poor.

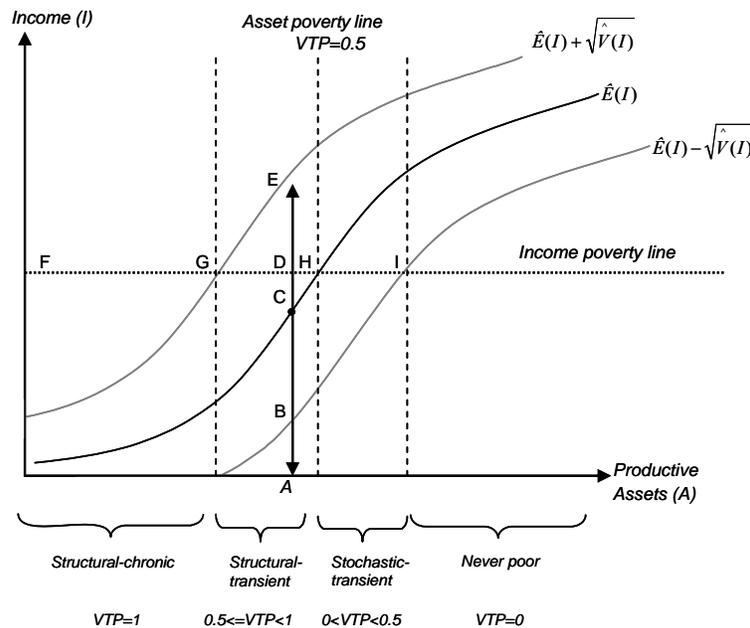


Figure 20: Illustration of an asset-based vulnerability measure

When the highest possible income is below the income poverty line, households are said to be 100% vulnerable, i.e. they are categorized as structural-chronically poor even in the presence of good luck such as favourable weather conditions. Households with productive assets between point F and G belong to this category. When the lowest possible income is above the poverty line, those households are non-vulnerable, i.e. they are expected to be always non-poor even in the presence of bad luck such as for example a severe drought or flood. Households to the right of point I

belong to this category. Households whose assets lie between G and I , i.e. when the lowest and highest income prospects are equal to the income poverty line, are vulnerable, i.e. they can be expected to move in and out of poverty (transient poverty) but for different reasons. If their level of vulnerability VTP is above 50% and below 100% ($0.5 \leq VTP < 1$), they are expected to be structural-transient poor (i.e. between G and H). They are defined as structural-transient poor because the transient poverty they (are likely to) experience is due to insufficient asset levels. Households who are not expected to be poor (i.e. between H and I) but because of negative shocks end up below the income poverty line some time in the future are called stochastic-transient poor. These households are also vulnerable but their level of vulnerability is below 50%. Hence, the different poverty groups are defined as:

- a) Structural-chronic poor, if $VTP = 1$
- b) Structural-transient poor, if $0.5 \leq VTP < 1$
- c) Stochastic-transient poor if $0 < VTP < 0.5$
- d) Never poor, if $VTP = 0$

Table 1 shows how this approach can be used to elicit the value of fisheries in terms of poverty and vulnerability reduction. For example the data shows that poverty and vulnerability indicators are improving across the board with increasing dependence on fishing.

Table 1: Poverty and vulnerability among households with different dependence of fishing

	Non-fishing		Fishing as primary income source		Fishing as primary income source	
	Mean	<i>Std. Dev.</i>	Mean	<i>Std. Dev.</i>	Mean	<i>Std. Dev.</i>
Expected income per capita [USD PPP]	342.46	291.64	467.49	309.66	467.49	309.66
Expected poverty head count ratio	0.77	0.43	0.54	0.50	0.54	0.50
Average vulnerability level [%]	0.75	0.34	0.57	0.43	0.57	0.43
Structural-chronic poverty [%]	0.48	0.50	0.35	0.48	0.35	0.48
Transient poverty [%]	0.44	0.50	0.43	0.50	0.43	0.50
<i>Structural-transient (VTP>0.5) [%]</i>	0.29	0.46	0.19	0.40	0.19	0.40
<i>Stochastic-transient (VTP<0.5) [%]</i>	0.15	0.36	0.24	0.43	0.24	0.43
Never poor [%]	0.08	0.27	0.22	0.42	0.22	0.42

For the non-fishing households, low expected income levels and high variation of income result in more pronounced poverty, particularly structural poverty. Adding up the structural-chronically poor and the structural-transiently poor, over 77 percent of non-fishing households are asset-poor. Households with fishing as a secondary income source also have a high share of chronically poor. However, 25 percent of this livelihood group are estimated to be non-poor, i.e. adverse stochastic events are not supposed to push these households below the poverty line. Finally, fishing-oriented households rank lowest in the poverty distribution. About 46 percent are estimated to be non-poor or at worst, stochastically poor. Such results may provide a strong

argument for the value of SSF, concerning their function as a risk-mitigating and hence vulnerability reducing activity.

Survey research methodology

One of the essential conditions for the assessment of socio economic contribution of small scale fisheries is the generation of reliable, consistent (unbiased), representative, and accurate data. This section gives an overview of methods in social and economic empirical studies with special emphasis to social research in fisheries communities. Generally, five stages can be distinguished in the process of development and completion of a survey (adapted from Czaja and Blair 1996):

1. Preliminary planning
2. Field trip
3. Survey design
4. Questionnaire design, pre-testing and enumerator training
5. Survey implementation

At any of these stages, the researcher needs to make sure that he/she is not getting away from the research objectives and that he/she collect appropriate data. Since data collection is costly (both in terms of money and time), it becomes very important for researchers to make sure that they plan and implement their survey effectively and collect the relevant data.

Preliminary planning

Preliminary planning needs to cover a wide range of aspects of the survey from the establishment of the need to collect data to the time the data is ready for use. The plan should provide answers to questions such as: Who or what is the population of interest? Which geographic area should the survey represent? Is a sampling frame from which to select a random sample available? If not, it has to be reflected on the procedure to generate a sampling frame that would suit the research objectives.

Another issue that should be considered is the kind of analysis that is going to be performed with the data from the survey. The methodological and model requirements may crucially determine the questionnaire design. In designing a first draft of the questionnaire, decisions have to be made on the type of information that has to be elicited from respondents and how to go about it. For example, would open-ended or rather close-ended questions fit better? What variables are important for the analysis in mind, and what type of information on demography, income, expenditures, ecological conditions etc. is needed? Based on these considerations, an outline of the questionnaire and type of information needed can be produced at this stage.

Two other important factors in the preliminary design stage are the budget and time that is available for conducting the survey. Money and time determine the size of the study area, which may have logistical implications such as: number of enumerators that have to be hired, the modes of transport, the length of the questionnaire and the sample size (depending on the geographic distribution of the sample).

Field trip

Having settled the issues discussed above, usually a field trip is an indispensable element in the survey preparation. The main objective of the field trip is to ascertain that the preliminary plans that have been made above are in line with the situation on the ground. In other words, a field trip is still part of the planning exercise but researchers at this stage want to make sure that they understand the reality on the ground. Even when the researchers come from the same region in which the survey will be conducted, an exploratory trip to the study area with keen interest on the variables of interest is necessary. The researchers have to get a personal impression of the situation. Each study area has its peculiarities concerning ecological, cultural, human resource and other conditions, which have to be considered before the implementation of the survey. In particular in the case of fishing communities (or other similar communities living in remote rural areas), certain villages may be inaccessible during some periods in the year due to bad road conditions (Box 2). The cultural norms and values may also be a significant factor to consider when designing questions or the interview procedure and a clear understanding of these can be obtained during the field trip.

Box 2. Experiences from the field trip in Cameroon:

Due to the annual flood cycle, access to the villages in the Logone Floodplain is very restricted during several successive weeks in the year, from mid December to end of February. During that period no access is possible, neither by vehicle, nor by pirogue. Hence, the placing of the survey periods need to be adapted to these conditions. For example, although it would have been more reasonable to conduct a follow-up survey at the end of the production cycle in January, thus better capturing agricultural production and fishing harvests, this procedure proved to be unfeasible. From mid December to end of February access to the sampled villages was absolutely impossible. The research team decided for a compromise, collecting data in November /December, even if this falls in the midst of the harvesting season. The missed data on yields and income was then recollected during the second follow-up.

The issue of the sampling frame can also be clarified at this moment. A sampling frame is whatever is being used to identify the elements in each sampling unit. The choice of a sample always requires an exhaustive list of all the elements of the population, e.g. village or household lists. Such lists and records will always contain mistakes, especially in developing countries, where such information is very scarce, but they are the only means of finding the sample elements so that the population can be surveyed. Particularly for rural areas, such information very often does not exist. However, some other studies may have been performed in the same area by other organizations or institutions. While contacting them from the home office might often be difficult if not impossible, this kind of information may easily be elicited on the ground.

Survey design

General considerations

Maybe the most important step in planning a survey with regard to quality of data is the survey design. While in industrial countries other survey approaches such as mail or telephone surveys might be an option, the only reasonable method of data collection in developing countries is the face-to-face interview, also referred to as

personal interview survey. This is the most expensive method due to the travel costs involved, and the amount of time needed to collect the data. It is estimated that only about 25-40% of the total time is spent for actually interviewing the sampled population. The rest of the time is consumed by travel, editing of responses and other tasks (Czaja and Blair 1996). However, despite the greater costs involved, this method also implies many advantages. For example, response rates are usually very high as it is easier to get the respondent's cooperation in a face to face interview. Also, the response bias is normally low due to a better control of the response situation. Another important advantage is related to the questionnaire itself. The questionnaire can be more complex, and the interview can take more time, because it is administered by a trained enumerator and allows a more relaxed atmosphere. Nevertheless, as a result of the high costs and time implicated in personal interview surveys, the sampling (i.e. sample size and geographical distribution) is often principally determined by the budget and logistical constraints.

A sample is defined as a set of elements (these would refer to households in a household survey) selected in some way from a population. Usually, the researchers are interested not just in the characteristics of a sample, but in those of the whole population from which the sample has been drawn. A *representative* sample is therefore imperative, in order to be able to draw conclusions for a larger population (region wide or nationwide) and to extrapolate the research findings. The aim of sampling is to save time and effort, at the same time obtaining consistent and unbiased estimates of the population status in terms of whatever is being researched (Stapsford and Jupp 1998).

The first step in sampling is to define the population of interest. This may seem obvious, but it is where survey design can all too easily be defective. With regard to the research objectives, the population of interest might be different. The important point to note is the restricted meaning of the term population in statistics. A population could be all children in a specified age, all urban households in a specified region, all rural households engaged in aquaculture production, etc. For the purposes of sampling, populations can be thought of as consisting of sampling units, which represent elements of research interest that do not overlap and at the same time exhaust the entire population. In most studies, sampling involves multistage selection of sampling units. In multistage sampling, usually sampling units are ordered hierarchically, moving from one level to the next. Thus, the primary sampling units are often geographical or administrative districts/provinces. Subdividing the primary sampling units then leads to the next sampling level etc. The final sampling units in economic or social studies are usually households or individuals.

The selection of the sample, finally, is a decision that can be based on a number of methods. The objective is to obtain estimates of population parameters, and some methods do this more accurately than others depending on the nature of the parameters to be estimated. The choice of the method will be a question of balancing accuracy against cost and feasibility. Two main categories can be distinguished: probabilistic sampling (simple random sampling, stratified random sampling and cluster sampling) and non-probabilistic, or purposive, sampling (quota sampling) (Stapsford and Jupp 1998). Probability samples have a considerable advantage over all other forms of sampling, which is the accurate estimate of the sampling error. Probability sampling procedures are therefore most widely used, because they assure

that each element in the sampling frame has a known (and equal in the case of simple random sampling) chance of selection set by the sampling procedure.

Box 3. Sampling procedure in Nigeria

Sampling process in the Hadejia-Nguru wetland aimed at identifying a sample of fishing and non-fishing households that were to be compared in terms of poverty, vulnerability and food security. To better understand the role of fishing, it was necessary to have the non-fishing sub-sample of households from the same ecological zones so that we should hold ecological conditions constant during the analysis. However, it was difficult to define fishing and non-fishing households before the survey.

A multi-stage sampling strategy was adopted. At first a list of 121 villages from the study area was compiled (sample frame). The list of the villages in the sampling frame was compiled by consolidating lists from state departments of fisheries and wildlife and conservation. From this list, 11 sample villages were selected randomly. The villages were randomly selected because there are no clear stratification factors in the area.

After identifying sample villages a list of all households in the sampled villages was generated to create the sampling frame for individual households. A sample of 300 households was then drawn randomly from this frame. Number of households selected in each village was based on the size of the village proportion to the total number of households in the sampled villages.

One problem with simple random sampling is that the sample size may need to be large enough to ensure that all subgroups (or strata) in the population are adequately represented. If some characteristics of the population of interest are identifiable at the time of sampling, there is the possibility of structuring the sampling process. In this case a stratified random sampling is applied, where the elements of a population are divided into non-overlapping groups. Random samples are then drawn from each of these strata. If the proportion of the sample from each stratum is the same as the population, then this procedure is called proportionate stratified random sampling, and the total sample will match the population. Usually, samples of populations of geographic areas are stratified by some regional variable. Lists of employees typically are stratified by occupational classification of some sort. Stratification is a desirable feature of a sample design, since it increases the precision of estimates of variables to which the stratification variables are related without hurting the precision of other sample estimates.

When there is no adequate sampling frame of the whole population, multistage sampling provides a useful approach. The basic approach is to divide the total target area into exhaustive, mutually exclusive sub areas. After drawing a random sample of sub areas a list is then made of housing units or other lower sampling units and a random sample is then drawn. Usually, proportional (or weighted) sampling is applied, where a fixed share of final sampling units is selected, i.e. the sample size is proportionate to the population in each primary sampling unit. For example, the number of households selected per village must be proportionate to the total number of households in the village. Hence, in a larger village, more households will be selected than in a very small village (see Box 4 and Box 5)

Box 4. Sampling procedure in Cameroon

A stratified multistage random sampling procedure was used in Cameroon. Given the need to survey a representative sample of households in the study area with different production conditions (such as access to fish resources), the sampling design envisioned a stratification of the study site into different zones. It was assumed that under different ecological and production conditions the role of fisheries in terms of income generation is different. This procedure allowed capturing the whole continuum of fishing intensity (from wholly specialized fishermen to purely agriculture/livestock rearing oriented households). Hence, based on the criterion of access to fish resources, three zones were identified in the Logone floodplain: the Lake Maga area (zone 1), the Logone and its tributaries (zone 2), and the arid, only short-term flooded area (zone 3).

In a second step, a complete list of villages in the study area (N=88) was compiled, based on information from different sources. These villages served as the primary sampling unit. For statistical reasons a total sample size of 300 households was assumed to be reasonable, which represents about 7% of the population in the study area (estimated at ca. 20,000 inhabitants). Several discussions with experts resulted in the decision to choose 14 villages and then randomly select about 50 percent of households per village (the average village size in the floodplain is about 45 households, but ranges from 15 to 100 households). The villages were selected by weighted random sampling, proportional to the total number of villages per zone (zone 1: 9 villages; zone 2: 59 villages; zone 3: 20 villages), which led to the choice of two villages in zone 1, nine villages in zone 2 and three villages in zone 3. All selected villages were visited before commencing the HH level survey with the aim to conduct focus group discussions (FGDs) with the village (or quartier) leaders. The objective of the FGDs was primarily to create a sampling frame, i.e. complete household lists for every selected village had to be compiled, since no such information existed. In the last step, the household lists were then used for a weighted random sampling of the 300 sample households.

Box 5. Sampling procedure in Malawi and Zambia

Household was the sampling unit for the survey. It was defined as a group of individuals continuously living in one house and eating from one pot under the overall leadership of the household head. Lists of households in each village within the floodplains with potential access to the fishery were obtained from agriculture and fisheries offices which were later verified and updated during key informant interviews and focus group discussions. All the villages along and far away from the river channels but within the floodplains formed the sampling frames. This was necessary to ensure adequate spatial spread of the households. In order to maintain a statistically robust sampling strategy, random sampling was used to draw the survey households in the villages across the floodplains. Households were sampled every month from February 2007 to December 2008 in Lower Shire Floodplain and from June 2007 to July 2008 in Kafue Floodplain, covering one complete farming and fishing season. For each month, new households were randomly drawn and interviewed. About 70 households were randomly sampled every month for twenty three months in Lower Shire Floodplain and fourteen months in Kafue Floodplain, resulting in 2034 independent households in Lower Shire Floodplain and 980 independent households in Kafue Floodplain.

Survey design for collecting longitudinal and repeated cross-sectional data

Some of the questions that need to be considered when designing longitudinal and repeated cross-sectional surveys include duration of the study, number of survey rounds, and period of the year when the survey rounds are implemented. Both longitudinal surveys and repeated cross section surveys involve more than one survey round but they have some slight differences. Longitudinal surveys are the ones where the same study units (households or individuals in our case) are interviewed in each survey round. In contrast, in repeated cross section surveys different study units are sampled each time. Duration of the study refers to the time from the first survey of the study to the last survey of the study. On the other hand, number of survey rounds refers to the number of times a questionnaire will be administered to the respondent.

The final consideration on period of the year is mainly to consider seasonality of the livelihood activities and occurrence of some shocks such as floods in fishing communities.

Shocks are by nature unanticipated, and it is pure coincidence that a survey will be able to capture information on shocks (particularly if it is a one time shock). This means that one cannot make a survey unnecessarily long to wait for a shock because the shock you are anticipating may not occur. An alternative approach was taken by Dercon and Krishnan (2000) and others where households were asked to state the shocks they have experienced in the past, say, 20 years. These can be used with the current observations to conduct vulnerability assessments.

In the case of fishing communities, intra-year survey rounds are important because fishing and farming, both of which are important livelihood activities, are seasonal. The question of how frequent these rounds should be is not an easy one and may heavily depend on resources and contexts.

Monthly surveys may be ideal because the respondents are given a short period to recall and this can result in the reduction in measurement error. But this has a high cost in terms of resources. Respondents are also likely to experience survey fatigue and this may result in high levels of sample attrition i.e. loss of sampled households. One attempt to overcome sample attrition is to randomly sample independent households for each monthly survey, also known as repeated cross-sectional surveys (see Box 6). However, the data sets collected using this approach may not be efficient for assessing long-term dynamics of poverty within the household unless strong assumptions about the homogeneity of the stochastic causes of poverty dynamics are made.

Box 6. Sample Attrition in Nigeria

Although 300 households were sampled in the HN wetland, the final sample size for the first survey was 282 due to different reasons. One of the major problems was that many under aged individuals were included in the list of household heads. This was probably done with the anticipation that the project will bring some form of direct assistance to the villages and this was to increase the level of assistance they may obtain from the project. In order not to disturb much the sampling probabilities, it was decided not to replace these households from the village because it was thought this would over represent the villages where this problem occurred. We assumed that the distribution of the under-aged in the sample was the same across the villages as simple random sampling technique were used to obtain sample households from each of the sampled villages. Other households were 'lost' due to migration or the death of the household head. In case of death of the household head, it was considered as a lost case because most of the times, the wife (wives) remarries within a short time such that there is discontinuity in the household. Sometimes the wives leave the household to stay with relatives. Even after the first survey, the study still experienced sample attrition in subsequent survey rounds. After the first survey, the main causes of attrition were refusal to be re-interviewed and missed identity of the household. Missed or mixed identity refers to cases that were interviewed up to the last survey but their identity did not match that of the case that was interviewed in the first survey. After it was suspected that some case identities have been missed or mixed in the course of the study, we decided to collect information about household demographic information again in the last survey to reconcile household identities. These were compared with the information that was collected in the first survey and cases whose demographic information did not match the ones from the baseline survey were dropped from the sample. These cases were dropped from the follow up surveys only since the information obtained from the baseline survey from households with this identity will still be used for static analysis.

Questionnaire design, pre-testing and enumerator training

Parallel to the sampling, the development of the questionnaire should be completed at the final survey design and planning stage. A questionnaire is a set of questions that have been formulated to collect information from study units such as individuals, households, communities, etc. A lot of scientific methodological work has been done in the past decades by cognitive psychologists and survey methodologists on questionnaire design, particularly on the question-response process and the different biases that may be introduced by a wrong conceptualization of the questionnaire and the interview procedure. Most of the aspects are however well beyond the scope of these guidelines. Some issues shall nevertheless be introduced and discussed here, since it may be of use to research work in developing countries to consider some methods and peculiarities of questionnaire design.

A prerequisite to designing a good questionnaire is deciding what is to be measured. This is mainly to be derived from the project's objectives and the methodology to be applied in data analysis. This implies the clarification of questions such as: (1) which variables are designed to be dependent variables, (2) which are needed as independent variables in order to understand distributions and patterns of association, and (3) which variables may be deemed as control or intervening variables to explain patterns observed and to check out competing hypotheses (Fowler 1988). This is very important since sometimes questionnaires give the impression that their authors tried to think of every conceivable question that might be asked with respect to the general topic of concern, resulting in very long questionnaires with many questions irrelevant to the analysis intended and sometimes valid for only small proportions of the sample. The result is annoyance and frustration on the part of many responders (Frey 2001). A focus on really required information may hence not only reduce the length of the questionnaire, but also improve data quality.

While the specific contents of questions (behaviour, beliefs, attitudes or attributes), the wording of questions (negative or positive wording, direct or indirect questions, personal or impersonal wording, etc.), as well as the type of question (i.e. open or closed format, scaling of answers, ranking formats etc.) may differ significantly depending on the research question, some general guidelines can be given concerning the questionnaire layout (de Vaus 1990).

1. In order not to waste time reading irrelevant questions, contingency questions should be used where appropriate. Contingency questions are the ones that help to filter respondents to some specific questions. For example: "Do you go fishing?" Individuals that would answer "No" to this question will not be required to answer the fishing related questions.
2. To provide flow, use general instructions, section and question introductions, and "go to" instructions.
3. Attention should be also paid to the order of questions. A good questionnaire is one in which there is a good logical flow to questions.
 - a. Start with easy and interesting questions
 - b. Go from concrete to abstract questions

- c. Group questions into sections
 - d. Make use of filter questions
4. Since data is usually analyzed by statistical software packages (e.g. EXCEL, SPSS, SAS, STATA), it is useful to prepare for this by already allocating codes to the responses in the questionnaire. This pre-coding not only saves time during the interviews, but also simplifies the data entry and cleaning process. In the codes, you should always give room for other responses which you may not have considered when developing the questionnaire. This does not apply to cases that are already closed such as gender of an individual is either male or female but occupation of an individual may be something you did not think of.

Every questionnaire should be pre-tested no matter how skilled the researcher is. Once the final questionnaires are printed and data collection has begun, changes are expensive and very difficult to make. For instance already completed interviews should be eliminated from the analysis if question wording has been changed. A pre-test could however generate very useful feedback on individual questionnaire items, such as the structure and wording of the questions, but also on the interview procedure, and other issues involved in the survey. Although, the questionnaire can already be tested informally in earlier stages on family, friends or other students, this stage implies a formal test with real respondents in the survey area. A pre-test usually involves a number of interviews, determined by things as the number of subgroups of interest, or testing the aptitude of the questionnaire to different settings (e.g. in different strata). Usually this results in a need to revise the questionnaire and survey procedures.

A common way to implement a pre-test when doing surveys is to combine it with a training workshop for enumerators (Box 7). Since the interview in itself poses by far the most serious problem in face-to-face surveys, particular attention should therefore be paid to the choice and training of enumerators. Each study is particular in that it investigates different aspects of the social, economic or ecological settings in the study area. Hence, even if the enumerators recruited for the interviews are skilled and possess year-long experience in doing surveys, a training workshop is in most cases an essential part of survey preparation. Interviewers have two primary roles in the collection of survey data: (1) to ensure the cooperation of selected respondents, and to motivate them to honestly provide the needed information, and (2) to ensure an objective interview, i.e. asking questions in a standardized way and that answers meet the question objectives. It is always a good idea to give interviewers a sense of the project's objectives, and also some familiarity with sampling procedures, coding, and the kinds of analyses and reports that result from the surveys. Such information may be helpful to interviewers in answering respondent questions and may play a positive role in motivating the interviewers and helping them to understand the job. This information can well be provided in the first phase of the training workshop, then moving to the discussion of the questionnaire and other issues, such as:

- procedures for contacting respondents and introducing the study
- conventions used in the design of the questionnaire with respect to structure, wording and skip instructions, so that interviewers can ask the questions in a consistent and standardized way

- procedures for recording answers
- rules and guidelines for handling the interpersonal aspects of the interview in an unbiased way

The knowledge acquired during the workshop can then be tested during the pre-test. The researcher has the possibility to supervise and observe the enumerators' behaviour and give further instructions and advise before the start of the survey, where data has to be recorded in an unbiased way.

Box 7. Enumerator choice in Cameroon

The lack of sufficiently educated interviewer personnel in the Far-North Province in Cameroon presented a serious constraint. For this study, a team of five MINEPIA staff, who work as government officials in the survey area, was recruited as enumerators. While respondents can have reservations to provide information to government officers, the more important factor was that the survey team represented the two ethnic groups of the study area. Also, enumerators spoke the languages of the local population to be surveyed, they were familiar with the local peculiarities, and used to the conditions in the field. In addition, respondents' willingness to provide information was actually encouraged in expectations of a follow-up governmental support.

Survey implementation and its challenges

Once all the planning has been made, all the research tools have been finalised, it is time for the research team to implement the survey. Implementation of a survey involves administering the questionnaires to the respondents. Prior to the interview, the objectives of the research should be clearly explained to the respondents to make sure that they do not distort the information. It is good not to promise any form of assistance when implementing the survey. It is also good for researchers to pay particular attention to the cultural settings and beliefs during the interviews because a breach of cultural norms during an interview can distort the whole survey. It may also be useful to have a schedule and inform the villages before one starts the interviews. This has an advantage of increasing the level of cooperation by the villagers. The research team should avoid going to the village the days important activities such as market days and praying days are occurring. It is always difficult for the respondents to cooperate when they feel that the researchers are denying them a chance of attending to some of these activities and this may jeopardize the quality of the data.

While implementing the survey, the supervisor should be checking the completed questionnaires straightforward so that the mistakes that are being made are corrected while the team is still at the location where the questionnaires have been administered. Although enumerators have been involved in rigorous training, most of the times they have some sections of the questionnaire which they have not fully understood. This can be noted by the way they are filling the questionnaire. Depending on the level of mistakes, the whole questionnaire or some sections of the question should be re-administered.

One of the major challenges in implementing a survey is non-cooperation or refusal of the respondents to be interviewed. Of course it still remains a paradox because while some of the individuals who are in the sample are not willing to be interviewed, other individuals who are not part of the sample mostly ask the question why they were not

included in the sample. Other challenges emerge from the time the sampling frame was drawn. Villagers may not have full knowledge of all the inhabitants in the village such that the sampling frame may include households that are no longer living in the village. This may involve re-sampling to replace lost cases or the lost cases may not be replaced.

Data Management

General data handling issues

Data management involves data cleaning, data entry, and data analysis. Data cleaning involves checking all the questionnaires and taking care of all inconsistencies with the aim of maintaining the quality of the data. According to Muñoz (2005) the questionnaire data need to be subjected to five kinds of checks: range checks, checks against reference data, skip checks, consistency checks and typographic checks. The nature of these checks and the way they can be implemented under the various operational set-ups are here reviewed. Range checks are intended to ensure that every variable in the survey contains only data within a limited domain of valid values. Categorical variables can have only one of the values predefined for them on the questionnaire (for example, gender can be coded only as 1 for males or 2 for females); chronological variables should contain valid dates, and numerical variables should lie within prescribed minimum and maximum values (such as 0 to 95 years for age.).

Skip checks refers to whether the skip patterns have been followed appropriately. For example, a simple check verifies that questions to be asked only of schoolchildren are not recorded for a child who answered no to an initial question on school enrolment. Another example would be to find that an individual who indicated that he/is not involved in fishing has income from fishing. It may be possible that this income belongs to a different activity. Consistency checks ensure that answer from one question is consistent with answer from another question. A simple check occurs when both values are from the same statistical unit, for example, the date of birth and age of a given individual. More complicated consistency checks involve comparing information from two or more different units of observation. An example is to find that an 8 year old child is in secondary school. There is no natural limit imposed on the number of consistency checks that can exist.

A typical typographical error consists in the transposition of digits (like entering 14 rather than 41) in a numerical input. Such a mistake for age might be caught by consistency checks with marital status or family relations. For example, the questionnaire of a married or widowed adult age 41 whose age is mistakenly entered as 14 will show up with an error flag in the check on age against marital status. However, the same error in the monthly expenditure on meat may easily pass undetected, since either \$14 or \$41 could be valid amounts.

Data cleaning exercise begins in the field and continues to the time when the data is analysed or when the report is being written. It does not matter at which stage the data is checked but when a strange figure seem to appear, the researcher is supposed to check if a collect figure was corrected and if it was entered correctly in the computer program that is being used for analysis.

Presently, there are many computer programs that can be used to analyse data. Data entry begins with the creation of the data entry template (database) which should be a form of the questionnaire in the computer program. The design and formatting of the template should be in a form so that figures from the questionnaire should just be punched into the program. Any statistical program such as stata, SPSS, excel, access can be used to enter data depending on the knowledge of the researcher of the statistical program.

Computing welfare measures

Finally, it becomes important for the researcher to compute the welfare indicators (income, consumption expenditure, and others) before relating them to different household characteristics. This is a relatively challenging task for the research because theoretical definitions of welfare measures need to be matched with practical methods.

Box 8. Estimating annual household income in Nigeria

Estimating annual household income from a single cross section survey has always been very difficult. In most cases, recalls are used and these are done on different periods such as a day, a week, a month and a year with different income sources. In Nigeria, the respondents were given the freedom to state the frequency of the flow of income from a given source. Unfortunately, this approach led to some measurement errors. The estimated values were suspected to be overestimated mainly on activities the respondents indicated that they obtain money from on daily basis such as fishing and hawking/petty trading. Some assumptions had to be made to obtain more reasonable estimates of these values. For fishing, it was assumed that the fishing pattern shown by the individual/household in the year (during the follow up surveys) reflect a perennial fishing pattern of the individual/household (i.e. whether seasonal or not) and this was used to judge whether daily meant everyday throughout the year or everyday within certain seasons. It was therefore arbitrarily assumed that in a week, there are three days when an individual can not go for fishing. Even within the fishing period, an individual will be faced with some situations that will not allow him/her to do the activity everyday. While accepting the fact that in peak fishing periods individuals fish everyday, individuals may even go fishing for only one day or not fish at all in off fishing periods. This was thought to be an appropriate way of dealing with the overstatement of fishing frequencies. Prices were corrected manually by replacing prices that were suspected to be too high with observed prices reported by a given household during the follow up surveys. The assumption here was that the fisher is using the same measuring container (basket or basin) for pricing, in which case downward movements in prices were not expected. This meant that high prices reported during the baseline survey were mainly due to measurement error. A similar process was also followed to estimate incomes from hawking and petty trading.

Total income from farming was computed by multiplying the total crop output with the average price of a crop in a given village. Average village prices were used to take care of outliers and also spatial variations of output prices. Total household income from livestock was defined as the sum of the monetary value of livestock and livestock products consumed by the household and the revenue from livestock and livestock product sales. Own consumption of livestock and livestock products was considered as an income since valuing total value of crops also implicitly considers on value of crops consumed as an income.

Total household income virtually refers to the sum of monetary income, income in kind (including production of the household enterprise and government services), and the value imputed to services derived from endowments and assets such as durables, housing and time owned by the household (Grootaert, 2005). Practically, estimation of household income involves estimation of income from different economic activities for a period which is covered by the survey (Box 8). These estimates are then summed up to have an estimate of total income. Incomes from different sources are not estimated using exactly the same procedure. For example, estimating income from

crops involves multiplying total output with the market prices. Since different households may sell the crop to different buyers, different prices may be reported by the farmers. Use of an average income is therefore recommended to standardize the value of the output. The uses of average prices also help to eliminate outliers. The average prices of the crop can still be computed at village level and not study area level to make sure that we do not overlook/eliminate the spatial differences in prices. Although the entire crop yield is valued to determine income from crops, income from livestock is computed by estimating total revenue from livestock and livestock product sales plus the value of livestock and livestock products own consumed. Own consumption is defined as income because it is assumed that they would have sold this output and then use the money to buy it. Estimating income from fishing involves determining the monetary value of the fish catch. On the other hand, consumption expenditures estimation typically aggregates expenditure on all goods and services consumed, valued at appropriate prices, and including consumption from own production. Total household consumption expenditure is practically defined as the sum of out of pocket expenditures on consumption goods and services and the value of crops, fish and livestock consumed from own production. Valuation of own consumption of produced commodities should be done by multiplying quantity of the good consumed with the mean village level price.

When either of the two indicators is computed, considerations about differences in household size and composition should be made to make the indicators comparable and meaningful. An equal amount of income for households with different sizes and composition imply different levels of living standards. The household with more members has a lower level of living standard because many people are assumed to share the same 'cake'. Individuals of different sex and age also require different levels of consumption to meet the minimum required levels. Adult equivalent scales have been derived in many countries to take care of this and these are based on daily recommended calorie intake. However, the simple way of handling this is just to divide the total household income or consumption expenditure with household size to determine per capita levels.

Summary

The need to determine the value of small scale fisheries in developing countries have been raised in many sections of fisheries literature. One of the reasons for the lack of valuation studies in developing countries is the lack of capacity in many fisheries departments to value the contribution of small scale fisheries to the livelihoods of rural households. This handbook has been developed to guide fisheries personnel in assessing the contribution of small scale fisheries to household livelihood. The document reviews succinctly the conventional economic valuation techniques and also shows how poverty and vulnerability assessment can generate additional useful information about the value of SSF to rural households.

In determining the value of small scale fisheries, there is a need to recognise the difference between the market price of fish and its value. The value fish or a fishery captures the amount of money an individual is willing to pay for a commodity while a market price is the amount of money an individual is supposed to pay in the market for the commodity. In cases where some of the attributes of the commodity can not be

traded on the market such as in small scale fisheries, market price presents an undervaluation of the commodity.

Most of the conventional economic valuation techniques used in environmental and natural resource economics can also be applied to small scale fisheries. These are broadly categorised into market based approaches, revealed preference approaches and stated preferences approaches. However, these valuation techniques do not show the potential of small scale fisheries in poverty reduction. That is why the findings from such valuation studies have not been very useful in positioning small scale fisheries in poverty reduction strategies.

The more appropriate technique of valuing the contribution of small scale fisheries to household welfare and assessing its potential in reducing poverty and vulnerability is what is being referred to as the household welfare analysis in this document. This type of approach involves the assessment of the impacts that small scale fisheries have on different welfare indicators such as income, assets, consumption expenditure, food security, health, etc.

The measures in the household welfare analysis can be assessed either at a point in time (static assessment) or through changes over time (dynamic assessment). In implementing a static analysis, different methods can be used to show the contribution of small scale fisheries. Some of these include assessing the contribution of fishing to total household income, or comparing the welfare status of fishing and non-fishing households. Fishing households can also be compared to externally defined welfare groups such as the poor and non-poor groups or percentiles.

The dynamic assessment draws on the empirical observation that household welfare level changes over time. Dynamic assessment of welfare includes important distinctions in poverty 'structure' such as chronic and transient poverty. These can further be categorised into structural-chronic, structural-transient and stochastic-transient. These poverty groups can then be related to fishing identity of a household. The dynamic assessment of welfare is also related to the concept of vulnerability which measures the probability that a household will be poor at some time in the future. This presents some important insights for policy makers.

The collection of such data relies on a rigorous scientific method that includes several stages: preliminary planning, field trip, survey design, questionnaire design, pre-testing, and enumerator training, and finally survey implementation. The exact way these stages are implemented needs to be context-specific but also follows general rules which are common to any scientific research, in order to ensure the reliability, consistency, representativeness and accuracy of the data.

Literature Used

- Bann, C, 2002. An overview of valuation techniques: advantages and limitations. *ASEAN Biodiversity*, 2(2): 8-16.
- Béné C. and Neiland A. 2003. Valuing Africa's inland fisheries: an overview of current methodologies with an emphasis on Livelihood Analysis. *NAGA, WorldFish Center Quarterly* Vol. 26 No. 3 Jul-Sep 2003.
- Béné, C. 2006. Small-scale fisheries: assessing their contribution to rural livelihoods in developing countries. *FAO Fisheries Circular*. No.1008. Rome, FAO. 46 p.
- Béné C., 2009. Are fishers poor or vulnerable? Assessing economic vulnerability in small-scale fishing communities. *Journal of Development Studies* 45(6): 911-933.
- Christiaensen, L. & Subbarao, K. 2004. Toward an understanding of household vulnerability in rural Kenya. *World Bank Policy Research Working Paper* 3326, Washington DC: World Bank.
- Czaja, R. and J. Blair, 1996. *Designing Surveys – A Guide to Decisions and Procedures*. Pine Forge Press, Thousand Oaks, California, USA
- De Vaus, D.A. 1990. *Surveys in social research*. 2nd ed. Unwin Hyman Ltd, London
- Dercon, S. and P. Krishnan. 2000b. Vulnerability, seasonality and poverty in Ethiopia. *Journal of Development Studies*, 36(6): pp. 25-53.**
- FAO, 2005. Technical guidelines for responsible fisheries No.10: Increasing the contribution of small-scale fisheries to poverty alleviation and food security
- FAO, 2006. *FAO's Activities on Small-scale Fisheries: An Overview*. Advisory Committee on Fisheries Research (ACFR), Sixth Session, Rome, 17-30 October 2006
- Fowler, F.J., 1988. *Survey research methods*. Sage publications, Nuwbury Park, California, USA
- Frey, R.B., 2001. *A Brief Guide to Questionnaire Development. Office of Measurement and Research Service, Virginia Polytechnic Institute and State University*
- Gibson, J., 2005. Statistical tools and estimation methods for poverty measures based on cross-sectional household surveys, In: United Nations Statistics Division (2005). *Handbook on Poverty Statistics: Concepts, Methods and Policy Use*, pp. 128-205.
- Grootaert, C. 2005. The conceptual basis of measures of household welfare and their implied survey data requirements. *Review of Income and Wealth*, 28(1):1-21
- Hoddinott J. and A. Quisumbing (2003). *Methods for microeconomic risk and vulnerability assessments*. Social Protection Discussion Paper No. 0324. The World Bank, 53pp.
- Kronen, M. (2007): Monetary and non-monetary values of small-scale fisheries in Pacific Island countries. *SPC Women in Fisheries Information Bulletin* No. 16, pp.12-20
- Lipton, D., K. Wellman, I.C. Sheifer, and R.F. Weiher, 1995. *Economic Valuation of Coastal Resources: A Handbook for Coastal Resource Policymakers*. NOAA Coastal Ocean Program Decision Analysis Series No. 5. NOAA Coastal Ocean Office. Silver Spring, MD. available at: <http://www.mdsg.umd.edu/Extension/valuation/handbook.htm>
- Macfadyen, G. and E. Corcoran, 2002. Literature review of studies on poverty in fishing communities and of lessons learned in using the SLA in poverty alleviation strategies and projects. *FAO Fisheries Circular*. No. 979. FAO, Rome.

- Muñoz, J, 2005. A guide for data management of household surveys. In: United Nations Statistics Division (2005). Handbook on Poverty Statistics: Concepts, Methods and Policy Use, pp. 305-334.
- Norman, D.W., F.D. Worman, J.D. Siebert and E. Modiakglota (1995): The farming systems approach to development and appropriate technology generation. FAO Farm Systems Management Series No.10, FAO Rome.
- OECD, 2002. Handbook of Biodiversity Valuation: A Guide for Policy Makers. OECD, Paris.
- Pearce, D. and D. Moran. 1994. The Economic Value of Biodiversity. Earthscan Publications, London.
- Stapsford, R. and V. Jupp., 1998. Data collection and analysis. Sage publications, London.
- WorldFish Center, 2004. Proposal for the project on “Food security and poverty alleviation through improved valuation and governance of river fisheries in Africa”. Submitted to the German Federal Ministry for Economic Cooperation and Development (BMZ), 30 may 2004

Glossary of Economic Terms

Poverty:	the state of living with income below a socially defined poverty line
Vulnerability:	the ex ante risk that an individual or household will fall into poverty line in the future
Consumer surplus:	the difference between the price that a consumer pays and the price that he/she is willing to pay
Producer surplus:	the difference between the amount that a producer receives from the sale of a good and the lowest amount that producer is willing to accept for that good
Equilibrium price:	the price of a good or service at which the demand curve crosses the supply curve
Equilibrium quantity:	the quantity of a good or service the consumers buy and producers sell at the equilibrium price
Demand curve:	a curve that shows the quantity of goods and services consumers are willing to buy at different prices
Supply curve:	a curve that shows the quantity of goods and services suppliers are willing to supply at different prices
Economic value:	a measure of what the maximum amount of money an individual is willing to forgo in order to obtain some good or service
Total economic value:	economic value of a good or service that considers both use and non use values
Production function:	a mapping from quantities of inputs to quantities of an output as generated by a production process.
Social protection:	a form of support by public, private and/or not-for profit organisation to individuals, households or communities in their efforts to prevent, manage or overcome vulnerability and poverty
Social insurance:	regular premiums to secure entitlements to financial assistance in the occurrence of specified risks
Social assistance:	transfers, in cash or kind to the poor to address poverty and vulnerability
Welfare:	economic assistance to individuals, households or communities to improve their well-being
Fall-back: strategy	last resort activity adopted after a loss of main livelihood
Risk spreading:	cushion against risks that can cause temporary (or permanent) shortfalls from a preferred welfare level

Livelihoods system: combination of activities with the aim to satisfy the household's needs

Poverty alleviation: policies aiming at a reduction of existing poverty

Poverty prevention: policies aiming at preventing future poverty

Appendix 5: Peer reviewed Papers
(published or in press)
(Project Output 10)

- Béné C 2008. Assessing economic vulnerability in fishing communities. *Journal of Development Studies* 45(6): 911-933.
- Béné C., Belal E., Baba M.O., Ovie S., Raji A., Malasha I., Njaya F., Na Andi M., Russell A., and Neiland A. 2010. Power competition, conflicts and alliances at local level: analysing 'democratic' decentralization of natural resources through the lenses of Africa inland fisheries. *World Development* (in press)
- Béné C., 2009. Governance and decentralization reforms in small-scale fisheries – an African perspective. *In* Wramner P., M. Cullberg and H. Ackefors (eds.): *Fish, Sustainability and Development*, The Royal Swedish Academy of Agriculture and Forestry, Stockholm, 253-266.
- Chiwaula, L.S., R. Witt and Waibel H., 2010. An asset-based approach to vulnerability: The case of small scale fishing areas in Cameroon and Nigeria. *Journal of Development Studies* (in press)
- Njaya, F.J. 2008. Participatory fisheries management revisited. *Samudra* 49: 29-34.
- Ovie S., Raji A., Ladu B, Tafida A. 2007. Characterization of key stakeholders in the Konadugu Yobe Basin of Lake Chad, Nigeria. *Journal of Arid Zone Fisheries* 2(2)
- Witt, R., D.E. Pemsil and Waibel H., 2010. Collecting data for poverty and vulnerability assessment in remote areas in Sub-Saharan Africa. *Survey Methodology* (in press)

Are Fishers Poor or Vulnerable? Assessing Economic Vulnerability in Small-Scale Fishing Communities

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Final version received February 2009

ABSTRACT *An index of economic vulnerability is developed and used with a more conventional measure of income poverty to explore vulnerability and chronic poverty in isolated rural communities. The method is applied to data from remote rural fishing–farming communities in Congo. The analysis highlights the high vulnerability of full-time fisherfolk and identifies mobility as a key factor increasing vulnerability. In line with other recent economic research, our work also shows that households can remain highly vulnerable even when their incomes lie well above the average local income. These different results are consistent with the more specialised literature on small-scale fisheries, confirming the robustness of the analysis proposed in this paper.*

1. Introduction

The last 15 years have seen rapid progress in our understanding of poverty. Moving away from the initial view of poverty as a static (low-income) condition, recent research has highlighted the importance of considering poverty as a dynamic multi-dimensional phenomenon (Dercon and Hoddinott, 2004; Barrett and McPeak, 2005). In particular, an increasing number of studies from both developed and developing countries have now demonstrated that poverty is often transitory in nature (Walker and Ryan, 1990; Duncan et al., 1993; Grootaert and Kanbur, 1995; McCulloch and Calandrino, 2003). Baulch and Hoddinott (2000) for instance, reviewing work in developing countries, conclude that the ‘poverty problem’ is often one involving a large turnover of vulnerable people rather than a large core group of chronically poor. Economists are thus increasingly stressing the importance of the distinction between transitory and chronic poverty (Grootaert et al., 1997; Jalan and Ravallion, 1998; Yaqub, 2000) and how these relate to the concept of economic vulnerability (Morduch, 1994; Moser, 1998; Devereux, 2001; Christiaensen and Subbarao, 2004).

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GOVERNANCE AND DECENTRALIZATION REFORMS IN SMALL-SCALE FISHERIES – AN AFRICAN PERSPECTIVE¹

Christophe Béné

Abstract

Relying on a framework that highlights different dimensions of 'decentralization', this paper reviews fisheries co-management programmes as they have been implemented over the last 20 years in sub-Saharan Africa. It shows that in most cases, fisheries co-management programmes failed to improve governance, but simply altered the distribution of power and responsibility amongst the different stakeholders. In this new context, the co-management programmes were implemented often at the detriment of the direct end-users (fisherfolk) who benefit from those reforms only in a limited number of cases. Challenging the current narrative that presents participation as the central condition for governance reforms, the review instead highlights the importance of downward accountability. The paper concludes with a series of recommendations.

Introduction

Today, decentralized governance is the overarch-

ing paradigm in development and public policy arenas. Decentralization and community involvement are present as necessary conditions for effective development (Rondinelli *et al.* 1989, Manor 1999, World Bank 2002). Consequently, a large number of programmes and policy reforms promoted by international development agencies and NGOs have been carried out recently in many developing countries, with the explicit objective to support decentralization reforms (Manor 1999). Applied to a wide range of domains and economic sectors, these reforms have also been described or labelled under a wide range of terms, such as democratic decentralization, participatory development, devolution, indigenous management, user-participation, co-management, etc (Ribot 2003).

In the development literature, the arguments in favour of participation and decentralization are not simply based on economic and administrative efficiency. They are often associated with promises of progress in public accountability, environmental sustainability and empowerment of poor

1. This research has been supported through the project "Food Security and Poverty Alleviation through Improved valuation and Governance of River fisheries in Africa" funded by the German Corporation GTZ. The opinions expressed here remain however those of the author and do not necessarily reflect the view of the GTZ. For a more elaborated analysis, please refer to Béné *et al.* 2007.

An asset-based approach to vulnerability: The case of small scale fishing areas in Cameroon and Nigeria

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The paper analyses vulnerability to poverty of rural small scale fishing communities using cross-section data from 295 households in Cameroon and 267 in Nigeria. We propose a vulnerability measure that incorporates the idea of asset poverty into the concept of expected poverty, which allows decomposing expected poverty into expected structural-chronic, structural-transient, and stochastic-transient poverty. The findings show that most households in our study areas are expected to be structurally-chronic and structurally-transient poor. This underlines the importance of asset formation for long term poverty reduction strategies. Further refinements are possible with longitudinal data and information about future states of nature.

Key words: Vulnerability, poverty, assets, small-scale fisheries, Africa

I. Introduction

Fishing in inland water bodies (lakes, rivers, inundated wetlands) is recognised to be a key element in the economic portfolio of the rural populations. Case studies mainly conducted in Africa have shown that small scale fishing is part of a flexible and highly seasonal matrix of income generating activities (Sarch, 1997; Neiland *et al.*, 2000; Béné *et al.*, 2003b). However, small scale fishing communities have been associated with high levels of poverty for a long time (see Béné *et al.*, 2003a; Béné, 2009) which implies poverty persistency in fishing communities. Unfortunately, there has been very little detailed poverty research in such areas which can be used in designing poverty reduction strategies. Up to now, studies conducted at

Participatory Fisheries Management Revisited

There are several governance reform challenges and prospects for the management of fisheries resources in Malawi's Lake Malombe and Southern Lake Malawi

Participatory fisheries management (PFM), as widely understood in Malawi, is a governance type that entrenches participation of the user community in fish resource management. In PFM, the Department of Fisheries (DoF) and the fishing community are key partners who, in an ideal situation, agree on shared roles and responsibilities, and formulate the goals, objectives and strategies of a particular management regime. Of paramount importance to the process is the point that the government recognizes the rights and responsibilities of the local community to the appropriation of the resource. The local community should also have the ability to make management decisions on which resource to manage, who ought to be involved in the management, and size of the area where the resource is located. The PFM partners should develop a management agreement outlining shared roles and responsibilities between the government and the community. The roles and responsibilities may include the formulation and implementation of plans and rules; imposition of sanctions on illegal fishers; capacity building; policy formulation; and building participatory monitoring and evaluation systems.

In Malawi, the PFM strategy involves mobilization of the fishing community into representative user groups called 'beach village committees' (BVCs) that are responsible for controlling all fishing activities on a particular beach. A BVC, as defined in the Fisheries Conservation and Management Act (FCMA)

of 1997, refers to all people involved in fishing-related activities such as fishing, processing, fish trading and boatbuilding. A BVC subcommittee is composed of office bearers. This is unlike the initial understanding of a BVC, which was like a group of 10-12 elected office bearers on a beach charged with the responsibility of managing a resource. The FCMA provides for empowerment of the BVCs in terms of enforcing regulations, including closed seasons, gear and mesh restrictions, closed areas and licensing of gears; authorizing both small-scale and commercial fishers to land on their beach; and maintaining beach registers containing information about counts on registered fishing vessels, gears, gear owners and fishworkers.

Of paramount importance to the process is the point that the government recognizes the rights and responsibilities of the local community to the appropriation of the resource.

The Lake Malombe PFM started on a pilot scale in 1993 after the chambo (*Oreochromis* sp.) fishery had collapsed, as reported by the Food and Agriculture Organization of the United Nations (FAO) in its Chambo Research Project, which was implemented from 1988 to 1990.

Willing participation

The fishers also recognized the problem, as evidenced by their willingness to participate in the management of

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CHARACTERIZATION OF KEY FISHERIES STAKEHOLDERS IN THE KOMADUGU YOBE BASIN (KYB) OF LAKE CHAD, NIGERIA

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ABSTRACT

The Komadugu Yobe Basin comprising mainly the Hadejia-Nguru-Gashum wetland systems, provides an array of social and economic benefits for a wide range of natural resource users in the area. Aside from farming and animal grazing, the wetland, with an all-year round availability of water provides extensive fisheries that are crucial to the livelihoods of the local communities in terms of income, employment, food and medicinal sources. Several stakeholders, categorized as primary (fishers, fish buyers, fish processors, fish sellers, boat builders, construction agents and fishing gear makers) and secondary (fish exporters, fish retailers, customers, fish feed sellers and aquaculture workers) were found to be linked to and derive their livelihoods from the fisheries. The third category, the tertiary stakeholders, includes mainly government and non-governmental agencies whose actions and policies impact the fisheries heavily. These include Federal and State Departments of Fisheries, State Fisheries (Private and State), Ministry of Environment and Traditional Institutions amongst others. Each of these stakeholders is characterized in terms of their roles and relationships with the fisheries in particular and the wetland in general.

KEYWORDS: Komadugu Yobe Basin, Chad Basin, Fisheries stakeholders, livelihoods, sustainability

INTRODUCTION:

The Komadugu Yobe Basin (KYB) represents the Western shores of the Lake Chad and is located within the massive Hadejia-Nguru-Gashum wetlands. The fisheries potential is huge and the region has been described as one of the most important biodiversity hotspots in Nigeria (Esham & Bawa, 2003, 199). The wetland stretches across two main States (Jigawa and Yobe) and receives the bulk of its water from Rivers Sokoto, Benue, Kaduna, Niger and Durum Gana. These Rivers, originating mainly from the neighbouring States of Kano and Bauchi, flow southward and eventually unite in Gashum to form the Komadugu-Yobe River System that empties into the Lake Chad (Fig. 1). The total land area is estimated to be about 84,000 km² (MPP/WWF, unpublished) and provides

COLLECTING DATA FOR POVERTY AND VULNERABILITY ASSESSMENT IN REMOTE AREAS IN SUB-SAHARAN AFRICA

Rudolf Witt¹, Diemuth E. Pems² and Hermann Waibel¹

Abstract

Data collection for poverty assessments in Africa is time consuming, expensive and can be subject to numerous constraints. In this paper we present a procedure to collect data from poor households involved in small-scale inland fisheries as well as agricultural activities. A sampling scheme has been developed that captures the heterogeneity in ecological conditions and the seasonality of livelihood options. Sampling includes a three point panel survey of 300 households. The respondents belong to four different ethnic groups randomly chosen from three strata, each representing a different ecological zone. In the first part of the paper some background information is given on the objectives of the research, the study site and survey design, which were guiding the data collection process. The second part of the paper discusses the typical constraints that are hampering empirical work in Sub-Saharan Africa, and shows how different challenges have been resolved. These lessons could guide researchers in designing appropriate socio-economic surveys in comparable settings.

Key words: Socio-economic household surveys, survey design, data collection challenges, Sub-Saharan Africa

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Appendix 6: Training reports



Training Workshop
**“Socioeconomic analysis and valuation of small scale
fisheries in Africa”**

Workshop Proceedings

Prepared by

**Levison Chiwaula
Rudolf Witt
Hermann Waibel**

**14-15 November 2008
Maiduguri, Nigeria**



UNIVERSITY OF CAPE TOWN
IFUNIVESITHI YASENAPA * UNIVERSITEIT VAN KAAPSTAD



BMZ project on 'Food security and poverty alleviation through improved valuation and governance of river fisheries in Africa'.

Training workshop report:

"Socioeconomic analysis and valuation of small-scale fisheries in the Lower Shire and Kafue floodplains"

**Hippo View Lodge
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