

TOWARDS A POLICY FRAME-WORK FOR COMMUNITY BASED NATURAL RESOURCES MANAGEMENT IN FRESH WATER ECO - SYSTEMS: ACASE STUDY OF LAKE NAIVASHA BASIN, KENYA

J. Misati¹, J. Nyangena² and R.Ndetei³

¹LAM, Universite De Pau, France

²KIPPRA, Nairobi, Kenya

³WWF – Naivasha, Kenya

E-mail: josephmisati@yahoo.com

Abstract

Community Based Natural Resources Management is emerging as an important paradigm in Natural Resources Management globally. The concept is premised on historical and traditional approaches to Natural Resources Management where the Community collectively manages natural resources from which they derive benefits through locally tailored norms and prohibitions, taboos, and anecdotes. Successfully implemented, the approach can be a Model for effective and Sustainable Natural Resources Management in terms of local empowerment, instilling communities with greater authority over use of natural resources and facilitating benefit sharing with the poor in society. The objectives of the paper are to: Assess the effects of piloting this concept in Lake Naivasha basin, Analyse the extent to which current water policies support Co-Management in water resources, Document lessons learnt and elucidate a policy framework for strengthening its contribution towards Socio- economic wellbeing of Community members. Data for the study was obtained in a field survey in the basin using Semi-Structured interviews, and Key Informant Interviews supplemented with information obtained by review of pertinent documents. The results indicate that while sufficient policy provisions exist for Community Based Natural Resources Management, a number of challenges exist in effectively entrenching this approach. These include; Weak local institutions, weak enforcement and lack of awareness at the local level. It is concluded that poor communities benefit in various ways when they have direct control over use and management of natural resources. It is recommended that voluntary participation of communities be enhanced in solving problems arising from the use of community natural resources, the management of natural resources be entrusted to local people, and strengthening basin local institutional weaknesses prohibiting the legitimacy of community members from managing and exploiting local resources for their direct benefits.

Key words: Community participation, natural resources dependent communities, Policy, Vision 2030, Kenya

1 Introduction

Community Based Natural Resources Management is an emerging natural resource management paradigm that puts community participation in Natural Resources at the forefront. This concept is premised on historical and traditional approaches to natural resources management where communities collectively managed natural resources from which they derived benefits through locally tailored norms and prohibitions, taboos and anecdotes. The state entrusts communities with management functions over national assets like forests and wildlife through mutually benefiting management arrangements. Communities derive access and use rights which provide motivation for sustainable management while the state is relieved of her direct management and policing mandate without losing legal title, power and ultimate control of these assets.

It is a departure from the protectionist theories that are underpinned by a common denominator of state control and direct management of resources. These theories are premised on exclusivity as opposed to collaboration with neighboring and often natural resources dependent communities. Protectionist theories have drawn criticism from development actors on grounds of inequities, environmental justice and ecological considerations. Where resources such as fuel wood, charcoal, wildlife and fish are intrinsic to every day livelihood for riparian communities, it is both inequitable and unjust that the communities should be excluded from access and benefit sharing. CBNRM rests on the premise that people who use a resource, with firsthand knowledge of such a resource from their daily interaction with the natural environment are in the best position to manage and protect it. It thus asserts the principle of local community control and initiative while recognizing the importance of institutional and policy contexts in influencing performance in the harnessing of local resources and using them productively, equitably and sustainably to meet community needs.

The essence of CBNRM is to engender a feeling of ownership and responsibility by the community towards natural resources. It is thought that by vesting rights and responsibilities upon the user communities who derive social economic and cultural benefits from the resource, they would exhibit responsible and sustainable use of the resource to meet not only their present needs but also those of their future generation. A CBNRM arrangement not only enable communities to meet their survival needs but also saves government the costs and mandate that would have otherwise been invested to regulate, monitor and restrain community activities in respect of a natural resources reserve.

A functional CBNRM regime institutes rules and standards at a policy and legislation level that provide for organizational structures and empowerment of local communities to collectively make the right judgment over resource use and conservation. Supportive CBNRM laws and policies facilitate the development of devolved management structures at the community level to manage the resource. These involve locally tailored rules and principles that have customarily evolved from the community's traditional norms and practices through which the resource was historically preserved and sustainably used. In return, benefits from natural resource accrue to the community membership both collectively and individually. Externally initiated initiatives with varying degrees of community participation, whichever way defined and conceptualized fall short and should not be referred to as community based, at least not until the community exercises primary authority in decision making over the resource.

The defining feature of CBNRM and the compromise position of most state governments is that the regime is not based on property interests, which most states historically appropriated and are reluctant to relinquish. States prefer communities to rather derive access and use rights under an arrangement that makes clear the communities' rights and benefits as well as obligations to sustainably utilize the

resource. Most states find CBNRM an ideal regime when compared to Community Based Property Rights (CBPR) regimes that claim community proprietary interest in natural resource of their heritage. The state as the legal holder of title and reversionary interest in the resource grants legal rights of access, use and benefit sharing of the resource to local communities in exchange for those communities assuming specific management duties over the resource. Consequently, the state has recourse in the event of wanting to recall management or for alternative use.

The Kenyan constitution provisions - Section 69 (1) and (2), provide for public (The State and Citizens) participation in the management, protection and conservation of natural resources. Further, Water (2002) and Forest (2005) Acts' provide legislative frameworks for CBNRM. Natural Resources in Naivasha basin significant to Socioeconomic Development and relevant to CBNRM include land, water, forests and fisheries, all governed by the respective legislative frameworks. Most of these Acts (EMCA, Water, Forest, Land and Fisheries) have provisions for CBNRM.

CBNRM principles focus on the collective management of ecosystems to improve human well-being; and aim at devolving Natural Resource Management (NRM) to local community level. This empowers communities to sustainably manage their own resources without permanently damaging, depleting or degrading them. Successful CBNRM requires a combination of factors among them being enabling legal framework, institutional capacity, socio-political enabling environment and governance structures (Okello *et al.*, 2004).

CBNRM has in the past come under strong criticism for its failures to deliver real benefits to communities and for the high incidence of collapse (Fabricius, 2004; Magome *et al.*, 2004). Governance has been identified as one of the key drivers of CBNRM (Borrini-Feyerabend, 1997; Agrawal, 2001; Bohensky *et al.*, 2004; Koch, 2004; Bohensky and Lynam, 2005). In the Kenyan context, the country's policy framework has provisions for CBNRM as Beach Management Units (BMUs), Water Resource User Associations (WRUAs) and Community Forest Associations (CFAs).

The Water Act (2002) and Forest Act (2005) provide for decentralized NRM to communities as WRUAs and CFAs respectively through CBNRM co-management principles and participatory NRM. These legislative frameworks define a paradigm shift in management from the old top-down approach to a participatory and collaborative approach- co-management. The approach has institutionalized community based NRM institutions in the form of WRUAs and CFAs; as well as operational structures through Sub-catchment Management Plans (SCMP) and Forest Participatory Management Plans (FPMP). Thus, based on the developed SCMPs and PFMPs, the Government is expected to ensure these institutions have capacity (financial and technical) to be effective NR co-managers; and will be effective co-managers through decentralized NRM legal framework.

Public policy in Kenya appreciates that access to common and/or shared NR is crucial to local livelihood strategies. Majority of the rural poor communities in Kenya depend directly on NR, yet they often live in ecologically marginal areas and have limited and insecure rights to NR. A recurrent question in NRM has been does conservation contribute to improved livelihoods and vice versa and what linkages exist? A principal conclusion has been that decentralized NRM regimes will enhance both sustainability and equitable access to NR by the poor.

2 Materials and Methods

2.1 Study Area

Lake Naivasha is the only freshwater lake in the Rift Valley. Its basin falls within the Rift Valley between latitudes 4°N and 4°S, and longitudes 29°E and 40°E. The Lake is surrounded by the Mau Escarpment to the West and the Kinangop plateau to the East. It lies on the western leeward side of Aberdares Mountain Ranges, one of the main water towers in Kenya. The basin supports a rich ecosystem, with hundreds of bird species, papyrus fringes filled with hippos, riparian grasslands where waterbuck, giraffe, zebra, and various antelope graze, dense patches of riparian acacia forest with buffaloes, bushbuck and other creatures including a wide variety of reptiles, and swampy areas where waterfowl breed and feed (Becht *et al.*, 2005). Further, more than 350 species of birds have been recorded in Lake Naivasha during the regular counts for the African Waterfowl Census (Wetland International, 2008). On this basis, in 1995, the Lake was recognized as a Ramsar site. Nonetheless, its sustainable management remains a pressing priority on account of both intensive and subsistence farming (Onywere, 2005). The Lake basin hosts two national parks (Aberdares and Hells Gate) and a number of private wildlife sanctuaries all important to Kenya's tourism industry. Located in a fertile agro-ecological zone in the upper catchment which receive adequate rainfall, lake Naivasha landscape supports vitally important economic activities-mainly flower growing, geothermal and tourism. In the past two decades, the basin has undergone major changes. Export oriented flower farming introduced in the lower catchment has made the basin the leading producer of Cut-flowers in the country.



Figure 1: Lake Naivasha River Basin

Further, the industry is an attractive destination for job seekers, particularly unskilled from other regions of the country. With a high concentrated of flower farms around Naivasha town, the rapidly increasing

population over-stretches social-services, in particularly housing resulting in mushrooming of informal settlement in the suburbs. All these dynamics pose real threats to the integrity of the Lake ecosystem. The lake drains a basin of some 3,400 km², and has two main influent rivers: the Gilgil and the Malewa. Together, these two rivers account for around 90% of the surface water entering the lake (Betch, 2005).

The lake is located in a semi-arid area (690mm per annum) and its watershed, the Aberdare forest in Central province. This watershed is a UNESCO World *Heritage* site; an Important Bird Area and a protected conservation area (National Park and Forest Reserve). The Lake geographical location and tapestry of forests, rivers and lake provide opportunities for decentralized Community Based Natural Resource Management (CBNRM) within the framework of the new dispensed constitution in Kenya.

2.2 Data Collection and Analysis

This study utilized both secondary and primary data. The study focused on Water Act (2002) section 15(5); Forest Act 2005 section 46 (2); Kenya Gazette Number 402 Of 2007; and Constitution of Kenya 2010: Section 69 (1) & (2) as legal framework establishing CBNRM institutions in the form of WRUAs; CFAs; BMUs; and citizen participation in NRM respectively.

To identify organizational and institutional gaps and obstacles, the following methods were used:

- informal interviews with group leaders and members selected randomly
- Personal observations and deductions from interactions with members of the groups
- Discussions and interpretations.
- Workshop reports (Recommendations and evaluations).
- Community Based Organizations proposals and needs assessment reports review.

Primary data was obtained using a structured questioner from a sample of 12 WRUAs, 3 CFA and 3 BMUs in Lake Naivasha basin. In total 120 respondents were interviewed and their responses keyed into a computer and analyzed using computer software (SPSS). The aim of this analysis was to establish if after five years work of CBNRM, the communities had been empowered as NR co-managers. A critical question to ask is, have devolution policies been favorable for local people?

3 Results and Discussions

This paper applies and uses several conceptual frameworks to analyze effectiveness of CBNRM institutions in Naivasha basin in regard to the necessary structures for CBNRM co-management (Ikwaput 2005), decentralization of co-management (Pomeroy and Viswanathan 2003), management improvement and deterioration (Thomson and Gray 2008), and the role of the government in this process (Pomeroy 2004). Results from the nineteen (19) CBNR managed groups (12 WRUAs, 4 CFAs and 3 BMUs) assessed and interviewed show strong willingness among the groups to participate in NRM. This contradicts the fact that they have received minimal direct central government support (financial, technical and political).

Figure 2 shows response of the group on assessment on leadership, technical, financial and governance. The results show that in regard to group leadership, majority felt they had fair capacity; on technical and financial capacity they felt they had inadequate capacity and on governance they felt they had fair capacity. With the groups capacity was high in BMUs and least in WRAUs.

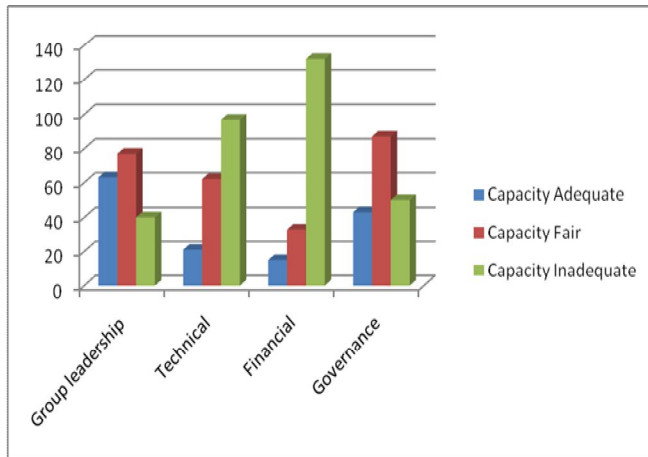


Figure 2: Leadership, technical, financial and governance assessment

Figure 3 shows response of the groups in regard to level of direct funding from the government. Majority (73%) of those interviewed felt that the level of funding from the government inadequate. However, they reported substantial funding from other sources.

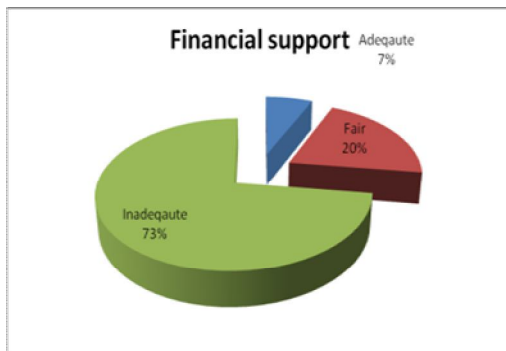


Figure 3: Groups' Government level of funding

The groups were also assessed in regard to causes of conflict within the groups. Figure 4 shows those interviewed felt that the main cause of conflict with the group as arising from poor group leadership and were conflict existed with the group, they felt it was minimal and arose from benefit sharing and power struggles.

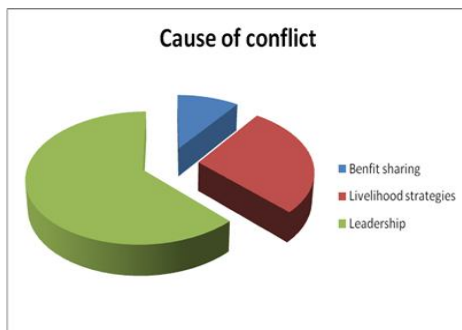


Figure 4: Causes of conflicts within the groups

In respect to NRM decision making Figure 5, majority (75%) felt they were not sure if they are involved in NRM decision making in regard to management and benefits sharing whereas majority (70%) felt they are willing to participate in NRM decision making given the opportunity.

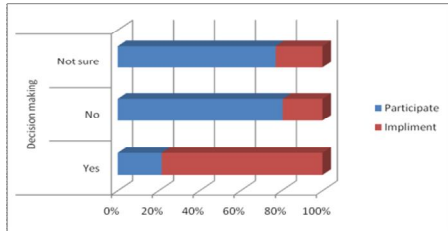


Figure 5: Involvement in NRM decision making

In regard to empowerment (Figure 6), it is clear majority felt that if they are given mandate based on clear vision on desired future state as provided for in policy framework, they are willing to participate in formulation and implementation of make right decision to manage NR

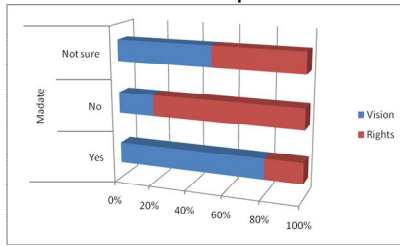
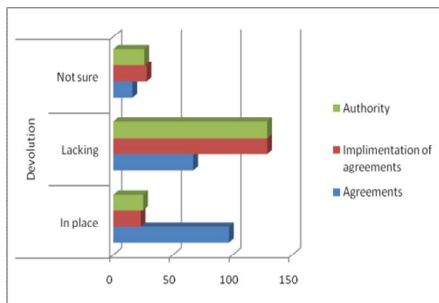


Figure 6: Mandate based on clear vision and policy

The groups were finally engaged in regard to assessing their views in regard to the level of NRM devolution and rated under lacking, in place or not sure. In Figure 7, majority of the community groups felt that there are no clear mechanisms for devolution as they lack authority and implementation agreements.



CBNRM initiatives are characterized by failure especially at early stages of development (Fabricius, 2004). In Lake Naivasha basin, despite WRUA development cycle having started in 2005, to date only five of these have structured management plans and only one has received funding from Water Services Trust Fund through WRMA. Financial status of most of the CBNRM institutions in the basin and is a major limitation for most of them (Figure 3). Power struggles, inadequate capacity and personal

differences (“teething problems”) (Figure 3) are the main factors. Were the groups were involved in income generating activities like BMUs, they did not see the need for government subsidies by need more power to manage NR. The main factors limiting effective CBNRM institutions highlighted by the various CBNRM in Naivasha basin are:

- (i) Conflict- Among the various CBNRM institutions in Naivasha watershed, conflict is one of the key proximate drivers of CBNRM. It took over three years for CFAs in Naivasha watershed to be cohesive. Koch (2004) outlines six types of conflict in CBNRM: competition for benefits at the time of success; competing livelihood strategies; tension between traditional authorities and elected leaders; conflict between entrepreneurs and collective action; the “fluidity” of communities; and the hidden power of spiritualists.
- (ii) Financial mismanagement - Communities are often unable to manage project revenues, resulting in unaccounted finances, corruption, mistrust and the reluctance of private sector partners to engage with them (Robbins, 2000).
- (iii) Mismanagement of natural resources - Often certain sectors in communities take advantage of their newly found rights and freedom to illegally use forest and wildlife resources for profit. This has an escalating effect, with other community members joining in the illegal activities for fear of “losing out” on their share of the resources (Okello & Kiringe, 2004).
- (iv) High turnover of leaders and other key players - Key players frequently enthusiastically enter initiatives, use the experience and training to further their personal careers, and then leave. In other instances, mistrust and lack of progress cause role-players to become disillusioned, and motivating them to apply for positions elsewhere. Government is often to blame for transferring or promoting officials, often just as they start understanding the issues, gaining the trust of communities and showing progress (Fabricius & McGarry, 2004).
- (v) Political and economic change at higher levels - Changes in national politics, policy change, civil conflict and macro-economic change can cause even the best-managed initiatives to falter (Biggs *et al.*, 2004). These external drivers are beyond the control of local communities and project managers, and projects can do little to prevent them from taking place.

Involving local communities and securing the rights of poor and marginalized groups in sustainable management of NR is a central theme in international development assistance. The poverty-governance-environment link has been further highlighted by the groups through interventions aimed at building capacity for resilience (disaster preparedness) as well as adapting to climate change.

A successful implementation of CBNRM (fig 3) often requires changes at three different levels of society:

- (i) National level - At this level, policies and the legislative framework normally needs adjustment and revision to establish an enabling environment that makes CBNRM attractive to local communities.
- (ii) Local level - It is crucial that CBNRM establishes significant economic incentives for managing and conserving the resource, which is closely related to clearly defined and officially supported tenure systems, as well as to revenue-sharing mechanisms. Furthermore, CBNRM should result in a coordination of resource use by numerous individuals, thus establishing an ‘optimal’ rate of production and consumption at the local level as well as for society at large.
- (iii) Intermediate level- at this level, it is important to promote the model of decentralised NRM that is most likely to work under the given political circumstances. In particular, this involves a choice between devolution of natural resource management authority to elected local governments, and deconcentration of line agencies, authorising district-level officers to delegate management authority to local communities.

In practical terms, it is the elaboration, implementation and experience-based revision of resource management plans at local levels that determine the actual performance of CBNRM on the ground. Resource conservation requires harvest not to exceed increment over the long term. This calls for reasonably accurate knowledge about the extent and growth of the resource, as well as reliable recording of harvest volumes. Even so, CBNRM could still fail at the local level if inefficient rule enforcement allows free-riders to over-harvest the resource, and/or if inequitable distribution of costs and benefits leads to a breakdown of management rules and subsequent over-harvesting or permanent marginalisation of certain groups.

Therefore, the establishment and maintenance of good governance or “appropriate decision-making arrangements” is the only feasible way to prevent the failure (or ensure the success) of CBNRM. Decision-making arrangements specify who decides what in relation to whom. Good governance at local level can be promoted through CBNRM legislation that establishes democratic conditions of collective choice, so that all members of a community (including women and other potentially vulnerable groups) get the opportunity to participate in defining: the purpose of resource management, and the resulting management plan, including how it is enforced, and how products and benefits from the common resource are distributed. Furthermore, communities must hold authority to control free-riding by punishing defaulters, and community leaders must be downwards accountable to the people they represent.

It would be wrong to assume that, once initiated; CBNRM is a guaranteed self-sustaining success, which needs no monitoring or adjustment. Regular monitoring of CBNRM processes should be conducted to adjust associated policies, legislative framework and implementation strategies, so that failures may be corrected and positive effects enhanced. Monitoring the progress of planned CBNRM activities should be simple and embedded within existing official monitoring systems to ensure sustainability. However, assessment of the degree to which CBNRM is achieving its triple objective should probably be carried out by independent research centres, NGOs and university departments that are not directly engaged in the implementation as such.

In simple terms, governance means the process of decision-making and the process by which decisions are implemented (or not implemented). In recent years, requirements to the political and administrative system of being democratic, responsive, effective have increasingly been conceptualized as important elements of good governance.

Decentralization is often seen as an important means to foster and nurture the important elements of good governance in developing countries. Policy-makers and researchers recommend decentralised NRM for many reasons. Some of them are that: (i) local people are likely to identify and prioritise their environmental problems more accurately than centralised organisations, (ii) resource allocation is more efficient and transaction costs lower when decisions are taken locally, so that state expenditure on management can be reduced, while resource conservation is improved, (iii) local groups are more likely to respect decisions that they have participated in taking, (iv) monitoring of resource use is improved, and (v) marginalised groups gain greater influence on local policy.

This paper recognizes that the state has a legitimate role in devolved NRM, but questions whether in practice a balance has been achieved between local and ‘wider’ interests and objectives. Too often the notion of conservation as a ‘public interest’ area, or the need to achieve national economic development goals have been manipulated to serve the interests of NR departments and to legitimize

their actions, usually to the detriment of local livelihood systems and the real choices available to people. 'Scientific management' is often used to justify continued central control over valuable resources, when it is really about controlling profitable opportunities, often for individuals who are not entitled to them. It has also ensured a dominant role for officials in designing and approving management plans, which are often unnecessarily complex and take an unjustifiably wide interpretation of the 'greater social good' to the detriment of the fundamental rights of local people. Evidence indicates how starkly the rhetoric of devolution objectives and practice has diverged, and how doggedly the state has continued to direct and dominate local NRM.

Has devolution worked for local people; and are there improved benefits for local communities? In Lake Naivasha basin, local people's views are that devolution policies have yielded limited benefits for them; and in most instances, the state provided benefits as an incentive to encourage people to support activities that met government revenue or conservation interests rather than local livelihood Policy conclusions.

4 Conclusion and Recommendations

4.1 Conclusions

Most 'devolved' NRM approaches reflect rhetoric rather than substance, and are characterized by continuation of significant central government control and management rather than a genuine shift in authority to local people. Major decisions are predominantly made by government from national to local level (Top-down).

The ways in which local people realise the benefits of devolution differ widely, and negative trade-offs, mostly felt by the poor, are common. States, communities and other stakeholders have different visions of devolution and its mode of implementation. Organizational models that devolve authority directly to disadvantaged resource users are more embracing of local interests and priorities than those that allocate control to higher levels of social organization.

More powerful actors in communities tend to manipulate devolution outcomes to suit themselves. Strong local organisational capacity and political capital enhance outcomes for local people by enabling them to mobilise resources and negotiate better benefits. NGOs, donors, federations and other external actors have a key role in moving devolution policy and practice towards local interests.

4.2 Recommendations

A shared framework, more accountable to local livelihood needs and people's rights to self-determination, is required. Careful re-assessment of the state's claim to be protecting the wider 'public interest' forms part of this process. Checks and balances need to be in place to ensure that benefits and decision-making do not become controlled by élites.

References

- Agrawal, A. (2001). Common property institutions and sustainable governance of resources. *World Development*, **29**, pp 1649–1672.
- Anderies, J. M., Jansson, M. A. and Ostrom, E. (2004): A framework to analyse the robustness of social-ecological systems from an institutional perspective. *Ecology and Society*, **9**, pp 18.
- Bellwood, D. R., Hughes, T. P., Folke, C. and Nystrom, M. (2004). Confronting the coral reef crisis. *Nature*, **429**, pp 827–833.
- Berkes, F. and Folke, C. (1998): *Linking Social and Ecological Systems: Management Practices and Social Mechanisms for Building Resilience*. Cambridge University Press, Cambridge.
- Biggs, R. *et al.* (2004). *Nature Supporting People. The Southern African Millennium Ecosystem Assessment Integrated Report*. CSIR, Pretoria.
- Lynam, T. (2005): *Evaluating responses in complex adaptive systems: insights on water management from the Southern African Millennium Ecosystem Assessment (SAfMA)*. *Ecology Society*, 10(1), 11. Available at: <http://www.ecologyandsociety.org/vol10/iss1/art11/>.
- Bohensky, E., Reyers, B., van Jaarsveld, A. S. and Fabricius, C. (2004). *Ecosystem Services in the Gariep Basin: A Basin-Scale Component of the Southern African Millennium Assessment*. Sun Press, Stellenbosch, South Africa.
- Borrini-Feyerabend, G. (1997). *Beyond Fences: Seeking Social Sustainability in Conservation*. IUCN, Kasperek Verlag, Gland, Switzerland.
- Campbell, B., Mandondo, A., Sithole, B., De Jong, W., Luckert, M. and Matose, F. (2001). Challenges to the proponents of common property resource systems: despairing voices from the social forests of Zimbabwe. *World Development*, **29**, pp 589–600.
- Carney, D. (1998): *Sustainable Rural Livelihoods- What Contribution Can We Make?* Department for International Development (DfID), London.
- Colding, J., Elmqvist, T. and Olsson, P. (2003). Living with disturbance: building resilience in social-ecological systems. In *Navigating Social-Ecological Systems: Building Resilience for Complexity and Change*. Berkes, F., Colding, J. & Folke, C. (eds). Cambridge University Press, Cambridge, pp. 163–186.
- Fabricius, C. (2004). The fundamentals of community-based natural resource management. In *Rights, Resources and Rural Development: Community-based Natural Resource Management in Southern Africa*.
- Fabricius, C., Koch, E. & Magome, H. (2001): *Community Wildlife Management in Southern Africa: Challenging the Assumptions of Eden*. Eden Series, IIED, London.
- Fabricius, C., Matsiliza, B. and Sisitka, L. (2003b). *Laws, Policies, International Agreements and Departmental Guidelines that Support Community based Natural Resource Management Type*

Programmes in South Africa. Department of Environmental Affairs and Tourism and GTZ Transform, Pretoria, pp. 1–31.

Fabricius, C. and McGarry, D. (2004): Frequently Asked Questions at Macubeni. GTZ Transform, Pretoria, pp. 1–12.

Folke, C., Berkes, F. and Colding, J. (1998). Ecological practices and social mechanisms for building resilience and sustainability. In *Linking Social and Ecological Systems*. Cambridge University Press, Cambridge, pp. 414–436.

Folke, C, Fabricius, C, Cundill, G. and Schulze, L. (2005). Communities, Ecosystems and Livelihoods. Millennium Ecosystem Assessment: Sub-global Volume. Millennium Ecosystem Assessment, Penang.

Gunderson, L. H. and Holling, C. S. (2002). *Panarchy: Understanding Transformations in Human and Natural Systems*. Island Press, Washington, DC.

Koch, E. (2004). Putting out fires: does the “C” in CBNRM stand for community, or centrifuge? *Rights, Resources and Rural Development: Community-Based Natural Resource Management in Southern Africa*. Fabricius, C. and Koch, E. (eds). Earthscan, London, pp. 78–92.

Magome, H. and Fabricius, C. (2004). Reconciling biodiversity conservation with rural development: the Holy Grail of CBNRM? *Rights, Resources and Rural Development. Community-based Natural Resource Management in Southern Africa*. Fabricius, C., Koch, E., Magome, H. and Turner, S. (eds). Earthscan, London, pp. 93–114.

Okello, M. M. and Kiringe, J. W. (2004). Threats to biodiversity and their implications in protected and adjacent dispersal areas of Kenya. *Journal for Sustainable Tourism*, **12**, pp 55–69.