

COMMUNITY BASED NATURAL RESOURCE MANAGEMENT: EXPLORING THE BENEFITS AND CHALLENGES

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ABSTRACT

The paper discusses Community Based Natural Resource Management (CBNRM) as an approach to natural resource management and conservation. The paper first shows in the preamble that most problems in nature conservation originate from human exploitation of natural resources in the quest to overcome poverty and earn a living. In order to realize the limitations associated with bottom-up approaches to natural resource management, the authors explored deeper into CBNRM as an alternative to the traditional approaches using the desktop research. In particular, the paper explains crystal clearly the idea of CBNRM as an approach to natural resource management while highlighting the benefits and limitations of the approach. Based on the discussion, the paper concludes that despite its limitations, CBNRM remains an effective approach for natural resource management as it is experimental, inclusive and participatory by nature.

KEYWORDS

Community, Natural Resources, Management, Community Based Organizations, Conservation

1. INTRODUCTION

The various sectors of human society have had negative, disturbing and disastrous effects on nature. Most of the problems in nature conservation originate from human exploitation of natural resources, industrial operations and our inability as human beings to manage nature in general¹. These problems may include among others, deforestation of tropical rain forests, timber harvesting and other activities on the national forest lands and the loss of habitat for animal species². In Africa, Tropical forests cover about 2, 190 million hectares. These habitats are being degraded and destroyed faster than any other vegetation cover. The roots of these destructions mainly lie in human social and economic patterns incompatible with limitations of natural environment.

Destruction of these natural habitats has been compromising efforts in achieving sustainable development. Sustainable development simply means development that meets the needs of the present without compromising the ability of the future generations to meet theirs³. In this notion, emphasis is on proper utilization of natural resources in ways that ensure sustainability of the environment. In other words, development achieved today must not deny future generations

¹Swedish Environmental Protection Agency (2001) Strategy for Sustainable Development, Proposals for Swedish Programme, Enviro 93, Customers' Services Department, Solna, Sweden.

²Schmoldt, D. And Rauscher, M. (1996) *Building Knowledge - Based Systems for Natural Resources Management*, Chapman and Hall, New York, USA.

³ World Commission on Environment and Development (1987) *Our Common Future: The Brundtland Report*. Oxford University Press. Available at: <http://www.issd.org/sd/> [Cited 6 Oct 2012].

opportunities to achieve their own development. According to Swedish Environmental Protection Agency(1994) each time we extract a finite natural resource, we leave less of it for future generations. This implies therefore that if not properly utilized, the resources will be depleted to a level where future generations will not have anything left.

Degradation of natural resources has come mainly due to poverty. Poverty continues being one of the major challenges facing the world. It is a social evil that has ravaged human society. One in five of the world's inhabitants, some 1.2 billion people live in extreme poverty⁴. A disturbing large number of the world's poor suffer chronic rather than transitory state⁵. Thus, there is a vicious circle of poverty that people are wallowing in, especially in Sub-Saharan Africa where just above 40 percent of the people live under \$1 per day. Most of the world's poor are rural based and depend on agriculture or are otherwise dependant on natural resources in generating their livelihoods⁶. It follows therefore that there is a positive relationship between rural poverty and natural resources depletion.

The above implies that resource depletion will not end as long as poverty continues to exist. Most of the natural resource conservation measures have been done at global and national levels without proper consideration of the local people who are in direct touch with the resources. According to IFAD (2006) proper management of natural resources requires a clear understanding of the activities of the poor people and the natural, social, economic, and political environment in which they live. It also requires supportive policies, institutions, services and investments. More emphasis on natural resource management and conservation issues came after the United Nations Conference on Environment and Development (UNCED) which was held in Rio de Janeiro in 1992, during which most nations subscribed to new principles for integrated management of land, water and forests⁷. It is also cardinal to point out that most countries, especially in the developing world, lack the capacity to address environmental issues effectively. However, in the recent years, development agencies such as the UN agencies and the World Bank have played key roles in helping countries build the technical skills, legal instruments and staff to manage pollution and natural resources more effectively⁸.

Within Sub-Saharan Africa, CBNRM initiatives have produced mixed results; some have scored success while the performance of others is way below expectation. This has sparked debate among scholars on the advantages and disadvantages of such an approach to conservation⁹.Against this background, this paper discusses the benefits and limitations of CBNRM as an approach to natural resource conservation.

The paper is organised as follows. The next section discusses the conceptual debates surrounding CBNRM as a strategy for natural resource management. This is followed by a synopsis of the methods and data sources that were used for this paper. Section four explores the advantages of the CBNRM approach followed by the limitations that comes with this form of natural resource management, it then looks at how CBNRM has been applied using two country cases and

⁴ International Fund for Agriculture and Development (2006) *Community Based Natural Resources Management: How Knowledge is Managed, Disseminated and Used*, ViadelSerafico, Rome, Italy.

⁵ Christopher, B (2002) *Poverty Traps and Resource Degradation*. USAID, Cornell University, USA.

⁶ Lee, D. and Neves, B. (2009) *Rural Poverty and Natural Resources*, Improving Access and Sustainable Management .Background Paper for IFAD 2009 rural Poverty Report, Rome, Italy.

⁷ Thakadu, T. (2005) "Success Factors in Community Based Natural Resources Management in Northern Botswana: Lesson from Practice. Natural Resource Forum". *United Nations Sustainable Development Journal* (29)3.

⁸ World Resource Institute (2002) *Working at the Intersection of Environment and Human needs: Weaknesses and Challenges*, Washington DC, USA.

⁹Birkes, F. (2004). "Rethinking Community- Based Conservation". *Conservation Biology*.18: 621-630

concludes that the CBNRM approach remains an effective approach to natural resource management in Sub-Saharan Africa compared to traditional top-down approaches. Finally, some recommendations are coined in order to enhance CBNRM approaches.

2. UNDERSTANDING COMMUNITY BASED NATURAL RESOURCE MANAGEMENT

Community based natural resource management (CBNRM) is a broad concept which has been defined differently by different people. One common definition is that CBNRM is viewed as a process by which local groups or communities organize themselves with varying degrees of outside support so as to apply their skills and knowledge to the case of natural resources and environment while satisfying livelihood needs¹⁰. In this approach, the community is seen as the appropriate body to carry out restorations as well as care for the environment and it is envisaged as being capable of acting collectively toward common environmental interests¹¹.

Previously, management of land and natural resources was a responsibility of the state and not the residents of communal lands where the majority of indigenous people lived. This situation meant that local people did not have any role in decisions regarding the use and allocation of natural resources and land, and were also restricted to using natural resources for subsistence purposes only and were also prevented by law from any form of commercial use of natural resources (World Resources Institute, 2002). The underlying premise in involving rural communities in natural resource management is that direct benefit from the management of the natural resources will motivate communities to protect and use the resources in a sustainable manner, and ultimately leading to the conservation of those resources¹². It is an approach to conservation and development that recognizes the rights of the local people to manage and benefit from natural resources and thereby resulting in the conservation of the resources.

As an attempt to find new solutions to the failure of top-down approaches to development and conservation, CBNRM is based on the recognition that local people must have the power to decide over their natural resources in order to encourage sustainable development¹³. According to Rozwadowska (2011)¹⁴ CBNRM actually originated as a response to the limitations of centralized approaches to conservation management that characterized the first half of the 20th century. CBNRM approaches have been adopted in many developing countries as governments attempt to devolve environmental and natural resource management responsibilities to local stakeholders and communities and seek ways to increase community involvement. In developed nations like Australia, with significant indigenous populations, these trends also occur in the context of

¹⁰Pretty and Guijt 1992

¹¹Holmberg, Thompson and Timberlake 1993

¹² WWF (2011) *Building a Future in Which Man Lives in Harmony with Nature*, Gland, Switzerland.

¹³ Shackelton, S. and Campbell, B (2000) Empowering Communities To Manage Natural Resources: Case Studies From Southern Africa. Funded by USAID SADC NRM Project No 690-0251.12 through WWF-SARPO, EU's "Action in Favour of Tropical Forests" through CIFOR and the Common Property STEP Project, CSIR: 10.

¹⁴ Rozwadowska, A (2011) Community Based Natural Resources Management Affiliated with Protected Area System. Costs and Benefits of Conservancies to First Nations Communities and Protected Areas Governance. Paper Working No 7, Nainamo, Canada. Available at: <http://www.paper-co.ca/index.php?=25> paper.[Cited 2 Oct 2012].

recognizing indigenous land and resource rights and the desire to incorporate indigenous knowledge in decision making¹⁵.

Finally, CBNRM rests on the recognition that local communities must have direct control over the utilization and benefits of natural resources so as to value them in a sustainable manner. It is both a conservation and rural development strategy, involving community mobilization and organization, institutional development, comprehensive training enterprise development and monitoring of the natural resource base (World Conservation Union 2006, as cited in WWF 2011). It is actually one reason why the last two decades have seen a paradigm shift in conservation and natural resource management away from costly state centred control towards approaches in which local people play a more active role¹⁶.

3. METHODOLOGY

This paper is based on the review of secondary data. Secondary information was gathered from both published and unpublished literature which included books, journals, seminar papers, conference reports, reports from government departments, policy documents, among others. The study follows a qualitative design; it lays more emphasis on explaining and describing data. Additionally, data were analysed thematically and the main themes that emerged were around the merits and demerits of the CBNRM as an approach for natural resource management. Further, case studies of Namibia and Kenya were used in order to gain a deeper and crystal clear understanding of the benefits and limitations of Community Based Natural Resource management.

4. AN EXPLORATION OF BENEFITS AND LIMITATIONS OF COMMUNITY BASED NATURAL RESOURCES MANAGEMENT

4.1. The Benefits of Community Based Natural Resources Management

There are several benefits associated with Community Based Natural Resources Management. Firstly, CBNRM combines conservation objectives with the generation of economic benefits for rural communities. This actually links it with the three key assumptions which are that locals are better placed to conserve natural resources; people will conserve a resource only if benefits exceed the costs of conservation and that people will conserve a resource that is linked to their quality of life (Thakadu, 2005).

Further, CBNRM has been used as an effective tool for employment creation especially in rural areas and particularly among young people and women. Steelman and Asher (1997) and Bradshaw (2003), as cited in Aslin, Collier and Garnett (2009) substantiate this emphasis by indicating that some kind of CBNRM may provide direct employment opportunities for community members that may help sustain their lives. The creation of employment is therefore a direct attack on poverty. One good example is drawn from the case of Botswana, where the establishment of Community Managed Controlled Hunting Areas has seen the generation of employment in form of Community Campsite Attendants, Cleaners, Natural Resource Monitoring

¹⁵Aslin, J., Collier, N. and Garnett (2009) "Community Based Natural Resources Management and Environmental Impact Assessment". Report to the Environmental Protection Authority, Northern Territory Government, Charles Darwin University, Australia: 5-13.

¹⁶ Overseas Development Institute (2002) Natural Resources Perspectives. London, UK.

Team and book keepers among others¹⁷. The creation of employment enables people to have an income and consequently access to basic needs. This is one strategy that can play a vital role in fighting poverty.

Besides, there are financial benefits associated with CBNRM. For CBNRM to be successfully implemented, strong local level organizations need to be in place. These Community Based Organizations (CBOs) are usually formed around the management of a particular resource by the community¹⁸. Thus financial benefits in CBNRM can be created by CBOs through leasing of some portion of land to the Private sector (sub-leasing of an area to commercial hunting operator or photographic operator and/or sell of natural resources such as wildlife quota or veld products directly to third parties). In some cases, they can also sell products made from the natural resources such as crafts which can also generate finances. Where high valued resources such as timber are involved, CBNRM can generate significant revenues. The money generated can be used for many development projects in the community that will benefit everybody. This can ultimately lead to community development and the improvement of the living standards of community members.

In addition, CBNRM is one way of bringing about empowerment of the people especially at grassroots level. Steelman and Asher (1997) and Bradshaw (2003) cited in Aslinet *al.*, (2009) stress that CBNRM may empower local communities to take greater responsibilities for natural resource and environmental management. Empowerment is a social process that helps people to have control over their own lives. It is a process of enabling communities to act on issues they consider important. In the context of CBNRM, empowerment involves the transfer of management responsibilities to the people at the grassroots level. This is actually the backbone of the initiative because CBNRM is based on the principle that land and natural resources should be managed by those who live with and depend on them (UNDP, 2001, as cited in World Resources Institute, 2002). CBNRM is one of the most important manifestations of true decentralization as it relates to control of natural resources. CBNRM if successful can be a model of local empowerment imbuing communities with greater authority over the use of natural resources. This is actually an effective tool of helping people construct a solid foundation on which they can build a sustainable future for both themselves and for natural resources on which they depend for their livelihoods.

CBNRM is a decentralized approach. Decentralization creates opportunities for local people to have a say in decisions that affect their lives. Decentralizing the management of natural resources can contribute significantly to poverty reduction. Poor people can express their needs more clearly and local authorities can target services more effectively¹⁹. It is a process that increases resource use participation in NRM decisions and benefits by restructuring the power relations between central state and communities through the transfer of management authority to local-level people (ODI, 2002). Schuerholz and Baldus (2007) point out that community empowerment which manifests itself through providing communities with legal rights to the sustainable use of

¹⁷ Van der Jag, T., Gujadhur, T. and Van Bussel, F (2000) *Community Benefits through Community Based Natural Resources Management (CBNRM) in Botswana*. Gaborone, Botswana: 10-15.

¹⁸ Roka K. (2019) *Community-Based Natural Resources Management*. In: Leal Filho W., Azul A., Brandli L., Özuyar P., Wall T. (eds) *Life on Land. Encyclopedia of the UN Sustainable Development Goals*. Springer, Cham. https://doi.org/10.1007/978-3-319-71065-5_18-1

¹⁹ Institute of Development Studies (2007) *Natural Resources Highlights for Conservation: Communicating International Development Research*. University of Sussex, Brighton, UK.

wildlife on communal land would gradually lead to community ownership in conservation management. Ownership is very important as far as proper use of any property is concerned. Thus, this feeling of ownership will in turn make the communities manage and conserve the natural resources in their community.

Above all, CBNRM if successfully implemented can bring about a provision of services in the community. According to Van der Jag *et al.*, (2000) the remoteness of some places has constrained the people from accessing many vital services. Thus money obtained through the sale of natural resources can be used to make these things available. Some of the services include hardware stores, mini market stores, gas stations to supply things like petrol and paraffin, among others. This is actually in line with Thakadu (2005) who sees the potential of combining conservation objectives with the generation of economic benefits for rural communities through CBNRM. Such are the benefits and can help improve the quality of life for the majority of people in the community.

Lastly but not the least, the overriding benefit and perhaps the objective on which CBNRM initiatives are built is that of conservation of natural resources. This is actually imbedded in what Thakadu (2005) calls the three key assumptions that state that locals are better placed to conserve natural resources, people will conserve a natural resource only if benefits exceed the cost of conservation and that people will conserve a resource that is linked to their quality of life. Thus excluding the locals from the utilization of natural resources can cause them to engage in illegal activities and to exploit resources within protected areas and put pressure on non-protected land and resources (Jaeger, 2001, as cited in Rozwadowska, 2011).

Thus, as a people centred approach, CBNRM allows for human occupation and sustainable use of natural resources. By so doing, a balance is struck in that the local people will be able to derive benefits from the environment, hence giving them an incentive to use it sustainably. When communities recognize the financial and non-financial value of wildlife and other natural resources, they will become more interested in taking part and ultimately leading to sustainable use and conservation of such resources.

Largely, CBNRM is a people centred approach because it does not only involve but effectively engages the communities in the sustainable management of the natural resources. Basically, engagement/involvement and active participation of local communities and securing the rights of the poor and marginalised groups in sustainable management of natural resources is a central theme in most development assistance, at least the bottom-up development assistance projects. CBNRM aims at building capacities for community resilience given that majority of the rural households largely depend on natural resources for their survival, and thus, building capacities is enhanced by the promotion of the poverty-governance-environment as well as for adapting to climate change²⁰.

4.2 Limitations of Community Based Natural Resources Management

Much as it is an effective tool for sustainable management of natural resources, CBNRM has its own weaknesses. These need proper consideration if a CBNRM programme is to be implemented effectively.

²⁰ Ministry of Foreign Affairs of Denmark (2007). *Community-Based Natural Resource Management*. Danida Technical Advisory Service

CBNRM brings the aspect of community organization that support community ownership of resources. Community organizations, whether membership organizations or their special category of cooperatives, created through a pooling of resources, have greater flexibility than do government organizations. They represent and can act on local interests quite directly. But voluntarism, like flexibility, has a down side as well as an upside. Enthusiasm can wane; conflicts can arise that deadlock local action²¹.

Also another limitation of the CBNRM lies in the lack of not only necessary but effective skills to handle effectively management responsibilities. CBOs are non-profit organizations whose activities are based primarily on voluntary efforts; hence it is obvious that most skilled manpower would not get attracted to such, given the profit motive that drives most individuals²². Human beings mostly prefer where benefits are more. Thus, most of the members may lack the relevant education to guide and organize effectively the attainment of CBNRM²³. Van der Jag *et al.*, (2000) also supports this point by showing that most CBNRM initiatives face problems of insufficient management capacity. This is true because there is more to management than just telling people what to do and what not to do. It is a process that needs proper understanding, guidance and organizing all resources towards the achievement of the desired goal. Furthermore, involving communities in decision-making processes may have its own costs. Aslin *et al.*,²⁴ stress that an overarching ideal of CBNRM is to achieve more sustainable resource uses by involving users in decision-making processes. This therefore implies the process may take longer and be more resource intensive. Maslach and Leiter²⁵ and Byron *et al.*, (2001), as cited in Aslin *et al.*, (2009) also do indicate that involving communities in decision making may have costs such as escalating and widening of conflicts instead of reducing them if significant controversies arise. Given this, it becomes clear that the smooth and effective implementation of the programme may be affected where there is no communal consensus.

In addition, lack of financial resources may also affect the effective implementation of CBNRM programmes. Van der Jag *et al.*, (2000) point out that most CBNRM programmes require substantial external assistance. Financial resources are crucial for any programme to be successful. Lack of funding may result in poor implementation of the programme.

Finally, most CBNRM programmes face challenges to do with lack of cooperation among community members (Suh and Emtage, 2002). This is true because human beings mostly have a tendency of trying to defy community resolutions in a bid to achieve their own selfish interests. It is common to find what is termed as deviant behaviour in almost all societies²⁶. This is to say, what the society describes as good, deviant behaviours will always try to do the opposite and this is exactly what happens in as far as CBNRM efforts are concerned. Some community members

²¹Sam Landon (1998). *Community-Based Natural Resource Management Readings and Resources for Researchers Volume 2*. Claire Thompson, Programs Branch, IDRC, P.O. Box 8500, Ottawa, Ontario, Canada K1G 3H9

²²Chechetto-Sales, M. and Geyer, Y (2006) *Community Based Organisation Management*, IDASA, Pretoria, South Africa.

²³ Suh, J. And Emtage, N (2002) *Marine Protected Areas in the Philippines: Towards Harmonizing Goods and Strategies*. Proceedings of IUCN/WCPA-EA-4, Taipei Conference, 18-23 March:225-260. Available at: <http://www.cnps.Tw/park-03/WPC-EA4-2002/2%session%20B/B03.pdf>. [Cited 5 Oct 2012].

²⁴ Aslin HJ, Collier N, Garnett ST (2009) *Community-based natural resource management and environmental impact assessment*. Report to the Environmental Protection Authority, Northern Territory Government. Available at http://www.epa.nt.gov.au/sites/default/files/our%20work/environmental%20assessment%20review/related/07%20--%20epa_cbnrm_report.pdf.

²⁵Maslach, C., & Leiter, M. P. (1997). The truth about burnout.

²⁶ Smith, S (2012) *What is Deviant Behavior?* Available from: Follow@wireGreek [cited 3 Oct 2012].

may not want to adhere to what has been agreed upon and may continue with their unsustainable practices on the environment as a way of extracting their own selfish desires above the good of the whole community.

4.3. Selected Case Studies on the Benefits and Limitations of Community Based Natural Resources Management

4.3.1. The case of Namibia

Namibia has been cited among the successful CBNRM initiatives. In their pre-Independence era (1990), wildlife population was reducing due to excessive poaching during prolonged military occupation. When the country gained its independence in 1990, they revisited the legal framework on wildlife conservation. Previously, the Nature Conservation Ordinance was enacted, which devolved rights to landowners to use and benefit from wildlife on their land. The resulting improvements in wildlife populations led to discussions on how to apply similar incentives to communal land. This was to be addressed in 1996 through the conservancy legislation which saw the government devolving rights to benefit from wildlife to communal area residents living in conservancies. The assumption was that since devolving rights to landowners was successful in conserving natural resources, the same would apply to communal lands. That being the case, communities were given full rights over wildlife and tourism and this move allowed communities to benefit from wildlife on communal land by working with private companies to create a tourism market. To date, over 50 conservancies have been established, and the communities see wildlife as an economic asset that needs to be managed. This is in stark contrast to the pre-independence period when natural resources including wildlife were a state- controlled asset from which local communities never drew any benefits²⁷.

Namibia has earned its title as a pioneer in sustainable management of wildlife through CBNRM. The successes scored in CBNRM can be attributed to large scale community empowerment through the support of USAID on the Living in Finite Environment (LIFE) project coupled with cutting-edge legislation that links environmental management with economic opportunity. While the CBNRM initiatives in Namibia do provide direct economic benefits to members of the conservancies, Silva and Mosimane (2013) observe that the indirect benefits of promoting development for all residents have not materialized²⁸.

4.3.2. The case of Kenya

Another study was conducted to assess the role of CBNRM in achieving sustainable water management at lake Naivasha. Located in Naivasha, about, 80 km Northwest of Nairobi within the Nakuru District of Rift Valley Province, lake Naivasha is a major source of fresh water for the Kenya's horticultural industry which has over the years been booming. Due to the increased demand for fresh water by the surrounding communities for social and economic needs, the lake has been experiencing excessive water abstraction. As a solution to this, and the need to ensure proper management, the government of Kenya devolved the management of the lake to Community Based Natural Management to replace the traditional top-down approach that had over the years been used to manage the lake. The devolution meant transferring decision making

²⁷ Brown, J. and Bird, N (2010) Sustainable Natural Resources Management in Namibia: Successful Community-Based Wildlife Conservation. *Development Progress Stories*, ODI

²⁸ Silva, A. J. and Mosimane W.A (2013) Conservation-Based Rural Development in Namibia: A Mixed-Methods Assessment of Economic Benefits. *The journal of Environment and Development*. Vol 22, Issue 1.

powers to the grassroots communities over the use and management of their own natural resource²⁹.

Results show that communities residing around the lake have benefited from the ecosystem services provided by the lake. These included provision of fish foods, water for domestic consumption, employment opportunities as well as indirect benefits such as tourism and recreation. On the negative side however, it was revealed that the water levels had been shrinking up implying severe degradation of the hydrological status of the lake. It had shrunk to half its size and its precious wetlands were also degraded. The lake also became ever-enriched muddy pool which is predicted to become unusable due to the development of toxic blue-green algae blooms. This degradation has been attributed to inadequate funding which hinder the effective implementation of CBNRM activities.

4.3.2.1 Lessons from the Case Studies

The two case studies have shown the effectiveness of the CBNRM in the management of natural resources. In both, there is a lot of emphasis around the transfer of decision making powers to the communities around the natural resources. This has shown, the importance of CBNRM in poverty reduction in as far as the collaboration and coordination of the regulative frameworks that empowers local communities in the management of resources. There is however, a difference in as far as the sources of finances for the successful management of the community natural resources.

5. CONCLUSIONAL REMARKS

From the discussions above, it can be argued that there is a shift from a top-down approach to a bottom up approach in as far as the management of natural resources is concerned. This shift has seen emphasis being diverted towards the bottom up approach and ultimately the birth of Community Based Natural Resources Management. This approach is now increasingly perceived to be the most effective way of managing natural resources. It is more effective compared to other approaches especially the top-down approach which involved a heavy hand of the state dictating what communities must adhere to without proper consideration and understanding of the local contexts in which those resources are based.

As regards CBNRM, the paper has highlighted the backbone on which this approach is based, and this is on community participation in the management of natural resources found in their locality. This participation enables communities to make decisions for themselves as regards how resources should be managed so as to ensure more benefits for the community and enhancing sustainability of those resources. Community participation enhances cooperation and by so doing, the desired goal of resource conservation will be ultimately achieved and thereby putting society on the right track towards the achievement of sustainable development. By active participation of the community, it ensures the spreading of the benefits to the whole society and at the same time ensuring sustainability of those resources.

²⁹Isyaku, U., Murtala, C and , Mukhtar, I. (2011) *Assessing Community-based Natural Resources Management at Lake Naivasha, Kenya. Environment and Natural Resources Research, Vol.1, No. 1: P106 Available at https://www.researchgate.net/publication/228444601_Assessing_Community-based_Natural_Resources_Management_at_Lake_Naivasha_Kenya [accessed:19/02/2019].*

It is of paramount importance to mention that in this discussion, a lot of questions arose and some have remained unanswered. One salient among them is the issue of the extent to which this approach will remain effective based on the fact that most CBNRM are run by CBOs whose membership is voluntary. In most cases, human beings are driven by profit motive and where there is no personal benefit or profit, the levels of effectiveness on the part of the individual members is somewhat compromised. Besides being based on voluntary basis, CBOs members especially in the remotest areas have no management capabilities and this in itself leaves questions of how effective policy formulation and implementation would be. Policy formulation and implementation is not something that can be done by anybody. One has to be vested with sufficient knowledge and information necessary to organize people and other resources towards the achievement of what is desired by all. Thus the effectiveness of CBNRM is to a large extent determined by the effectiveness of the CBOs. Given this, the effectiveness and sustainability of this form of natural resource management provides room for further inquiry.

CBNRM in this paper is considered as a management strategy aiming to reduce poverty, conserve natural resources and promote good governance and decentralisation, in a single process. Bearing in mind that CBNRM is never a stand-alone solution to secure poverty reduction, resource conservation and good governance, other factors need to be considered.

The paper, recommends that, the promotion of CBNRM should not only be related to overall development priorities and strategies expressed in Poverty Reduction Strategy Papers but also be related to the needs and wants of the communities in question taking into consideration the financial constraints. Also, there is need for not only ensuring/encouraging donor harmonisation but also effective and efficient collaborations between and among involved stakeholders in CBNRM.

There is also need to reduce if not eliminate over reliance on government in as far as the management of natural resources is concerned. The involved development stakeholders must encourage the community based resource mobilization. The authors believe that this is more sustainable as it supports transfer of knowledge from one generation to another within the communities. This also implies a proper monitoring and evaluation of the de jure and the de facto aspects of the natural resources management. This will help in not only enhancing but also realizing the technical and financial assistance to improve degraded resources, while strengthening local livelihoods.

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