CROSS BORDER NATURAL RESOURCE MANAGEMENT IN KENYA: HOW ROLE AND RESPONSIBILITIES OF ACTORS INFLUENCE SUSTAINABLE PEACE IN EASTERN AFRICA REGION

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Abstract

Purpose: The study examined the role and responsibilities of actors in cross border natural resource management in Kenya towards sustainable peace in Eastern Africa.

Methodology: The study adopted descriptive approach in analyzing data as variables under investigation were explained. The study used the scarcity theory or resource scarcity perspective also known as the neo-Malthusian view with other related bases to link philosophical foundations to review and empirical data in explaining the phenomenon being studied and thereby completing and validating the investigations. The study built on earlier relevant studies and other works and further provided information that was specific to Kenya’s needs. The target population for the study was large and unknown and thus a sample size of 385 individuals drawn from categories of the population was arrived at using a relevant formulae and thereafter engaged mainly via self-administered questionnaires.

Findings: The study ascertained that although the role and responsibilities of different actors were indispensable; lack of coherent region-wide strategy to direct national specific plans, lack of synergy and improper coordination and disharmony in strategies and actions posed a major challenge to resource management, peace and development of the region. Therefore, resource actors should be empowered appropriately to effectively play their roles and also appreciate the symbiotic link between natural resource management and the attainment of sustainable peace.

Unique contribution to theory, practice and policy: The study findings and recommendations consolidate additional, revised and customized knowledge that reinforces relevant theory, practice and policy through evidence-based targeted planning and programming towards the realization of sustainable natural resource administration and peace in Kenya and the eastern Africa region.

Key words: Resource management, peace, roles, region
INTRODUCTION

Kenya is a sovereign state situated within the conflict-prone African Great Lakes region which is part of Eastern Africa. The country has an estimated area of 582,644 km$^2$ and a fast growing population of about 44.35 million (World Bank, 2013). The country is a prominent member of East African Community which maintains stability even with the ongoing epochs of political transformation amid protracted conflicts in neighboring countries. Kenya is well endowed with plenty of natural resources with the economy depending heavily on them to sustain livelihoods and national income. Kenya’s ecosystems and natural resources comprise of land, aquatic, forests, wildlife and biodiversity which are mainly transboundary (UNEP, 2011).

The country’s huge potential held in natural resource reserves and the aspired economic growth and development is however threatened as the resources have progressively been stressed due to population pressure, degradation of ecosystem, resource depletion as a result of unsustainable use and poor management (DANIDA, 2014). The resultant resource scarcity, competition for residual resources, the transboundary nature of these resources and the fact that the resources are accessible from all sides of the frontier pose an increasing source of potential conflict as different actors strive to access, control, use and share utility from these declining resources. The situation exacerbates tensions, inequalities and poverty levels which compromise livelihoods leading to probable or actual unrest, a condition in agreement with the principles of the resource scarcity perspective.

STATEMENT OF THE RESEARCH PROBLEM

Different players have varied roles and responsibilities to undertake in cross border natural resource management. The roles are not often fixed for they change over time as they become complementary or even at times undertaken simultaneously. When playing these roles however, external actors often don’t allow local communities to take lead in the management of natural resources when they can with little cooperation at different levels, yet this approach is key in unlocking more opportunities for ownership of conservation endeavors, subsistence options, peaceful coexistence and sustainable development (Huggins et al, 2006).

RESEARCH QUESTIONS

In light of the gaps identified, this study examined the role and responsibilities of various stakeholders to ascertain extent to which their roles impact cross border natural resource management in Kenya. The study further explored the contribution of gender roles in the management of ecosystem resources. Stakeholders’ efforts should be focused on the realization of

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sound natural resource management as a precondition for sustainable peace within communities. To obtain corresponding responses, the researcher asked the following questions:

i. Who are the key stakeholders in cross border natural resource management in Kenya?

ii. What are the role and responsibilities of various actors in cross border natural resource management in Kenya?

iii. To what degree does the role and responsibilities impact cross border natural resource management in Kenya?

iv. What role does gender play in cross border natural resource management in Kenya?

LITERATURE REVIEW

Role of communities and county governments in resource management towards sustainable peace

Communities regard integrity of resource base since it supports their survival. In the traditional African setup, elders play important role in communal management of cross border natural resources and also in the overall socio-political organization of the society (Mowo et al., 2011). However, customary rules are not adequately applied and enforced due to loss of influence by elders owing to modernization of resource governance systems and institutional changes as the approach in planning and use of shared natural resources moves from communal to more individualistic approach amid state sovereignty. Modern institutions have left traditional institutions without power, mandate or legitimacy, yet they are the ones found on the ground in most resource areas.

This situation has led to ‘open access’ problem as resources are exploited in the absence of regulation resulting in environmental degradation and resource decline at community level (IUCN, 2013), with subsequent scarcity, competition and conflict in the midst of an ever increasing population; a view in line with the neo-Malthusian doctrine. Nonetheless, communities recognize the inevitable change and embrace new frameworks such as resource users associations and other modern institutions capable of enforcing conservation rules, as being well fit to tackle modern challenges and new manifestations towards sustainable management of cross border natural resources and progressive peaceful communities.

To strengthen interface between traditional and modern systems of management in border areas, it is important to establish new regimes that include by-laws, since existing relevant rules and systems mainly blend traditional and modern rules which heavily borrow from norms of different communities (Alinon & Kalinganire, 2008). A structured and participatory process of integration ensures community ownership and effective implementation of the new by-laws which when validated, agreed and adopted shapes regulation at the county level. Communities should therefore,


lobby County governments to buy-in and setup regulations that acknowledge and enforce related community by-laws.

Other opportunities for reinforcing natural resource management at the community level include Constitution of Kenya, 2010; Sessional Paper No. 3 of 2009 on National Land Policy (Republic of Kenya, 2009)\(^8\) and other vital related deeds. The constitution through devolution shifted substantial responsibility on management of natural resources to the counties and thus these frameworks strengthen community-based planning and expand space for meaningful participation in resource governance by communities.

**National government’s input in resource management towards sustainable peace in Eastern Africa**

Kenya is currently implementing global Sustainable Development Goals and Vision 2030 which in its social pillar emphasizes the importance of sustainable environmental management so as to contribute towards overall economic growth and industrialization. However, the natural resource base in the country has decreased over the years owing to environmental problems attributed to the compound interplay between policy, institutional and socio-economic issues aggravated by population growth, adverse human activities and climate change (MEWNR, 2014).\(^9\) This situation presents an imminent risk of conflicts due to ensuing scarcity and competition; an observation in agreement with the neo-Malthusian view. The government through the Ministry of Environment and Natural Resources is mandated to conserve and manage sustainably Kenya’s environment and natural resources to aid in socio-economic development, reduce poverty and improve standards of living among its people.

The ministry is bestowed with responsibility of formulating, implementing and reviewing relevant appropriate policies and legislation. It also enforces compliance to regulations, standards and guidelines, and coordinates all environmental matters through National Environmental Tribunals, Public Complaints Committees and Environmental Committees (The Redd desk project, 2015).\(^10\) The National government promotes international cooperation, ensures domestication and implementation of international standards and also develops mechanisms and institutions for monitoring compliance. The government mobilizes resources to support programming through partnerships involving communities, civil society, development partners and private sector in ensuring management and utilization of cross border natural resources benefits whole populations.

The government further undertakes and co-ordinates research and sharing of relevant information geared towards assisting in appropriate management and preservation of the environment (NEMA, 2005).\(^11\) The nationally-developed but locally-specific environmental and natural resource management models enable identification and promotion of opportunities based on community action plans such as the National Peace Building and Conflict Management Policy. However, most of these government endeavors are mainly sector-specific with less synchronization and poor

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coordination, hardly ever integrative and often fail in building synergy with other similar programmes. National programming is often vulnerable to regime change, government priority shifts and funding fluctuations and thus risk being at the vagaries of politics (Yatich et al, 2007).  

**Sub-regional and regional institutions’ efforts in resource management towards sustainable peace**

Established regional groupings are distinctively and better positioned with capacity to lead cross border natural resource management endeavors founded on their regional mandates that are capable of overcoming complexities of working across borders (UN, 2006). Sustainable management of transboundary natural resources often require regional approach and hence; regional institutions offer a platform for member states to harmonize related policies, strategies and actions; share lessons, experiences and best practices and collaborate with other regional groupings on environmental and natural resources management.

In addition, many regional bodies and strategies endeavor to strengthen cooperation among partner states in order to reverse environmental degradation and enhance integration of natural resource concerns including transboundary resource issues into development plans for environmentally sustainable economic development. Nevertheless, Eastern Africa belongs to between 2 and 4 regional bodies which is counter-productive and often results in conflicting goals and policies and also in the duplication of resources. The proposed setting up of the COMESA-EAC-SADC (CES) tripartite arrangement is a necessary bold move to address the multiple membership issue (COMESA/EAC, 2008).

Although there has been collaborative management of environmental resources such as water resources including shared river basins among other transboundary natural resources (UNEP, 2006), countries in the region still experience resource induced disputes mainly due to the diminishing renewable resources which eventually lead to competition for residual resources; an argument in agreement with the tenets of the neo-Malthusian view.  

**East African Community's contribution to transboundary resource management towards peace**

The inter-governmental organization strives to establish policies and programs intended at enhancing cooperation among partner states in agreement with Article 5 (1) of its treaty (AfDB, 2011) as Chapters 19 and 20 offer structures for cooperation on environment matters which also encompass natural resource management including those that bear transboundary features. EAC

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has facilitated development of policies and laws to support sustainable cross border natural resource management on forests, land, water resources, wildlife and mountainous environments, among other ecosystems. The Community through the Protocol on Environment and Natural Resources Management which applies to all matters touching on management of environment and natural resources in partner states including transboundary resources recognizes that human development activities have harmful effects on environment resulting in degradation and natural resources depletion; an observation aligned to the neo-Malthusian view. The protocol advocates for adoption of a common vision in tackling challenges through sound transboundary natural resources management at local, national and regional levels towards achieving sustainable growth and development. It promotes shared responsibility and closer cooperation by all actors for sustainable, judicious and coordinated protection, use and management of resources and expands scope for integration and treating ecosystem management issues as being part of development plans (EAC, 2016).17

Through the protocol, EAC is able to compel members to integrate ecosystem issues into relevant sectoral and cross-sectoral policies, plans and programmes; develop common approach in determining environmental standards; use compatible indigenous knowledge and control invasive alien species which constitute the second largest source of biodiversity loss after habitat change (EAC, 2016).18

**Inter-Governmental Authority on Development’s role in resource management and regional peace**

Inter-Governmental Authority on Development (IGAD)’s main mandate is to ensure food security, environmental conservation, sustain peace and security, prosperity and regional integration in a region that is mainly dry and often afflicted by poverty, lack of food, widespread economic hardship, recurring droughts, conflicts and insecurity (IGAD, 2016).19 This fragile environment supports an estimated 200 million inhabitants with a growing human population whose growth rate is between 0.3 per cent and 3.7 per cent per year amid the ravaging context of climate change, environmental degradation and advancing desertification.

Agro-pastoralism and pastoralism are the key livelihood activities with the latter economically and ecologically being the most viable livelihood strategy in the IGAD region’s vast ASALs. Currently, institutional challenges that discourage continued adaptability and resilience appear in form of trends that relate with social marginalization, disintegration of traditional institutions, lack of infrastructure and poor dynamism in cross border relationships. There was also low development funding; increased conflict over natural resources and inhibitive nature of planning, policy formulation and implementation amid poor decision-making and administration approaches

17EAC. Protocol on Environment and Natural Resources Management.  

18EAC. Protocol on Environment and Natural Resources Management.  

19IGAD. Inter-Governmental Authority on Development. [http://www.igadregion.org/intergovernmental-authority-on-development/] (17 January 2016).
(Flintan et al. 2013).\textsuperscript{20} Inter-Governmental Authority on Development works towards formulation of appropriate policies, establishment of institutions and ensuring processes and practices on regional and cross border dimensions. This is accomplished mainly by encouraging resilience and productivity among communities whose livelihoods majorly depend on natural resources yet they reside in harsh and ever worsening ecological circumstances with increasing chronic vulnerability.

The region which is under Sub Sahara Africa is among the world’s most food-insecure place (USDA, 2019)\textsuperscript{21} with constant scarcity of freshwater and pasture aggravated by severe droughts and resource-based conflicts; an argument in line with the resource scarcity perspective. The Authority’s Environment and Natural Resources Strategy taps from regional and international agreements and various development processes as a coherent and comprehensive framework for the Authority’s environment and natural resources programming. The strategy recognizes environment as being part of sustainable development agenda and thus it is responsive to the SDGs and other multilateral environmental agreements (IGAD, 2007).\textsuperscript{22} The organization initiates programmes that complement one another such as IGAD Drought Disaster Resilience and Sustainability Initiative (IDDRSI), Conflict Early Warning and Response Mechanism (CEWARN) and IGAD Climate Prediction and Applications Centre (ICPAC), among others. IGAD promotes community-based resource management and being a governmental organization, it engages member states at high level and even mediate resource induced conflicts whenever necessary.

**Role of the African Union in resource management towards sustainable peace in the region**

African Union (AU) is a continental body working closely with Eastern Africa regional groupings on regional and cross border issues that include transboundary natural resources management by providing standards and frameworks which are rolled out to member states. The Union offers platform for initiatives that incorporate two or more regions such as the Nile Basin Initiative which involves countries from North, Central and Eastern Africa. Rising trends in challenges of population growth, poverty, urbanization, climate change, drought and desertification, environmental degradation, loss of biodiversity, inequalities and eventual conflicts; in line with the resource scarcity perspective, necessitate interventions addressing their root causes with prioritized structural transformation in order to achieve comprehensive people-centred peace and development in Africa (African Union, 2014).\textsuperscript{23}

AU supports creation of suitable policy, legislation and institutional frameworks and also promotes coordination and cooperation among stakeholders on sustainable management of ecological resources and environment at large. The Union encourages budget allocations, research and development, sharing and exchange of information, produces protocols and regulations and also enforces use and review of existing laws in accordance with international standards and


developments. AU further offers capacity assistance, strengthens monitoring systems and promotes sustainable livelihoods in environmentally sensitive areas to enhance socio-economic benefits (African Union. 2016).24

AU undertakes programmes that include African Union Border Program with mandate to prevent and resolve border related disputes and nurture regional and continental integration. This is an essential mechanism in structural prevention of conflicts on the continent (African Union. 2013). The Union engages closely with relevant international and regional bodies in support of peace and security initiatives such as the African Development Bank (AfDB) whose core mandate is fostering regional integration. AfDB through its Regional Integration Strategy focuses on specific concerns that include cross border conflicts, insecurity, governance challenges and cross-cutting issues relating to environment and climate change, among others. Environmental threats and concerns are often mainstreamed into broad strategies and effected in specific regional programs with individual national perspectives (AfDB, 2011).25 The New Partnership for Africa’s Development (NEPAD) is the strategic framework for Africa’s renewal focusing on peace, security and good governance as priority preconditions for development.

NEPAD has the Sub-regional Environment Action Plan for Eastern Africa and the Environment Initiative with its Capacity Building Action Plan developed with the headship of African Ministerial Conference on the Environment (AMCEN) to support management of environment. Management of environmental resources including transboundary ones holds the link between peace, lasting stability and the much desired socio-economic development; which is the continent’s new vision for renaissance and progression embodied in the AU together with its socio-economic framework for development towards achieving Sustainable Development Goals (UNEP, 2006).26 However, AU should collaborate with Eastern Africa regional groupings in hastening the process of timely generation and review of minimum standards for environmental resources management including transboundary resources. The African Peer Review Mechanism should ensure more overt standards, benchmarks and relevant indicators on resource management in order to promote sharing of lessons learned and replication of best practices, as partaking states that include Kenya incorporate related issues into own assessment and action plans. It was vital to promote innovative strategies through South-South cooperation and also build upon existing continental initiatives such as AMCEN which offers a wider stage for deliberating environmental issues and the AU Pastoral Policy framework which complements the ASALs policy in Kenya, among other enterprises (UN, 2006).27


Role of global institutions in resource management towards sustainable peace in Eastern Africa

The international community and specifically the United Nations system collaborates with other partners to provide regional support on environmental issues for greater shared impact on sustainable development in Eastern Africa. Multilateral agencies which support environmental initiatives in Kenya include the United Nations Environment Programme (UNEP), the United Nations Development Programme (UNDP), UN Habitat and the World Bank, among others. Former United Nations Secretary-General Kofi Annan in 1997 stated that:

Safeguarding the environment is a cross-cutting United Nations’ activity. It is a guiding principle of all our work in support of sustainable development. It is an essential component of poverty eradication and one of the foundations of peace... (UN, 1997).28

The UN through Office of the Special Adviser encourages international assistance and commitments towards conservation, long-lasting peace, security and sustainable progression in Africa by facilitating advocacy, offering financial and technical support and by enabling intergovernmental discussions on critical issues of concern in Africa.

UNEP being the center for environmental action and coordination at the UN recognizes that sustainable development which constitutes the centre of its mandate cannot be attained in the background of conflict and thus ensures overall well-being of environment as the structural and root source of conflict (UNEP, 2016).29 The Programme creates knowledge and develops mechanisms for dissemination on the nexus between environmental resources and related conflict, documents practices for reference and identifies risk factors and instruments for mitigation. As UNEP works to avert conflict with the environment, it is also aware of the opportunities presented by environmental resources for peace building through rectifying of unfair access and control of ecosystem resources by way of ensuring facilitative policy and legal options.

The UN agency undertakes or supports research and dissemination of information widely to support formulation of policy to direct programming and monitoring of compliance on environment and natural resources management including transboundary resources. UNEP also enforces and monitors compliance with international agreements, guidelines and associated instruments, and further tackles the multiplicity issue of the legal systems used in administering natural resources, particularly on land matters with the aim of instigating harmonization (UN, 2006).30 UNEP facilitates and hastens implementation of African Peace and Security Architecture (APSA) priorities through continuously providing financial, technical and capacity assistance to the African Union alongside member states, NEPAD and regional bodies so as to mainstream natural resource management issues in development agenda.

International legal instruments that include binding regulations and nonbinding guidelines consist of progressively vital instruments that support the attainment of bilateral and multilateral cooperation on environment, yet there lacks powerful global entity to enforce them as their success

relies on voluntary compliance (Petsonk 1990, 351-391). Therefore, there is need to bolster the UN capacity for coordinating all actors under their mandates in concerted international effort. This will help in achieving structural conflict prevention strategies towards sustainable development, as the UN highly approves the link between environment and conflict (Kameri-Mbote, 2005).

**Non-governmental organizations’ endeavors in resource management and sustainable peace**

NGOs are dedicated to long-term issues, focus on commonly understood problems with aligned interests and shared responsibilities and often have public trust hence they play a vital role in social development as a useful proxy for societal concerns such as climate change, environmental and natural resources management (Hall-Jones, 2006). NGOs reach out, mobilize and empower poor and remote communities in border areas to regain control of their lives by increasing local economic diversity, self-reliance and ensuring greater co-operation towards peaceful coexistence, protection and enhancement of biodiversity and management of resources. NGOs work with and strengthen local frameworks, often carry out projects more efficiently than government agencies, recognize importance of strategic partnerships and have broader mandates that can create platforms for integrating entities drawn from several countries towards promotion of sustainable natural resource use in border regions and overall development (Young & Dhanda, 2013).

Agenda 21 of the United Nations recognizes the participatory role of NGOs in sustainable development partnerships and together with relevant principles of sustainability emphasize environmental protection as being part of overall development process (UN, 1993). NGOs conduct public advocacy to bring policies and behavior into alignment with conservation and sustainability agenda through voicing of environmental matters in cross-sector collaborative management processes. They play the watchdog role by supporting development and implementation of relevant minimum standards, enforcement of conservation agreements, preventing or stopping activities deemed as incompatible with conservation and sustainability agenda, monitoring compliance with existing laws and publicizing infractions or whistle blowing (UNDP, 2016). These undertakings are under strict adherence to a bottom-up approach which leads to improved resources management practices among communities and other stakeholders via a range of initiatives and mechanisms purposed to maximize participation and empowerment.

Environmental NGOs allow for wider participation and encouragement in partaking environmental politics in line with the Rio Declaration’s Principle 10 which postulates that participation of all stakeholders within their relevant levels offered best grounds for addressing environmental issues

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This view is restated by the Johannesburg Declaration that also upholds the need for broad-based participation in areas of policy formulation, decision-making and implementation at all levels. NGOs also broker resource induced conflict resolution and ensure equitable handling by all players. Conventional public institutions often lack ability to deal with economic, socio-political and ecological problems due to their top-bottom remit, yet poverty, population growth, environmental degradation and resource depletion are inextricably related in concurrence with the resource scarcity perspective and none of them can be successfully tackled in isolation. Therefore, NGOs present an adaptive institutional structure that is suitable for solutions to these fundamental problems, since they have a strong field presence at the community level.

Local gender roles in cross border natural resource management in Kenya

Traditional gender roles in Kenya place women in direct constant contact with resources that include water, land, forests, wildlife and biodiversity which they exploit and harness supplies from for their survival and that of their families. Being the ‘invisible’ managers of natural resources, women are sustainers of rural micro-economic activities although this impacts on environment with economic and social factors such as population growth instigating destruction of riparian habitats, forests and other sensitive ecosystems (Ammado, 2009). Kenya’s rural population in remote and sometimes tacked away border areas remains higher in size and growth rates than the urban population with more women living in rural areas (Jamah, 2010) as the local natural resource base is constantly diminishing. Women comprise more than one-half of Kenya’s total population and are more appropriate target group for socio-cultural and attitude change towards the earth and instead adopt sustainable values amid earth’s limited carrying capacity; an argument in line with the neo-Malthusian view.

As is the norm in most African setups, women are directly or indirectly involved in resource use and management and thus degradation of resources affects them directly (Ongugo et al, 2002). Conservation efforts should hence follow and recognize the central role played by women to ensure sustainability given their hands-on experience and diverse indigenous knowledge on exploitation of natural resources. Empowering women will reduce conflicts from competition over limited yet highly needed resources and further allow for traditional use while eliciting responsibility with rights and privileges aimed at benefits that are closely linked to conservation.

THEORETICAL FRAMEWORK: RESOURCE SCARCITY PERSPECTIVE

This study used the scarcity theory or resource scarcity perspective also known as neo-Malthusian view which states that poor nations will not be able to overcome subsistence levels of each one of their people unless they instigate a system of checks relative to the populations (Mellos 1988, 15-42). Neo-Malthusianism expresses concern that overpopulation might heighten overconsumption

evidenced through degradation of environment and natural resource depletion to levels that are unsustainable with possibility of crises that include ecological collapse, poverty and misery.

The theory thus befits this study in a region fast running out of vital renewable resources due to induced crisis of degradation and depletion with increased related competition and conflict. Thus there is urgent need to act speedily on mitigation to prevent an ultimate environmental and human apocalypse. Neo-Malthusians hold that there was a positive relationship between population increase and environmental change and hence rapid population growth, unequal access to resource, resource depletion and environmental degradation all combine to worsen poverty and income inequalities mostly in least developed nations. These deprivations easily transform into grievances escalating risks of rebellion and conflict as people fight for survival (Kahl, 2006).42 Natural resources often contribute to economic growth but contrarily some endowed countries are typified by low growth rates, wide spread poverty, bad governance, high inequality and increased risk of conflict as access to resources stands considered as security risk of this century (Mildner et al 2011, 155 – 172).43

The neo-Malthusian view also argues that population trends and exploitation of natural resources will in due course lead to depletion and decay of human civilization and thus need to change human attitude towards the earth by adopting sustainable values. The view maintains that human consumption and abuse of resources has future consequences since the earth has restricted or rather limited capacity to serve human needs and resources are no infinite.

Key proponents of the view include Thomas Homer-Dixon who coordinated a three-year project (1990-1993) on environmental change and acute conflict and developed models to show link between scarcity of renewable resource and conflict. His findings noted that resource depletion and degradation will greatly contribute to social turmoil in years to come more than ozone depletion and climate change. Homer-Dixon explains how population increase and economic outputs growth will sharply increase scarcities of renewable resources (Homer-Dixon 1999, 61).44

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(Factors inducing scarcity)

Source: Author (2019).

**Figure 1: Analytical model/illustration on how resource scarcity can cause conflict**

Researchers including Bäechler (Bäechler et al, 1996), Böge, and Klötzli; and Urdal (Urdal 2008, 590-617) like Homer-Dixon (Homer-Dixon 1994, 5-40), illustrate the positive relationship between resource scarcity and conflict, see figure 1.

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**Input**
- Reforms in eco-systems approaches
- Transboundary social and cultural practices
- Participatory environmental protection and management by governments and communities
- Security and dispute resolution mechanisms

**Output/Outcome**
- Equitable and resilient communities
- Diversified and sustained livelihoods
- Cooperation and trust building
- Shared gains and interdependency
- Socioeconomic progression

**Impact**
- Sustainable peace
- Importance of the future/Long term horizon

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**Figure 2: Illustration on how efficient management of cross border natural resources can lead to sustainable peace**

 Nonetheless, well administered cross border natural resources may lead to the attainment of sustainable peace and progression through interactions and actions by various actors in resource management, among other supporting factors, see figure 2.

**METHODOLOGY, ANALYSIS AND RESULTS**

**Study methodology**

This study took a descriptive approach in describing attributes of variables being investigated namely; the roles of varied actors in cross border natural resource management and sustainable

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peace as independent and dependent variables respectively. The study targeted actors in resource management such as policy handlers, civil society, communities, development partners and scholars. The target population was too large and unknown and thus, the researcher engaged via questionnaires a sample size of 385 individuals based on appropriate formulae $n = \frac{z^2p(1-p)}{\sigma^2}$ (Wonnacott & Wonnacott, 1990).

Where N = population is unknown (thus degree of freedom is unknown), $n = \text{required sample size}$, $Z = \text{confidence level at 95\% that corresponds to critical standard value of 1.96}$, $p = \text{estimated proportion of an attribute for a conservative sample size estimate or population standard deviation } \sigma \text{ at 0.5}$ and $\varnothing = \text{margin of error as measure of precision at 5\% with standard value of 0.05}$.

**Calculation of sample size:**

$n = \frac{(1.96)^2 \times .5(.5))/(.05)^2}{(3.8416 \times .25)/.0025}$

$.9604/.0025$

$384.16$

385 respondents were needed for the study.

Simple random sampling was used to identify the 385 individuals from a sample frame of 826 compiled through lists by human resource divisions and equivalent units of categories of the target population. Each of the individuals selected at the management level was then questioned and information obtained analyzed to identify key issues relevant to the study.

Primary data was obtained using self-administered questionnaires with both open and closed ended questions as the tool was validated by lecturers and supervisors and also pre-tested prior to data collection to discover and correct any weaknesses for reliability. Secondary data was obtained through analysis of existing literature on subject of study. Collected data was analyzed mainly through SPSS v20 and content analysis with help of relevant theory and the study conducted in accordance with academic writing and publishing ethics.

**Summary of study findings and analysis**

Study results revealed lack of synergy, absence of continuous civic education and irregular dissemination of relevant guidelines on resource management which in turn impeded actors from relating better and understanding their roles to effectively contribute to wise resource exploitation and management. There was over-dependency on natural resources partly due to antagonistic perceptions and attitudes among communities and other actors coupled with low levels of awareness and social responsibility. This was affirmed to often culminate into a vicious sequence of environmental degradation, loss of biodiversity, inequalities, scarcity, competition over residual resources and attendant resource-induced conflict. The study further ascertained lack of a comprehensive resource management framework to integrate actors’ varied interests and bridge indigenous knowledge with modern perspectives. The study also revealed inequitable society whose members were not empowered enough to effectively take part in policy formulation and other relevant decisions that touched on their well-being thus being prone to misunderstandings.

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A substantial section of respondents at 27.5 per cent identified communities as being key stakeholders in cross border natural resource management. The findings could partly be ascribed to the fact that communities were often the natural hosts and custodians of most natural resources. The rest of results were as follows; governments at 22.2 per cent, development partners at 16.6 per cent, civil society at 18.2 per cent, investors at 9.6 per cent and ‘others’ at 6 per cent, see figure 3. Thus, it was clearly evident that there were a number of key stakeholders in cross border natural resource management in Kenya with communities as the most preferred.

**Figure 3: Key stakeholders in cross border natural resource management in Kenya**

<table>
<thead>
<tr>
<th>Stakeholder</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Communities</td>
<td>195</td>
<td>64.6%</td>
</tr>
<tr>
<td>Governments</td>
<td>51</td>
<td>35.4%</td>
</tr>
<tr>
<td>Development Partners</td>
<td>302</td>
<td>100%</td>
</tr>
<tr>
<td>Civil Society</td>
<td>166</td>
<td>55.2%</td>
</tr>
<tr>
<td>Investors</td>
<td>17</td>
<td>5.7%</td>
</tr>
<tr>
<td>Others</td>
<td>18</td>
<td>6.0%</td>
</tr>
</tbody>
</table>

Majority of respondents at 64.6 per cent were aware of the role and responsibilities of various actors in cross border natural resource management in Kenya, see figure 4. The findings indicated that with importance attached to natural resources, various actors in their daily endeavors interacted with the resources in many ways that amounted to the actual running of the resources by way of conservation, exploitation or degradation. Some actors facilitated understanding and resolution of conflicts arising from resource administration. They also supported peaceful coexistence or even propagated animosity and conflict, among many other roles. Hence, it can be acknowledged that the actors’ roles were cognizable with various stakeholders playing different roles in resource management.
Figure 4: Degree to which the role and responsibilities impact cross border natural resource management in Kenya

A substantial portion of respondents at 38.1 per cent recognized that the role and responsibilities of various actors impacted much cross border natural resource management in Kenya. The findings indicated that the role and responsibilities either supported efforts towards effective management of resources, reversed gains so far made or even impeded overall management of the resources. Other results were as follows; impacted very much at 24.2 per cent, impacted fairly at 17.5 per cent, impacted slightly at 11.6 per cent and don’t know at 8.6 per cent, see figure 5. Therefore, it can be affirmed that the role and responsibilities of various actors differently influenced the management of transboundary natural resources.

Table 2: Knowing role gender plays in cross border natural resource management in Kenya

<table>
<thead>
<tr>
<th>Response</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>135</td>
<td>44.7%</td>
</tr>
<tr>
<td>No</td>
<td>167</td>
<td>55.3%</td>
</tr>
<tr>
<td>Total</td>
<td>302</td>
<td>100%</td>
</tr>
</tbody>
</table>

Source: Author (2019).

The results showed that slightly below half of respondents at 44.7 per cent knew the role that gender played in cross border natural resource management in Kenya, see figure 6. The results observed that both women and men collectively played a facilitative role as key custodians of natural resources in their day-to-day communal interactions and when partaking chores in support of their livelihood endeavors. Nonetheless, gender roles also perpetrated degradation of environments through unsustainable exploitation, fueled resource conflicts and that related prejudices reinforced myths and stereotypes. It can be concluded that gender played varied roles in the management of shared resources in Kenya.
The study findings further showed that more men than women acknowledged that the role and responsibilities of various actors impacted either very much, much, fairly or slightly on cross border natural resource management in Kenya. The results for men were as follows; impacted very much at 14.2%, impacted much at 23.5%, impacted fairly at 9.6 and impacted slightly at 6.3% of the study respondents as compared to their female counterparts at 9.9%, 14.6%, 7.9%, and 5.3% respectively. However, more females at 5.0% of the total respondents did not know to what degree did the role and responsibilities of various actors impact cross border natural resource management in Kenya as compared to their male counterparts at 3.6%, see figure 7. Different role and responsibilities of men and women in remote rural border areas vary across cultures and regions and often follow conventional gender role practices, the conventional division of labor or even men and women perform complementary roles in resource management. These gender patterns were neither static nor simplistic and in case there is resource degradation, this may alter gender responsibilities leading to gender neglect or even conflict among resource users and managers. Since women were both victims and agents of ecosystem resource usage, control and

Source: Author (2019).

Figure 5: Correlation between gender and degree to which the role and responsibilities impact cross border natural resource management
administration, there was need for gender mainstreaming and more awareness targeting women towards sustainable management of resources.  

**STUDY RECOMMENDATIONS**

i. Adopt strategies which combine initiatives by varied actors on conservation, livelihood support and economic progression in order to ensure compatible and sustainable management of transboundary resources for peace and posterity.  

ii. Enhance communities, institutions and other actors’ administrative and technical capacity to properly plan and implement sound resource management through relevant and continuous civic education, training and skills enhancement.  

iii. Ensure timely and continuous analysis, review and dissemination of policy, institutional and legal structures to aptly tackle root causes to resource degeneration and conflicts, and further realign programmes and interventions by various actors to conform to the new, emerging and ever-changing needs in resource conservation and socio-economic development.  

iv. Resource management should take into consideration political, economic, socio-cultural, institutional and ecological concerns of all stakeholders in an integrated, democratic, transparent and inclusive way.  

v. Stakeholders should take a mutual gains approach in recognizing that most disputes are not ‘zero-sum.’ To build solutions in areas of common interest, stakeholders should learn from their varied interests, diversities and held knowledge on resources as well as decision limits, incentive and disincentive arrangements that frame their actions.  

**PROSPECTS FOR FURTHER STUDY**

The growing significance attached to cross border natural resource management warrants future studies to provide revised information towards better understanding of resource needs for improved administration. There was need to exhaustively explore other features of management such as assessing the effectiveness of the frameworks of management in order to develop a cohesive and holistic system towards sound resource management, sustainable peace and development in Eastern Africa region.  

**RECOMMENDATIONS FOR POLICY AND PRACTICE**

i. Devolve the preservation and management of certain resources in Kenya that include wildlife and biodiversity resources to enhance genuine involvement, participation and community ownership through a ‘bottom-up’ approach.  

ii. Resource management guidelines should be customized to serve social, ecological and economic needs at the community level. It was essential to establish new regimes encompassing community by-laws to strengthen the interface between indigenous and modern systems of resource management as communities lobby County governments to buy-in and develop appropriate regulations for acknowledgement and application of these by-laws.  

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iii. Emphasize properly planned and coordinated programming among actors to safeguard gains, for without better integration and strategic partnerships, achievements would probably be ad hoc without the push to systematically foster row backs in environmental degradation, the key agent for scarcity, competition and eventual conflict.

CONCLUSION

As pressure ever mounts on the environment, it is important to find sustainable answers to environmental and ecosystem resource management challenges by understanding the consequences of inept and diverse management approaches. It is imperative to devise means to reconcile the environment and its resources on one side and the needs of the society and the evident insatiable targets for economic progression on the other side. Meaningful stakeholders’ participation through adoption of proactive, holistic and precautionary approaches and also mainstreaming environmental issues into development planning and decision-making processes were indeed vital in the sound management of natural resources. The ensuing sustainable peace will increase competitiveness and productivity for the Eastern Africa region as well as deepening economic and social integration amid resource abundance. This study determined that various stakeholders had different crucial roles to play in resource management. Through synergy, cooperation and complementariness, these roles support effective cross border natural resource management which is a definite contributor to the attainment of sustainable peace in the greater Eastern Africa region.

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