

## **ACTORS IN MANAGING HUMAN-WILDLIFE CONFLICT: THE CASE OF ARABUKOSOKOKE FOREST, KENYA**

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## **ABSTRACT**

The study dealt with alternative dispute resolution methods in managing Human Wildlife Conflicts, the case of Arabuko Sokoke Forest Kenya. The area has had frequent human-wildlife conflicts which have led to destruction of property, infrastructure, crops, livestock and death from both humans and wildlife. The overall objective of the study was to investigate the Actors in the Management of Human-Wildlife Conflict. The study adopts Natural Law and environmental democracy theory as promulgated by J.M.Finnis. Data was collected based on 400 households, questionnaires, Key informants, interviews, Focus Group Discussions (FDGs) and researcher field observations. The study concluded a number of alternative resolution methods on environmental conflicts (ADR) are, negotiation, mediation, conciliation and community based Natural Resource

management mechanisms among others. On the theme and main objective of the study it concluded that community based natural resources management mechanisms (CBNRM) offers the most suitable method for managing the human wildlife conflict menace but needs to be synchronized with other methods and finally the study concluded that a collaborative management will boost local communities livelihood and reduce the menace to spur sustainable development. The study recommends intensive local residents 'participation in human-wildlife conflict management. It further recommends use of non-destructive methods in managing the forest resource and equitable benefit sharing and compensation schemes to the local populations in a bid to enlist their support for conservation efforts.

**Key Words:** *human-wildlife conflict, Arabukosokoke forest, Kenya*

## **INTRODUCTION**

Arabukosokoke forest has had frequent human wildlife conflicts. Chronic poverty levels facing the poor and quest for quick economic gains by the affluent have forced both the local population and outsiders to encroach into the Arabuko- Sokoke forest in search for food, animals (protein), timber and firewood. This has resulted into deforestation of the remnant coastal tropical forest. The human encroachment into the forest has not only led to deforestation but human-wildlife conflicts. The fencing (Mungai et. al 2011) of the forest has limited access of the humans into the forest. However, they sneak through informal inlets in search of livelihood. Wildlife, especially elephants and baboons inhabiting the forest, sometimes also escape through informal corridors and invade farms in the area, hence sparking Human-Wildlife conflict. Kenya Wildlife Service (KWS), Kenya Forest Service (KFS) and Kenya Forestry Research Institute (KEFRI) personnel manning the forest resource have not managed to squash the Human - Wildlife conflicts.

Idle unemployed Kenyans have found solace in invading the forest to fend for their livelihood. Deforestation is their immediate economic activity since they lack basic education to acquire professional employment. The Kenya government's legal mechanisms through conventional

courts litigation have not adequately addressed these human wildlife conflicts. Both humans and animals continue to engage in violent conflict and loss of life from both ends has been the result. The said conflicts sand witched in chronic poverty levels among the poor and economic greed from the affluent few forms a vicious cycle in the area which necessitates urgent attention. The study, therefore, seeks to investigate the impact of alternative dispute resolution methods in managing Human – Wildlife Conflict and whether these methods would impact positively for peaceful co-existence of humans and wildlife in the said area to ensure sustainable development.

## **THEORETICAL REVIEW**

The study adopts the natural law Finnis, (2002) and environmental democracy approaches to conflict resolution. Environmental democracy is used to connote the right of an individual in taking part in the governance of the environment. Susan Hazen, (2009). The study also borrows from the Deep Rooted Conflict Theory by Redekop (2002) which analyses conflict into three levels with their corresponding processes used to address them as disputes, addressed through Settlement, Underlying Conflicts addressed through Resolution and Identity-Based Deep Rooted Conflicts which are addressed through Reconciliation. This is in tandem with the principle of equal rights for each individual. It includes public entities, community workers, lawyers, industrialists, trade unions, academia, government leaders and other cadre of experts involved in environmental governance. Environmental democracy gives an opportunity to every individual whose life is affected by the quality of the environment to participate in environmental decision-making as freely as they do in other public interest matters like health care, education, finance and government. This offers a chance for the local communities to have a stake and ownership of the Natural Resource and to benefit from the proceeds as per the Rio Declaration (1992).

### **The actors in the management of the Human-Wildlife Conflicts**

Actors in the management of human wildlife conflict are many depending on where the humans and wildlife interact. These may be categorized as global, regional national and local actors. They can also be grouped as formal and informal actors. This chapter looks into these actors with a view to their influence in the management of human wildlife conflict at Arabuko Sokoke Forest, Kenya. On the global front, actors or stakeholders involved in the management of ASF as revealed from field research responses are, the European Union (EU), the IMF and World Bank, USAID, Birdlife International, the Global Environment Facility (GeF), Donor agencies and foreign embassies. The global actors' role in this regard revolves around funding and technological knowledge exchange. The global actors further look into the needs of locals such as poverty and unemployment. They encourage locals to form sustainable projects such as seedling – tree nurseries and help marketing them abroad. For example the JAMII Villas at Mida was funded by the European Union at an initial amount of US\$50,000 in 1996. It is now fully operational and helps poverty reduction through employment derived from ecotourism. Another example of global partnership at ASF is the Kipepeo butterfly farm. This was started in 1993 but took good shape in 1995. Kipepeo butterfly project was funded by USAID, Nature Kenya, ICIPE

and the Government of Kenya through Kenya's National Museums. The project was implemented through a grant of US\$ 50,000 from the United Nations Development programme UNDP's Global Environment Facility NGO Small Grants Program in June 1993. Arabuko Sokoke Forest (ASF) attracts international recognition and importance, ranked number two in Africa for birds, accommodating six main birds' species and three main mammal species. The six birds' species at ASF are: Sokoke scops Owl, East Coast Akalat, Clarke's Weaver, spotted ground thrush, Sokoke pipit and Amani Sunbird (See Figure 5.2: The birds of MidaCreek).

The three main mammals at ASF are bushy-tailed mongoose, Golden Rumped elephant Shrew and other rare and endangered animals such as Aders Duiker and the African elephant. Regionally, the East African Community (EAC) member states have not shown much presence at ASF. This could be due to the fact that the East African member countries of Kenya, Tanzania, Rwanda, Uganda, South Sudan and Burundi have their own sovereign policies on tackling the human wildlife conflict menace. As such, there has not been much collaborative effort in this regard. Nationally, the main actor is the government of Kenya. The GoK has set up agencies which manage ASF on its behalf. Focused group discussion at ASF coupled with an interview with Mr. Blessington Maghanga, Senior Forester/Station Manager, Kenya Forest Services (KFS) revealed that ASF is manned by government agencies in conjunction with the local communities and NGO's. The GoK agencies are Kenya Forest Services(KFS), Kenya Wildlife Service (KWS) Kenya Forest Research Institute (KEFRI), the National Museums of Kenya (NMK) NGO's and the local communities. For an elaborative understanding, the historical background of ASF, Location, topography and latitude, status, vegetation types, biodiversity and human population are hereby reviewed before delving into the actors in the management spectrum.

## **RESEARCH METHODOLOGY**

### **Research Design**

Research design is a plan or road map for carrying out a research. The study adopts descriptive design which uses words, sentences and explanations. Descriptive survey is mainly concerned with description of present conditions in details. The survey gathers data at a particular instance with a view of identifying the standards against which existing conditions may be compared with past conditions as well as determining the relationship that exist between specific events. The method helps the researcher to gather both quantitative data and qualitative data.

### **Target Population**

The target population will be Kilifi County in the Republic of Kenya and to be precise, Arabuko-Sokoke forest Reserve. Whereas there are many adjacent villages to the forest the researcher wishes to zero down to Mida which is in Mida sub-location Gede location Malindi sub-county within the periphery of the forest with a population of 6535 comprising of 850 households

(KNBS, 2010).The households will then be randomly selected using the following scientific formula: Booth et al., (2008), to determine the sample size.

$$n = \frac{(z^2 \times p \times q \times N)}{e^2 (N-1) + (z^2 \times p \times q)}$$
$$n = \frac{(1.96)^2 \times 0.05(1-0.05) \times 850}{(0.05)^2 (850-1) + (1.96)^2 \times 0.05 \times (1-0.05)}$$

$$n = \frac{850}{0.0025 (849)} \quad n = \frac{850}{2.1225} \quad n = 400$$

Where: n = Sample size (being determined); N= Population size (Number of households which is known); p=Sample proportion (assumed to be 0.05, if not given); q= 1 – p, e= 0.05 (since the acceptable error level of significance) should be 5%) and z=Standard deviation at a given CI(z = 1.96 at 95% CI) CI Connotes confidence level.

Applying Booth formula stated above on 850 households (Mida) yields a sample size of 400 within margin of error of 5 percent. 400 households heads shall be interviewed by use of questionnaires. The Arabuko-Sokoke Forest adjacent Dwellers Association (ASFADA) officials, village Development Forest Conservation Committee officials (VDFCC),the county wildlife conservation and the County Wildlife compensation committee (CWCCC) in groups of 100 representatives based on the research sample will be interviewed on Focus Group Discussion (FGD) bases. Primary data will be collected through a survey among 400 households specifically targeting the human-wildlife hot spots and the three mentioned associations above.

### **Data Collection Procedures**

The study set off with a review of the existing literature on causes of environmental conflicts in Sub-Saharan Africa, Kenya, and Kilifi County (Arabuko- Sokoke Forest Reserve). Questionnaire and interviews with key informants were used to collect data. Questionnaires containing both structured and un-structured questions with open ended questions to allow well thought responses from interviewees. Questionnaires are suitable for research because the responses given are anonymous and chances of getting true answers are high. The study also employed use of focus group discussions (FGDS) especially where it was deemed appropriate to interview resourceful individuals likely to give detailed information. In this case the researcher will interview the County Director of environment, Chief Forest Warden at Arabuko-Sokoke forest reserve, the Arabuko-Sokoke Forest adjacent Dwellers Association (ASFADA) officials, village Development Forest Conservation Committee officials (VDFCC). Community Forest Association officials based at Sokoke, Gede, Mida, Kenya Medical Research Institute (KEMRI) and most importantly representatives of the non-organized people living adjacent to the forest.

Other stakeholders interviewed included representatives from National Museum of Kenya (NMK) officials managing the Butterfly (Kipepeo) Farm at Arabuko forest, Birdlife International officials working under UNESCO important Bird area (IBA) sight where 20% of the Kenyan birds are found KWS, KFS, KEFRI, the county wildlife conservation and compensation committee (CWCCC) and the county Environmental chief officer. Secondary sources of data included text books, journals, the internet and on-line e-libraries, the forest Act 2005, the wildlife conservation and management Act (WCMA 2013) CAP 376 amended in 1989 and 2010, conference papers, Newspapers and other media reports. The importance of secondary sources of data is anchored on the fact that they give insight into efficiency, challenges and opportunities in Resolution of Human-wildlife conflicts internationally and emerging issues in environmental conflict management.

### **Data Analysis and Presentation Methods**

Data will be collected, coded, cleaned and analyzed using a statistical package. Descriptive statistics will be used to analyze the data. Tables of frequency distribution percentages, pie charts, graphs and pictograms will be used to represent the data. The impact of the alternative dispute resolution methods in managing human wildlife conflicts will be measured through pictorially and graphically presentation of data. Relevant interpretation, discussion and recommendations will be inferred from the analyzed data after which results will be published in thesis and scientific journals.

## **RESULTS AND DISCUSSION**

### **Kenya Forest Service (KFS)**

It is important to know that KFS is the main government of Kenya agency in managing Arabuko Sokoke Forest. Kenya Forest Service (KFS) is mandated under the Forest Act (2005) to undertake the promulgation of policies for managing and conserving forests, preparing and implementing management plans, managing and protecting Kenya's gazetted forests, establishing forest plantations, promoting on-farm forestry and environmental awareness. Kenya Forest Service currently gives much focus to afforestation on small scale farms and conservation of natural forests. Arabuko-Sokoke Forest has three forest stations namely, Sokoke, Gede and Jilore . At each station, there is a forester whose responsibility is to administer and manage the forest.

### **Legal Status of Arabuko-Sokoke Forest (ASF)**

The area was declared as a forest in 1932 and gazetted in 1943. Additional land amounting to 2,675 ha at Kararacha was included 1968. In the forest periphery, 4,300 ha were earmarked for nature reserve purposes in 1977. Another addition of 1635 ha was effected in 1979 as depicted in table 1 hereunder.

**Table 1: Legal Status of Arabuko – Sokoke Forest**

<b>Details</b>	<b>Year</b>	<b>Boundary plan</b>	<b>Legal notice</b>	<b>Area/ha</b>
Original gazettelement	1932	75/12	44	39,089
Revocation of proclamation 44 and re-gazettelement with new boundaries	1943	175/4	48	39,089
Declared central forest	1964		174	39,089
Kraracha extension	1968	175/88	149	2,675
Declaration of nature reserve (within forest reserve)	1977	175/194	100	2,699
Declaration of nature reserve extension (within forest reserve)	1979	175/215	180	1,635
Declaration of national park (external to forest reserve)	1990		426	600

### **Biodiversity**

Arabuko – Sokoke forest is rich in biodiversity. This includes concentrations of endangered and endemic flora and fauna. It is considered as the second most vital forest for conservation of endangered bird species in the African continent. Not less than two hundred thirty bird species inhabit this forest ecosystem, including six globally threatened species. These are: Clarke’s Weaver, spotted ground thrush (a rare migrant), Sokoke scops Owl, Amani sunbird, Sokoke pipit, and East Coast Akalat. These rare species are mainly constituted in the East African Coastal forests.

### **Mammal Species, Butterfly, Reptiles and Plant Species**

There are 52 mammal species recorded in ASF. These include three taxa which threatened worldwide and this include: the Sokoke bushy – tailed Mongoose, the Golden– rumped elephant– shrew of which 90% of its total population lives in the ASF (Fitzgibbon, 1994), and Aders Duiker, which is only found in Zanzibar. Arabuko Forest also accommodates some of Kenya’s uncommon mammals and supports approximately seventy elephants. A big population of reptiles, including large snakes like pythons and invertebrates such as butterflies are also present. There are over 250 recorded butterfly species recorded at the Kipepeo butterfly farm at Gede, four of which are endemic. ASF records plant species which includes 50 that are globally and nationally rare.

### **Human Population Adjacent to the Forest**

Arabuko–Sokoke forest buffer zone is at the center of about fifty villages, with a total population of about one hundred and four thousand people(104,000 ) KNBS, 2010). The major ethnic group in the region is mainly composed of the Giriama who have chased away the former Sanya communities (Gala, Waryangulo) who initially dwelt in the forest as hunters. Currently, most

forest buffer zone communities are peasant agriculturists who utilize the Arabuko Forest for their livelihood requirements. The main subsistence crops grown are cassava, maize, green peas and beans. Major cash crop plantations in the area include coconut, mango and cashew nut trees. Local farmers have consistently practiced dairy farming even though such practice still remains small. The shamba system (Kurombeka) was hitherto used to establish exotic plantations in the area but this did not quite succeed because of crop raids from wildlife especially elephants and baboons. There are no squatters inside the forest. Squatters are found outside the forest boundaries.

## **Policy, Legal and Institutional Background**

### **Policy**

The Kenyan forest policy is stipulated in session paper no. 1 of 1968. The policy was a component of the Kenya Forestry master plan project and was initiated by the Ministry of environment Finlands' Development Assistance. The master plan covered topics like : The ability of the forests to fulfill the local demands for wood and other forest products, protecting biodiversity, ensuring that sustainable benefits from the forest which support agriculture, mitigation of global warming continuity ,meeting the demand for industrial wood products,, promoting ecotourism and conserving the forest. This study will be used as a reference by future forestry sector planners. The master plan is intended to be implemented in the next 25 years which culminates to vision 2025 (Finnida, 1994).

Generally, the policy states that “the rationale of forest management depends on local conditions set by climate, soil and tree species and the actual forest related needs of the people, which incorporate both social and cultural aspects. In all circumstances, the forest resources shall be managed in a sustainable manner with due regard to environmental conservation in accordance to intergenerational equity as prescribed by agenda 21 of the Rio Declaration of 1992. Further, reliable information on forest resources and their utilization needs to be ensured. Such information should include forest health monitoring” (ASSFMP, 2002 p.6).

### **Legislation**

The forest department, which became the Forest Act (2005) is governed by the forest Act Cap 385 of the Kenyan laws. The Forest Act (2005) is more detailed and covers aspects such as multiple stakeholders and community participation in forest development and conservation. The Kenya Forest Service (KFS) is a body corporate whose mandate is; policy formulation, for Board approval, which is related to management, conservation of all forms of forests in Kenya, management of all private forests in consultation with the private owners, management of all indigenous forest for conservation purposes and protection of all forests as per the provisions of the said Forest Act (FA, 2005).

## **Statutes**

According to FA (2005), there are more than seventy seven statutes concerned with environmental legislation. A proper framework for environmental legislation was formulated in 1999. The environmental Management and Coordination Bill was passed by the parliament on 15th December, 1999 and enacted on 14th January 2000. The legislation provides coherence to good environmental management, guidance for ideal environmental conservation and the national environmental principles. It is also concerned with cross sectional issues such as environmental planning, overall environmental policy formulation, protection and conservation of the environment, environmental quality standards, Environmental Impact Assessment (EIA), environmental audit and monitoring, institutional coordination, conflict resolution and environmental protection orders. It has an impact on forestry legislation, land use legislation and land tenure. The Act establishes an operation framework under the NEMA.

Under the Forest Act (2005), the local communities actively participate in forest management. The first participatory Forest Management (PFM) project was started in the Dida Village within the Arabuko-Sokoke Forest buffer zone in 1997 (Ongugo et al., 2008). Under this arrangement, the forest adjacent communities become co-managers with the KFS by forming community Forest Associations (CFAs). Eligibility for participation in Community Forest Association membership is by subscription fees (Ongugo et al., 2007). User rights for CFA members are provided for in part IV, section 46 (2) of the Forest Act 2005 (Gok, 2005).

Some of the rights enlisted include, harvesting of timber, firewood, medicinal herbs, and income from community based industries, recreation activities (aesthetic), ecotourism, scientific research and educational activities. It needs to be noted that gaining user rights may not necessarily mean fair access to the forest resources because such access could be shaped by a number of factors beyond formal laws and statutes such as access to power and social relationships. Currently, there are well over 40 PFM sites (Thenya et al., 2008) and more than 100 CFAs in the major water towers such as Mau Forest, Mt. Elgon, Aberdares, Mt. Kenya amongst others (Koech et al; 2009; Mogoi et al; 2012).

## **Governance and Administrative Framework**

Governance entails the manner through which the organization responsible for formulating management decisions and conducting management activities in a manner that meets the objectives of the stakeholders. The management of Arabuko- Sokoke Forest is based on partnership arrangement among several stakeholders and groups. Among all the stakeholders, the Kenya Forest Service (KFS) has the legal obligation to protect the forest resources. KFS has since entered into different partnerships with KWS, KEFRI and NMK, the government entities being the main management agencies at ASF. The government organizational structure, thus outlines those whose responsibility is to undertake monitoring. The ASF is currently operating under the following forest structure.

### **Arabuko – Sokoke Forest Management Team (ASFMT)**

The partnership and working arrangements to manage Arabuko Sokoke Forest are formalized in form of Memorandum of understanding between the four organizations mentioned above. The Memorandum of Understanding between the said institutions lack a legal structure, but is structured based on the mandates of the concerned institutions. Further, there is need for them to work closely to ensure optimum outcomes and avoid unnecessary duplications. The current memorandum of understanding is between the Kenya KFS and KWS with National Museums of Kenya (NMK) being enjoined in the partnership. A memorandum of consultative collaboration, particularly on scientific and research matters (MOCC), has also been developed between KFS and Kenya Forestry Research Institute (KEFRI). Strengthening this partnership will ensure that the Arabuko Sokoke Forest Management Team (ASFMT) has more capability to resist the external pressures on forests arising from conflicting interests which might have more decentralized decision – making powers in line with the Kenya Forest Act, (FA, 2005). The main role of ASFMT is to manage the day to day operations within the forest. It constitutes representatives from the four major government institutions namely: Kenya Wildlife Service (KWS), Kenya Forest Service (KFS), National Museums of Kenya (NMK) and Kenya Forestry Research Institute (KEFRI).

The management team has been expounded to entail local community representatives and local non-governmental organizations (NGO's) concerned with aspects of the forest. By using a series of working groups which specifically focuses on Natural law (J M Finnis, 2002) and environmental democracy approaches (Susan Hazen, 2009) theories, the four partners are widely involved in the achievement of management goals of the forest ecosystem. The theories advocate for freedom in access and use of environment and environmental resources. They also advocate for local participation in planning, management policy making and benefit sharing of proceeds of environmental ecosystem.

The local community represented by Arabuko-Sokoke Forest Adjacent Dwellers Association (ASFADA) has been incorporated in the Arabuko-Sokoke Forest Management Team (ASFMT). Other players working at Arabuko-Sokoke Forest (ASF) have been split into specific working groups which meet their interests such as the employees of the four partner institutions. The routine activities are coordinated in four working groups with the help of a Senior Management Committee (SMC). The four working groups' joint membership and the SMC, forms ASFMT. The Rural development working group, Forest management working group, Research and monitoring working group and Tourism and education working group constitute the working groups.

The four concerned government agencies have since been enacted into parastatals and are coordinated at the national level through a majority of memoranda of understanding under the leadership of the Ministry of Environment and Natural resources. Currently, the ASFMT has made a lot of progress through the goodwill and cooperation of team members.

## **Global Friends and Non-governmental Organizations (NGO's)**

According to research interview responses (Maghanga Blessington and FGD), Birdlife international, which is a global partnership that is concerned with the conservation NGOs whose coordinating secretariat is situated in the United Kingdom (UK) is major among the international partners. Since 1983, the Bird life international has worked in collaboration with the forest management team, during this period, the natural resource surveys took place. The KWS and KFS have worked closely with birdlife international since 1991.

The Kenya Indigenous Forest Conservation Project (KIFCON) was funded by the UK Overseas Development Administration (ODA) between 1990 and 1992 .This body proposed pilot projects for the conservation of indigenous forests and undertook investigative work in Mau, Kakamegaand Arabuko – Sokoke forest. In was proposed in their joint plan that the forest department and Kenya Wildlife Service (KWS) will implement a pilot programme in Arabuko – Sokoke, and partly funded by birdlife international and Overseas Development Agency (ODA). However, this envision was prevented by the withdrawal of the Overseas Development Agency (ODA).

The British Development Division in East Africa took the place of the Overseas Development Agency to fund all its activities. These funds steered the activities of the Arabuko Sokoke Forest Management Team (ASFMT) and critical in reshaping and allowing for the project design before the Arabuko Sokoke Forest management and Conservation Project (ASFMCP) commenced in 1996, and this was funded using grants from the European Union Tropical Forest budget line to the secretariat of birdlife international. In the due course of this project , Kenya's designated partner birdlife international, nature Kenya, became increasingly involved. Currently, Nature Kenya, rather than birdlife international plays a leading role at Arabuko–Sokoke Forest. The joint participation in forest management in Arabuko – Sokoke forest can be used to demonstrate how the joint involvement of various stakeholders can promote forest management. The Forest Adjacent Dwellers Association (ASFADA) established in 1999 has also allowed the local community to participate in forest management.

Other international partners are the International Union for Conservation of Nature (IUCN) FAO of the United Nations, World Bank, Global Environment Facility (GeF), UNEP, UNDP, USAID and A Rocha Kenya all of which have been actively involved in funding arrangement of ASF (Arabuko – Sokoke Strategic Forest Management plan, 2002) pp. 1-7. Interview with Blessington Maghanga, Senior Forester and Station Manager KFS on 15th March, 2016).

## **CONCLUSIONS**

The research dealt with the impact of alternative resolution methods in managing human-wildlife conflicts. The study area was Arabuko-Sokoke Forest, specifically Mida village, in Kilifi County, Kenya. Human-wildlife conflicts interfere and adversely affect the livelihood of people. There is paramount need to resolve them so as to achieve sustainable development. Natural

resources based conflicts occur where humans live and thus should be resolved instead of merely being settled. A number of alternative resolution methods on environmental conflicts (ADR) are, negotiation, mediation, conciliation and community based Natural Resource management mechanisms among others. Whereas formal litigation legal mechanism are track one state centric top-down approaches, (ADR) CBNRM are people oriented informal track two diplomatic approaches which are participatory and bottom up approaches. Litigation methods are legally formal approaches which use force, coercion and balance of power strategies outcomes are formally arrived based on court rulings imposed on the parties involved whether they like it or not. This arrangement does not resolve the conflict but rather settles it. When balance of power shifts, there is every likelihood of the conflict to resurface. Further in the case of Human-Wildlife Conflict management it is not practicable to take an elephant or a baboon to a court of law in case it destroys crops or kills human beings. This complicates the use of the litigation method. On the other hand, CBNRM involves the local communities in participating and decision making process in line with the constitution of Kenya 2010 Article 69 (1) (d) and 59 (2)(c) both of which advocate for public participation in management, protecting and conservation of the environment. Further the forest act 2005 equally advocates for adjacent forest communities participation and sharing in the benefits from forest resources as a mechanism to motivate them to conserve forest ecosystem and biodiversity. Resolution of Human-Wildlife Conflict looks into the root of the problem and addresses the psychological dimensions of the conflict at hand it is important to note that it is impossible to achieve sustainable development in an environment of unresolved conflicts. Unresolved conflicts negatively impact on socio-economic development as well as the biosphere. It needs to be pointed out that there is no one “fix all” method of managing Human-Wildlife Conflict Even among the alternative methods of resolving the said conflicts, not one of them can suffice on a stand alone basis. An integrated conflict management (ICM) approach would help in minimizing the human wildlife conflict menace. This entails marrying all the available approaches mentioned in chapter two and synchronizing them into “one whole” continuous research, monitoring of interventions and maintaining a robust feedback mechanism is the way to go.

## **RECOMMENDATIONS**

Based on the data collected, key informant’s literature and observations; the author has the following recommendations to make. The voice of the local communities needs to be heard. The livelihood of the local communities is at stake. Chronic poverty levels have impaired education standards since most of the local communities cannot afford even school uniform and basic primary school requirements let alone secondary and university level education. Rampant human-wildlife conflicts have aggravated the poverty levels. Baboons continue to play havoc on crops and livestock and interfere with the subsistence farming activities of the residents. It is hereby recommended that the wildlife conservation and management Act 2013 be amended to ensure compensation is given to victims of crop, property destruction and death caused primarily such as by baboons and vervet monkeys. The study recommends that once compensatory funds

have been granted by the government priority should be given to the victims and not KWS as in the current practice under the WCMA 2013. When it comes to compensation rewards the process of claiming should be shortened, without much bureaucracy and should be made more transparent. Internal checks should be incorporated into the process to ensure justice is given to victims of wildlife damage to either crops, property or even fatal injury and death. Current awards of Sh 3million for permanent incapacity and Sh 5 million for death should be revised to 5 million and 10 million respectively. The study, therefore, recommends that in this regard both national assembly and senate should enact amendment to the wildlife conservation and management act (WCMA 2013) to effect these amendments. Capacity building and education to the local communities needs to be intensified. The study found out that most locals do not know their rights and how they can legally benefit from the forest resource and wildlife thereof.

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