

**INFLUENCE OF ECOTOURISM ON SUSTAINABLE DEVELOPMENT OF
COMMUNITIES LIVING ADJACENT TO FORESTS: A CASE OF MUILESHI
COMMUNITY FOREST ASSOCIATION IN KAKAMEGA FOREST, KENYA**

BY

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DECLARATION

This project report is my original work and has not been presented for an award in any other University.

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DEDICATION

To my beloved parents Baari Senteu and Kirruti Uka who I owe unending support. I also dedicate to my son Jason Seriani for his patience.

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ABBREVIATIONS AND ACRONYMS

ACT Kenya	Act Change Transform Kenya
CBO	Community Based Organizations
CDTF	Community Development Trust Fund
CFA	Community Forest Association
D.V	Dependent variable
ICIPE	International Centre of Insect Physiology and Ecology
Interv.	Interview
I.V	Independent variable
KEEP	Kakamega Environmental Education Program
KFS	Kenya Forest Service
MFCG	Muliro Farmers Conservation Group
M.V	Moderating variable
NEMA	National Environment Management Authority
NGOs	Non-Governmental Organizations
PES	Payment for Environmental Services
SPSS	Statistical Package for Social Sciences
TIES	The International Ecotourism Society
UN	United Nations
UNEP – IE	United Nation Environment program – Industry and Environment
UNESCO	United Nations Educational, Scientific and Cultural organization
UNDP	United Nations Development program
WCDE	World Commission on Development and Environment

ABSTRACT

Development is among the most important challenges facing humanity: in the broadest sense on how to improve the quality of life. A better quality of life generally calls for higher incomes, better education, higher standards of health and nutrition, more equality of opportunity, greater individual freedom and a richer cultural life. Such development to be sustainable has to safeguard and put at equilibrium economic, social and environmental aspects of society for current generations without damaging future generations well-being. In this regard, among the many avenues being pursued to attain development is ecotourism. While there is evidence that ecotourism's espoused benefits can be realized, there are equally as many, cases where ecotourism has fallen short of its proposed objectives. While some scholars emphasized the potential for ecotourism to sustainably develop both the local people and their environments, existing statistics reveals that a majority of people living adjacent to forests continue to suffer from the absence of fundamental opportunities to lead decent and satisfying lives. It is against this backdrop that the study assessed the influence of ecotourism on sustainable development of communities living adjacent to forests with the hope to provide insight on mechanisms to sustainably develop these communities. It interrogated issues on four objectives around influence of income, cultural preservation, environmental education and partnership on sustainable development of communities living adjacent to forests. The study adapted descriptive research design. The target population was sought from ecotourism user group members amongst communities living Adjacent to Kakamega forest, which was sampled through convenience sampling in a sample size of 30 respondents. Both secondary and primary sources of data were utilized. The questionnaire and interview schedule guides covered items on the influence of ecotourism on the various indicators of the quality-of-life. Structured interviews were administered to local community opinion leaders, who were selected through purposive sampling, while questionnaires were administered to the general members of the Muileshi community forest association. In order to enhance the reliability of the questionnaire and interview schedules, pilot study was undertaken. Then they were edited in light of the results of the pilot study. Finally, the data was organized, tabulated and analyzed using Statistical Packages for Social Sciences (SPSS). Presentation of research findings was in form of descriptive statistics such as percentages, frequencies and tables. The study found out that Environmental education has been conveyed through many forums key among them Kakamega Environmental Education Program (KEEP) with 33.3% of respondents agreeing that it enhanced awareness and introduced a myriad of livelihood alternative strategies. Further, the study found out that 70% of the respondents earned income from ecotourism which improved community living standards. About 67% of the respondents 'consented to the influence of Ecotourism on cultural aspects inter alia dress codes, improved hygiene, energy saving and cooking practices. The aggregate influence of partners resonated with 85.7% of respondents who reported various initiatives that have made them gain impetus for development. The study therefore concluded that ecotourism has aided in minimizing environmental and social harm without preventing adequate economic returns to enable sustainable development. The study recommended among others good governance to be entrenched among community forest associations to optimally benefit from ecotourism.

CHAPTER ONE

INTRODUCTION

1.1 Background of the Study

Development is among the most important challenges facing humanity: in the broadest sense on how to improve the quality of life. A better quality of life generally calls for higher incomes, better education, higher standards of health and nutrition, a cleaner environment, more equality of opportunity, greater individual freedom and a richer cultural life. Such development to be sustainable has to safeguard and put at equilibrium economic, social and environmental aspects of society for current generations without damaging future generations' well-being. In this regard, there are many avenues being pursued to attain sustainable development; key among them being ecotourism (Momanyi, 2010).

Ecotourism is one of the potential tourism segmentation in the world today: Over the past 15 years it has become one of the fastest growing sectors of the Tourism industry (TIES, 2007; Deng *et.al*, 2002), primarily influenced by public demand for more environmentally and responsible tourism (Boo, 1999, Eagles and Higgins, 1993). Spreading throughout the world ecotourism is approximated to be growing at an annual growth rate between 10% and 15% (Scheyvens, 1999). The development experts have emphasized on ecotourism for the sustainable development of any community within economic, social, cultural, ecological and physical constraints. Ecotourism enhances sustainable development by meeting the needs of tourists and local residents while protecting future opportunities.

Besides, ecotourism offers benefits for local residents, conservation, development and educational experiences (Bhuiyan, Siwar, Ismail, S.M., and Ismail, R., 2012). Further, it establishes a durable productive base that allows local inhabitants and ecotourism service providers to enjoy rising standards of living (Barkin, 1996). Interestingly however, the most cited document on sustainable development, "*Our Common Future*", does not mention ecotourism at all (Wall, 1997; Wearing, 2001). Nevertheless, it is not hard to see the considerable overlap between the core principles of ecotourism and sustainable development. The relationship between the two has become so intertwined, that they should no longer be thought of as separate philosophies.

Scholars argue that ecotourism effects have been experienced both in the geographical area of

developing and developed countries (Valentine, 1991; Valentine, 1993). Australia was one of the first developed countries to develop ecotourism in the Ayers Rock region, which allowed justification for most. Ecotourism activities, when carried out in a sustainable manner, have a high direct use value and this should be an incentive for conserving forests.

Ecotourism has developed communities in the world by focusing on expanding, improving, and promoting locally owned businesses (Place, 1998). This will contribute to the economic growth of the local community so that revenue help meet the needs of the local people and is being reinvested into the community. Revenues from ecotourism need to be channeled into programs that benefit the local community, such as research, education, and health care. If money generated from ecotourism is distributed equitably, the project can become sustainable and the long-term economic prospects of the community can be enhanced (Lindsey, 2003). It is hoped that along with economic benefits, ecotourism would provide an opportunity for a multiple-use local economy, where resources from the forest could continue being used.

In order to be successful at and sustain ecotourism activities which local people and natural environment are at the center, it is imperative to know better the values of the people and their social environment. Therefore, in opening an area to ecotourism it requires to begin with local culture identification and education. There are many examples of the success of Ecotourism implementation throughout the world which will help support preservation of native cultures. To mention the least as Garraway posits, the Maroon communities in the Misty Blue and John Crow Mountains of Jamaica; Mayan communities of Punta Allen and Xcalak in Quintana Roo, Mexico; and the Toledo district of Southern Belize shares a common experience in using ecotourism as a strategy for community development. ,

Kenya's previous legislation on forest management Cap 375 disadvantaged local communities until the introduction of participatory forest management through Forest Act, 2005. It assigned among other user rights ecotourism and recreational activities to community forest associations as a livelihood adaptation strategy that not only satisfies the tourists' desire for adventure and comfort, but also satisfies the basic socio-economic needs of the community while conserving the environment and cultural assets upon which the industry depends.

Local communities before were not involved in ecotourism development, and the control of tourism resources was vested in the hands of a few western investors who are mainly profit-driven. This is in contrast with Local Agenda 21 and the principles of

sustainable tourism development which emphasizes the involvement of local communities and the control of tourism resources by local communities (Manyara and Jones, 2007).

Scholars (Bjork, 2000; Boo, 1990) argue that the distinction of ecotourism is mainly the learning or education component. Kenya has excellent tour companies and naturalist guides, but still a common complaint from tourists is their poor interpretive skills. Environmental education empowers through capacity building that strengthens the ability of communities to fully participate in the industry.

Ecotourism can be integrated with other sectors of rural economy, creating mutually supportive linkages emphasizing on reduced financial leakage. Through partnership it is envisaged that the natural, human and fiscal capital of the world's people can contribute to the conservation of natural and cultural heritage. The foundation for partnership is the sharing of skills and resources in order to plan for and deliver successful ecotourism in practicing agencies (Schaller T. David, 1995).

1.2 Statement of the Problem

Ecotourism contribution to sustainably develop communities adjacent to forests cannot be overemphasized. As asserted by Momanyi (2010), sustainable development presumes the well-being of individuals and communities in a people-centered and conservation-based development. This idea is based on the notion that local people have the greatest repertoire of knowledge on their ecology to be able to manage the resource system in a sustainable manner. As such, local populations must be involved in creative ways both in conservation and in direct ecotourism activities. To be meaningful, such involvement should go beyond minimal supply of goods and services, sale of handicrafts and traditional dance entertainment (Sindiga, 1999). Ecotourism, to be successful, must promote sustainable development by establishing a durable productive base that allows local inhabitants and ecotourist service providers to enjoy rising standards of living (Barkin David, 1996). Further, it fuels economic growth, equitable distribution of resources and in the process alleviate poverty. Ultimately, the relevance of ecotourism is linked to its role in ameliorating the problems associated with a lack of human well-being. While some scholars emphasize the potential for ecotourism to promote the well-being of both local people and their environments (Hvenegaard, 1994; Sindiga, 1999); there are a great many people living adjacent to forests who continue to suffer from the absence of fundamental opportunities to lead decent and satisfying lives. The continued high incidence of premature mortality, ill-health, undernourishment, hunger,

illiteracy, poverty, insecurity, and other forms of deprivation are evidenced in different regions surrounding forested areas, regions which are a haven to many of the ecotourism projects.

Further, as much as ecotourism has been hailed as a key advocate for responsible travel which aims at improving the welfare of the local people, there is inadequate statistical data to support the assertion. Current literature indicates that there has been a fair amount of progress in several areas of ecotourism research although there are still gaps in knowledge that need to be addressed. According to Honey (1999), “There are, in fact, pressing issues surrounding ecotourism that are crying out for deeper investigation, more rigorous analysis, more careful theoretical work: patterns of development and sustainability indicators”. Thus, the purpose of this study is to investigate the effects of ecotourism on sustainable development of communities living adjacent to forests.

1.3 Purpose of the study

The purpose of this study is to investigate the influence of ecotourism on sustainable development of communities living adjacent forests.

1.4 Objectives of the study

The objectives of this study are:

1. To determine the influence of ecotourism income on sustainable development of communities living to adjacent forests.
2. To assess the influence of cultural preservation on sustainable development of communities living adjacent to forests.
3. To establish the influence of environmental education on sustainable development of communities living adjacent to forests.
4. To investigate the influence of ecotourism partnership on sustainable development of communities living adjacent to forests.

1.5 Research Questions

The study seeks to answer the following questions:

1. To what extent does ecotourism income influence sustainable development of communities living adjacent to forests?
2. How does cultural preservation influence sustainable development of communities living adjacent to forests?
3. What is the influence of environmental education on sustainable development of communities living adjacent to forests?
4. How does ecotourism partnership influence sustainable development of communities living adjacent to forests?

1.6 Significance of the Study

By addressing the existing research gaps and deficiencies in the field of ecotourism and its influence on sustainable development of communities living adjacent to forest, it's hoped that the findings will offer an insight on mechanisms through which these communities will develop sustainably. Particularly, the research studied; impact of environmental education awareness on both the host community and ecotourists, local economy revitalization through sustainable revenue generation from ecotourism, outcome of interaction between the tourist and host community as well as partnerships established by the CFA from ecotourism and possibility of the local community to modernize without being westernized by preserving its culture. Thus, the overall rationale behind the study was to develop an ecotourism model centered on improvement of the quality-of-life of host residents through provision of employment, sustainable welfare for the people, growing local wealth and ensuring its equitable distribution.

1.7 Delimitation of the study

The study delimited itself to Kakamega forest community and particularly Ecotourism user group members of the Muileshi community forest association. The study delimited itself to 60 respondents made up of CFA (Ecotourism user group) members, tour guides, opinion leaders and KFS managers. There are however many forests in the country and around Kakamega Ecosystem but Kakamega Forest presented ideal characteristics for this particular research.

1.8 Limitations of the Study

Little local literature that is skewed towards influence of ecotourism on sustainable development of communities' living adjacent to Kakamega forest was the major limitation. To counter this, literature from developed countries was reviewed for the researcher to get actual picture of the situation on the ground. Likewise, the inhabitants of the study area were of different tribe from the researcher therefore research assistants were hired to interpret the illiterate respondent's comments and guide the researcher on the community culture and norms.

1.9 Assumptions of the study

The study also assumed that 99% of the communities living within five kilometers radius from the edge of Kakamega forest are members of Muileshi community forest association. The study assumed that respondents will be available for the study and that they will give correct and valid information that would assist in getting valid data. The respondents were very cooperative with a questionnaire return rate of 100% as shown in 4.2.

1.10 Definition of significant Terms

The following terms were used in the study:

Ecotourism: Refers to responsible travel to natural areas that conserves the environment and improves the well-being of local people (TIES, 1990).

Environmental Education: Environmental education is a process that allows individuals to explore environmental issues, engage in problem solving, and take action to improve the environment. As a result, individuals develop a deeper understanding of environmental issues and have the skills to make informed and responsible decisions.

Income: Income is money that an individual or business receives in exchange for providing a good or service or through investing capital. Income is consumed to fuel day-to-day expenditures.

Cultural preservation: The deliberate act of keeping cultural heritage from the present for the future.

Partnership: A partnership is an arrangement where parties, known as partners, agree to cooperate to advance their mutual interests. The partners in a partnership may be individuals, businesses, interest-based organizations, schools, governments or combinations.

Organizations may partner together to increase the likelihood of each achieving their mission and to amplify their reach. A partnership may result in issuing and holding equity or may be only governed by a contract.

Sustainable development: Refers to development that meets the needs of the present without compromising the ability of future generations to meet their own needs (Our Common Future, 1987). In the context of ecotourism, sustainable development is commonly understood in term of the complex interrelation between social, economic, and environmental aspects of development.

1.11 Organization of the study

The study is organized into five chapters. Chapter One contains the background of the study, statement of the problem, purpose of the study, objectives, research questions, significance of the study, limitations, delimitations, basic assumptions of the study and the organization of the study.

In Chapter Two, Literature is reviewed in the following order; a general review of ecotourism influence, the influence of cultural preservation on sustainable development, influence of environmental education and ecotourism partnership on sustainable development. The chapter also presents a conceptual framework showing the variables and the various indicators on the influence of ecotourism on sustainable development of communities living adjacent to forests.

Chapter Three outlines the research methodology used in the study and included research design, target population, sample size and sampling techniques, research instruments, questionnaires, validity of the instruments, reliability of the instruments, and finally piloting of the research instruments. The study presents the Operationalization of variables table.

Chapter Four presented analysis, presentation and interpretation of data and discussions of findings while Chapter Five entailed summary of findings, conclusions, recommendations and suggestions for further studies.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter discusses the relevant literature on factors that influence ecotourism on sustainable development of communities living adjacent to forest from global, African and local perspectives. It also offers both theoretical and conceptual frameworks on which the study is based. The review is organized as per the objectives of the study.

2.2 Sustainable Development of Forest Adjacent Communities

Sustainable development is a concept that has been at the forefront of international development. The underlying principles that make up sustainable development have been around for centuries but it was not until 1987 that official use of the term “sustainable development” received international recognition. In 1987, the Bruntland Commission’s basic definition of sustainable development was “development that meets the needs of the present without compromising the ability of future generations to meet their own needs” (Our Common Future, 1987). Since the first definition of Sustainable development by the Bruntland Commission in 1987, the concept has continued to gain popularity and has evolved to represent much more than its original definition. Sustainable development can mean many different things, depending on the context in which it is being applied.

In the context of ecotourism, sustainable development is commonly understood in terms of the complex interrelation between social, economic, and environmental aspects of development. By minimizing environmental and social harm, without preventing adequate economic returns, this triple bottom line approach may prove to enable sustainable development (Barkemeyer et al., 2011, p. 2-4). Despite the criticism aimed at sustainable development, its principles are still very useful as a tool for planning and policy-making (Sirakaya, Jamal, and Choi, 2001).

2.3 Ecotourism income and sustainability of forest adjacent communities

From economic perspective, ecotourism is believed to have potential to contribute to local economic development through a substantive channel (Jiang Jingjing, 2008). More specifically, it can help to provide jobs for local people, as well as drive the development of related industries, such as the service and accommodation industries (Lindberg, 2002). In addition ecotourism can also facilitate the upgrading of local infrastructure through its economic earnings (Beeton, 1998).

There are a lot of other examples of how ecotourism is making direct and significant contributions to biodiversity conservation. One approach is through sustainable revenue generation to support conservation of natural areas. Some destinations generate significant revenue from visitors fees collected at the point of entry or as user fees as happen in South Africa. In addition to payment of fees, financial contribution may be generated by sale of licenses, concessions and leases. Ecotourism involves visitor expenditures and the creation of employment that is directly related to the sector. Nature tourism is one of the few service-sector activities that can stimulate sustainable development in peripheral regions. Moreover, ecotourism development can stimulate consumption and production, which in turn further drives the local economy (Beeton, 1998). This is witnessed indirectly when, for example, a hotel uses tourist expenditures to purchase local food or pay its employees. It can as well induce through purchase of goods and services locally by these employees with their hotel/camp wages. Ecotourism revenue and employment fosters community stability and wellbeing, especially if these are accompanied by high degree of local control –the ideal of alternative tourism.

Williams (Cited in Gould, 2004) specifies employment benefits by using Uganda Community Tourism Association program as an example; this provides local people with a variety of jobs, including tour guides, campground operators and craft and food producers. Similarly, Linderberg, Enriquez and Sproule (1996) draw on case studies done in Belize to show that nearly 70 percent of the non-tourism jobs are dependent on ecotourism. Taking Costa Rica as another example, where ecotourism has also successfully led to increases in jobs, improvement of standard of living and better service infrastructure (Weinberg, Bellows & Ekster, 2002).

It is understandable that when local residents receive sufficient benefits from ecotourism, they are more willing to welcome and support such an industry (Jiang Jingjing, 2008). This is the case in Belize, ecotourism was found to play a significant role in creating

economic benefits to local people (Lindberg et. al., 1996). The economic revenues in turn, have led to increases in local people's support for conservation (Lindberg et.al., 1996).

One of the outstanding environmental advantages of ecotourism, which is closely related with economic benefits, is "its ability to provide a direct financial incentive for the preservation of relatively undisturbed natural habitats that would otherwise be exposed to more exploitative and profitable activities" (Weaver, 2006, p201). Indeed, ecotourism can be considered as a beneficial industry that can provide a healthy and sustainable alternative to the environmentally destructive industries (e.g. logging and mining), where the establishment of positive relationships between local people and conservation becomes more desirable (Beeton, 1998; Lindberg 2000). Ecotourism according to Lindberg (2000), is a promising tool to finance the establishment and maintenance of protected areas demonstrated by Western Sichuan, China which has increased the forested area by 6.7 million hectares (Alexander & Whitehouse, 2004).

2.4 Environmental education and sustainability of forest adjacent communities.

Another extremely important component to ecotourism is environmental education. Education for sustainable development is a life-wide and life –long learning which challenges individuals, institutions and societies to view tomorrow as a day that belongs to all of us, or it will not belong to anyone (UNESCO,2004:9). Whether it is through tour operators, lodges, national parks, private reserves, or different types of ecotourism related activities, education can make a difference. Education is often cited as one of the most crucial elements to ecotourism because it can change the way people (both locals and tourists) think about the environment. "Environmental education is a cornerstone of the ecotourism philosophy. Organizers hope that ecotourists will take home what they learn about delicate ecosystems." (Roberts and Thanos, 2003). One of the best ways to ensuring ecotourism's sustainability is helping to build a more discriminating and informed traveling public (Honey, 1999). The hope is that education can build environmental ethos, which can extend beyond the immediate scale of the ecotourism venture so that ecotourists become active advocates for conservation in the areas visited and their hometowns or countries (Stem et al., 2003).

The most common form of environmental education comes from knowledgeable tour guides, brochures and environmental education programs. One of the most effective ways to educate ecotourists and benefit the local community is to hire local guides. The advantages of

local guides as opposed to foreign guides are their knowledge about the local ecology, natural history, and local culture (Place, 1998). Since tour guides serve as the primary source for environmental education, it is important that they are knowledgeable and well trained. This has been the major ecotourism problem in Costa Rica: the lack of experienced and knowledgeable trail guides (Minca and Linda, 2000).

Environmental education is vital to the ecotourism experience, but it is not limited to the ecotourists. Education can also be important to creating a knowledge base that benefits the local communities as well. Increased awareness and understanding of conservation issues can have a positive impact on local environments and communities and can be passed on to future generations. According to Wearing (2001), “initiatives such as Costa Rica’s university and high-school ecotourism programmes, guided walks, young ranger and school outreach will eventually lead to greater local involvement in natural areas and, eventually, the tourism industry”

According to Wearing, (2001), creating a well-educated public that understands importance of ecotourism will help benefit the general public in the long run.

2.5 Ecotourism Partnership’s and sustainability of forest adjacent communities.

Ecotourism provides an information and resource network for visitors, residents, tour operators, resource managers, planners, researchers, educators, government agencies and other professionals. Partnering with diverse types of organizations or individuals can help generate innovative solutions and have an impact beyond what you can accomplish alone (UN Global Compact Annual Implementation Survey).

Community interaction with inbound and outbound tour companies operators, tour guides and ecotourists with varied interest in their visits enable them to expand knowledge base and secure future opportunities. This scales down production processes and returns power to local units of governance and concentrate benefits locally. However, more often than not local people have neither the political power nor the business connections to compete at an international level with metropolitan tour agencies (Schaller T. David, 1995). An example of a successful partnership is on creating and reinforcing education tools to help the development of ecotourism businesses in European rural areas using existing national or regional ecotourism certification schemes (Anonymous). This partnership has educated farmers, small business owners, local communities to develop ecotourism services and

products locally. The partnership mostly focuses on exchanging the experience of educators (certification systems managers, NGOs members, trainers) and learners (farmers, agro and ecotourism business owners, local business representatives) on how to motivate and help farmers and small business owners to change their business profile to ecotourism, market ecotourist businesses through certification systems at national and international level, attract and receive foreign tourists in rural ecotourism businesses.

2.6 Cultural preservation and sustainability of forest adjacent communities.

Cultural heritage is defended as an important part of ecotourism. Culture' is a word that is used often, but is not clearly defined. Sussmann and Rashcovsky (1997) describe culture as including the observable elements such as the characteristics of behaviour, material arts, and social arrangements, and non-observable elements such as the beliefs, attitudes, and values held by most people in a society. Triandis (1972) included additional elements, such as role perceptions, stereotypes, categorizations, evaluations, expectations, memories, and opinions. Members of a similar culture have similar values; conform to similar rules and norms; develop similar perceptions, attitudes, and stereotypes; use common language; and participate in similar activities.

Social and environmental values are shaped by the specific culture people belong to. Some cultures favour ecosystem conservation, like the Mahafaly people in Madagascar, who considered certain forests sacred and protected them for years against the destruction that occurred in surrounding forests (O'Conner 1990). Similar kind of forest conservation, based on traditional values, has been practiced in the North Pare Mountains in Tanzania (Ylhäisi, 2006). Michaelidou et al. (2002) points out, that even if community members do not have identical social and environmental values, it is necessary to understand the full spectrum of values within a specific community so that development projects do not erode important customs.

For example a remote Australian Indigenous communities considering establishing ecotourism enterprises, had to consider the influence of Indigenous culture. Large cultural differences however, may create cultural conflicts between a host population and tourists. These conflicts are related to value systems, lifestyles, individual behaviour, expectations, traditions, safety levels, and moral conduct. The importance of culture is increasingly being reflected in development approaches, for a number of reasons. First, it is likely that

recognition of the importance of local cultural values assists in the prevention of alienation caused by social and economic dislocation imposed exogenously by dominant systems and institutions. In addition, it now seems clear that if specific programmes and locally based projects are to prove successful, local support and knowledge is crucial. Cultural recognition can do much to re-energize the self-confidence and self-esteem of individuals and communities dislocated by rapid change. With the choice of returning to their own land or ‘country’, many Indigenous people are considering how best to utilize their land for economic purposes, while simultaneously maintaining important aspects of their traditional culture (Fuller et al, 2007).

Local culture and history can be conserved through educating the local communities especially the youth on ecotourism principles and local history; reviving local history to enrich the ecotourism attractions; developing local crafts that make use of native materials not obtained from the protected area but cultivated by local people; reviving some interesting and environmentally friendly cultural practices such as local dances; preserving historical structures as they are part of our cultural heritage. In this regard, it’s advisable that historical structures are not altered/painted or modernized as they are also good educational testimony to historical realities. Restoration and minimal cleaning however can be allowed for aesthetic purposes. Cultural impacts such as using women, men and children to “entertain” guests should be prevented; intoxication/drunkenness from liquor to both visitors and local people in the ecotourism area prohibited and laws and regulations against illegal/prohibited drugs strictly enforced (Anonymous).

People travel to see how other people live, to experience their neighborhoods, and to understand the natural environments that define their existence. Culture and heritage sums up a community’s beliefs and values—shared behavior acquired as the result of living within a group and a defined geographic area. To develop ecotourism without considering local culture is to take the humanity out of ecotourism and hindering societal sustainable development (Fuller et al, 2007).

2.7 Theoretical framework

The theoretical framework is guided on two models. The first one will be used for studying the interdependence of the local ecosystem and community viability and the second model acts as a backbone for analyzing ecotourism potentiality in sustainably developing the

study area. The principles of ecotourism place great demands on the area studied, which is why various dimensions of ecosystem and community viability are needed to guide the study. These interacting models have been chosen for the study, as together they form an entity which brings out the broad field of aspects on sustainable development through ecotourism.

The first section of the framework follows the theory by Michaelidou et al (2002). It is based on the interdependence hypothesis, which suggests that ecosystem conservation and community survival are interdependent and should be given equal emphasis if both are to benefit. Thus, ignoring one of the two dimensions would compromise the other. People often emphasize either anthropocentric or biocentric dimensions when conservation and development efforts are concerned. This framework offers a more balanced view on conservation. According to Michaelidou et al. (2002) it includes factors that have been lacking and so hindered the success of many integrated projects, such as the lack of a holistic ecosystem conservation approach, the failure to address cultural factors and the lack of attention paid to external forces that impact local situations. Three dimensions form the framework: ecosystem viability, community viability and external forces. The ecosystem viability dimension focus is on the ecological integrity and viable populations of the ecosystem. The importance of species diversity on local communities for medicinal, economical, aesthetic, spiritual and cultural values is emphasized. The community viability dimension consists of three main categories: 1) culture, 2) wellbeing, and 3) knowledge. According to Michaelidou et al (2002) culture consists of the factors cultural sustainability, social and environmental values. The qualitative changes as opposed to quantitative changes in community conditions should be emphasized when talking about development. Project activities striving to community development should at the first place focus on “ways of life” rather than “livelihoods”. Local people should have the option to decide what kind of development if any, is desirable to them, allowing their local beliefs and customs to guide the process of change. There might be spiritual reasons and social aspirations for the engagement in local practices and in such cases the economic incentives might be ineffective, because they fail to satisfy these needs.

In this theoretical framework *well-being* consists of the factors economic well-being, physiological and psychological well-being. According to McNeely (1992), it is important to address the economic well-being of local communities within or adjacent to natural resource areas, since those people often pay disproportionate costs for nature conservation. Even if poverty might not always be prevalent, lack of employment opportunities may force the

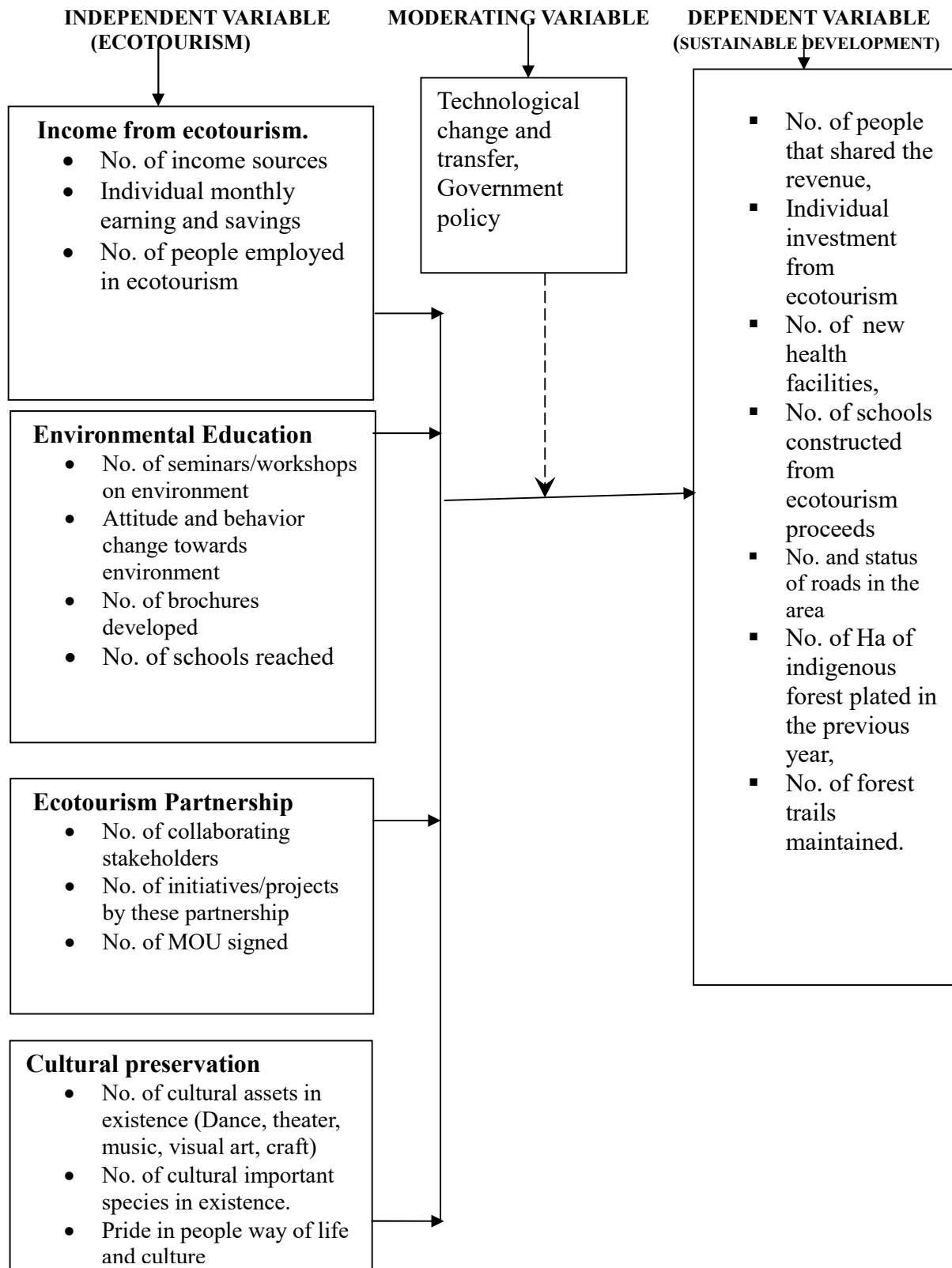
young and educated people to migrate to cities, leaving rural villages with less viable coping mechanisms.

The economic well-being is an essential component of community viability, although it is not the only one. The viable development has also to do with psychological well-being. Whether people feel peaceful, safe and secure within their communities, matters. Rights to land increase people's sense of security and may also benefit conservation (Goodland 1991). If such fundamental needs like health and security are missing, community cohesion and survival become threatened and conservation goals become hard to reach. The third category, knowledge includes the factors environmental knowledge and cultural knowledge. Communities that have lived close to nature for centuries or millennia usually have wide environmental knowledge about the ecosystem and plant and animal species inhabiting it (McNeely 1992). According to Berkes (1993), traditional environmental knowledge is "a cumulative body of knowledge and beliefs, handed down through generations by cultural transmission, about the relationship of living beings with one another". Local communities also have extensive cultural knowledge about local history, customs, beliefs and mythology (Goodland, 1991). Unfortunately, as McNeely (1992), describes, "The loss of cultures or of traditional knowledge within cultures undergoing rapid change, as a problem which is at least as serious for humanity as is the loss of species". The local knowledge should not only be incorporated into ecosystem and community viability efforts, but the knowledge should also be maintained. Avenues like environmental education awareness through which the environmental and cultural knowledge can be passed to new generations should be established (Michaelidou et al. 2002). The local communities and their associated ecosystems are part of a larger social, economic and political context and often subject to influences that originate far from the local place. Whereas a favourable external environment supports and enables local communities and natural areas thriving, an unfavourable external environment mainly influenced by partners and policy can threaten ecosystem and community viability (Barrett & Arcese, 1995).

2.8 Conceptual Framework

Figure 1: Sustainable development through ecotourism

Source: Researcher, 2016.



Ecotourism may be a means for sustainable development of an area. Different indicators are commonly used to make decisions for development in any place. The indicators like infrastructure development, local culture and lifestyles, local people attitude towards ecotourism, equitable and sustainable income and surety are commonly used as success for sustainable development. Sustainable development through ecotourism is essential in order to preserve conservation and maintain the biological resources of the area as well as economic benefits of the local people (Bunruamkaew and Murayama, 2011). Ecotourism should maintain several criteria such as conservation of biological and cultural diversities through ecosystem preservation and ensuring of sustainable use of biodiversity with minimum impact on the environment (Ryngnga, 2008).

Sustainable development through ecotourism is an evident issue in the world today. Many countries have ensured community development by this concept. In this concept, sustainable development may occur through ecotourism and other community development initiatives simultaneously in an area. Dimensions promoting ecotourism development refer to generation of sustainable income, environmental education awareness, building partnerships and cultural preservation. Sustainable development through ecotourism depends highly on these indicators. (Figure 1).

2.9 Knowledge gap

Table 0-1.1: Knowledge gap

Variable	Author (Year)	Title of the study	Findings	Knowledge gaps
Environmental education awareness	Minca and Linda, 2000	<i>Ecotourism on the Edge: Forest Tourism and Recreation.</i>	Trail guides in Costa Rica lacked experience and knowledge.	It is not generalized hence experience and knowledge of Kakamega guides not known.
	Stem et al, 2003	<i>Community participation in Ecotourism Benefits.</i>	Found that environmental education awareness will build environmental ethos among ecotourist.	Influence of environmental education on the host community not known.
Building partnership and network	Rachel and Marrion, 2005	<i>CSR in the Tourism industry? The Status of and Potential for Certification, Codes of Conduct and Guidelines.</i>	Certification schemes have educated farmers, local community to develop tourism services and products.	Level of engagement of Muileshi community in ecotourism not known.
Cultural preservation	O'conner, 1990 and Yihaisi, 2006	<i>Wildlife Resource management with local participation in Africa. Traditionally protected Forests and sacred Forests of Zigua & Gweno Ethnic Groups in Tanzania</i>	People considered certain forests sacred and protected them for years against destruction i.e in Madagascar and North Pare mountain in Tanzania respectively	No information on cultural attachment of the Muileshi community to Kakamega forest.

2.10 Summary of the chapter

Many authors have expressed their concerns for ecotourism contributions to sustainable development of communities living adjacent to forests in the world over in the literature reviewed. Besides the various economic contributions, ecotourism has been found to provide a direct incentive for the preservation of relatively undisturbed natural habitats that would have been exposed to more exploitative activities. Other studies have shown that education is

the most crucial element to ecotourism as it changes the way people think about the environment. The literature review has also brought to the lime light the fact that it's critically important to consider local culture before introducing any initiative. Other studies have found that partnership in ecotourism has built the impetus for communities to participate and develop sustainably. Finally, the conceptual framework linked the independent variables to sustainable development of communities living adjacent to forests while the theoretical framework gave a societal overview of ecotourism and sustainable development.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

This chapter gives an overview of the research methodology used in the present study. It covers: research design; target population and sampling techniques; sample selection; data collection methods and instruments; data analysis and presentation techniques; quality control of data collection instruments and ethical considerations.

3.2 Research Design

This study adopted a descriptive research design. The descriptive research design will allow one to be able to use various forms of data as well as incorporating human experience. It gives researchers the ability to look at whatever they are studying in so many various aspects and can provide a bigger overview as opposed to other forms of research (Mugenda and Mugenda (2003)).

3.3 Target population

The target population for this study constituted communities living adjacent to Kakamega forest (ecotourism user group among CFA members), opinion leaders (local, youth and women group leaders), tour guides, eco – lodge and Banda managers and forest managers. The target population for the study was 330 people.

Table 0-1.1: Target population

Ecotourism user group (CFA)	Opinion leaders (Local, Youth and women groups)	Tour guides	Lodge, and Guest house Managers	Banda house	Forest managers
300	14	10	3		3

3.4 Sample Size and Sampling Procedure

3.4.1 Sample Size

According to Cooper and Schindler (2006), a sample of at least 30 elements (respondents) must exist for generalization purposes. Other research scholars argue that sample size selection to a great extent is judgmentally decided. From the target population of 300 Ecotourism user group members of the CFA, 30 respondents were subjected to the study using Population Proportion to Size (PPS). This number was obtained using the formula recommended by Kothari (2003) as summarized in Table 3.2

Kothari, (2001) also argues that if well chosen, samples of about 10% of a population can often give good reliability and so 20% will even be better. From each stratum the study used simple random sampling to select 30 respondents all of which are 10% as they are less than 30

Table 3.2 Sample Size

Category	Target Population	Percentage	Sample
CFA members	300	10%	30

3.4.2 Sampling Procedure

Sampling is the procedure of selecting elements from a given population that specifies the type of sample to be used. From the population frame, the required number of respondents was selected in order to make a sample. The study adopted two sampling techniques: purposive sampling and convenience sampling. Purposive sampling was used to select 14 opinion leaders, 10 tour guides, 3 lodge/Banda managers and 3 forest managers while convenience sampling was used to select 30 respondents from the Ecotourism user group among CFA membership.

Purposive sampling was used because it is deemed appropriate in cases where only those who are considered to have the required information are targeted. Convenience sampling was used because it is deemed appropriate for a homogenous target population. The study further adopted the advances made by Cooper and Schindler (2006) which indicate that a good

sample contains the elements of precision and accuracy. Precision calls for a sampling error that is within acceptable limits for the study's purposes while accuracy is obtained in a case in which there is little or no bias.

Generally, the research participants will be required to meet the following requirements aimed to ensure that they will be sufficiently familiar with their respective communities. First, participants should have lived in Kakamega forest region for at least five years; second, participants should be conversant with the actual daily community life; and third, participants should be involved actively in the local community's affairs, particularly, in ecotourism activities (member of ecotourism user group).

3.5 Data Collection Instruments

The study used questionnaire and interview schedule as instruments of data collection. Questionnaire was used to collect data from the Ecotourism user group members of community forest association while interview schedule was used to collect data from opinion leaders, tour guides, lodge/Banda managers and forest managers. Questionnaire was used because of its convenience in facilitating quick and easy derivation of information (Oso and Onen, 2009). Questionnaires were also useful since they establish the number of people who hold certain beliefs and hence possible to gauge public opinion on an issue (Flick, 2002).

Open ended questionnaires were used for the study. The reason they were used is because they allowed the respondent to exhaust information on queried issues. The main body of the questionnaires which is also part B dealt on a mix of questions on abstracts of ecotourism influence to community sustainable development.

Section A captured the background information of the participants like respondents' gender, respondents' marital status, respondents' age and level of education.

Interview schedule was used on the opinion leaders, tour guides, lodge/Banda managers and forest managers due to their characteristic that they can be used to capture information that would otherwise not be captured using questionnaires. It was necessary to interview them because they were deemed to have information that the other employees did not have. The researcher made preliminary arrangements prior to the interview. This guarded against any weaknesses associated with this method.

3.5.1 Piloting of the instruments

The study first constructed the research instruments which were pre-tested first to make appropriate modifications before embarking on the main study.

During piloting, the study familiarized itself with the nature of respondents and their expectations during the main study. The pilot study was carried out in Mt. Elgon in two phases, two weeks apart. After the first pilot study, the data collection instruments were checked for errors and corrections were made. The second phase was carried out to ensure that no more errors were left, whereby any other identified error was corrected before embarking on to the main study at Kakamega forest adjacent community. Modifications were made on sampling procedure and research objectives as applicable.

3.5.2 Validity of the Instruments

Validity refers to the appropriateness of an instrument. It is the degree to which results obtained from the analysis of data actually represent the phenomena under study. A valid instrument should accurately measure what it is supposed to measure (Orodho, 2002). Content related validity was used to ascertain the validity of questionnaire. It was established through consulting an expert in the field of research. Content validity is concerned with sample population representativeness meaning that the knowledge and skills covered by the test items should be representative to the larger domain of knowledge and skills. The reason for conducting a validity test was to determine the suitability, clarity and relevance of the instruments for the final study. Ambiguous and inadequate items were revised in order to elicit the required information and to improve the quality of the instruments.

3.5.3 Reliability

According to Travers, (1989), pilot testing is important in the research process because it reveals vague questions and unclear instructions in the instrument. It also captures important comments and suggestions from the respondents that enable the researcher to improve efficiency of the instrument, adjust strategies and approaches to maximize the response rate. Pretesting was conducted by administering ten questionnaires among Sabot/Sosio CFA in Mt. Elgon Trans Nzoia County. The researcher used that information to adjust the instrument as found necessary.

3.6 Data Collection Procedure

Data collection started with the researcher obtaining a letter of introduction from the University of Nairobi Extra-Mural Department. A permit was then acquired from the National Commission of Science, Technology and Innovation (NACOSTI) before embarking to the field. The researcher made appointments with the Ecosystem Conservator Kakamega and forest station manager Isecheno Forest station for introduction to the Muileshi CFA and Kakamega Tropical rainforest tour guides. After introduction, administration of the questionnaires began and it took one month duration to complete the exercise. This was made possible through the help of the 5 research assistants/tour guides who were closely supervised by the researcher. The study used ‘drop and pick’ method to administer the questionnaires to the sample population. There was prior booking of appointment before conducting interviews.

3.7 Data Analysis Techniques

Data was first coded to translate responses into specific categories and reduced data into manageable summaries. Tabulation was then done followed by analysis using descriptive statistics. Frequencies and percentages were used and the presentation was done using tables. The computer program SPSS (Statistical Package for Social Science) Version 17.0 was used to analyze the data. Analysis of data was important in explaining the variables of study. Data from the interview schedule was analyzed using content analysis. Durrheim and Painter (2006) points out that the purpose of analysis is to generate meaning from the raw data collected.

3.8 Ethical Considerations

Ethical research practices were observed throughout the study. First, consent to carry out the research was sought from government officers. This helped in eliminating any kind of conflicts that would have arisen from the respondents. Secondly, the purpose of the study was clearly explained to the respondents. It was also made clear that the findings from the study would be treated with great confidentiality. A permit was further obtained from the National Council of science and Technology. It clarified the aim of the study which hence improved cooperation from the respondents. Finally, participation was made voluntary.

3.9 Operational Definition of Variables

The different variables and how they were applicable to the study are summarized in Table 3.3

Table 3.3: Operationalization of Variables

Objective	Variable	Indicators	Measurement	Scale	Data collection Tools
To determine the influence of ecotourism income on sustainable development of forest adjacent communities.	Independent Variable: influence of ecotourism on sustainable income	Increased Income sources Equitable income sharing Employment provision Wealth base growth Increased meal quantity and quality	No. of income sources No. of people that share the ecotourism revenue No. of people employed No. of investments made from ecotourism proceeds Frequency of meals and their quality in a day	Ordinal Ordinal Ordinal Ordinal	Questionnaire and interview
To assess the influence of cultural preservation on sustainable development of forest adjacent communities	Independent variable: influence of ecotourism on cultural preservation	Existence of cultural assets Increased cultural pride in the community Existence of decision making structures on cultural aspects Domestication of culturally important plants	No. of cultural assets in existence Level of cultural pride Nature of decision making structures. No. of domesticated plants	Ordinal Ordinal Nominal Ordinal	Questionnaire and interview
To establish the influence of environmental education on sustainable development of forest adjacent communities	Independent variable: influence of ecotourism on environmental education	Availability of learning forums Enhanced community initiatives Improved community attitude and awareness towards conservation	No. of learning forums No. of community initiatives introduced Level of environmental awareness and consequent attitude change	Ordinal Nominal Ordinal	Questionnaire and interview
To investigate the influence of ecotourism partnership on sustainable development of forest adjacent communities	Independent variable: influence of ecotourism partnership	Increased stakeholder involvement Stakeholders contribution to community development Increased school enrolments	No. of stakeholders No. of initiatives contributed by stakeholders Level of school enrolment	Ordinal Nominal Ordinal	Questionnaire and interview

CHAPTER FOUR

DATA ANALYSIS, PRESENTATION, INTERPRETATION AND DISCUSSION

4.1 Introduction

The focus of this chapter is to analyze, present, interpret and discuss findings in line with the objectives of the study. The data that was obtained is presented in tabular forms using percentages and frequencies. The chapter is further sub divided into sections that are pertinent to the subjects under study.

4.2 Questionnaire return rate

The questionnaire rate of return in this study was 94%. The researcher administered fifty questionnaires and forty seven were returned out of which thirty correctly filled were randomly selected for analysis. It was a reliable response rate for data analysis as Mugenda and Mugenda (2003) explain that any response above 60% is adequate for analysis.

4.3 Demographic Information of the respondents

As part of the general information, the respondents were requested to indicate their gender, age, level of education, marital status, occupation and number of dependents. This was necessary in indicating the characteristics of the respondents and kind of interaction with the environment and by extension ecotourism.

4.3.1 Distribution of respondents by Age

Determining the respondents' age was important as it revealed their anticipated need level and how they interacted with environment.

Table 4.1: Age of Respondents

		Frequency	Valid Percent	Cumulative Percent
Valid	21 to 40 years	13	43.3	43.3
	41 to 60	14	46.7	90.0
	Above 60 years	3	10.0	100.0
Total		30	100.0	

A majority of the respondents 46.7% were between 41-60 years followed closely by those between 21-40 years at 43.3% while those above 60 years constituted a sparingly 10%. This could be due to high unemployment rate in the community coupled with a low life expectancy. The high populations in ages between 21-60 years are the most active and might threaten the forest existence if appropriate alternative livelihood strategies are not introduced.

4.3.2 Respondents sex

Determining respondents' sex helped divulge the level of both genders involvement in community development bearing in mind different needs and contributions by each.

Table 4.2: Sex of Respondents

		Frequency	Valid Percent	Cumulative Percent
Valid	Male	19	63.3	63.3
	Female	11	36.7	100.0
Total		30	100.0	

Male comprised 63.3% of the respondents while 36.7% were female. This reflects a low level of women participation in community development. This indicates the need for women to be engaged more in environmental education as they heavily depend on the forest for firewood, herbal medicine among others.

4.3.3 Respondents marital status

Inquiring about marital status was important in establishing the level of cultural influence by ecotourism.

Table 4.3: Marital Status of Respondents

		Frequency	Valid Percent	Cumulative Percent
Valid	Married	23	76.7	76.7
	Single	6	20.0	96.7
	Divorced/Separated	1	3.3	100.0
	Total	30	100.0	

The respondents seem to have high value for marriage with 76.7% being married, 20% single and 3.3% divorced. The minimal ecotourism influence on culture through marriage is sufficient prove that ecotourism development and cultural preservation can happen concurrently.

4.3.4 Respondents Level of Education

Interrogating the level of education among Muileshi CFA depicted the ease in conveying environmental education to the forest adjacent community.

Table 4.4: Education Level

		Frequency	Valid Percent	Cumulative Percent
Valid	Primary	10	33.3	33.3
	Secondary	9	30.0	63.3
	College	11	36.7	100.0
	Total	30	100.0	

About 4 in ten adults in the community have completed college. A third of the respondents have secondary education and 33.3% attained primary level of education. Majority of the community members therefore were able to understand, interpret and consequently use environmental education as delivered.

4.3.5 Respondents Occupation

This indicated the financial capability of the respondents to meet their needs and the lack thereof to relate to the possible effects on environment and or forests.

Table 4.5: Occupation of the Respondents

		Frequency	Valid Percent	Cumulative Percent
Valid	Unemployed	2	6.7	6.7
	Self- Employed	23	76.7	63.3
	Salaried/Formal Employment	5	16.7	80.0
	Total	30	100.0	100.0

Majority of the respondents 76.7% are self-employed while 16.7% work for a salary and 6.7% unemployed. This emphasizes the importance of ecotourism among others in contributing to livelihood improvement of communities living adjacent to forests.

4.3.6 Respondents dependents

The size of respondents' dependents dictated the amount of demands and consequent pressure on the environment and likelihood to lose cultural values in desperate financial struggles.

Table 4.6: Number of Dependents

		Frequency	Valid Percent	Cumulative Percent
Valid	None	3	10.0	10.0
	1-3 dependents	4	13.3	23.3
	4-6 Dependents	10	33.3	56.7
	7 and above Dependents	13	43.3	100.0
	Total	30	100.0	

About four in ten people among the respondents have seven and above dependents. Thirty three percent of the respondents have between four to six dependents while 13% have between one and three. Only 10% of the respondents have no dependents. This shows high level of dependence which might force people to derive disposable income from the forest legally or illegally or even do anything desperate against cultural norms to provide for their dependents.

4.4 Influence of Income from Ecotourism

This section addresses the respondents' perceptions on objective one on income from ecotourism. It looked at whether the respondents earned income from ecotourism, if so how much, the various uses that respondents put the income earned and how it has influenced their lives.

4.4.1 Income from ecotourism

The interrogation on income helped to indicate the proportion of respondents benefiting from ecotourism and its significance in impacting respondents' lives.

Table 4.7: Do you earn income

		Frequency	Valid Percent	Cumulative Percent
Valid	Yes	21	70.0	70.0
	No	9	30.0	100.0
Total		30	100.0	

More than two thirds of the respondents earn income from ecotourism while 30% did not.

Table 4.8: How much income per month

		Frequency	Valid Percent	Cumulative Percent
Valid	Less than Kshs. 1000	11	36.7	36.7
	Kshs. 1000 to 4999	4	13.3	50.0
	Kshs. 5000 to 9999	2	6.7	56.7
	Over Kshs. 10000	4	13.3	70.0
	Not applicable	9	30.0	100.0
Total		30	100.0	

Among the income beneficiaries, a majority 36.7% earn less than kshs. 1000, 13.3% earn between Ksh. 1000 – 4999 a month, 6.7% earn between Ksh. 5,000 – 9999 and a partly 13.3% over Ksh. 10,000. This is an indicator that ecotourism cannot be a panacea to economic needs of Kakamega forest adjacent communities and other initiatives have to be introduced to propel them to full economic satisfaction.

4.4.2 Sources and uses of ecotourism income

This explored the various sections of ecotourism that employed respondents for income. It further outlined the priority uses of income earned. This is important as it helped identify the new unexploited income areas as well as analyze the contribution ecotourism is making towards improving CFA members' living standard.

Table 4.9: income from what?

		Frequency	Valid Percent	Cumulative Percent
Valid	Raising and selling tree seedlings	10	33.4	33.4
	Employment in the Eco-facilities	6	20	53.4
	Supplying groceries to Bandas and lodges	7	23.3	76.7
	Hosting homestays	7	23.3	100.0
	Total	30	100.0	

Among ecotourism income beneficiaries, about a third sourced their income from selling tree seedlings. This has been the largest income earner mainly due to the support ecotourists gave to conservation programmes in and around the forest through buying seedlings to plant in commemoration of their visits. The seedlings are planted in the set aside forest arboretums which are mainly degraded areas in the forest under rehabilitation and also in schools surrounding the forest for aesthetic and wood fuel provisioning. Several self help groups have been trained and encouraged to venture in tree nurseries which have significantly contributed to not only environmental conservation but also income earning. The monetary translation from the research indicated that each of the four active groups sell on average about 30,000 seedlings annually. Each sold at an average of ksh.15 yielding a gross income of Kshs. 1,800,000. The groups would use on average Kshs. 800,000 (Kshs.200,000 each) for administration and operation and Kshs. 1,000,000 goes to the local economy annually (Okeka, personal communication, April 11,2016).

About 23.3% of the CFA members sourced their income from supplying groceries to local ecotourism facilities. The supplies go to Rondo Retreat Center Lodge and the community bandas. The seasonality of the business see much of the supplies done during peak season with a tremendous decline in the off peak season. According to the Rondo Retreat Center Assistant Manager Alfred Imbayi (personal communication, April 7,2016) the Lodge procure supplies worth approximately Kshs. 50,000 annually. The community Bandas on the other

hand buys about Kshs. 20,000 worth of supplies from the community annually (Wepukhulu, personal communication, April 5, 2016).

The 20% of respondent's acknowledged earning income from employment in ecotourism facilities. The ecotourism facilities provided employment to twenty six locals in the Lodge and four in bandas on permanent basis. The Bandas employs casuals on demand basis to attend to various duties like cleaning, bush clearing and cooking (Anyango, personal communication, April 19, 2016). Ecotourism also employed eighteen tour guides for guiding services and each earns an average of Kshs. 60,000 per annum. This as Beeton (1998) asserts, will stimulate consumption and production which in turn drives the local economy. The income from this employment impacts the lives of the many dependents which as indicated in the research, 43.3% of the respondents have seven and more and local businesses as it goes into buying goods and services.

A notable 23.3% of respondents earned income by hosting ecotourists in their homesteads. Even though the program is not yet well developed, about six homesteads have been identified to offer such services. The clients include ecotourists with cultural interest on local diets, storytelling and cooking methods and volunteers from various programs. A daily fee of kshs.1500 is earned from each visitor for accommodation and meals. These visitors might normally be interested on other cultural artifact which they buy in these homesteads. On average each homestead hosted 20 visitors for a day translating to Kshs. 180,000 for the six homesteads annually. This could be seen as meager but in a rural economy like that of Muileshi community, its impacts are widely felt (Wepukhulu, personal communication, April 5, 2016). This is in agreement with William (cited in Gould, 2004); Weinberg, Bellows and Ekster (2002) on the various direct and indirect jobs provided by ecotourism in Ugand and Costa Rica respectively. Besides community's contribution to forest conservation and management, they have not benefited from visitors entry and user fee paid to Kenya forest service (Okeka, personal communication, April 11, 2016).

Ghimire and Pimbert (1997) reiterated that rural people deserve access to the resources required to meet their basic needs for economic safety and, where possible for upward social mobility. The use of income by respondents varied from feeding their families, paying school fees for their children or dependents, group registration and administration to running and expanding tree nurseries and investing in businesses like kioks, hotels and transport (Bodaboda) businesses. Conservation programmes therefore are only valid and sustainable when they have the dual objective of protecting and improving local livelihoods and

ecological conditions. This is where eco-tourism approach is becoming increasingly popular in revenue generation and sharing amongst Muileshi CFA of Kakamega forest and in contributing to ecological preservation. Essentially, these projects use funds generated to “buy” support for conservation from local residents. This support has come in numerous forms, such as the well wishers constructing and equipping of clinics and schools, supply of water tanks and funding of a wide range of other local projects (Simpiri, personal communication, April 22, 2016).

Evidently, the income is being ploughed back to the local economy and has improved the standard of living in the community. Further, 90% of the respondents constituted active ages between 21- 60 years and about five in ten have more than seven dependents of which if no alternative livelihood is sought will be a threat to forest conservation which ecotourism depends on. There is however a feeling that the skill set of the community be improved to enable them engage in more superior ecotourism ventures like running tour firms and travel agencies (Wepukhulu, personal communication, April 5, 2016).

4.4.3 Meal quality and quantity

This helped in pointing out how ecotourism has influenced the number of meals taken by respondents in a day and their quality. It endeavors to demonstrate its contribution to improved health, hygiene, food security and eradication of nutritional related diseases.

Table 4.10: Ecotourism influence on meal quality

		Frequency	Valid Percent	Cumulative Percent
Valid	No Effect	3	10	10
	Improved meal variety	10	33.3	43.3
	improved cooking methods and hygiene	10	33.3	76.6
	Improved food storage	7	23.4	100.0
Total		30	100.0	

Table 4.11: Ecotourism influence on number of meals

		Frequency	Valid Percent	Cumulative Percent
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Valid	No Influence	7	23.3	23.3
	Three meals a day	23	76.7	100.0
	Total	30	100.0	

Ecotourism according to respondents has had varied influence on meal quality and quantity. About 33.3% of respondents acknowledged improved meal variety, cooking methods and hygiene in each. While 26.2% of the respondents acknowledged the improvement on food storage, 23.4% did not realize any change on meal quality and quantity. A bigger proportion, 76.7% of the respondents confirmed that since ecotourism began they have managed to have three meals a day while 23.3% did not see a change in number of meals they had in a day. The latter is mainly composed of both none beneficiaries of ecotourism and the originally financially able in society (Anyango, personal communication, April 19, 2016).

4.5 Influence of Ecotourism on culture

This section looked into the respondents' views on objective two on how ecotourism influenced culture. It further narrowed down to ecotourism influence on cultural perception and practices by the local community and people involved in deciding which cultural artifacts to be shown to ecotourists.

Table 4.12: Ecotourism influence on cultural perception

		Frequency	Valid Percent	Cumulative Percent
Valid	Yes	20	66.7	66.7
	No	10	33.3	100.0
	Total	30	100.0	

Table 4.13: Who decides on cultural aspects to be shown to ecotourists?

		Frequency	Valid Percent	Cumulative Percent
Valid	Tour Guides	8	26.7	26.7
	Elders	15	50	76.7
	community members	7	23.3	100.0
	Total	30	100.0	

About seven in ten respondents consented to the influence of ecotourism on culture while 33.3% did not. The areas of influence according to respondents are the introduction of new

diets and dress code, enhanced cultural pride, deepened cultural understanding among the youth, change in the way cultural activities are undertaken like cleansing ceremonies and circumcision. The introduction of new diets has not only improved the health of the community but also helped prevent diseases. The home stay tourists have also influenced the community they interacted with on hygiene, cooking methods and energy saving. This came in handy as they exchanged knowledge and information on culture which also deepened understanding mostly among young generation. The introduction of different and warmer clothing has helped prevent cold related diseases as the area is relatively cold and wet throughout the year. The local people more so younger generation have detested and forgotten their culture for the modern one in the form of dressing and relation with elders which has been viewed by many as cultural erosion (Anyango, personal communication, April 19, 2016). The values that the community attaches to marriage have not been interfered with as few divorce cases (3.3%) have been recorded amongst the respondent, defying influence of liberal western cultures. 'This means that the cultural systems for mediating family differences are fully functional in Muileshi community and prove that development is not happening in disregard of culture' (Anyango, personal communication, April 19, 2016).

Even though there is no clear structure in the community on who decides which cultural aspect of the community to be shown to ecotourists, the respondents thought that the Elders take center stage with 50% response. It's viewed that elders have immense knowledge and attachment to culture and so should lead in deciding disclosure of cultural aspects. A response of 23.3% felt that Community members who possess these cultural artifacts should also make decisions on what to disclose. Tour guides who are locals and informants of ecotourists also have a responsibility hence contribute to indirect decision making. This corresponds to 26.7% of respondents who thought local tour guides are key in deciding what aspects to be disclosed to ecotourists. The ecotourists' interaction with the community is mostly active at home stays and dance performances that normally receives little tour guides services. The home stays provided a close interaction with the community life style ranging from cooking, storytelling, home arrangement to cultural norms (Simpiri, personal communication, April 22, 2016).

Generally, the identified cultural aspects in the community include dances, circumcision, norms and diets. Cultural dances are provided at a fee to ecotourists who request either at the Lodge or community bandas. The ecotourists can as well requests for traditional meals in these facilities. This has made the community remember and embrace the ancestral dressings and songs. However, the dancers particularly donned the cultural dressings over their modern

clothes making it loose authenticity. This used to be a true performance of culture, which changed the purpose for special occasion, giving it a monetary value (Anyango, personal communication, April 19, 2016). Most of the dressing materials is derived from plants and as a result made them to conserve the forest biodiversity. This resonates with Fuller et al, (2007) where indigenous people are considering how best to utilize their land as they simultaneously maintain important aspects of their traditional. More information has since been sought from the elderly in an effort to satisfy the ecotourists and generate more income. These cultural activities have also enhanced community cohesiveness and groupings (e.g. dance groups) that enabled sharing of proceeds from the venture (Simpiri, personal communication, April, 22, 2016).

4.6 Influence of Ecotourism on Environmental Education

This section addressed the respondents' views on objective three on influence of ecotourism on environmental education. It looked at the various learning forums that ecotourism used to convey environmental education and consequent influence from key identified initiatives that complemented ecotourism drive in the community.

Table 4.14: Which learning forum

		Frequency	Valid Percent	Cumulative Percent
Valid	Kakamega Environmental Education Program	10	33.3	33.3
	Community Barazas	9	30	63.3
	Home stays	2	6.67	69.97
	Tourism promotion forums	3	10	79.97
	CFA Meetings (Ecotourism user group)	4	13.33	93.3
	Research	2	6.7	100.0
	Total	30	100.0	

Human development and biodiversity loss are being recognized as linked problems requiring a coordinated response (Adams *et al.* 2004). The Forest Act 2005, provided for coordinated community involvement through CFAs in forest management and draw user rights for sustainable development. Since its formation in 2009, Muileshi CFA is still struggling in its

operation and Kakamega Environmental Education Program (KEEP) a constituent CBO has helped a lot in dispensing some of its mandates among them introducing ecotourism in the area and spearheading environmental education in different forums. In practice as Infield and Namara (2001) asserted, community conservation programs employ a wide variety of tools, like educational programs, and micro-development projects which has heavily been used in Kakamega forest.

KEEP has brought many initiatives in the area that have not only better the lives of the community but also promoted sustainable development. Ecotourism has had immense influence on environmental education. The respondents felt that it has trained on various nature based livelihood strategies, furthered environmental understanding, changed community attitude towards conservation, promoted research and raising seedlings for afforestation, enhanced stakeholders collaboration for conservation and knowledge exchange with expert ecotourists. The identified nature based enterprises established in the area are tree nurseries, butterfly farming, ecotourism, tour guiding, MFCG Osimum factory and now *Mondia whytei* (mkombero) factory. All these required training of participants to ensure they do not exploit the environment and also make their projects sustainable. 'Intensive training and education has always been done by donors through KEEP before any nature based enterprise is started' (Patrick Achevi, personal communication, April 26, 2016). Almost invariably, the programs provided economic incentives for conservation as asserted by (Hackel 1999) by allowing communities to profit through ecotourism, or employment.

As Keen *et al.* (2005) outlined, social and ecological sustainability ultimately depend on our capacity to learn together and respond to changing circumstances. Learning experiences "re-establish the mental connections between our actions and environments, thus creating pathways for social change". This has been made possible in various forums and according to respondents they rated Kakamega Environmental Education program's contribution at 33.3%, community barazas 30%, tourism promotion forum 10%, home stays and Research 6.7% each and CFA meetings 13.3%. Environmental education has been easy due to a relatively literate population with 36.7% gone through college education. The remaining interviewees 30% finished secondary education and 33.3% primary level. The most profound program is through KEEP's school outreach where neighboring schools pupils and students alike are taught on environmental conservation and existing biodiversity in Kakamega forest by tour guides and KEEP's officials (Okeka, personal communication, April 11, 2016). 'Rondo retreat center Lodge through its volunteer visitors do run a young children between 3-10

years environmental education in conjunction with KEEP through videos, storytelling and art drawing’ (Japhred Imbayi, personal communication, April 7, 2016). This envisions nurturing a pro-environment attitude in the young environmental ambassadors. Community barazas are admittedly few due to lack of vibrant CFA leadership in the area (Okeka, personal communication, April 11, 2016). However, whenever an opportunity presented itself KEEP officials educated the public on environmental conservation and its importance. As Fitzpatrick and Sinclair (2003) asserted, public participation in environmental management can provide opportunities for non-formal education, such as transformative learning. Notably the community members were taught on domestication of both osmium and *Mondia whytei* in farms to prevent endangering its existence *in situ*. In the context of biodiversity conservation, environmental education process has led to transformative learning and participants in community conservation begun to question their attitudes towards conservation. CFA officials, Tour guides and community bandas officials attended the annual Kakamega trade fair where they exchange their environmental conservation knowledge with other stakeholders’ (Andre Shivanda, personal communication, April 29, 2016).

This has further developed the local’s capacity to manage ecotourism and other nature based enterprises. This resonates with Jackson, (2002) that it not only establishes a mechanism by which nature based enterprises could benefit the local community but also reduces pressure in the forest and reinforces positive attitudes towards the forest through better education.

4.7 Influence of Ecotourism on Partnership

This section dealt with the new entrance of partners in the community since the introduction of ecotourism and how they have influenced ecotourism activities and community development.

Table 4.15: Has Ecotourism increased the number of stakeholders in the community

		Frequency	Valid Percent	Cumulative Percent
Valid	Yes	24	85.7	85.7
	No	4	14.3	100.0
Total		28	100.0	

Table 4.16: How have stakeholders influenced ecotourism?

		Frequency	Valid Percent	Cumulative Percent
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Valid	Promote butterfly farming	5	16.7	16.7
	Training on tree nurseries	3	10	26.7
	Environmental education	16	53.3	80
	Biodiversity conservation	4	13.3	93.3
	Not applicable	2	6.7	100.0
	Total	30	100.0	

About nine in ten interviewees felt that ecotourism has influenced the number of stakeholder in the area and a partly 14.3% otherwise. Stakeholders identified by respondents since the introduction of ecotourism are nature Kenya, ICIPE, UNDP, researchers, NEMA, CDTF and ACT Kenya. The identified stakeholders have collectively influenced ecotourism and community development in different ways. About 13.3% of respondents reported that influence came through biodiversity conservation, 10% on training of tree nurseries, 53.3% on environmental education and 16.7% on butterfly farming. The community as a result has been financially strengthened from proceeds of these activities and educated on how best to conserve the environment. All these were being done in groupings (e.g. self-help groups, tour guides etc.) and as a result enhanced cohesiveness in society.

Table 4.17: Ecotourism influence on school enrolment

		Frequency	Valid Percent	Cumulative Percent
Valid	No Influence	2	6.7	6.7
	Increased Enrolment	28	93.3	100.0
	Total	30	100.0	

Ecotourism has also influenced the community's value on education and by extension the school enrolment rate. About 93.3% of the respondents agreed that ecotourism has increased school enrolment while 6.7% thought otherwise. 'A number of children have also received scholarships mostly from the home stay visitors while others ecotourists built nearby schools' classes and donated books' (Patrick Achevi, personal communication, April 26, 2016).

Ecotourism has opened up other development opportunities in the community; the visiting ecotourists have voluntarily assisted in establishing and furnishing of a health centre in Shirende (Kaleb Injeuhu, personal communication, April 28, 2016). This has reduced mortality rate among the residents and also distance to seek affordable medical attention.

‘The government has given priority to grading of Kakamega – Isehendu road due to ecotourism in the area’ (Kaleb Injeuhu, personal communication, April 28, 2016) and this has enabled swift movement of farmers and their produce to and from the market. Other stakeholders (ICIPE) have introduced an osmium species factory where they manufacture nature rub and supply to various local super markets. The factory besides providing income to Muliro Farmers Catchment Group (MFCG) which is a constituent CBO of the CFA has also provided employment for members and non members who work for the factory. The farmers have also cultivated Osimium plant in their farms to avoid its depletion in the forest (Kaleb Injeuhu, personal communication, April 28, 2016). ‘The Blue Monkey researchers have employed locals in their work, protected the monkeys in the ecosystem and assisted in fund raising KEEP’s activities and office building through their networks abroad’ (Okeka, personal communication, 11, 2016). Community development trust fund (CDTF) also came in latest and funded buying of tents for Kakamega Rain Forest Tour Guides and the CFA’s Eco camp and carbon project (Simpiri, personal communication, April 22, 2016). Partnership and particularly from ecotourism has evidently aided sustainable development of Muileshi community.

CHAPTER FIVE

SUMMARY OF FINDINGS, CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

This chapter dealt with summary of findings, conclusion and recommendations.

5.2 Summary of findings

This section provides a summary of the findings of the study.

5.2.1 Ecotourism income and sustainability of forest adjacent communities.

Nine in ten of the interviewed Kakamega forest adjacent community members (90%) reported to earn income from ecotourism of an average kshs.5000 a month. The income was sourced from various ecotourism supporting activities at varying proportions. They ranged from selling of tree seedlings (33.4%) for forest rehabilitation and school greening programmes, employment (20%) and supply of groceries to ecotourism facilities (23.3%) to hosting ecotourists in homesteads (23.3%). The income earned has gone into various uses of feeding families, paying school fees, running community groups and initiating businesses like hotels, shops and bodaboda transport. This has had profound impact on the local economy, enhanced community cohesion through organized groups and helped in environmental rehabilitation through planting of forest degraded areas. The income has also increased the quality and quantity of meals according to 76.7% of respondents which by extension enabled a healthy community. However, the community reported having not benefited from visitor entry and user fee besides their contribution in forest conservation and management through a number of programmes including engagement of community scouts.

5.2.2 Cultural preservation and sustainability of forest adjacent communities.

About two thirds of the interviewed Kakamega forest adjacent community (66.7%) believed that ecotourism has had immense influence on their culture. It's reported to have had positively influenced diets, dress code, enhanced cultural pride and understanding by younger generations. It has also promoted the elimination of retrogressive cultural practices in the community. The effects of ecotourism has however had few negative impacts ranging from

blind aping of western culture by the youth, eroding authenticity of cultural dances and weakening inter-generational relation norms.

Cultural aspect disclosure to ecotourists according to the research is control by community elders (50%), local tour guides (26.7%) and community members (23.3%) in an effort to preserve their culture in posterity.

5.2.3 Environmental education and sustainability of forest adjacent communities.

Environmental education has been conveyed in various forums key among them is KEEP (33.3%), community barazas (30%), home stays (6.67%), tourism promotion forums (10%), CFA meetings (13.33%) and research (6.7%). Environmental education impact has been widely felt in the community which saw the adoption of various livelihood strategies that consequently provided economic incentives for conservation.

Environmental education has enhanced awareness of the fauna and flora in Kakamega forest among the CFA members and neighboring schools. It has also build capacity for the community to adapt environmentally friendly alternative livelihood strategies hence minimized reliance and depletion of natural resources. Various industries have since been initiated and wild plants species domesticated to ensure sustainable extraction and prevent species extinction from *in situ*. This has ensured that future promising prospects in the wild of Kakamega forest are not curtailed by current development. The community therefore has been able to develop sustainably as their capacity to learn and respond to changing circumstances was improved through environmental education.

5.2.4 Ecotourism's partnership and sustainability of forest adjacent communities.

Ecotourism Partners have been of great help to Muileshi community in sustaining the development momentum in the area of promoting butterfly farming (16.7%), training on tree nurseries (10%), carrying out environmental education (53.3%) and promoting biodiversity conservation (13.3%). Partnership has always supplemented government deficiencies in resources and expertise to ensure the community attains their developmental agenda timely and efficiently. Besides, organizations bring their own developmental projects in support of what ecotourism has already done furthering economic empowerment of the community. Well wisher ecotourists have assisted in revamping community facilities ranging from schools to dispensaries promoting school enrolment (93.3%) and reducing mortality rate in the

community. This has collectively hastened development in all spheres of life of the community. Partnership has therefore been identified as a catalyst for development among the community and due to differing interests of various partners enabling holistic development.

5.3 Conclusions

The challenge facing sustainable development more so among forest adjacent communities comes with the difficulty in putting at equilibrium social, economic and environmental spheres of development. The reason why this study focused on contributions of ecotourism in balancing these developmental aspects. Regarding demographic characteristics of the respondents, the study concluded that an active unemployed age of 0-40 years coupled with high no of dependents depicted in the research, weighed down the wheel of environmental conservation from the balance due to over reliance. On education level, the study concluded that the fair literacy in the community has assisted in conveying environmental conservation message and consequently improving the community's attitude towards conservation. Since less cases of divorce were reported, the research concluded that the community's culture was not altered by ecotourism.

Based on objective one, the study concluded that income from ecotourism though meager has helped contribute to better living standards of the Muileshi community. It has catered for school fees, food and capital for small scale local businesses. It also concluded that ecotourism income is not being equitably shared as the CFA did not yet established a framework on the same hence perennial conflicts. It also concluded that the income from visitors entry and user fee, need to be shared by both KFS and CFA to further motivate community in environmental conservation.

Regarding objective two, the study concluded that ecotourism has influenced sustainable development by preserving culture of the Muileshi community. This is evident by the revitalization of cultural practices, norms and understanding among the youth. This has also been observed through improved diets and dress code that has kept diseases at bay and improved community cohesion and environmental ethos. The study however concluded that formal decision making structures on disclosure of cultural aspects should be enshrined in the CFA ecotourism user group to reinforce the suggested options by respondents.

In reference to objective three, the study concluded that ecotourism influence through environmental education has been tremendous in creating environmental awareness and developing problem solving skills among the Muileshi community. This has been observed in the domestication of some wild plants for use in local industries and adoption of livelihood strategies in an endeavor to better the community living standards and protect future prospects. However, the study concluded that there is lack of skill set among the community to engage in superior ecotourism activities like running tour firms and travel agencies.

On objective four, the research study concluded that partner Organizations have worked together to increase the likelihood of each achieving their mission and to amplify their reach. This is evident by the different roles played by different partners to hasten realization of a sustainably developed ecotourism destination. However, there was evident lack of coordination body (Forest Level management committee) on the various partner activities at the community level leading to huge leakages of income and waste of resources in duplication of roles.

5.5 Recommendations for policy action

On the basis of the results of this study the recommendation are as follows;

- 1) Elaborate policy and or regulations on Ecotourism should be domesticated from the national policy indicating how KFS will develop clear PPP (Public private partnership) arrangement in furtherance of Ecotourism.
- 2) The forest level management committees at the stations level should be made fully functional. This will enable partners to have a coordinated oversight on conservation and development as well as avoid duplication of roles.
- 3) CFA governance rules/regulations should be put in place with strong emphasis on income sharing and sustainability of community initiatives.
- 4) Intensive capacity building on PFM regulations should be carried out amongst CFAs in the country to enable them amicably resolve perennial conflicts.
- 5) Modalities should be outlined on equitable sharing of ecotourism income within the CFA and between partners.

5.5.1 Suggestions for further studies

The following are suggestions for further research:

- 1) Contribution of Ecotourism on climate change mitigation.
- 2) Influences of governance on sustainability of community projects.
- 3) How donor aid has eroded self-reliance in community organizations.
- 4) The efficiency of rural communities in running ecotourism projects.
- 5) How Ecotourism can be used as PES (Payment for Ecosystem Services) tool for promotion of forest conservation.

5.6 Contribution to the body of knowledge

Objectives	Contribution
Influence of Income on sustainable development of communities living adjacent to forests.	The study elucidated that community's needs can be met through ecotourism income and at the same time protect future opportunities. This is evident as it served as an incentive and motivation for communities to conserve forests as they derive benefits from them.
Influence of cultural preservation on sustainable development of communities living adjacent to forests.	Ecotourism in Kakamega forest ecosystem is humane as it has considered local culture preservation in its development. The study however observed that communities have to shade retrogressive and harmful parts of their cultures as they adopt some from superior counterparts in a bid to upscale and enable better life styles and standards.
Influence of Environmental Education on sustainable development of communities living adjacent to forests.	Environmental education has demonstrated the ability to transform the community perception on natural resources use among the Muileshi CFA and asserted its importance for any community to sustainably develop. It further conformed to Wearing (2001) on ability of environmental education to create more local involvement in natural areas conservation.
Influence of ecotourism partnership on sustainable development of communities living adjacent to forests.	Partners in any development arena are critical to catalyze realization of set goals within given timeframes. Further, the study pointed that ecotourism requires huge investments in comparison to the financial capability of most CFAs and partners have filled this gap. Therefore the study indicated that partnership in ecotourism is very crucial in building impetus for community development. Community participation in ecotourism requires skill sets to enable them participate in certification schemes and running of tour firms which was majorly lacking among Kakamega community.

REFERENCES

- Alexander, E.E., & Whitehouse, J.L. (2004). Challenges for balancing conservation and development through ecotourism: insights and implications from two Belizean case studies. In F.D. Pineda & C.A Brebbia, *sustanale tourism* (pp, 129 – 142). Southampton: WIT Press.
- Barkemeyer, R., Holt, D., Preuss, L. & Tsang, S. (2011). What happened to the ‘development’ in sustainable development? Business guidelines two decades after
- Barkin, D. (1996). *Ecotourism: A tool for sustainable development*.
- Barret C.B. & P. Arcese (1995). Are Integrated Conservation-Development Projects Sustainable? - On the Conservation of Large Mammals in Sub-Saharan Africa. In *World Development* 23 (7), 1073-84.
- Beeton, S. (1998). *Ecotourism: A practical guide for rural communities*. Collingwood: Landlinks press
- Berkes F. (1993). Traditional Ecological Knowledge in Perspective. In Inglis J. T. (ed.). *Traditional Ecological Processes: Concepts and Cases*, pp.1-9. International Development Research Center, Canada.
- Bhuiyan, A.H., Siwar, C., Ismail, S.M., Islam, R., 2012. The Role of Ecotourism for Sustainable Development in East Coast Economic Region (Ecer), Malaysia, / *OIDA International Journal of Sustainable Development*, 3 (9): 53-60. Online [Available]: <http://www.ssrn.com/link/OIDA-Intl-Journal-Sustainable-Dev.html>.
- Bjork, P. (2000). Ecotourism from a conceptual perspective, an extended definition of aunique tourism form *International Journal of Tourism Research*, 2, 189- 202.
- Boo, E. (1990). *Ecotourism – The Potentials and pitfalls* (vol.1). Lancaster: Wickersham printing Company.

- Boo, Elizabeth. 1990. *Ecotourism: The Potentials and Pitfalls*. Vol. 2 Wickersham Printing Co. Inc., Lancaster, PA.
- Brundtland, *Sustainable Development*, published online, DOI: 10.1002/sd.521.
- Bunruamkaew, K. & Murayama, Y. (2012). Land Use and Natural Resources Planning for Sustainable Ecotourism Using GIS in Surat Thani, Thailand. *Sustainability*, (4): 412-429.
- Cooper, J. and Schedler, D. (2006) *Business Research Methods*, 9th Ed: New York, McGraw Hill.
- Deng, W.M., Schneider, M., Frock, R., Castillejo-Lopez, C., Gaman, E.A., Baumgartner, S., Ruohola-Baker, H. (2002). *Dysloglycan*.
- Durrheim, K. and Painter, D. (2006) *Collecting Quantitative Data. Sampling and Measuring*: Cape Town, UCT Press.
- Eagles, P. & Higgins, B. (1993) *Ecotourism Market and Industry Structure*, in Lindberg, K., Wood, M.E. & Engeldrum, D. (1993) *Ecotourism: A Guide for Planners and Managers Vol.2*. The Ecotourism Society: Vermont.
- Flick, M. (2002) *An Introduction to Qualitative Research*: London, Sage Publishers.
- Fuller D., Caldicott J., Carnicross G., and Wilde S., (2007). *Poverty, indigenous culture and Ecotourism in remote Australia*. Society for International Development.
- Gray, D.E. (2004). *Doing Research in the Real World*. London: Sage.

- Goodland R. (1991). Prerequisites for Ethnic Identity and Survival. In West P.C. & Brechin S.R. (eds.) *Resident Peoples and National Parks: Social Dilemmas and Strategies in International Conservation*, pp.301-311. University of Arizona Press, Tuscon.
- Gok (2005). Forest Act. Government press.
- Gould, L.A. (2004). Ecclectica: Ecotourism and sustainable community development. Retrieved 28 June 2016 from <http://www.ecclectica.ca/issues/2004/2/gould.asp>
- Honey, M. (1994). "Paying the price of ecotourism; two biological reserves face the challenges brought by a recent boom in tourism." *American journal*: vol. 46(6): 40-48.
- Honey, M. (1999). *Ecotourism and Sustainable Development: Who Owns Paradise?* Island Press. Washington, D.C.
- Honey, M. (2008). *Ecotourism and Sustainable Development: Who Owns Paradise?* Washington, D.C.: Island Press.
- Hvenegaard, G. (1994). Ecotourism: A Status Report and Conceptual Framework. *Journal of Tourism Studies*, 5(2), 24-35.
- Int'l Ecotourism Society. 2001. The International Ecotourism Society, Washington, DC 20010 www.ecotourism.org
- Jackson, C. 2002. Concept Paper: Mida Creek and Arabuko-Sokoke Forest Conservation & Education Project. Page 4. A Rocha Kenya, Watamu, Kenya.
- Jiang Jingjing (2008). Evaluation of the Potential of Ecotourism to contribute to Local sustainable Development: A case study of Tengtou Village, China. Massey University, New Zealand.
- Keen, M., Brown, V.A and Dyball, R. (2005). Social learning in environmental Management.

Towards a sustainable future. Earthscan, London.

Lindberg, K. (2002). Ecotourism. In D.B. Weaver, *The encyclopedia of ecotourism* (pp.363-377). New York: CABI Publishing.

Lindberg, K., Enriquez, J., & Sproule, K. (1996). Ecotourism questioned: case studies from Belize. *Annals of tourism research*, 23, (3), 543-562.

Lindsey, P. A., Alexander, R. R., du Toit, J. T. and Mills, M. G. L. 2005. The Potential Contribution of Ecotourism to African Wild Dog *Lycaon Pictus* Conservation in South Africa. *Biological Conservation*. Vol 123: 339– 348.

Manyara, G. & Jones, E. (2007). Community –based Tourism Enterprises Development in Kenya: An Exploration of their potential as Avenues of poverty Reduction. *Journal of sustainable Tourism*, 15(6), 628-644.

Mc Neely J. A. (1992). The Biodiversity Crisis: Challenges for Research and Management. In Sandlund O. T., K. Hindar & A. H. D. Brown (eds.). *Conservation of Biodiversity for Sustainable Development*, pp. 15-26. Scandinavian University Press, Oslo.

Michaelidou M., D. J. Decker & J. P. Lassoie (2002). The Interdependence of Ecosystem and Community Viability: A Theoretical Framework to Guide Research and Application. In *Society and Natural Resources* 15, 599-616. Taylor & Francis.

Minca, C. and M. Linda. (2000). Ecotourism on the Edge: the Case of Corcovado National Park, Costa Rica. In X. Font and J. Tribe (Eds), *Forest Tourism and Recreation. Case studies in environmental management* (103-126).

Momanyi Omwega Stephen (2010). Effects of Ecotourism on socio – Economic Development of communities Living Adjacent to Wildlife protected Areas.


- Mugenda, O. and Mugenda, A. (2003) *Research Methods Qualitative and Quantitative Approaches*: Nairobi Acts Press.
- Nachmias, C.F. and Nachmias D. (1992). *Research Methods in the Social Sciences*. St. Martin's Press.
- O' Conner S. (1990). Madagascar: Beza Mahafaly and Andohahela. In Kiss A. (ed) *Living and Wildlife: Wildlife Resource Management with Local Participation in Africa*, pp. 41-51. International Bank for Reconstruction and Development/ World Bank. Washington D.C.
- Orodho J. (2002) *Techniques of Writing Research Proposals and Reports in Education and Social Sciences*: Nairobi, Masola Publishers.
- Oso, Y. and Onen, D. (2009) *General Guide to Writing Research Proposal and Report. A Handbook of Beginning Researchers*: Nairobi, Jomo Kenyatta Foundation.
- Our Common Future (1987). World Commission on Environment and Development. Oxford: Oxford University Press.
- Place, S. 1998. Ecotourism for Sustainable Development: Oxymoron or Plausible Strategy? *Geojournal*. 35: 161-173.
- Rachel D. and Marrion J. (2005). CSR in the Tourism industry? The status of and Potential for Certification, Codes of Conduct and Guidelines. Foreign Investment Advisory Service Investment Climate Department report.
- Roberts, T. and N.D. Thonas (2003). *Trouble in paradise: Globalization and Environmental crises in Latin America*. New York: Rontledge.

- Ryngnga, P K. (2008). Ecotourism prioritization: a geographic information system approach. *SAJTH*; 1(1), 49-56.
- Scheyvens, R. (1999). Ecotourism and the empowerment of local communities. *Tourism Management*, 20:245-249.
- Sindiga, I. (1995). Wildlife-Based Tourism in Kenya: Land Use Conflicts and Government Compensation Policies over Protected Areas. *Journal of Tourism Studies*, 6(2), 45-55.
- Sindiga, I. (1999). *Tourism and Africa Development: Change Challenge for Tourism in Kenya*. The Hague: Centre for African Studies.
- Sirakaya Turk Ercan and Choi Chris Hwansuk (2001): *Sustainability indicators for managing community Tourism*: Springer Dordrecht Heidelberg London New York.
- Stem C., Lassoie, J., Lee, D., and Deshler, J.D. (2003). Community Participation in Ecotourism Benefits: The Link to Conservation Practices and Perspectives. *Society and Natural Resources*. 16: 387-413.
- Sussmann, S. and Catherine R. (1997). 'A Cross-Cultural Analysis of English and French Canadians' Vacation Travel Patterns', *International Journal of Hospitality Management* 16(2):191-207.
- Travers M W (1989); *An introduction to Educational Research*, 3rd Edition, the Macmillan Company, Collier-Macmillan Limited, London.
- Triandis, H. (1972). *The Analysis of Subjective Culture*, New York: Wiley Interscience.
- UNESCO, (2004). *Education for all. The Quality Imperative*. Efa Global Monitoring report 2005.

- Valentine, P. (1991). Nature-based tourism: A review of prospects and problems. *Proceedings of Congress on Coastal and Marine Tourism*. Newport, Oregon: National Coastal Resources Research & Development Institute.
- Valentine, P. (1993). Ecotourism and nature conservation: A definition with some recent developments in Micronesia. *Tourism Management*, 14(2), 107-115.
- Wall, G. (1997). Is ecotourism sustainable? *Environmental Management* 21(4): 483–91.
- Wearing, S., and Neil, J. (2009). *Ecotourism impacts, potentials and possibility*, Elsevier, United Kingdom. (2nd ed.).
- Weaver, D.B. (2006). *Sustainable tourism: Theory and Practice*. Oxford: Elsevier Butterworth-Heinemann.
- Weinberg, A., Bellows, S., & Ekster, D. (2002). Sustaining ecotourism: Insights and implications from two successful case studies. *Societies and natural resources*, 15, (4), 371-380.
- World Commission on Environment and Development (WCED). (1987). *Our Common Future*. Oxford University Press. N.Y.
- Ylhäisi J. (2006). Traditionally Protected Forests and Sacred Forests of Zigua and Gweno Ethnic Groups in Tanzania. *Helsingin Yliopiston Maantieteen Laitoksen Julkaisuja* 39(68):18

APPENDICES

Appendix 1: Letter of Transmittal of Questionnaires



**NATIONAL COMMISSION FOR SCIENCE,
TECHNOLOGY AND INNOVATION**

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NAIROBI-KENYA

Ref. No. **NACOSTI/P/16/31479/9096** Date: **7th March, 2016**


Nicholas Mbatiany Baari
University of Nairobi
P.O. Box 30197-00100
NAIROBI.

RE: RESEARCH AUTHORIZATION

Following your application for authority to carry out research on *"Influence of Ecotourism on sustainable development of forest adjacent communities: A case of Mutlesi Community Forest Association, Kenya"* I am pleased to inform you that you have been authorized to undertake research in **Kakamega County** for a period ending **4th March, 2017**.


You are advised to report to the **County Commissioner and the County Director of Education, Kakamega County** before embarking on the research project.

On completion of the research, you are expected to submit **two hard copies and one soft copy in pdf** of the research report/thesis to our office.


DR. S. K. LANGAI, OGW
FOR: DIR. FOR-GENERAL/CEO

Copy to:

- The County Commissioner
Kakamega County,
- The County Director of Education
Kakamega County.



National Commission for Science, Technology and Innovation (ISO 9001:2008 Certified)

Appendix 2: Questionnaire for Local CFA members

INSTRUCTIONS:

Please answer these questions as honestly as possible. Write your responses in the spaces provided. Put a tick where applicable as per the question. Please don't write your name on the questionnaire. Thank you for assisting in this research project.

Questionnaire Number _____ **Interview Date** _____

Residence: Village _____ **Sub-County** _____ **County** _____

Part A: General Information

1. Age (Tick one):

- (01) Below 20 years
- (02) 21-40 years
- (03) 41-60 years
- (04) Above 60 years

2. Sex (Tick one):

- (01) Male
- (02) Female

3. Marital Status (Tick one):

- (01) Married
- (02) Single
- (03) Divorced/ Separated
- (04) Any other (specify) _____

4. Educational Level (Tick one)

- (01) None
- (02) Primary
- (03) Secondary
- (04) College
- (05) University
- (06) Any other (specify) _____

5. Occupation (Tick one)

- (01) Unemployed
- (02) Self- employed
- (03) Salaried/formal employment
- (04) Farmer
- (05) Any other (specify) _____

6. Number of dependants

Part B: Ecotourism Influence to Sustainable Development

1. How has ecotourism influenced environmental conservation?

.....
.....

8. What new have you learnt since ecotourism begun and in which forum?
9. Has ecotourism impacted on the number of stakeholders you work with in the area?
a) Yes (b) No

10. If yes, who are they and how have they influenced ecotourism?.....
.....
.....
.....

11. What are your comments on the contributions of ecotourism to the area's development.....
.....
.....
.....
.....

12. What challenge(s) are affecting ecotourism in this area?
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.....

13. List ways in which ecotourism can be developed to meet your aspirations.

14. How best do you think you can participate in ecotourism development?

15. How do you compare the community development status before ecotourism begun and now?

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.....
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16. Give any other comment(s) you may have on ecotourism

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.....
.....

Appendix 3 Interview guide (For Eco-Lodge and Banda managers)

Research Topic: Ecotourism's Contribution to Community Sustainable Development

1. How much do you make per year from ecotourism?
 - a. a) 1,000 – 50,000
 - b) 51,000 – 150,000
 - b. c) 151,000 – 300,000
 - d) Above 300,000
2. How many employees do you have and what proportion is from the local community?
3. Who owns the Banda/Lodge and manages it?
4. What is the capacity of your lodge/Banda?
5. Where do most of your visitors come from?
6. How do you market this destination?
7. What are your contributions to supporting ecotourism?
8. Besides employment what other corporate social responsibilities do you offer the forest community?
9. How do you influence the forest adjacent community and the visitors to embrace environmental conservation?
10. What is your opinion on the impacts of ecotourism on the following;
 - a) Environmental education
 - b) Generation of sustainable income
 - c) Building partnership among stakeholders
 - d) Preservation of culture
11. What is your opinion on contribution of ecotourism on sustainable development?

Appendix 4: Interview Questions on Ecotourism's Contribution to community sustainable Development (For KFS Managers)

Interview Questions on Ecotourism's Contribution to community sustainable Development (For KFS Managers)

1. How much revenue do you get from ecotourism?
2. Has ecotourism enhanced forest conservation and if yes how?
3. What actions are currently being undertaken and by whom which are either supporting or damaging the environment?
4. How do you relate with the CFA in sharing ecotourism benefits?
5. How do you influence the community and visitors to embrace environmental conservation?
6. How have you contributed to ecotourism development?
7. What are the challenges in implementing ecotourism initiatives?
8. What is your opinion on the contribution of ecotourism to sustainable development of forest adjacent community?
9. What does legislation say about community involvement in ecotourism and in your opinion is it comprehensive?
10. Do you have any participatory programmes with the ecotourists?
11. In your own opinion, is ecotourism an incentive enough to change attitudes and actions for conservation benefits?
12. How many partners have joined you since the introduction of ecotourism and who are they and their role?

Appendix 5: Interview Questions on Ecotourism's Contribution to community sustainable Development (For Tour Guides)

1. How much do you earn per year from ecotourism?
2. Has ecotourism had significant effect on quality of your life and if so how?
3. How do you support development of ecotourism in the area?
4. Where and what do you show ecotourist in the forest?
5. What environmental damaging activities are being undertaken in the forest and by whom?
6. What information do you share with the visitors?
7. What challenges do you experience in undertaking your work?

Appendix 6: Interview Questions on Ecotourism's Contribution to community sustainable Development (For Opinion Leaders)

a) Opinion on ecotourism development

- a) Do you support ecotourism development in this area?
- b) Are you involved in ecotourism development in this area?
- c) What is your opinion about ecotourism income sharing in this area?

2. Ecotourism's contribution to local people's livelihoods.

- (1) How has ecotourism development in this area impacted on your life?
- (2) How has ecotourism development in this area impacted on the community?
- (3) Has ecotourism development in this area improved or impoverished your community living conditions?
- (4) Can you briefly comment on the impacts of ecotourism on your community over the years?

3. What structure do you have for effective community decision making?

4. What conflicts do you experience in the community and how have you been resolving?

5. Aspirations for ecotourism development

- I. If you were to advise the government of Kenya on what it should do to improve your current status, what would you say?
- II. What do you think is the most important issue that ecotourism needs to tackle concerning the quality of life of the residents of this area?
- III. What do you think is the most important issue the government needs to tackle concerning ecotourism development in this area?

Appendix 7: Authorization Letter from University of Nairobi



**UNIVERSITY OF NAIROBI
COLLEGE OF EDUCATION AND EXTERNAL STUDIES
SCHOOL OF CONTINUING AND DISTANCE EDUCATION**

Telegram: "CEES"
Telephone: +254-202406706
Our Ref: Uon/Cees/Eld/2/3/(50)

P.O. Box 504
ELDORET
KENYA

28th October, 2015

TO WHOM IT MAY CONCERN

REF: BAARI M. NICHOLAS – L50/89334/2012

The above named person is a bonafide student at the University of Nairobi, College of Education and External Studies, School of Continuing and Distance Education, Department of Extra-Mural Studies, Eldoret Centre, pursuing a Postgraduate Studies leading to the award of Master of Arts in Project Planning Management (MAPPM). He has completed his course work and now working on his Project Paper entitled 'Influence of Eco-tourism On Sustainable Development of Forest Adjacent Communities: A Case Study of Muileshi Community Forest Association, Kenya'.

Any assistance accorded to him will be highly appreciated.



Sakaja Y.M.
Centre Organizer,
Eldoret and Environs.