

**YOUTH ENTREPRENEURIAL ACTIVITIES AND FOREST  
CONSERVATION:**

**A Case Study of Youth Groups in Kakamega Forest Area of  
Kenya**

By

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a Master of Arts Degree in Development Studies

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DECLARATION

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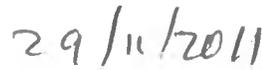


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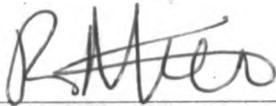
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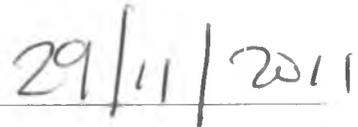
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## DEDICATION

I dedicate this work to my parents, brothers and sisters and more specifically to my dear sister Dorcas, who provided me with that moral word which pushed me on.

Lastly, I dedicate this work to my God: You have favoured me.

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God bless Kenya, God bless the youth, God bless IDS – UON, and God bless University of Nairobi. God bless us all.

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## ABSTRACT

This study examines how youth entrepreneurial activities could contribute to forest conservation. It is a case study of youth entrepreneurial activities in Kakamega forest in the western region of Kenya. The study is based on the observation that the youth who are the majority in the population are either, rarely involved or left out altogether in projects that aim at forest conservation, yet studies on environmental conservation underscore the need to incorporate everyone for sustainable results. Thus, the study focuses on : How youths' forest-based entrepreneurial activities are helping in the conservation of the forest, the major challenges experienced by the youth in this endeavour, and the strategies already evolved to enhance forest conservation.

The study collected data mainly from Kakamega Educational and Environmental Program youth group and other youths engaged in forest-based entrepreneurial activities around Kakamega forest. A quantitative survey helped in generating the trends on the activities that youth undertake while qualitative approaches augmented and confirmed data from the survey.

The study findings reveal that youth's engagement in entrepreneurial activities in and around Kakamega forest has resulted in increased forest cover, minimized logging, and increased awareness among community members on both the need and ways to conserve the forest. Activities such as tree nurseries, bee keeping, and butterfly farming were found to help in conservation because they ease pressure on the existing forest resources. These activities were found to be forest based and required less energy skills as well capital to initiate. The study findings further reveal that even though the youth around this forest lack sufficient physical, financial and human skills required to engage in these entrepreneurial activities, they have developed good knowledge on forest conservation. As a result, the youth have intensified awareness campaigns on forest conservation; diversified their activities, as well as, mobilised resources within and outside the forest to support entrepreneurial activities that lead to effective conservation of Kakamega forest.

Based on the study findings, this study concludes that active involvement of youth in forest-based entrepreneurial activities in Kakamega forest has resulted in conservation of forests. These activities provide a mutual process of engagement between the forest ecosystem and the adjacent community. This engagement has provided incentives that ensure that the youth

continually and sustainably participate in forest conservation activities. It is worth noting that, intensification of these activities and enhancement strategies adopted by the youth mitigate the challenges they face, such as limited awareness among the youth and poor resource mobilization among others and would increase the number of youths as well as community members who engage in forest conservation activities.

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## LIST OF ACRONYMS

BIOTA	Biodiversity Analysis Transfer for Africa
ICIPE	International Centre of Insect Physiology and Ecology
KEEP	Kakamega Environmental Education Programme
KAAD	Katholischer Akademischer Auslander-Dienst
SPSS	Statistical Package for Social Sciences

## CHAPTER ONE

### 1.1 Introduction

One of the greatest challenges facing agrarian Africa today is the conservation of the environment for agriculture which is the backbone of many economies in this continent. Agriculture is dependent on effective environmental conservation. Specifically, Agriculture contributes about 35% of the national incomes of Sub-Saharan countries (Nyangena, 2001). Importantly, agricultural production is primarily rain-fed and therefore, the amount of rainfall received is significant for agricultural production. Furthermore, the amount of rainfall is a factor of the quality of the environment. Therefore, a degraded environment, particularly depleted forest cover, adversely affects rainfall patterns and consequently agricultural contribution to the economy (Kenya, 2005). Majority of those affected by this challenge are the youth since they form a significant proportion of human population. Despite being the majority, their level of participation in the development process in the society is still low (Kiplangat et al., 2008; Kenya, 2007a). The youth lack skills, experience, and capital to fully engage in entrepreneurial activities. But given their numbers, their effective participation in entrepreneurial activities can effectively and sustainably enhance their contribution to the development process (Kenya, 2007b).

The conservation of forests directly impacts on the economy, especially, in the third world countries. Further still, the agricultural sector creates more essential links with other sectors of the economy, namely, industrial and service sectors (World Bank, 2008). Such links entail on one hand the provision of raw materials to industries, and on the other, a market for the industrial products such as machines. It is also important to note that agricultural sector provides the largest number of employment opportunities in Kenya. It is estimated that the sector absorbs directly and indirectly an approximated 80% of the labour force. It is the largest employer. (Juma, 2007). Most of this labour force is the youth, who constitute about 60% of the active Kenyan population (Kenya, 2004).

Apart from forest playing a key role in supporting agricultural production, forests are a key factor in the regulation of both local and global climate (Ng`weno, 2004; UNEP, 2008). This is because, forests act as water catchment areas for water bodies, regulate soil quality and control the rain cycle of an area. In addition, forests regulate air quality by absorbing carbon

dioxide, whose high levels in the atmosphere contribute to global warming further destabilizing the climatic condition (UN, 2008). The amount of forest cover in a country is important in this respect. While the international standards for forest cover is 10% of a nation's land, Kenya forest cover had reduced from 10% to 1.7% by 2006<sup>1</sup> and the situation has not improved yet. This has had the effect of changing weather patterns. This has also negatively impacted on agricultural production (Kenya, 2007b; Nyangena, 2001; Ngw'eno, 2004).

The reduction of the forest cover can be greatly attributed to human activities such as expansion of industries, human settlements due to increased population growth, poor farming methods; charcoal burning; logging; timber exploitation and lack of sufficient policy and legal framework (Jahi et al., 2009). The situation is escalated by the fact that these activities are mainly perpetuated by the youth who constitute the most active group in the society. Due to lack of employment opportunities coupled with lack of skills and experience, majority of the youths are unemployed (Chigunta, 2002; Kinyanjui, 1996; Kenya, 2006; Simpson, 2008). This makes them engage in activities that threaten the environment in an effort to earn a living. Even though they are a threat to conservation measures, if well mobilized, they would be resourceful players in the conservation efforts (Bronte, et al., 2001; Rietdorf, 2007; UN, 2007).

Youth capacity building is vital in the development process (United Nations, 2007) as it directly helps mitigate challenges such as youth unemployment. Provision of employment opportunities becomes an alternative source of livelihood to the youth and helps to curb forest degradation. One of the ways of creating employment opportunities is by involving the youth in entrepreneurial activities (Bronte, et al., 2001; Chigunta, 2002; Republic of Kenya, 2005). Entrepreneurship has proved to have the capacity to boost economic growth. It is an avenue for providing income and employment opportunities in the society (Balakrishnan, et al., 1998; Bronte, et al., 2001; Chigunta, 2002; Republic of Kenya, 2005; Seierup, 1996). It is against this background that Kenya's National Youth policy (2006) was formulated with the aim of encouraging youth entrepreneurship which would in turn lead to youths' economic empowerment and essentially alleviate poverty in the society. (Szabo, 2004). Such entrepreneurial activities enhance their participation in forest conservation measures. This, as reported in study done by Lele 2001 on *managing global resources*, indicates that such youth

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<sup>1</sup> Global Corruption Report 2011: Climate Change. The plunder of Kenya's forests Resettling the settlers and holding the loggers accountable Sheila Masinde and Lisa Karanja (Transparency International Kenya) 280-282

involvement in forest based or related entrepreneurial activities enhance youths' participation in the development process. It is therefore implied that through the conservation of the forest resources, sustainability of the forests is likely to be achieved (Lele, 2001).

Despite the argument that the youth lacks sufficient capital, skills and experience to initiate and run such enterprises, hardly do they engage in forest based activities which directly contribute towards forest conservation. Majority of youth entrepreneurs engage in activities that are either outside the forest or in the service sector. Lele (2001) attributes this behaviour of investment by youth entrepreneurs to the fact that forest-based entrepreneurial activities lack sufficient incentives. For instance, youths' current involvement in forest based activities is mainly voluntary. If these entrepreneurial activities went with attractive incentives and more so directly related to the forest as tree planting, seedlings production, bee keeping and butterfly farming then such efforts would directly contribute to forest conservation. Apparently, little is known about how these youths' voluntary activities contribute towards forest conservation. Thus it is the aim of this study to examine how youth entrepreneurial activities contribute to forest conservation.

## 1.2 Statement of the Problem

Forest conservation plays an important role in development. This role is best achieved when forest-adjacent communities recognise and take up the primary responsibility in the conservation of the forests. Examining how youths adjacent to forests are involved in forest conservation through entrepreneurial activities is important.

The role of the youth cannot be ignored in the forest conservation efforts. The fight against forest degradation should involve all the members of the society since all people benefit from forests and would equally be affected by its degradation (The Republic of Kenya, 2005). This is because the environment remains central to development more specifically to agricultural production process which is the backbone of many African countries; Kenya included (Juma, 2007; Nyangena, 2001; Okidi, et al., 2008). This implies that environmental degradation affects all sectors of the economy with consequences such as prolonged drought, famine, high cost of living, collapse of industries and food insecurity among others. These changes have adverse effects on the economic growth of the community, where the majority are the youth. This scenario gives the youth a key role in forest conservation (Seierup, 1996; Simpson, 2008; UN, 2007).

For the youth to be able to effectively make significant contribution to development, they should own capital or stocks of assets- environmental, social, financial, and human (Ellis, 2000). Moreover, the youth should be involved more directly in ways of making their own means to develop by sharing of gains from the development process (Moseley, 2003). The most important of these assets are the environmental assets. Among the environmental assets, the most critical is the forests. These assets if not conserved are faced with of the threat of extinction. Therefore, efforts should be put in place to conserve them as a way of sustaining as well as enhancing youths' involvement in the development process. Among the various efforts put forth to achieve environmental conservation is entrepreneurship, which involves resource mobilization and their distribution for maximum returns (Szabo, 2004; UN, 2004; UN, 2007). According to Balakrishnan, et al., (1998), entrepreneurship has a central role in the development process. It is a catalyst that initiates and sustains the process of development to a new level through innovation (Moseley, 2003).

Youth entrepreneurial activities have a significant role in the conservation of forests; youth entrepreneurship is a catalyst that if well developed would sustain the process of forest conservation. This is because most entrepreneurial activities require minimal skills, experience, capital, and market to all their products. Although most youths lack high level specialised skills, experience and capital, they have the energy and ability to engage in entrepreneurial skills. The youth have the capacity to mobilize resources and therefore if economically empowered, they would not only be more entrepreneurial but also provide a large market for the produce. The profits gained act as incentives for continued involvement in entrepreneurial activities. They will create more opportunities for other young unemployed people as well as conserving the environment. Hence, the primary concern of this paper is to understand how youth entrepreneurship has contributed towards forest conservation.

The main research question guiding this study therefore is; how do youth entrepreneurial activities contribute towards conserving forests? Specifically, in what ways are the youth entrepreneurial activities helping in forest conservation? What challenges do the youth entrepreneurial activities experience in relation to conservation of forests? What strategies can be adopted to overcome these challenges?

### 1.3 Research Objectives

The main objective of this study is: To find out the role of youth entrepreneurship in conservation of forests

Specific objectives:

- i. To find out how youth entrepreneurial activities help in forest conservation.
- ii. To find out the challenges the youth entrepreneurial activities experience in conserving forests.
- iii. To analyse remedies for challenges of forest conservation.

### 1.4 Justification of the Study

There is no doubt that forest conservation has a major positive impact on development in any society. In line with this argument, the current rate of depletion of forest cover in Kenya requires radical strategies to restore it to the required international standards. This process requires an inclusive approach that will bring on board everyone, including the youth in the society.

Generally, most studies on forest conservation have attempted to encourage the population to live, work and operate outside the forest. These studies have excluded communities from forest conservation measures. The youth particularly have been conspicuously left out in forest conservation measures. It is evident, therefore, that there is minimal scholarly knowledge on how the forest-adjacent community can be involved in conserving the forest more particularly the youth. Similarly, there is minimal scholarly knowledge on how to make forest based entrepreneurial activities more beneficial to the youth to a level where they would act as incentives to forest conservation.

It is therefore important to understand how youth entrepreneurial activities can be enhanced to conserve forests. This study seeks to find socio-economic sustainable means that will help different actors conserve forests through youth entrepreneurial activities. Findings of the study will strengthen theories of youth entrepreneurship and forest conservation. Lastly, the study findings will open up more exciting and highly informative opportunities for further research on youth entrepreneurship and forest conservation.

## CHAPTER TWO: LITERATURE REVIEW

### 2.1 Introduction

Worldwide, forest conservation has been a key to development. Forests fundamentally support flora and fauna thus, their depletion means loss of life.. Scholars have argued that the major threat to forest conservation is human being-induced activities (Lele, 2001). As such, their involvement in conservation measures is highly recommended (Ng'weno, 2004; UNEP, 2008). The youth who constitute the majority of the developing countries' population, potentially play a major role in forest resources conservation (UN, 2007). This role can be enhanced by involvement of the youth in forest related entrepreneurial activities. Such activities not only directly contribute to forests conservation, but also provide livelihood source for participating youth and the community at large.

Development and environmental conservation are mutually interlinked. Moseley (2003) and Todaro (2006) see the environment as the foundation of life on earth that supports humanity and all societal development processes directly through the provision of raw materials and/or indirectly through the provision of livelihood in the form of employment opportunities (Ng'weno, 2004; UNEP, 2008). On the other hand, development determines the state of the environment (Okidi *et. al.*, 2008). According to Moseley (2003), one indicator of development is the extent to which related processes have exerted pressure on the environment. As further noted by Moseley, to achieve sustainable development, the people should be more concerned about the current generation respecting and understanding how to conserve their local resources and their potential in creating new business activities. It is in this respect therefore, that the local people and institutions should take a lead role to drive local economy. They are well placed to add value to local resources and local practices.

Environmental and especially forest conservation is necessary for sustained future development (Moseley, 2003). Among the different approaches utilized in forests conservation, Participatory Forest Management (PFM) involves the forest-adjacent communities in the conservation activities (Balakrishnan, 1998). Though vital, PFM's success relies on the active participation of household heads since they own household resources including land. Consequently, youths are often left out of most PFM activities' decision making and implementation.

One way of mobilising the youth to engage in similar or related PFM activities, is by involving them in economically lucrative activities. That is, in activities that offer the youths some subsistence income without compromising the state of the environment. One of such ways is entrepreneurship. As noted by Balakrishnan (1999), entrepreneurship is the backbone of most developmental processes. It helps in the identification and maximization of opportunities presented in forest conservation. This chapter provides more insights, from the literature on the role of youth entrepreneurship in forest conservation.

### 2.1.1 Environmental conservation and Development

Todaro (2006) observes that environment is the most important endowment of any society as it provides loveliness and serenity to a nation, varied recreational benefits, wood for commercial use and employment. This assertion is supported by Naftal (2008) who argues that forests play a key role in development as they trap and store water, improve soil fertility and regulate local and national climatic conditions as well as act as carbon reservoirs and sinks. Over and above these roles, forests provide strong linkages with agriculture and tourism, which are the mainstay of most third world economies. Thus, conserving these resources leads to economic development (Moseley, 2003).

It is also important to note that most economies in Sub-Saharan Africa depend solely on agriculture. Since agricultural production is a factor of environmental conservation, one may argue that improved environment leads to improved agricultural production. (Kenya, 2007; World Bank, 2008). Further, agriculture provides essential links to industrial production as well as service industries for faster realization of development in the society. Studies show that 60% of the population in Sub-Saharan Africa, directly benefit from agricultural production. Agriculture contributes to 30% of the gross Sub-Saharan Africa income. Further, it employs 70% of the labour force, especially in the rural areas, where the majority of the population reside, and provides a large portion to national food requirement as well as a major source of export earnings (Naftal, 2008; Nyangena, 2001; Juma, 2007).

Forests also enhance domestic and industrial production through provision of energy as they act as water catchment areas. It is estimated that three quarters of the Kenya's electricity production comes from hydropower. In addition, studies show that rural households, which form over 80% of Kenyan population, use approximately 70% of wood for their domestic

energy. Of this source of energy, 95% is collected from forests and rangelands (MENR, 1994 as quoted by Naftal, 2008). Further still, at national and international level, forests regulate the climate. As discussed in Kyoto, in 1997, forest destruction is a major cause of global warming. The excessive emission of carbon dioxide into the atmosphere has adverse affect on the climate, since forests absorb carbon dioxide regulating its levels in the atmosphere.

### 2.1.2 Challenges to Environmental Conservation

Despite environmental contribution to sustainable development and alleviation of poverty, this resource is under eminent threat. Worldwide, statistics indicate that in the period between 1990 – 2005, the world forest cover degraded by 0.2 percent per annum and 9 percent in Africa per annum. In Kenya specifically, the forest cover has declined to 1.7 percent which is below the international requirement of 10 percent (FAO, 2007; NEMA, 2005; Nyangena, 2008).

Human activity is a major threat to the environment (Jahi, et al., 2009). According to the Kenya Forest Service (KFS), the main custodian of all forest land in Kenya, the main human activity -subsistence agriculture- is a threat to forests in Kenya,. This is because, increase in human population especially of the forest-adjacent community, leads to relative replacement of forests by low production subsistence farms around the forest.

Apart from subsistence farming, the increased forest-adjacent population exploits the forest resource (Kenya, 2001). Jahi, et al., (2009) and Kiplagat et al., (2008), argue that forest – adjacent communities engage in illegal activities as charcoal burning, logging, illegal timber harvesting, over grazing, and uncontrolled human settlements. According to these scholars, the majority of this population is unemployed, unskilled and largely youthful hence they exploit the forest resources to get an alternative means of livelihood. In Kenya, this population especially the young, pose the greatest threat to the environment (Kenya, 2001). Onyango et al., (2004); and Okidi et al., (2008) observe that the continued destruction of forest cover has serious socio-economic and ecological consequences to the wellbeing of the society. These include; reduced rainfall patterns, reduced soil fertility and drying of water towers, which are essential factors for enhanced agricultural production. Thus, efforts to conserve our forests are paramount for continued development in our society.

### 2.1.3 The Role of Forest Adjacent Community in Conservation of Forests

Due to the importance of environment and more specifically forest, its conservation has both national and international concerns.

Environmental conservation is paramount both nationally and internationally. More specifically, the developmental concern is the sustainability of the forest resource, which translates to sustainable development. Mosley (2000) observes that continuous destruction of forest resources by inappropriate development activities affects its sustainability. This implies that conservation of forests provides a dynamic process that enables development realise its potential thus, improving the quality of life now and in future. It is a win-win situation whereby we conserve the environmental resources as well as use it for economic and social development.

Conservation efforts have been in place for a while albeit through different approaches. The central concern of these approaches has been restoring degraded forestland by removing forest-adjacent community members from the forest (Jay et al., 2007; Rietdorf, 2007). Such measures include; alternative farming methods, small-scale businesses, agro forestry among others. The forest-adjacent communities have been excluded from formulation of conservation policies and frameworks. (Hahn & Robert, 1991). For instance, Agenda 21 as adopted in Brazil 1992, the international community pledged to support conservation of biodiversity. In this international treaty, development partners were encouraged to support efforts to conserve environment and more specifically, forests. These development partners included: IUCN, Nature Kenya, Farm Africa, United Nations Development Programme, United Nations Environmental Programme and other stakeholders. One of the major issues that arose from this agenda was capacity building of national governments to spear head these efforts, with the primary responsibility in conservation of biodiversity with national governments. With the national governments' capacity building, it was anticipated they would act in trust for the community.

It is worth noting that since its inception, the local community was sidelined. Instead, the technocrats sat down and thought of what would be the best practices to conserve biodiversity. The impending calamity had been the exclusion of the local people, who had special attachment to the forest. They had special -socio-economic, cultural, and spiritual attachments which would impact negatively in the sustainability of these efforts.

India has reported unique experiences as it provides a different approach towards conservation of biodiversity. Even though this approach does not completely de-link the government from conservation efforts, the primary stakeholders in forest conservation measures is the adjacent-forest community. The Government ensures that these communities have the basic rights to participate in the management of forests they use (Lele, 2001). Furthermore, local people are the best suited in identifying and mobilizing resources for human development (Moseley, 2003). According to Lele (2001), this approach is referred to as Participatory Forest Management (PFM). The implementation of Participatory Forest Management (PFM) leaves the state with the mandate of identifying and enforcing broad forest management norms and mechanisms for local fairness, long-term sustainability, and protection of minimum off-site benefits. Katrina (2003) argues that in this approach, any effort to conserve the forest should address the needs of the adjacent community by intensifying and improving existing livelihood strategies. According to East Africa Wild Life Society, PFM comes in handy, as an alternative approach where conservation of forests leads to the improvement of livelihoods of forest adjacent communities.

In Kenya, PFM approach is not new. In fact, the local communities have been involved in forest conservation since the beginning of 1930's. During that time, the local people through their local leaders were responsible to the local native councils, with the task of forest conservation. However, in 1931, problems started to emerge with the then forest department under the colonial government, taking over the management of forest against a very strong objection from the local people. In 1964, the central government completely took over forest management. Since then, the forest cover has been diminishing gradually. By 1980's, there was unprecedented destruction of forest in Kenya. During this time, the government held the idea that the adjacent-forest communities were the greatest forest threat. However, in 1994, the government informed by findings from studies in other countries and local donor-led initiatives, realized that these communities were great actors in forest conservation measures. In 1994, Participatory Forest Management was then re-introduced following the development of a national strategic plan for forest management. The strategic plan sought to remove the government as the sole custodian of forests in Kenya. The forest conservation removed the clause that forest management was a preserve of the government. In 2005, the forest Act of Kenya was adopted by parliament and enacted into law (Guthiga & Mburu, 2006; Ongogo, 2007).

Despite PFM in Kenya and the enactment of Forest act of 2005, which led to the degazettement of forests without any consultation with the local community, (Naftal, 2008). In 1999, the government established a set of legislation to conserve and manage the environment. One of such legislations was the enactment of the Environmental Management and Coordination Act in Kenya. The act provided for the establishment, development and sustainable management practises of forest resources for socio-economic development in the country (Ludeki, et al., 2006). In addition, Vision 2030 has embedded environment as a pillar for the realisation of a developed Kenya by the year 2030 (Republic of Kenya, 2007).

Development partners and Non-Governmental Organizations (NGOS) were also involved in the conservation of forests. One of these partners is Nature Kenya which promotes the study and conservation of natural environment. Nature Kenya seeks to connect nature and people, as it recognises the role that people play in biodiversity conservation. It believes in the people taking action for biodiversity conservation. According to Nature Kenya, the unprecedented disappearing of the natural resources especially forests is threatening the development of the society. Despite these efforts by various International and National Organisations, the problem is worsening because of the gradual destruction of indigenous species.

Another organization is Kenya Forest Working Group (KFWG). KFWG has created a platform to enhance sustainable forest management as proposed in the Forest Act 2005. The organisation collaborates with local councils, elders, and regional governments, to conserve and manage the environment. In one of its projects at Maasai –Mau forest, the local community has been involved in sustainable management of forest resources. The project referred to as ‘Community Based Integrated Forest Resources Conservation and Management’ pays for ecosystem services and income generating activities through organized alternative livelihoods on public and private land. The project is aimed at providing successful means of alleviating poverty in the area and conservation of biodiversity. The community is involved in the designing, planning and implementation of the program. However, these projects are heavily donor dependent. This project has been implemented on the ground with support from the donor community and the government. This makes the local community passive participants in the process. They have not fully interactively participated in the process.

Participation in this process is vital. In a participatory guide prepared by Farm Africa and SOS Sahel Ethiopia, such a process requires thorough involvement of the local community. This guide stipulates that local community should be the primary stakeholders. However, reliance on donor support has made it very difficult for the local community to be involved. In addition, most of these activities target the local household heads who own land adjacent to the forest areas. Thus, the participation of all members of the society is not achievable. In particular, the youth in community have been completely left out in projects targeting the community school. The argument has been that the youth lack the requisite skills, resources and experience to participate meaningfully in any community project. Further, they lack the resources and experience to be involved in any productive work or activity.

Another organization in Kenya has been Green Belt Movement (GBM). The organization supports the concept of community participation. Since 1977, GBM's mission has been to empower communities worldwide to protect the environment. The organization recognises that participation of the local community in environmental conservation measures, develops a deep desire to better their own lives and the community's at large. The organization has a 10-step program, which engages communities in planting tree nurseries on public land. It has been able to plant over 45 million trees in Kenya. The efforts have involved hundreds of thousands of poor women in rural communities in Kenya. Their lives have improved, and thousands of acres of biodiversity-rich indigenous forest restored and protected. The organization has a program that empowers women and girls to develop skills and tools required to create opportunities for them.

Even with the above initiatives and projects aimed at environmental conservation, the problem of forest conservation has remained a major challenge to the development process. These initiatives' emphasis on community involvement in conservation measures have mainly sidelined youth. Though green belt movement has included young girls, these efforts are not enough in a country to advocate for gender equality. Thus, this new paradigm of forest conservation provides more opportunities for the community to participate in conservation. This implies that we could be seeing more of youth presentation since they are the majority in the society and face high rate of unemployment and other socio-economic challenges. To motivate young people in the forest conservation efforts, such efforts should provide incentives to them. One of the ways this can be achieved is through their involvement in entrepreneurial activities.

#### 2.1.4 Entrepreneurship and Economic Development

Entrepreneurship is one way through which the society can come up with innovative solutions to its emerging challenges. According to development best practices, it is argued that for any community to participate effectively in the development process, there should be some level of incentives. It is further argued that the government is able to come up with incentives to community members to strengthen the people's participation in the development process, especially conservation of natural resources (Guthiga & Mburu, 2006; Ongogo, 2007). According to Guthiga & Mburu (2006), these incentives should further meet perceived needs of the people around the forest who are mainly subsistence farmers. This implies helping the community attain innovative livelihood strategies. Ongogo (2007) observes that, these incentives improve the involvement of the local community in the management of the forest resources. However, these incentives should not be short-term but have long-term benefits, with the capacity to be sustainable. In line with this challenge, entrepreneurship offers a workable solution.

Entrepreneurship helps overcome obstacles that impede various factors of production, as well as conservation efforts (Moseley, 2003). Unfortunately, this role has not yet been fully realised especially towards forest conservation. From the literature, the importance of entrepreneurship in economic development manifests itself through the ability of the society to recognize, create opportunities and prepare the people to take on the opportunities presented in the society (Bronte et al., 2001). Chigunta (2002) argues that entrepreneurship is the most effective way with the greatest impact on development. In support of this argument, he further notes that countries with high levels of entrepreneurship have high levels of economic growth. This is because entrepreneurship provides the resources needed to develop the infrastructure needed to meet skills and resources gaps in society. Thus, entrepreneurship undertaken by the majority of the human population will further be beneficial and sustainable.

On the contrary, according to Simpson (2008), entrepreneurship is time consuming. He further argues that entrepreneurship requires a lot of inspiration and enough capital. This means that capital is the key to the inspiration and sustainability of entrepreneurial activities. Entrepreneurship requires experience and skills to enable one make informed judgments on available opportunities and risks involved. Despite his arguments, he agrees on the fact that entrepreneurship has the capacity to boost economic growth.

Despite these challenges, entrepreneurial ventures worldwide have helped the society to create wealth through generating income streams that replaces traditional employment. In Carolina State in the United States of America for example, studies indicate that entrepreneurship contributes to over 40% of the jobs, produced by small entrepreneurial activities (Chigunta (2002)). This shows that entrepreneurial activities have contributed substantially to easing unemployment in the state. Ellis (2000) argues that every society has its own survival strategies. These survival strategies in any developing economy have to be diversified. Entrepreneurship therefore in the community, helps the people to diversify their ways of creating wealth, different ways of the population to earn income, more specifically through innovative methods, through entrepreneurial opportunities to its population. From an economic point of view, when more people are actively engaged in economically productive activities, the economy grows as a factor of an increase in productivity. Thus, diversity brought about by entrepreneurship creates alternatives to foster economic growth. In rural areas, where most forests are situated, entrepreneurial engagements would provide more opportunities to the populace to earn a living above agricultural production ([www.africa-ata.org/african\\_enterprise.htm](http://www.africa-ata.org/african_enterprise.htm)).

In Kenya, entrepreneurship, according to Kinyanjui (1996), offers over twelve grounds upon which an individual can be involved. Two of these grounds are to own an enterprise, and secondly, allocation of resources among alternatives. Through the aspect of owning an enterprise, majority of the people in the informal sector commonly called 'jua kali' sector may be termed entrepreneurs. To her, this is the new paradigm for development in the developing world over the conventional industrialization model. Since entrepreneurs successfully initiate and run an enterprise, they end up owning the means of production and have capital and experience. This means that entrepreneurship is at the heart of development and is very essential.

Despite the accruing benefits of entrepreneurship in Kenya, Kinyanjui (1996) argues that these activities are outside the forest hence indirectly conserving the environment. It can be implied that if such activities were more directed to forest conservation, the benefits would more direct to forest conservation. This is because, as urged by Karanja (1996), the forest-adjacent community would form the workforce required. They would directly earn from the activities other than engaging in destructive activities in the forest. However, these activities

exclude the youth. This is because according to Kinyanjui (1996) most Kenyan entrepreneurs are men since they own land- a key asset in entrepreneurship and investment. The youth unfortunately have small or no capital to initiate and manage entrepreneurial activities. As Karanja (1996) further argues in her findings, even though age and experience may be necessary for successful entrepreneurship, they are not sufficient condition for entrepreneurship success.

Green belt movement has made some efforts to conserve the environment by targeting women groups who engage in income generating activities such as tree planting, bee keeping and food processing. The programme has to some extent involved the youth through involving young girls. However, the levels of participation of youth in entrepreneurship activities is yet to be established. It is also not possible to determine whether such efforts would improve their engagement in entrepreneurship activities.

#### 2.1.5 Youth Entrepreneurship- A Developmental Concept

One aspect of entrepreneurs is that they make maximum utilization of available resources. They look for viable and lucrative opportunities presented in the society and find ways to maximally capitalize on them. The World Bank, in the World Development Report 2007, highlighted the need to develop the next generation that is the youth. To the Bank, youth, as social actors, are active and should actively participate in the development process. To the bank, the urgent need is to broaden opportunities available to the youth. This would empower them with the skills and resources to attain better sustainable livelihood strategies and contribute towards alleviation of unemployment. This is because according to International Labour Organization, an estimated 41% of all unemployed persons globally are youth (UN, 2004). In Kenya specifically, they form an estimated 65%. These numbers pose great threat to the society (UN, 2004).

One of the ways to overcome the challenges affecting the youth would be involving them in entrepreneurial activities. In 1965, in the United Nations General Assembly, it was resolved that there was need to promote youth as ideal for peace, mutual respect and understanding. This called for youth involvement in entrepreneurial opportunities to be more innovative, and participate more in the development process (UN, 2007). In line with this, the European Union established a system of nurturing entrepreneurial spirit and new skills among the youth.

The government makes the youth think through entrepreneurship and the role of business opportunities in the economic and social development. This strategy is in conformity with the government's goal to promote self-employment and implement part of their development efforts to reduce unemployment among the youth. This initiation process starts as early as at primary school.

In Australia, learning aims at developing young people's skills, competence and attributes that equip them with innovative minds. They are nurtured to become creative, initiate and successfully manage opportunities presented to them (UN, 2004). This has resulted to massive involvement of young people in the development process. It implies therefore, that youth entrepreneurship has a role in the economic development of the society. It forms a rich resource base for sustainable enterprise development and economic growth (UN, 2007c). The challenge though remains in the developing a world where governments are struggling to sustain their economies.

This means that the developing countries need to utilise the youth entrepreneurial potential to realise an enhanced economic growth. However, despite the crucial role the youth can play in the development process through entrepreneurship, studies indicate that young entrepreneurs are not common in Kenya (Kinyanjui, 1996; McCormick, 1996; Omari, 1999). This is because according to the findings, the age of most of the founders of small firms range between 16 to 55 years with the majority of the operators aged between 36 to 45 years. As a result, those less than 30 years of age are mainly employees and poorly remunerated within the enterprises. This hinders the control required for entrepreneurs to determine their investment and operations. The problem is worsened by the fact that young people have not acquired the organizational skills and capital needed to run medium and large firms. In Kenya, specifically, these entrepreneurial activities are usually in the service sector. Of these service-oriented activities, it is further estimated that 70% are commercial in nature. They include advertising, computer training, consulting services, financial services, information-technology, legal services, printing, public relations and travel planning. Only a few of them are in the manufacturing sector, agribusiness, horticulture, trade and environment- related activities (Audretsch and Thurik, 2001).

Despite the focus of most entrepreneurial activities being in the service sector, the main development challenge is how to utilize them and directly conserve our environment. Through

entrepreneurship, this approach would facilitate creation of necessary incentives to encourage more entrepreneurial activities in environmentally related activities. Youths have a longer working life, are more innovative and quickly adapt to the environment such that their activities are sustainable over time. The major challenge still posed is how to create incentives that will drive more youths into entrepreneurial activities that directly contribute towards forest conservation.

#### 2.1.6 Youth Entrepreneurship and Forest Conservation

Youth entrepreneurship has a role towards forest conservation, though it is hard to ascertain through research the extent of its contribution. In World Youth Report 2007, the United Nations highlighted the role of youth to the environment. It noted that youth are usually more affected by a degraded environment because they form a bigger proportion of the human population (UN, 2006). These opportunities have the capacity to provide employment, earn foreign exchange, and raw materials hence, contributing further to forest conservation (Finland, 2008). This means that since over 75% of household adjacent to the forest directly rely on the forest resources, their activities can be turned around for the benefit of the forest (Njeru, 1996). Thus as Ellis (2000) states, the adjacent-forest households will have a decent livelihood and enhance forest conservation efforts. At the same time, since the youth lack experience, they are able to get in-job training and nurture their skills for even greater job opportunities in their future life. This will have a multiplier effect in the economy, conserve the forest and contribute to the growth of the economy.

Youth entrepreneurship further helps in reducing pressure mounted on the forest resources. It establishes incentives to engage the youth in innovative ventures that benefit the environment and also helps in solving the unemployment problems. Through this way, conservation measures would sustain their operation due to the economic incentives provided. The approach will have long-term opportunities for sustainable development where conservation pays for itself (Katrina, 2003; Hahn & Robert, 1991). In this regard, youth entrepreneurship becomes a vehicle with the potential to improve the quality of life for the individual youths and also to the immediate households (Petrin, 1994). In Tanzania, the country has been fortunate enough to involve the youth in conservation measures. In 1989, it was among the few countries in the world that developed a Forest Action Plan (Tanzania, 1989). In this work plan, the role of youth was stated. The country aimed at developing a long-term strategy for the management of national forest and tree resources. Such a long-term plan could only

succeed if the majority of the society were part of it. Through community involvement, the need to improve the conservation and management of natural forests has been created (World Bank 2007). Although the activities are not forest based, measures such as agro-forestry, have offered a robust option to improve agricultural productivity and achieve environmental sustainability. The sustainability has been achieved through providing sources of livelihood outside the forests. The goal was to limit the increasing human pressure on the land and other human activities detrimental to the environment.

Mozambique has also instituted a framework, to achieve viable and effective balance between use and conservation of natural resources to forest ecosystem (Matakala, 2004). The government's intention was to sustain livelihoods, social values on ownership and belonging of the people to conservation program(s). Unlike in Tanzania, the government through research and innovation developed opportunities aimed at conserving the environment through the community owning the conservation programme. However, the challenge had been exploring new approaches to forest conservation, which builds on local structures and management systems and specifically the youth in the society. (Broekhoven and Gathaara, 1995). Such innovative ways would realise greater returns if they could include the youth as the steering force of the process and owning the means of conservation.

South Africa gives a similar case to Mozambique's framework. The government has initiated a programme '*A Brighter, Greener Future in Conservation for Jobless Youth*'. This programme aims at providing the unemployed young people with opportunities to develop their own skills and competencies towards finding broader opportunities in nature conservation. The programme provide the youth with skills and experience to engage in entrepreneurial activities and opportunities more specifically environmentally related. However, the youths do not own the process. The government is the chief custodian of land. Secondly, the household heads are the legal owners of the land. Further, the youth directly participates in the initiation, implementation, and evaluation of the process. It is worth noting that one great achievement from the South African experience, is that the young people are now more able to appreciate environmental conservation This has helped them to engage in activities that are conscious of environmental degradation in search for livelihood ([www.uvf.org.za](http://www.uvf.org.za)).

In Kenya, efforts have been made to conserve the forest through the involvement of young people (World Bank 2007). A study on biodiversity conservation in Arubuko-Sokoke forest,

according to Mutie (2002), indicates that the main issues that confront conservation of the forest in Kenya are the competition for land and increasing demand for forest goods and services. The government of Kenya recognised the important role played by the forest-adjacent communities in protecting and conserving forest. This was through the sale of timber products, recreational and subsistence use of the forest by the community members. Indirectly, the forests have non-use values as carbon storage, butterfly farming and reduced illegal activities in the forest. It is interesting to note that this did not only benefit the local community but also the rest of the society.

The local communities benefited from value derived from market processes, and reduced prices of water. The study noted that when people are economically empowered, there is a reduced degradation on the forest (Muriithi & Kenyon, 2001). However, the youth were not involved in the study. The activities were at household level. That is to suggest that, if the youth were more involved, their activities would reduce degradation of the forests, implying that they would be more empowered, and actively involved in forest friendly entrepreneurial activities. Such involvement would promote non-consumptive and non-destructive use of the forests. It would further reduce dependency on forest resources through diversification of non-farm activities with the getting of alternative source of forest products. As Mutie (2002) reports, such an endeavour would strengthen existing livelihood strategies, as well as raising awareness of participatory forest management.

In a move towards this direction of socioeconomic empowerment of the youth, the government of Kenya initiated a youth programme (popularly known as 'Kazi kwa Vijana') in 2007. One of the project in the programme was the 'Trees for Jobs' a collaborative effort between the United Nations Development Programme and the Ministry of Youth Affairs and Sports. The project engages youth in planting and nurturing trees as an income generating activity. It targets youths preferably three kilometres from the boundary of the rehabilitation area. The youths are required to be in groups. The pilot project was in Nakuru. Through the programme, the 100 Youths planted over 16,500 trees along River Ngosor. For every tree they took care of, the youth were paid. They therefore replaced dead seedlings to continue being in the programme. Reports from the Ministry indicate that the results have been encouraging. In Yatta, this programme implemented by National Youth Service, has about 192,000 trees planted. This project is intended to create employment, conserve the environment, and positively engage youth using forest as a resource (Ministry of Youth Affairs and Sports,

2007; Onyango, et al., 2004). To date, the project has recorded commendable results and is being duplicated in other parts of the country. If this has worked in rehabilitation programmes, it is arguable that in forest conservations, the efforts would bear more benefits. This is because statistics indicate that population is highly concentrated around forests and highlands.

In Kakamega, the population around the forest was estimated to be 187,545 in 2008 and 198,051 in 2010 (Kenya, 2001). The population density is 600 people per square kilometre (Kiplangat et al., 2008). If the youth in this area are well mobilised to engage in entrepreneurial activities, this would lead to the provision of employment opportunities to the young people and a source of income. With the income generated from the forest activities, the entrepreneurs will be motivated to conserve natural resources hence more investment and sustainability. In a study by Guthiga & Mburu (2006), Kakamega forest presents unique aspects to the nation and community. Part of the remaining Equatorial Guinea rainforest in Congo and its subsequent gazettelement provides unique opportunities for serious entrepreneurs. The forest has found a new purpose-leisure industry, a non-consumptive use of biological diversity.

The forest department in Kenya currently allows the community to access forest resources as an incentive to conserve the forest. The resources are mainly extracted by household heads as opposed to the young people. This means that the youth do not directly benefit from these incentives. If they were directly encouraged to participate in conservation efforts they would have a great impact in decision making enhancing ownership.

In view of the above, there is need to reconcile the growing economic needs, the increasing public concerns on environmental issues, with sustainable conservation of forests. In Kakamega forest, studies have shown that the forest has been a source of income through provision of alternative livelihoods to forest-adjacent communities. However, the youth from these communities, have not been fully enlightened through educational programmes on the value of the forest (Kiplangat, et al., 2008). The few enlightened youths have identified some opportunities as tree planting, bee keeping, tour guiding, environmental education programmes among others. Some also act as field research assistants. Although these efforts are in place, the potential of youth entrepreneurship in relation to economic growth and forest conservation is not fully utilized. It is also not known with certainty if the potential has been

utilized to conserve the forest (Kiplangat, et al., 2008). This study therefore seeks to understand the role of youth entrepreneurial activities in forest conservation.

## 2.2 CONCEPTUAL AND THEORETICAL FRAMEWORK

### 2.2.1 Conceptual Framework

It is quite clear that for sustainable development, there should be sustainable environmental conservation. As noted by Todaro (2006), every nation strives for development principally manifested in the environmental movement. For sustainable development, a sustained supply of environmental resources is paramount to create natural assets which combine with physical, human and financial assets to increase the opportunities and stimulate overall growth. According to the World Commission on Environment and Development report (1987), environmental degradation has however negatively impacted on or rather distorted the process of development and production globally. Primarily, this study examines forest conservation in Kakamega, Kenya.

Forest conservation has been noted as a key factor towards sustainable development processes (Todaro, 2006). Its enhancement not only directly and indirectly benefits forest adjacent communities but the nation at large (Moseley, 2003). This is most evident in less developed countries whose economies are largely reliant on agricultural production. Across most forest-adjacent communities in many developing regions, low agricultural production as a result of forest cover depletion has led to declined household income levels. This has left many households to rely on forests for livelihood (Ezeala-Harrison, 1996). As a result, these communities and especially the youth have been seen as the worst forest conservatists (Kenya, 2001).

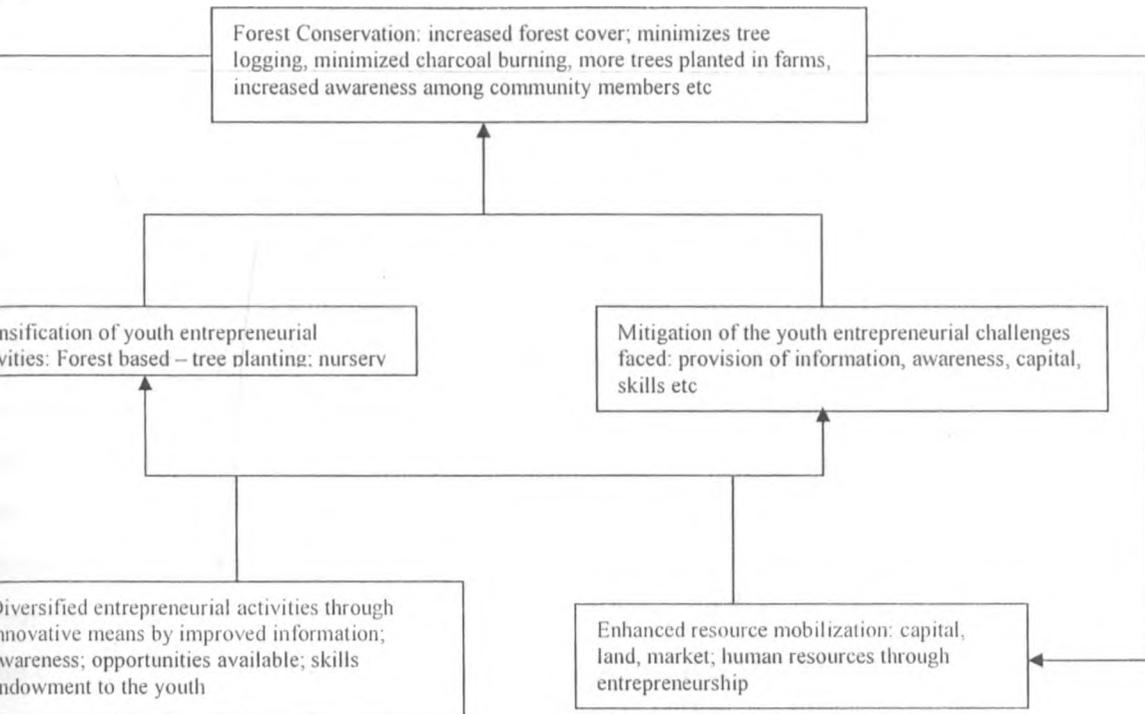
Youths face numerous challenges ranging from unemployment, lack of skills and expertise to the lack of capital. This forces them to engage in forest threatening activities. This is the case, as this particular study found out, of the youths living adjacent to the Kakamega forest in Kenya. With declining agricultural production over time, these youths have over time turned to the Kakamega forest as their second-best source of livelihood. Instead of the youth being agents of forest conservation, they have however become enemies to sustainable forest conservation.

effectively conserve the Kakamega forest therefore, there is a need to address principally, the livelihood problems faced by the forest adjacent communities. One of the measures advocated by Agenda 21 for Change is the promotion of small-scale-forest-based enterprises that support both rural development and local entrepreneurship. These opportunities not only provide incentives to the population to engage in them and earn a living, but also present employment opportunities for the forest adjacent communities (Todaro, 2006). Moreover, small-scale-forest-based enterprises demand low-skilled entrepreneurial expertise locally available among the forest adjacent communities. Small-scale-forest-based enterprises help in the management of efficient forest resources use, waste minimization and environmental quality protection.

Entrepreneurship is characterised by continuous innovation, risk-taking starting, owning and managing small businesses (Balakrishnan, 1998; Tyson, Petrin, Rogers, 1994, p. 2-3). According to Drucker (2007) and Moseley (2003), innovation is very critical in that it is the specific tool that entrepreneurs exploit to create opportunities for creating and sustaining wealth. In entrepreneurship risk taking encourages innovation, ownership and management of entrepreneurial activities. The youth therefore need to be motivated to realise the opportunities presented by forest conservation (Kinunda-Rutashobya, 1999). The youth could potentially benefit (socio-economically, etc.) from forest resources-related processes, products and markets innovation. Such would enable them reclaim their rightful place as key members of forest-adjacent communities, primary stakeholders in local development processes and by extension, forest conservatists (Lele, 2001; UN, 2007). This study explores how youth entrepreneurial activities contribute towards forest conservation in Kakamega, Kenya.

The major challenge faced in entrepreneurship is the identification and exploitation of uncertain opportunities. This particular study examines moreover, different challenges faced by youths (living adjacent to forests) while engaging in forest-based entrepreneurial activities. In dealing with both practical and perceived challenges, an entrepreneur must explore possible mitigation measures for successful engagement. Lastly, this study explores how youths (of interest in this study) have mitigated identified challenges (see Figure 1).

Figure 1: Youth entrepreneurship and forest conservation



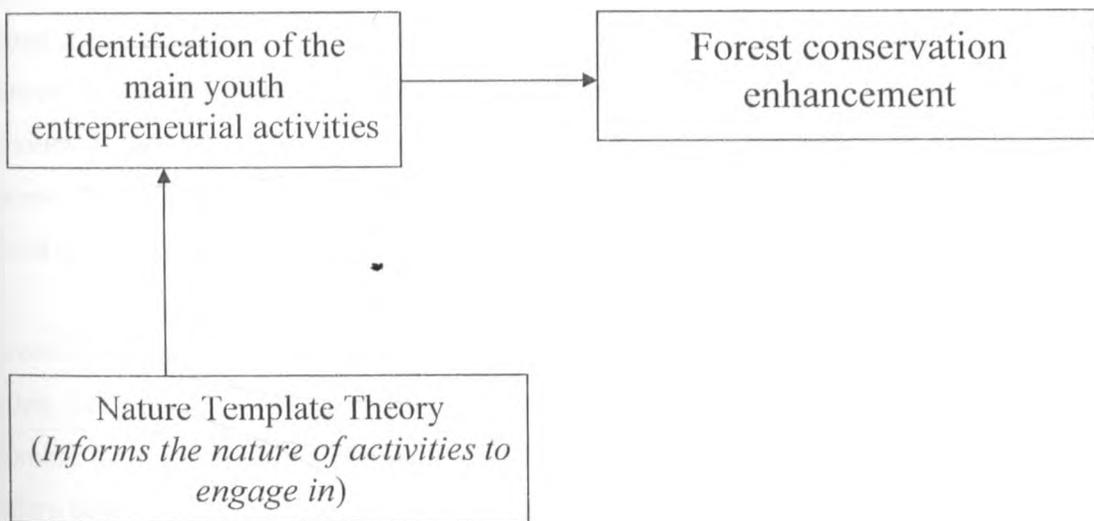
Source: Self illustration

From the above conceptual framework, forest conservation directly leads to the diversification of youth entrepreneurial activities and enhances resource mobilization. These comprise the assets, the activities and their access that together determine the nature and intensity of youth involvement in the entrepreneurial activities. This increases the youth's portfolio of activities and assets in order to survive and improve their standards of living (Ellis, 2000). The intensification of youth entrepreneurial activities coupled with successful mitigation of identified challenges will potentially enhance forest conservation. The intensification of youth activities would be as a result of enhanced resource mobilization and diversification through innovation. It can be attributed to the enhanced sensitization of available and exploitable opportunities available to the youth. Thus, if chosen activities are right and related resources are well mobilised, youth's forest-related entrepreneurial activities will likely result in sustained forest conservation.

### 2.2.2 THEORETICAL FRAMEWORK

Theoretically, there is limited correlation between youth entrepreneurial activities and forest conservation. According to different development scholars, development has majorly concentrated on industrial growth which has resulted to depletion of natural resources. Emphasis has been in the reduction of poor communities' extreme vulnerability to ill health, economic dislocation, and natural disasters (Todaro, 2006; World Bank, 2006). However, this correlation between youth entrepreneurial activities and forest conservation can be implied. More so, there exists minimal empirical evidence of the likely direct links between youth entrepreneurial activities and forest conservation. Based on the limited literature on the same, this study attempts to theoretically draw direct links between the two variables. From the conceptual framework, it is evident that understanding youth entrepreneurial activities in the context of forest conservation as well as understanding inherent challenges faced by youth entrepreneurs, potentially provides useful insights on sustainable forest conservation enhancement. But the main theoretical question remains as to how youth entrepreneurship helps conserve forests. Figure 2 illustrates the study's theoretical framework.

Figure 2: An illustration of the study's theoretical framework



Source: Own illustration

In figure 2, the choice of youth entrepreneurial activities should directly relate to the forests, for its direct conservation. By nature, these activities should mimic the forest's natural replenishment processes as advanced by the *Nature's Template* theory. According to the

latter, trees naturally grow when the seeds fall on the ground or when seeds are transferred from other regions by wind, insects or animals. They subsequently become mature trees in the long run. On dying out, these new tree species are collected as fire-wood. Moreover, some tree species get destroyed by wild animals such as elephants, among other factors. In addition to these natural destructive factors however, forest ecosystems have over time been threatened by human-induced factors including increased global warming from increased industrialization by the increasing world population. As such, these human-induced pressures have over time, suppressed the natural forest cover replenishment processes. To curb this destructive trend, there is need for an urgent multi-disciplinary action.

### 2.2.2.1 Nature's Template Theory

Forests conservation as a part of environmental conservation directly or indirectly leads to sustainable development (Nyagena, 2001). According to *Nature Template* theory, forests form an important part of the environment (Mitchell, R. J<sup>2</sup>). This is in reference to their composition, structure, function, and disturbance that regulate environmental patterns across space and time. According to Todaro (2006), forests are the natural endowment of any society. They provide resources that societies need including energy, water, purified air, shelter and food among other functions. The conservation of forests ensures a functional mutual ecosystem. Thus, any activities that cause forest cover imbalances such as logging, charcoal burning, forest fires, forest farming, settlements within forests among other industrial activities disturb the entire forest ecosystem and by and large, any dependent developmental process. Any mitigation strategies therefore as advanced by the *Nature Template* theory should mimic the natural forest replenishing processes as much as possible.

According to the theory, mitigation strategies should be designed in a way that follows the natural forest cover recovery processes. More so, forest encroachment activities should also resemble the natural forest ecosystem disturbances<sup>3</sup> as closely as possible. However in the modern times, it is impossible to do this precisely. Nevertheless, it is quite possible to choose forest management forms that are relatively similar to natural disturbances. These include activities that, help to reduce pressure on forest resources such as emphasis on agro forestry,

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<sup>2</sup> [www.earth-forum.com/ewebeditpro/items/O62F5611.pdf](http://www.earth-forum.com/ewebeditpro/items/O62F5611.pdf)

<sup>3</sup> These include firewood collection for the dead wood, cutting down of trees by adjacent community to put up simple structures, grazing and cutting grass for thatching which the communities used to do traditionally for domestic use not commercial purposes

use of alternative energy sources and exploration of alternative income sources e.g., forest-friendly small-scale enterprises.

On the contrary, most forest adjacent community cultures see forests as a gift from God that is meant to be used for mankind's wellbeing (Lele, 2001). As such, they see no offense in encroaching forest ecosystems. This mentality has however augmented forest encroachment rates overtime. To address related forest destructive activities, the *Nature Template* theory emphasizes reliance on participatory forest management systems that actively involve the forest adjacent communities in conserving forest resources. Such would result in controlled encroachment activities that sustainably also, conserve forest ecosystems.

One of the ways in which sustainable forest resources-use can be attained is through forest-friendly youth entrepreneurial activities. As can be implied from the works by Szabo, (2004) and Simpson, (2008) if the youths small entrepreneurial forest-based businesses activities are encouraged, it would lead to enhanced forest cover. Such activities include tree planting, environmental education programmes, controlled forest tour guides, butterfly farming and bee keeping. They are less exploitative and hence would likely result in sustainably replenished forest ecosystems.

The main limitation of this theory is that it does not include entrepreneurship as among the ways that forest covers can naturally replenish overtime. Secondly it does specify who should be involved in such sustainable forest cover replenishment processes/activities. In this study. we explore to what extent youths can be instrumental in advancing such sustainable forest conservation activities. Nonetheless, the *Nature Template* theory informs this study on the kind of activities that forest-adjacent community groups could engage in for sustainable forests conservation. It supports reliance on forest-based initiatives that help to conserve forest ecosystems. This study examines these youth's-induced forest-friendly activities that also provide alternative income sources to the participants.

## CHAPTER THREE: METHODOLOGY

### 3.1 Study Area

This study was carried out in Kakamega Forest-Kenya. Kakamega forest is Kenya's last remnant of the ancient Guineo-Congolian rainforest that once spanned the continent. The forest has been a key research site for the **Biodiversity Monitoring Transect Analysis in East Africa (BIOTA)** project. The BIOTA project has had four phases in its research activities in the forest (Kiplangat et al., 2008; Lay, et al., 2008; Rietdorf, 2007). The fourth phase specifically explored possible sustainable conservation measures for the forest as a key resource in Kenya. This study contributes to this particular inquiry by attempting to provide valuable information on the role of youths entrepreneurial activities in forest conservation in and around the forest. Information from the Kakamega District Youth Office, indicate that over ninety-three youths groups are registered and engaged in environmental conservation of the forest.

The study examines youth entrepreneurial activities within a radius of five Kilometres around the forest. As a National Reserve, Kakamega Forest was established in 1985 and supports an estimated 700, 000 people directly or indirectly (Kenya, 2001). It is managed by Kenya Forest Service and Kenya Wildlife Service. In addition, the surrounding community have been incorporated in forest conservation efforts (Kiplangat et al., 2008).

Kakamega Forest is in the Western part of Kenya, the largest part of the forest is in Kakamega East District. Kakamega East District is sub divided into two divisions; Ileho and Shinyalu. It is found within an altitude of 1460 – 1765 metres above the sea level, lying about 30 km north of the Equator. The district population in 2009 was 159,475 people (KNBS, 2009). As per the 2008-2013 District Development plan, the population in this area has been drastically increasing without an equivalent economic growth. Of this population, it is estimated that the youth constitute 30 percent (Kenya, 2008).

The main economic activities for the forest-adjacent communities include: small scale farming, livestock keeping, small scale cash crop growing – sugarcane, coffee and tea-forestry and small scale traders..(Kenya, 1997; 2008). The forest also serves as a major water catchment area for rivers in the area, provides fuel energy, herbal medicine, and livestock fodder (Kiplangat, 2008; Onyango et al., 2004; Rietdorf, 2007).

### 3.2 Methods of Study

The main objective of this study was to examine how youth entrepreneurial activities have helped in forest conservation. The study therefore used both quantitative and qualitative methods of data collection and analysis.

The quantitative method of data collection enabled the study to collect data with meaningful comparison of responses across the respondents. The study used survey method to collect quantitative data. This informed the choice of questions to ask, the best way to ask them, and the range of possible responses. Using questionnaires, the study sought to get responses on how youth entrepreneurial activities are helping in the conservation of the forest, the major challenges, the mitigation measures the youths have employed and recommendations on how to enhance forest conservation using youth entrepreneurial activities. From the data collected, the study was able to quantify variation, predict causal relationships and describe characteristics of the population. The study used survey to collect quantitative data. A semi structured questionnaire was developed to solicit information from the population sample. The questionnaire had both open and closed-ended questions. In total, forty four questionnaires were administered (See Annex I).

Qualitative methods of data collection were used in this study to ascertain link between forest - based entrepreneurial activities and forest conservation. The qualitative data collection methods complemented the quantitative data collected. The data collected was in line with the specific research questions. The various methods used included key informant interviews, focus group discussions, observation and case study as explained below.

#### 3.2.1 Key Informant Interview

Key informant interviews were used to enable the study obtain opinions and perspectives from informed persons on the relevance of youth entrepreneurial activities to forest conservation. Those identified as key informants had expertise and knowledge on the issues under the study. An interview guide was used on themes under study (see annex II). The key informants were purposively sampled. A prior visit to the area enabled the researcher to purposively select them and scheduled the dates and timings for the interviews. The informants were grouped into two categories. The first group consisted of eight respondents from whom information on

the main issues facing the youth entrepreneurial activities in the district was sought (see annex III). The second group of key informants were from one of the main community based organization called Kakamega Environmental and Educational Programme (KEEP) group. The second category was further divided into two groups; key informants within KEEP group (see annex IV) and non KEEP members. The study identified four key people in the area (see annex V).

### 3.2.2 Focus Group Discussions

Youths were engaged in focus group discussions on the relevance of their activities to forest conservation, impacts realised, challenges and recommendation. These group discussions emphasised issues highlighted in the questionnaires. The study conducted four focus group discussions. The researcher had an open ended discussion guide (See annex VI). Two focus group discussions were conducted in each division for non KEEP members. Four youth group members were purposely selected from youth groups in the divisions. The third FGD was done with four KEEP branches officials. The last FGD was held with youth members from the KEEP group.

### 3.2.3 Observation

This method was applied side by side with all the above methods in order to capture non-verbal behaviour, explore interactions within the groups, and collect data which could not be captured using the other methods. The observed aspects were used to compliment reliability and validity of the responses gathered. Observation notes were taken in the process of the field work, and photographs taken of the youths and their activities.

### 3.2.4 Case study

The case study was an in-depth study of Kakamega Environmental and Education Programme (KEEP) group. This group was selected because it is the oldest youth group in the area, with activities that directly help conserve the forest. Secondly, the group's main operations are within five Kilometres radius from the forest. Thirdly, the group's main objective is to promote sustainable environmental conservation in and around Kakamega forest. The group aims to achieve this through offering environmental conservation education to schools, communities, out of school youths and community institutions. More so, the group has the highest number of activities towards conservation of the forest.

Due to limited resources and time constraint, the study focused on two programmes undertaken by the group namely environmental education and tree nursery. With no single

way to conduct a case study, a combination of methods was used. They included: Survey, Key Informant interviews, Focus Group Discussion, Documents and Direct observation

### 3.2.5 Secondary data

The researcher obtained various documents from KEEP offices for analysis. These documents showed the groups' inception, membership, objectives, goals, and main activities. The documents were supplemented by information available on the group's website. The researcher was able to obtain a copy of the group's constitution, brochure and internet information. The group however, had limited documentation on its inception and running of the group activities.

## 3.3 Sample Frame and Sampling Procedure

### 3.3.1 Identification of groups

The main unit of analysis was youths in youth groups. The Kakamega East district youth officer made available a list of ninety seven (97) registered youth groups and their activities in the district. However, the study was particular on youth groups engaged in environmental activities. The researcher therefore purposely drew a list of all youth groups whose focus was on environmental conservation, particularly on forest conservation. From this list, youth groups engaged in environmentally friendly activities were sixty seven (67). The 67 groups formed the sample frame.

### 3.3.2 Sampling

From the sample frame, both stratified random sampling and purposive sampling method were used to arrive at the sample unit. The study targeted at least 15 out of the 67 youth groups. (22%). The district is divided into two divisions. Each division was termed as a stratum. From the two strata, equal number of groups were identified. Each had seven groups for equal representation. However, Shinyalu division had the biggest share of the forest hence one more group was picked from Shinyalu. The result was seven youth groups from Ileo division and eight from Shinyalu making a total of fifteen groups. From the fifteen groups, purposive sampling was used to get three representatives from each group. They were the chairpersons of each group and at least one of the remaining two was to be an ordinary member. The study sample unit comprised of 45 youths on whom the questionnaires were administered.

For the case study, another sample unit was obtained. This was in two groups: KEEP members and non KEEP members. They were purposely sampled. From the KEEP group, the

programme coordinators and at least two members under the two programmes on study were selected. A total of seven members were identified. For non KEEP members, the study identified ten respondents. They were three teachers; one from each of the three primary schools neighbouring the forest; four community members - older persons, and three youths from the area. A total of ten non members were identified for this study. The Community members and youths were randomly sampled. Each was administered with a questionnaire.

### 3.4 Methods of Data Analysis

The data was analysed using both qualitative and quantitative methods. Collected data was edited to ensure consistency. The survey responses were analysed by the use of a computer programme Statistical Package for Social Sciences (SPSS) to give descriptive frequencies. Quantitative data from the questionnaires was coded and fed into computer program. Descriptive statistics were obtained in relation to various variables under the study. These included: the age, education level, religion and marital status. Frequency tables cross tabulations and summary tables were derived from these statistics which were used to show various sample characteristics between youth entrepreneurial activities and forest conservation. These characteristics were in reference to the research questions mainly: the role of youth entrepreneurial activities in forest conservation; how the youth are involved in these activities, challenges, and recommendations towards forest conservation.

For the qualitative analysis, a thematic approach was used to analyse every research question by deriving common themes that emerged from the data. Major concepts were highlighted as indicators to help explain the research questions of the study.

## CHAPTER FOUR: YOUTH ENTREPRENEURIAL ACTIVITIES AND THE CONSERVATION OF KAKAMEGA FOREST

### 4.1 Introduction

Forest-adjacent communities have a key role to play in the conservation of forests. Youth constitute the majority of this population; therefore, their role in forest conservation cannot be over emphasized. Since they form the majority of the population, they are the most affected by forest degradation (Kenya, 2005). In an agriculture-based economy, forests contribute heavily to the socio-economic development. In such economies, agricultural production is estimated to provide over 70% of the employment opportunities as well as food for the population. The degradation of forest cover therefore leads to reduced agricultural production and consequently, declined employment opportunities for the youth. As a result, the youth are likely to engage in illegal activities in the forests such as logging and charcoal burning to earn a living thus degrading the forests (Juma, 2007; Nyangena, 2001; Okidi, et al., 2008).

Youth entrepreneurial activities have been found to significantly contribute to socio-economic development of both developed and developing nations (UN, 2007). These activities are often directly and indirectly linked to forest ecosystems (Moseley, 2003; Szabo, 2004; UN, 2004; UN, 2007). Positively, forest-based entrepreneurial activities are paramount to forest ecosystems sustainability (UN, 2004; UN, 2007). Tree planting, bee keeping and butterfly farming activities among others, in the long have been found to help increase forest cover in a way that partly mimics natural forest replenishment processes. Moreover, they provide the youth with incentives to help protect and conserve forest resources. (Guthiga & Mburu, 2006; Ongogo, 2007).

This chapter therefore seeks to provide further insights on how youth entrepreneurial activities help conserve forest ecosystems, using the case of the Kakamega forest. We define forest conservation to constitute activities that result in (i) increased forest cover, (ii) minimized logging and charcoal burning, (iii) increased agro-forestry and (iv) increased awareness among community members on the need and ways to conserve forests.

## 4.2 Youth entrepreneurship and Kakamega Forest Conservation

In Kakamega forest, diverse youth entrepreneurial activities have positively contributed towards increased forest resources conservation. These activities have greatly reduced pressure on the forest resources by providing alternative means of livelihood to the youths and enhancing forest conservation<sup>4</sup> awareness. When the respondents were asked which specific entrepreneurial activities they engaged in, the majority, precisely, 52% of the total respondents reported that they engaged in tree nursery management 24% reported that they were involved in environmental education and awareness in school, churches and across communities. The rest of the respondents were engaged in bee keeping, medical extraction, briquette making and butterfly farming as indicated in table 1.

Table 1: Youth groups' entrepreneurial activities

<b>Entrepreneurial activity</b>	<b>Responses (percent)</b>
Tree nursery management and tree planting	52.0
Environmental (especially sustainable forestry) education and awareness in e.g., schools and community	24.0
Bee keeping	8.0
Medicinal extraction (i.e., from forest resources)	6.0
Briquette Making	4.0
Bandas (forest-based guest rooms) development and management	2.0
Butterfly farming	2.0
Others (including respondents who didn't answer)	2.0
<b>Total</b>	<b>100.0</b>

Source: Author, 2009

Respondents were further asked how these activities contributed to forest conservation. First of all, they highlighted the overall achievements realized from the entrepreneurial activities. As illustrated in table two, 18.2% of the total respondents reported increased income levels as a result of engaging in entrepreneurial activities in the forest. In addition 18.2% of the respondents stated that they had had an increase in number of the seedlings raised. The

<sup>4</sup> According to Kenya Forest Service, illegal activities within and around the forest have over time declined. The youth are well informed and have been actively involved in the conservation of Kakamega forest.

increase in the number of youth's engaging in the entrepreneurial activities was attributed to the enhanced awareness among young people in schools, youth groups and churches on the importance of forest conservation. As a result, the number of environmentally-friendly business activities in and around Kakamega forest has increased. These have helped to diversify income earning-activities by the youths in the area. Importantly, these activities have not only been rolled out within the forests but also outside the forests in individual farms.

Table 2: KEEP Youth Group Achievements

Achievements	Responses (percent)
Increased tree seedlings establishment	18.2
Increased income among members and group	18.2
Identification of alternative energy sources (other than fuel wood)	13.6
Increased education programmes among school children, youths and community members on the importance of forests (as well as environmental) conservation	11.4
Enhanced skills in forest conservation	11.4
Increased nature-friendly business venture establishments	9.1
Increased diversified income generating activities	6.8
Increased involvement in other beneficial activities e.g. business activities outside the forest	6.8
Increased networks and collaboration with both local and international related organizations/groups	4.5
<b>Total</b>	<b>100.0</b>

Source: Author, 2009

Secondly, the respondents especially members of KEEP group highlighted how each of the entrepreneurial activity contributed towards forest conservation. The following discussion will highlight some of these activities.

#### 4.2.1 Tree nursery and forest conservation

Majority i.e 52% as indicated in table one of the respondents interviewed reported that tree nurseries were their main forest-based youth entrepreneurial activity. Tree nurseries among youth groups were first established by the KEEP group on its inception in 1995. Although

initially tree nurseries were intended for demonstration to visitors, they have now become an economic activity among the youth. The group established tree nurseries for the sole purpose of demonstrating to its visitors. Since then, tree nurseries have been established as an economic activity. In addition, apart from the forest department providing them with seeds to grow in their nurseries, they have been allowed to collect their own seeds from the forest. The seedlings are then sold back to the forest department as well as to forest-visitors. Seedlings are also sold out to participants in any environmental awareness campaigns organized by the KEEP youths.

Interestingly, the demand for seedlings in and around Kakamega forest has increased over time. This has led to more youths taking up tree nurseries as an economic activity. Consequently the youths have also intensified their marketing strategies. They have been invited to give presentations in workshops, community fora and regional agricultural shows on the importance of environmental conservation. They have also developed a related website from where interested parties can read about their activities and if necessary, print-out related brochures for further dissemination. Apart from the income they earn from the sale of seedlings, each group is expected to give to the forest department 10% of their seedlings per annum for replanting in the forest. As such, the forest is replenished. This activity has kept the youths busy as well as provided the community members with active forms of livelihoods especially during periods of low agricultural production.

#### 4.2.2 Medicinal extraction and Kakamega forest conservation

The second entrepreneurial activity is medicinal extraction. According to the respondents some of the youth members have acquired knowledge on the medicinal value of specific tree species. They have been further taught how to extract the medicine from the species. These youths have acquired such knowledge from research findings on studies conducted in the forest. As a result, two youth groups, KEEP youth group and Muliro farmers under the support of the International Centre of Insect Physiology and Ecology - ICIPE, established centres to extract medicine from three medicinal plants around the forest. These tree species are *Mondia Whytei* (locally referred to as Mukombero), *Eucalyptus species* and lemon grass. Interested participants have moreover, domesticated these tree species. Over time, the youths in particular, have been able to engage in the commercial production of these species.

*Mondia whytei* is a climber. This implies that it relies on other tree species for support. To grow this tree one has to plant more trees in and around the forest. This implies that the growing of *Mondia whytei* has greatly helped increase forest cover. Given its medicinal attributes such as inhabiting antidepressant, antioxidant, body stimulant, revitalizer and appetizer properties, the youths have over time earned a lot of income from selling its extracts, including its raw roots, to community members and forest-visitors. Moreover, they have participated, as research assistants, in the species-related research by external researchers, earning them extra income.

The domestication of the both eucalyptus and lemon grass was aimed at reducing youth's interference with the forest. Since its inception, the group has been able, to mobilise community members especially the youth to grow the same species in their farms due to the ready market at the group's processing plant. As result, there has been reduced extraction-pressure on other tree species found within the Kakamega forest. ICIPE buys the oil extracted from the plants for further processing in Nairobi. The remains after oil extraction have medicinal value to both animal and humans as they can be used for stomach congestion, insect bite as well as muscular pain reliever. The remains are also used as composite manure improving their overall agricultural production.

#### 4.2.3 Butterfly farming and Kakamega forest conservation

The third activity is butterfly farming. According to the KEEP chairman, Kakamega forest inhabits diverse variety of butterfly species. Interestingly, each butterfly species depends on a specific tree species. Therefore, the more the butterfly species the more tree- related species planted and conserved in and outside the forest. In addition according to the KEEP youth group members the market for maggots (the third stage of butterfly life cycle) is very lucrative to the extent of, attracting international buyers. These maggots are regularly exported to diverse international markets.

Despite these gains from butterfly farming, 20% of the bred butterflies by KEEP youth group are released back to the forest. It is evident therefore that, butterfly farming not only helps in conserving the forest but also in increasing and conserving the butterfly species. The butterflies are one of the main tourist attractions in the forest.. As a result, from verbal communication by the KEEP youth group chairman, income levels both to the youths and the government has increased.

#### 4.2.4 Bee keeping and Kakamega forest conservation

The fourth activity under KEEP youth group management is bee keeping. Bee keeping requires flower nectar to process honey, water and shade. Therefore, to successfully keep bees, more trees have to be planted to provide and preserve water, provide shade as well as flowers. According to the KEEP youth group chairman, the quality of honey depends on the diversity of the flower nectar the bees extract. This implies that there is need for a variety of tree species in and around the forest. Thus, more tree species are required to harvest high quality honey for the best prices in the market. On the other hand, bee farming accrues positive externalities especially, to farmers. For example, bees help in crop pollination. This assertion was collaborated by the KEEP youth group's chairman, who observed that farms located near beehives have higher productivity than those located far from the beehives.

#### 4.2.5 Eco-tourism and Kakamega forest conservation

The youths have also been involved in eco-tourist activities as well. This has been as a result of the increasing number of guests to the forest. Majority of the visitors usually prefer to be hosted locally. KEEP youth group members have constructed "bandas". These are guest houses situated in the forest and constructed in accordance to the Lulya culture to accommodate both national and international guests. The food served in the "bandas" is locally grown with the employees being group members. The "bandas" provide a source of income to the youth group and its members and also to the farmers around the forest. Consequently, the pressure on forest resources has further reduced.

In addition to the "bandas", the KEEP youth group members host guests at their homes at a fee. For instance, guests can request to stay with one of the KEEP youth member's family for a period of two weeks, four months, or more. The guest is charged a monthly fee inclusive of all living-related expenses. The local community has earned as well as learned from visitors increasing ecotourism activities in Kakamega forest. The group as well as other community members living around the forest have benefited a lot from this kind of arrangement. The youth and community members interviewed indicated that most families/groups members have benefited a lot from this activity.

#### 4.2.6 Briquette making and Kakamega forest conservation

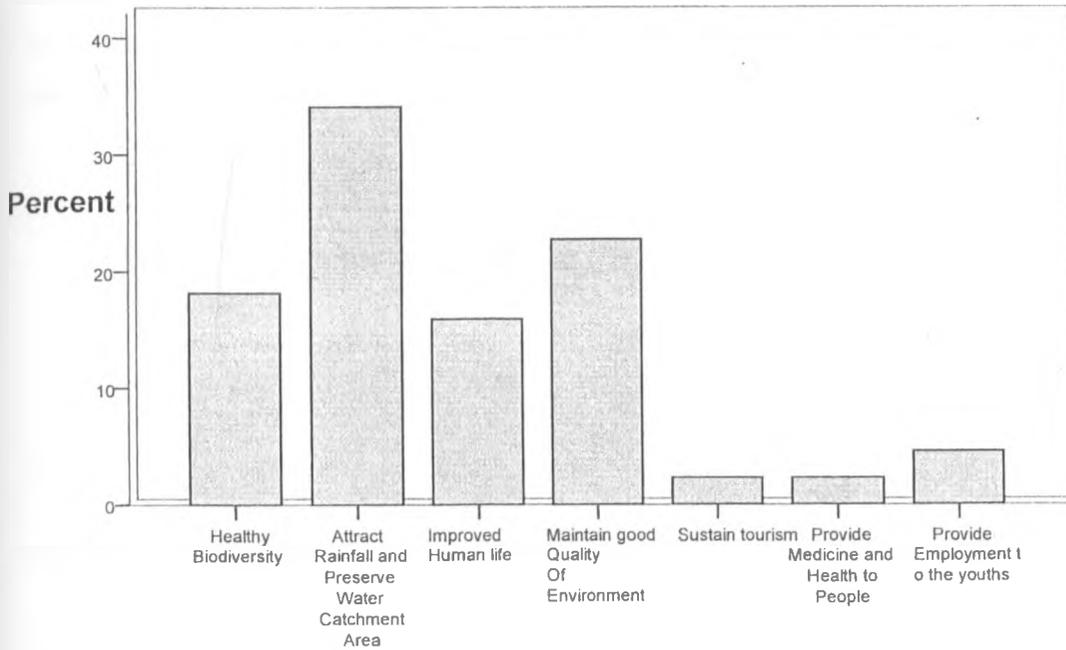
Last but not least is briquette making and energy-saving jikos. Briquette making has multiple benefits to the community. First, the process of making the briquettes utilises fallen leaves,

waste paper and other waste materials polluting the environment. Secondly, it is an alternative source of income to the families around the forest implying they do not cut down any trees for firewood or charcoal burning. Thirdly, the energy saving jiko has reduced drastically the firewood use at household levels. In cases where briquettes are used in the energy saving jikos, the number of briquettes used is further reduced cutting down further on household expenditure on energy sources. In order to make more briquettes more trees have to be planted and all wastes collected from the community. The neighbouring community especially schools have earned a lot from selling off the waste papers at school and their homes to KEEP youth group. Members of the community have been trained on how to make the briquettes since they require simple equipment and minimal skills to operate.

From the discussion above, it is evident that youth entrepreneurial activities have provided the youth with income, provided employment opportunities as well as other members of the community and more significantly contributed positively towards increased forest conservation. The youths have been able to learn and acquire related skills and experiences in entrepreneurial activities and best practices in their management. According to the Kakamega East district youth officer, KEEP youth group in particular, has expanded its activities scope and outreach as well as re-invested into more forest- conserving projects such as agro-forestry programmes. Further still, the youth have formed community-based forest scouts groups, which work hand in hand with the forest guards to help apprehend forest destruction culprits. As a result, illegal forest activities have over time declined. Importantly, the youths as well as most forest-adjacent community members have been able to establish self-sustaining safety nets that additionally help conserve the forest.

In order to understand why there has been increased growth in forest-based entrepreneurial activities in Kakamega forest, the respondents were asked what they attributed such growth to. In response, they argued that the growth was as a result of improved awareness of the importance of Kakamega forest to the community hence their role in its conservation. When asked why they should conserve the forest, 34.1% of the respondents said that forest conservation helped attract rainfall as well as sustain water catchment area. 22.7% of the respondents indicated that improved life standards depended directly or indirectly on well conserved forest resources. Moreover, 15.9% of the respondents stated that forests transformed and sustained improved human development as indicated in figure 3.

Figure 3: Youth attributes to the importance of forests conservation



Source: Author, 2009

The increase in awareness on forest conservation has resulted in the youth's active participation in the conservation of the forest entrepreneurial activities and environmental education programmes. The education programs run every Saturday, with KEEP group members educating primary school children from the neighbouring communities and schools on the importance of forests. The awareness programmes take place at the KEEP's forest based resource centre. As a result of the trainings, more tree nurseries have been established in the community and schools, enhancing the goal for a healthy and wealthy environment. The youths with knowledge acquired from elders as well as from reading related literature have been actively involved as tour guides in the forest.

In conclusion, this chapter sought to provide information on how youth entrepreneurial activities have helped conserve forests using the case of the Kakamega forest. Evidently, diverse activities including tree nurseries, butterfly farming, bee keeping and briquette making among others, have positively contributed to the conservation of the Kakamega forest. More

so, they have provided the youth with alternative income sources and employment opportunities, as well as, exposed them to related skills and experiences that could be useful in the future sustained forest resources conservation. By implication, youth's engagement in entrepreneurial activities in and around Kakamega forest has resulted in increased forest cover; minimized logging and charcoal burning and increased awareness among community members on the need and ways to conserve forests,.

## CHAPTER FIVE: IMPEDIMENTS AND THEIR REMEDIES IN KAKAMEGA FOREST CONSERVATION

### 5.1 Introduction

In the previous chapter, the study showed with the case of the Kakamega forest, how youth entrepreneurial activities contribute positively to increased forest resource conservation. Such engagements are however, not without challenges. Literature counts numerous challenges that potentially constrain sustained forest resources conservation efforts. These include the lack of sufficient financial and technical resources, lack of related skills and ignorance among the communities. Using the case of the Kakamega forest, this chapter discusses various impediments to sustainable youth entrepreneurial activities in forest conservation.

When asked about the different challenges experienced in the conservation of the Kakamega forest, youth group members reported diverse challenges. These included; the lack of adequate finances, lack of market for harvested products, illiteracy and ignorance among forest-adjacent community and group members. The key informant's responses also agreed with the youth findings. Table 3 provides a summary of the youth findings.

Table 3: Challenges faced by youth groups

<b>Challenge</b>	<b>Response (percent)</b>
Lack of finances	43.2
Ignorance among forest-adjacent community members	16
Lack of relevant markets (i.e., for harvested products)	11.4
Lack of leadership and managerial skills as well as relevant equipment	6.8
Lack of government support, bad policies and corruption	4.5
Illiteracy among youths (and forest-adjacent communities)	4.5
Poor Infrastructure	4.5
Lack of motivation among youths to join forest conserving groups	4.5
Limited abilities to start up new relevant projects	2.3
Lack of raw materials e.g., indigenous seeds, waste paper, etc.	2.3
<b>Total</b>	<b>100.0</b>

Source: Author, 2009

The rest of the chapter discusses in details these key challenges faced by the youth groups in the Kakamega forest conservation.

## 5.2 Lack of Finances

The youths reported lack of finance as their key hindrance to forest conservation. According to the KEEP youth group chairman, *'the financial capacity of an individual or a group directly determines the level of business investment and consequently the returns, all other factors held constant'*. He further stated that *'any entrepreneurial activity requires sufficient capital input for successful operation'*. For instance, his group lacked enough money to purchase polythene bags to establish the seedlings. As a result, they were only able to grow few seedlings with respect to the number of available polythene bags. In addition, for effective marketing of their products they require substantial amount of money to meet related transport costs. As a result, the group realizes low returns given the limited initial investment levels. Moreover, owing to inadequate marketing strategies, some entrepreneurial activities have not been operationalized or face slow growth rate. This has discouraged most youths from engaging in these seemingly non-viable entrepreneurial activities. In response, most of the youths have concentrated in other business ventures in the service industry including 'boda-boda'- the local transport means on motorcycles- and charcoal burning, activities with faster-returns in the short-term. As a result, few engage in forest-based entrepreneurial activities.

According to one of the key informants, since most youth activities are small-scale, the youth groups have found it difficult to access sufficient financial support to enhance their entrepreneurial activities. Further still, the bureaucratic structures, procedures and guidelines associated with acquiring external funding, such as the youth development funds, discourage further many young people from pursuing the funds. Moreover, the youths do not own land or other forms of collaterals mandatory in securing loans and funding. Secondly, the youth entrepreneurial activities have not been in operation long enough as required by lending agencies to merit loans. As the key informant reported, most banks and micro credit institutions require a business to have been in operation long enough to ascertain their stability

These financial challenges as per the findings, limit the youth's ability to identify, initiate, manage and develop entrepreneurial activities. As a result, youths have ended up engaging in

small entrepreneurial activities. This has further demoralised them resulting in their seeking employment opportunities in urban centres, or even engaging in illegal activities in and around the forest to earn a living.

The respondents were asked how they had been able to mitigate these financial challenges. From their responses it was evident that the youths have positively adapted. The youth have resulted to smaller and less capital intensive entrepreneurial activities that have less returns that engage fewer youths, and are cheaper to maintain. As a group the youths have been able to contribute small amounts of money. As observed in table two, 22.7% of the respondents reported that they have been able to conduct local fundraising campaigns. Others have sought and gained project-based funding from various donor partners.

In the case of the KEEP youth group members, they have been able to secure both governmental and donor-based financial support. The group has developed proposals which have been funded to support the environmental educational awareness campaigns by international organizations. They have been supported by Nature Kenya to establish a Canopy and the bandas within the forest for tourists. ICIPE has supported the extraction of medicine from the plants, with other donors supporting other entrepreneurial activities. The forest department has provided the youth groups with space to establish the tree nurseries in the forest. National Museums of Kenya have sponsored training for the youth group members on a number of conservation related strategies. In addition, as a group, the accumulated savings have over time been used to acquire some collateral necessary in securing small or medium-sized loans from various development partners and Youth Enterprise Fund established under the Ministry of Youth Affairs and Sports in Kenya according to the District Youth Officer Kakamega East. All the youth interviewed reported that members contribute a registration fee and an annual subscription fee. 6.8% of the respondents as indicated in table 2 reported an increased recruitment of new members in the youth groups since mid 90's, thus the accrued collections have helped the group to establish, run and sustain most of its projects.

### 5.3 Lack of Skills

In the literature review, it was noted that lack of skills impacts negatively on entrepreneurial activities. It was evident that lack of proper adequate skills and experience to run an enterprise reduces its overall performance. This was collaborated by the study findings, where the

respondents indicated that all the entrepreneurial activities required some level of skill endowment. Among the youths interviewed in this study, it was evident that most youths were either primary or secondary school drop outs. According to teachers interviewed in this study, the current education system hardly equips the pupils or/and students with basic business skills at primary and secondary level. Moreover, this lack of basic skills led many youths to engage in activities that require no or minimal skills like logging, charcoal burning and trees clearance to grow subsistence crops. Others have taken-up casual labouring such as aiding in illegal logging. In the case of the KEEP youth group, this lack of basic school education among youths has made it very hard to sensitize them on the importance of forest conservation.

According to the district youth officer, *'skill endowment enhances youth's ability to engage in productive entrepreneurial activities'*. She added that such skills are *'not only limited to basic business skills such as book keeping and marketing strategies but also resource mobilization, project planning and leadership skills'*. From the study findings, youths interviewed lacked appropriate technology and equipment, proper leadership and business managerial and technical skills, and experience required to run their business projects. As a result, majority of the group members engage in small entrepreneurial activities reducing marginally the benefits desired to act as incentives to conserve the forest. These activities are neither well managed nor do they have a strategic plan for their growth and development. The latter has especially discouraged potential external donors from engaging or continuing engagements with the youths.

When the respondents were asked about the main factor attributed to their lack of skills, 6.8% of them reported that poverty was high in the community. These sentiments were echoed also by the key informants who reported that they could not enrol in school to acquire these skills because of lack of resources. It was realised that most of the youths are usually married at an early age. Once married, they are unable to enrol in a school since the community's perception is that learning is only for children. Instead the little resources they accumulate are used to pay school fees and other requirements for their children. On the other hand, majority of the youths perceived themselves as too old for school as noted in the focus group discussions. Following the FGD findings, poverty have totally crumbled their ability to not only attend seminars workshops, exhibitions and related exchange programmes but also the

capacity to utilise the skills acquired from such events. Further still, those with the ability and privileged to acquire some skills through the formal education system or organized sensitization programmes seek employment in urban areas. It can therefore be asserted that, the youths do not possess the desired skills to engage in productive entrepreneurial activities and are also not equipped to address emerging challenges and opportunities in and around the forest.

In an effort to address this challenge, measures have been put in place by the respondents (both the youth and key informants) to invite the youths to attend seminars organised by government ministries and departments, donor agencies and other organizations working within Kakamega. Through these seminars and workshops, KEEP youth group members said that they had been able to get other partners who have trained them on, packaging and marketing their products. They further indicated that through the National Museums of Kenya, they have attended seminars organized regionally, nationally and internationally in addition to agricultural shows and other trainings on different activities (such as bee keeping, butterfly farming and tour guiding). The National Museums of Kenya have trained the youths on the establishment and care for various plant and animal species in the forest. Additionally the Kenya Wildlife Services has engaged youth groups in ecotourism activities within their participatory forest conservation programme. Such activities include establishment of *bandas* for forest-guests. They have also been trained on customer relations and catering to provide hospitality services to their visitors.

In the case of young Muliro farmers and KEEP youth group members who extract medicine from indigenous plants, ICIPE has trained them on domestication of the plant species, and the best practices in extracting and marketing their products. The Ministry of Youth and Sports, having noted skill deficiency in the area, has embarked on a vigorous campaign to establish more vocational training centres in the district for the youth. The youths are trained on the best practices on environmental conservation and entrepreneurship among other things. Such is intended to open up and equip the youths with the necessary skills and knowledge for independent business-oriented ventures.

At group level, KEEP youth group members hold frequent meetings. These meetings have been used as avenues for sharing experiences and ideas with those who have attended seminars and workshops. The group also invites professional and motivational speakers to

share with members. As a group, KEEP youth group has established a resource centre where a lot of literature and publications on forest conservation are shelved. As a result of all these efforts, more youths have started engaging in entrepreneurship and other forest conserving practices. The youths have organized themselves into groups to engage in these forest-based entrepreneurial activities.

#### 5.4 Lack of Awareness

Lack of finance and skills have not been the only challenges facing the youths in Kakamega forest. As the respondents noted, Lack of awareness has been attributed to the youth's ignorance on forest conservation. It, according to key informants, is not limited to the youth but the entire community. The community members are ignorant of the fact that the accumulated benefits accrued from the forest can only be sustained if the forest is conserved. It was shocking to learn from the study findings that the majority of the respondents believed that activities such as charcoal burning and logging constituted some of the ways by which they could benefit from the forest. According to a Kakamega forester, *'members of the community are mostly interested in their immediate need gratification and thus, are disinterested to plant more trees'*. The forester added that the lives of the forest guards have been endangered by the community in their enforcement of the law on forest encroachment. He further reported that the youths in particular claimed that the forest is an inheritance from their forefathers and as such, they have unlimited rights to engage in any activity in the forest. Due to ignorance of the law, most of the youths have been arrested and sentenced for forest law violations. This has further caused strife between the community and the forest department. The forest department is accused of arresting the young people who are perceived to be exercising their ancestral rights to make a living from the forest.

According to other key informants, lack of awareness among the youth has been attributed to the lack of environmental education in schools' curriculum. In some schools, the management especially the head teachers do not allow pupils to either engage in or attend to environmental activities in their schools. As youths reported during focus group discussions, these teachers neither allow them the opportunity to hold environmental talks in their school nor do they allow their pupils to attend talks by the youths in their offices on Saturdays. As one teacher reported, some school management committee members do not support efforts to initiate small activities such as tree nurseries in schools. The environmental teachers have been solely

loaded with the responsibility of conducting and mobilizing pupils to participate in environmental talks or activities, both in the school and their households. .

According to the area chief, youths hardly attend 'barazas'; only the elderly members of the community attend chief's barazas. It is in these barazas where government and community development matters are deliberated and awareness created. According to the Provincial Environmental Officer, it is in these barazas where they get a chance to inform the community on tree species that are ideal for their area rather than preferring fast maturing species that often adversely and negatively impact on the forest ecosystem. Instead they only attend political meetings. As a result, according to one youth community mobilizer, *'the youth perceive government policies as "imposed on the people" thus their adherence rates are very low'*. The result has been resistance from the communities.

When the respondents were asked how they have mitigated this challenge, they reported that they have intensified their awareness campaigns among the youth and community members adjacent to the forest. This was stated by 13% of the respondents (see Table 4). Schools have also been encouraged to establish environmental clubs as well as forest-conserving activities such as tree nurseries. In addition, the youth groups have encouraged their members to attend barazas as well as conducting seminars in churches, schools and other community fora

### 5.5 Lack of Incentives to the Youth to Engage in Forest Entrepreneurial Activities

According to the respondents youth's engagement in group activities is purely voluntary. There are no monetary gains from the activities that they engage in. Nonetheless, these activities were not initially started as entrepreneurial activities but as non-profit making activities. According to the founding member of KEEP youth group, *'their group activities were initially intended to demonstrate to the community member' ways of conserving the forest.* Moreover, *'all group members were unemployed'*. However, with new recruitment drives, the new members have been demoralised, on learning that they might not directly benefit from the activities. As a result, many of their members have dropped out of the group activities for alternative income-generating ventures or better employment engagements in the urban areas.

The spirit of self sacrifice has been an incentive to the continued youth's participation in forest conservation-related activities. The youths involved in the activities are usually unemployed. They perceive these activities as a stepping stone to 'greener pastures'. Upon their exit, orienting new members to the activities has led to a slowed growth of the activities in addition to the slow nature of the activities to generate income. In one focus group discussion, the youths were categorical that this problem has been a major setback to their continued participation in forest-related entrepreneurial activities.

When the respondents were asked how they handle this challenge, they said that they mainly enhanced awareness among the young community members. Eventually, some of the youths have been able to secure jobs within the youth groups. They have become like ambassadors of goodwill for the groups' activities. Through organized trainings and seminars, more youths have been encouraged to support forest-related entrepreneurial activities. According to the area chief, *'parents have been sensitized to encourage their children to join youth groups in an efforts to discourage idleness in the community especially for secondary and primary school going (and non-going) children'*.

Apart from the awareness campaigns the groups have been encouraged to diversify their activities. According to the key informants, youths are actively engaged in small-scale income activities throughout the year. The diversification efforts according to KEEP youth group chair *'should not however, mean effort duplication'*. As noted in chapter two, diverse and intense activities can enhance and promote individual skills and related benefits/turnover. According to the area assistant chief, *'diversification can create more opportunities and hence result in increased number of youths involved in conservation measures of Kakamega forest'*. With increased income within the groups, they can further invest in related infrastructure development and maintenance.

Table 4: Mitigation measures

Measure	Response (percent)
Increased motivation among group members and increased trees planting	22.7
Increased local fundraising and provision of free seedlings to communities	22.7
Increased awareness and establishment of more environmental youth clubs in schools	13.6
Involvement of more local leaders including the district foresters	11.4
Increased external fund raising through related projects	9.2
Increased member recruitment and commitment	6.8
Engagement in less capital intensive projects/programmes	4.5
Gradual raw products improvement	2.3
Increased engagements in programmes that advance water storage	2.3
No response	4.5
Total	100.0

Source: Author, 2009

In conclusion, this chapter discussed impediments to youth entrepreneurial activities in the Kakamega forest. It is evident that the youth have faced a number of challenges that have slowed or hindered the full realisation of identified forest-conserving entrepreneurial activities highlighted in chapter 3. Despite the challenges, the youths have adopted a number of mitigation mechanisms. From the study it was clear that financial constraints, lack of skills, lack of incentives and lack of awareness constitute key challenges. To address these challenges, awareness creation among the youths has been intensified, different youth groups have managed to access different external financial support and more youths have engaged in related trainings among other measures. These measures, as reported by the respondents, have ensured sustained youth entrepreneurial activities that have resulted in increased forest cover, minimized logging and charcoal burning, increased awareness among community members on the need and ways to conserve forests as well increased number of youth engaged positively in the Kakamega forest conservation.

Evidently, from the study findings, youth entrepreneurial activities have managed to mimic most natural forest replenishment processes. According to Nature Template theory, the forest

naturally has a process of replenishing itself. Any conservation measure should therefore be similar to the natural process to increase the forest cover through planting more trees in the forest or reduce the depletion of the existing trees. Therefore, with the youth, the majority in the community have been positively involved in the same process. In addition, they are able to make decision as well as implement them towards forest-conserving programmes through the kind of entrepreneurial activities they are engaged in. This includes implementing mitigation measures to overcome the challenges they face in the entrepreneurial activities. This is sustained by the fact that they are aware and appreciate the role the activities play in conserving the forest as well as a means of livelihood to them.

## CHAPTER SIX: SUMMARY OF FINDINGS, CONCLUSIONS AND RECOMMENDATIONS

### 6.1 Summary of findings

This study therefore sought to understand how these youth entrepreneurial activities have helped in the conservation of Kakamega forest. The study was based on several assumptions. One to sustainably conserve forests the activities the youth engage in should complement the natural processes through which forests replenish themselves. Two, the people living adjacent to the forest should lead in the conservation exercise through Participatory Forest Management. Three, the community adjacent to the forest should share in the benefits accruing from the conservation process. This is an incentive to continually participate in the conservation activities.

The findings reveal that youths who form the majority of the Kakamega forest-adjacent population have been actively involved in forest conservation measures. In the past the community was excluded and pushed out of the forest. The government was the main actor in conservation activities. Nonetheless conservation efforts were geared at improving agricultural production as well as diversifying the income generating activities outside the forest. Past efforts did not involve the young people who ended up illegally extracting forest resources such as timber, firewood and logs for charcoal burning. The youth also did not directly contribute to forest conservation. Moreover, the youth lacked physical, financial and human skills required to engage in agricultural production and other small business activities outside the forest. Because of this, they have continued to threaten conservation efforts in the forest. But the inclusion of the community, more specifically the youth, through awareness creation among community members and allowing the youth to carry out some of their activities in the forest has improved conservation efforts in Kakamega forest. Youth activities are now an integral part of conservation efforts.

Secondly, the activities the youths have engaged in appear to be contributing to the conservation of the forest. Activities such as tree nurseries, butterfly farming, and bee keeping are observed to be preventing destruction of the forest. They have also reduced human pressure on the existing forest resources. More importantly, these activities provide a source of income to the youth. They are a form of employment. It is worth noting that these activities

were initially meant to create awareness on conservation of the forest. Overtime, they transformed the activities into a source of income for the youth. Their diversification and expansion has involved more youths as well as other community members. Thus there are more people involved in forest conservation activities through these activities. These activities have supported the natural process of forest replenishment. Naturally, trees in the forest reproduce themselves through flowering and germination of seeds. Insects, animals or even human beings have acted as propagators of trees species across the forest. For instance, the tree climbers in the forest will require other trees to support them. For the butterfly species each type of butterflies means a different tree variety in the forest. The bees require nectar to make honey the wider the variety of flower nectar the high the honey quality. In the same time, trees require the bees to facilitate pollinations. The forest as an ecosystem can effectively conserve itself if there are no destructive human activities.

Entrepreneurship principles call for increased innovation and development of the enterprises. The development within an enterprise increases the gains realised from engaging in the enterprise, encouraging one to engage in more activities. The income realised offers investment capital for the proprietor to reinvest or sustain the business. The profit realised adds further on the income levels as well as provide capital for diversification of the entrepreneurial activity. Such engagement, therefore, has led to an increase in youth employment opportunities. Since these activities are forest based and do not require specialised skills, they have secured employment and income opportunities for the youth. Thus the youth have been able to earn from the conservation measures income from the activities. This was quite evident from the study findings. Entrepreneurship has since provided an incentive for the continued community participation in forest conservation. Indeed one of the respondents noted that the forest supports its own conservation processes.

## 6.2 Conclusion

The findings show that youth entrepreneurial activities are contributing to the conservation of Kakamega forest. Even though such contribution has faced many challenges, effective mitigation of these challenges would see the realization of greater benefit in forest conservation. On the whole, these activities act as a means for providing a mutual process of engagement between the forest ecosystem and the forest adjacent community. As the community engage in these activities in and around the forest, the community enhances its

livelihood processes through forest conservation. To sustainably conserve forests, therefore, the adjacent community should be included and integrated into the conservation strategy. Youth who form the majority of any population have a key role in this. Any development initiative they are involved in should be designed in a manner that provides incentives that will ensure they continually participate in forest conservation. Youth entrepreneurial activities have provided such an avenue for them. This has seen the youth actively reduce pressure on forest resources. This in turn lead to increased forest cover. It is also providing means of livelihood to the community.

### 6.3 Recommendations

This study recommends that:

- i. The government consider involving all forest-adjacent community members in forest conservation activities and in policy formulation and implementation.
- ii. The government introduces environmental conservation educational programmes in the current primary, secondary, technical and adult school's curriculum.
- iii. In-depth studies on how different youth entrepreneurial activities have contributed to forest conservation be carried out.
- iv. More detailed research on how entrepreneurship can be used as a forest conversation tool by other forest-adjacent community groups in and outside the Kakamega forest be carried out.

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## Appendix 1: INTERVIEW SCHEDULE YOUTH GROUP REPRESENTATIVES

### A. INTERVIEW SCHEDULE YOUTH GROUP REPRESENTATIVES

#### Youth Questionnaire

<b>Division</b>	
<b>Youth Group</b>	
<b>Respondents Tel. No.</b>	
<b>Interviewer Name</b>	
<b>Date (DDMMYY)</b>	

#### Request for your participation

My name is David Mbuvi. I am from the University of Nairobi, Institute for Development Studies pursuing Master of Arts in Development Studies. I am carrying out a study on **'Youth Entrepreneurial Activities And Forest Conservation: A Case Study Of Youth Groups In Kakamega Forest Area Of Kenya.'** You were randomly chosen from among other youths and everything that you tell me will be kept confidential. I intend to be with you for about 30 minutes. The information I collect from you would be for academic purposes only.

Thanking you in advance for your time and cooperation.

**SECTION ONE: SOCIO-DEMOGRAPHIC PROFILE (Please Complete this part fully)**

1.1 Age	1.2 Gender	1.3 Religion	1.4 Level of formal education	1.5. Marital status
1. Below 20yrs <input type="checkbox"/>	1. Male <input type="checkbox"/>	1. Christian <input type="checkbox"/>	1. None <input type="checkbox"/>	1. Married <input type="checkbox"/>
2. 21-24 yrs <input type="checkbox"/>	2. Female <input type="checkbox"/>	2. Muslim <input type="checkbox"/>	2. Lower primary <input type="checkbox"/>	2. Single <input type="checkbox"/>
3. 25-29 yrs <input type="checkbox"/>		3. Hindu <input type="checkbox"/>	3. Upper primary <input type="checkbox"/>	3. Divorced <input type="checkbox"/>
4. 30 yrs + <input type="checkbox"/>		4. Traditional <input type="checkbox"/>	4. Secondary <input type="checkbox"/>	5. Separated <input type="checkbox"/>
		Others (specify) _____	5. Tertiary and above <input type="checkbox"/>	6. Widowed <input type="checkbox"/>
				Other (specify) _____

SECTION TWO	ACTIVITIES, CHALLENGES, ACHIEVEMENTS AND LESSONS LEARNT
2.1	How important is environmental conservation? ----- ----- ----- -----
2.2	What activities does your group carry out? (Tick appropriately) ----- ----- ----- -----
2.3	How have these helped in environmental conservation? ----- ----- ----- ----- -----
2.4	Have you received any support to your group to enhance your activities toward forest conservation? (Probe for Technical and Financial support) 1. Yes <input type="checkbox"/> 2. No <input type="checkbox"/> (If "no" go to 2.6)
2.5	If Yes (3.2) what kind of support and by who? ----- ----- -----

2.6	<b>Since you started on these activities, what are the achievements the group has had?</b> <hr/> <hr/> <hr/> <hr/> <hr/>
2.7	<b>What are some of the challenges you have had while implementing these activities in your group and community? (<i>Please explain</i>)</b> <hr/> <hr/> <hr/> <hr/> <hr/>
2.8	<b>What have you done to overcome these?</b> <hr/> <hr/> <hr/> <hr/> <hr/>
2.9	<b>What are some of the activities you would recommend to be included in the groups to enhance forest conservation?</b> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/>
2.10	<b>What is your final recommendation on forest conservation using the youth entrepreneurship?</b> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/>
2.11	<b>A Any other comment on youth entrepreneurial activities and forest conservation</b> <hr/> <hr/> <hr/> <hr/> <hr/>

Thank you.

## KEY INFORMANT INTERVIEW GUIDE

(KEY INFORMANTS: DFO, DYO, DEO)

Region .....

Interviewee Name .....

Interviewee position .....

Interviewer .....

Moderator: .....

Date.....

### Request for your participation

My name is David Mbuvi. I am from the University of Nairobi, Institute for Development Studies pursuing Master of Arts in Development Studies. I am carrying out a study on '**Youth Entrepreneurial Activities And Forest Conservation: A Case Study Of Youth Groups In Kakamega Forest Area Of Kenya.**' You were purposively chosen due to your capacity and knowledge you have deemed important to inform this study, and everything that you tell me will be kept confidential. I intend to be with you for about 30 minutes. The information I collect from you would be for academic purposes only.

Thanking you in advance for your time and cooperation.

### QUESTION 1:

#### 1.1 Forest Conservation and Youth Entrepreneurship

- 1.1.1 What is your understanding of Forest Conservation programme? (DYO)
- 1.1.2 What environmental entrepreneurial activities are the youth engaged in this area? (All)
- 1.1.3 How do you contribute as a ministry/ organization/ institution in the programme? (All)
- 1.1.4 How effective is this strategy efficient/ effective, i.e. youth entrepreneurship towards forest conservation? (All)
- 1.1.5 What policies and strategies have you adopted in this region on the implementation of forest conservation activities? (*Probe for possible linkages of the policies and the strategies*)(All)

### **Achievements and Challenges (All)**

6. In your own views, how has youth entrepreneurship helped in forest conservation?
7. What are the challenges of youth entrepreneurship towards forest conservation is faced with in this region?
8. How have being able to overcome these challenges in this region? (*Probe per mentioned challenge*)

### **Recommendations (All)**

9. What do you suggest should be done to improve the forest conservation through youth entrepreneurship?
10. Any other suggestion on youth entrepreneurial activities and forest conservation?

## Appendix 3: FOCUS GROUP DISCUSSION GUIDE

District:.....  
Focus Group and No. of Discussants.....Male.....Female.....  
Facilitator: .....  
Rappoteur:.....  
Date .....

### **Request for your participation**

My name is David Mbuvi. I am from the University of Nairobi, Institute for Development Studies pursuing Master of Arts in Development Studies. I am carrying out a study on **‘Youth Entrepreneurial Activities And Forest Conservation: A Case Study Of Youth Groups In Kakamega Forest Area Of Kenya.’** You were purposively chosen due to your capacity and knowledge you have deemed important to inform this study, and everything that you tell me will be kept confidential. I intend to have a short discussion be with you for about 30 minutes. The information I collect from you would be for academic purposes only.

Thanking you in advance for your time and cooperation.

### **Thematic areas to be addressed include:**

- Relevance of the youth Entrepreneurship towards forest conservation
- How the activities are run
- Achievements, Challenges and Lessons Learnt

### **A. General Introduction**

1. What do you understand by Forest conservation and Youth Entrepreneurship and for how long have you been involved in it?
2. How do youth entrepreneurial activities affect forest conservation?
3. From your experience, what can you say are main challenges facing forest conservation in this area?
4. What youth entrepreneurial activities are you currently implementing to address the above challenge?

**B. How the activities are run**

1. How do you normally in-corporate forest conservation in your activities?
2. Who is involved in these activities?
3. Who normally sponsors these activities?

**C. Achievements, Challenges and Lessons Learnt**

1. In your own views, what can you say are the achievements in the implementation of the youth entrepreneurial activities towards forest conservation?
2. What are the challenges that you are facing in the implementation of these activities towards forest conservation?
3. How have you been overcoming these challenges? (*Probe per mentioned challenge*)
4. What can you say are the lessons that you have learnt in the implementation of your activities?

**D. Recommendations**

1. What do you suggest should be done to improve forest conservation using youth entrepreneurship in the community?
2. Any other suggestion on youth entrepreneurial activities and forest conservation?

Appendix 4: INTERVIEW SCHEDULE FOR NON – KEEP MEMBERS REPRESENTATIVES

<b>Region</b>	
<b>Interviewee Name</b>	
<b>Respondents Tel. No.</b>	
<b>Interviewee position/ Occupation</b>	
<b>Date (DDMMYY)</b>	

**Request for your participation**

My name is David Mbuvi. I am from the University of Nairobi, Institute for Development Studies pursuing Master of Arts in Development Studies. I am carrying out a study on **‘Youth Entrepreneurial Activities And Forest Conservation: A Case Study Of Youth Groups In Kakamega Forest Area Of Kenya.’** In particular am carrying out a case study of Kakamega Educational and Environmental Programme - KEEP. You were randomly chosen on the basis of your knowledge of this group and everything that you tell me will be kept confidential. I intend to be with you for about 30 minutes. The information I collect from you would be for academic purposes only.

Thanking you in advance for your time and cooperation.

ACTIVITIES, CHALLENGES, ACHIEVEMENTS AND RECOMEDATIONS	
1	How long have you known this group? (years/ months) -----
2	What activities do you know KEEP group is engaged in towards forest conservation?
	----- ----- ----- -----
3	How relevant are the KEEP activities in forest conservation?
	----- ----- ----- ----- -----

4	<b>What achievements can you attribute to KEEP group towards forest conservation?</b>
	<hr/>
5	<b>How do you view the activities sustainability?</b>
	<hr/>
6	<b>What challenges have been faced in forest conservation in this area?</b>
	<hr/>
7	<b>What recommendations would you suggest to KEEP group and any other group to improve on youth entrepreneurship and forest conservation?</b>
	<hr/>
8	<b>Any other comment on youth entrepreneurship and forest conservation?</b>
	<hr/>

Thank you.

## Appendix 5: STUDY GUIDE FOR KEEP GROUP MEMBERS

<b>Branch</b>	
<b>Interviewee Name</b>	
<b>Respondents Tel. No.</b>	
<b>Interviewee position</b>	
<b>Date (DDMMYY)</b>	

### Request for your participation

My name is David Mbuvi. I am from the University of Nairobi, Institute for Development Studies pursuing Master of Arts in Development Studies. I am carrying out a study on **‘Youth Entrepreneurial Activities And Forest Conservation: A Case Study Of Youth Groups In Kakamega Forest Area Of Kenya.’** In particular am carrying out a case study of Kakamega Educational and Environmental Programme - KEEP. You were randomly chosen as a member KEEP and everything that you tell me will be kept confidential. I intend to be with you for about 30 minutes. The information I collect from you would be for academic purposes only.

Thanking you in advance for your time and cooperation.

ACTIVITIES, CHALLENGES, ACHIEVEMENTS AND RECOMEDATIONS	
<b>1</b>	<b>How did KEEP come to existence?</b> ----- ----- ----- -----
<b>2</b>	<b>How is KEEP Structured? (elaborate)</b> ----- ----- ----- -----
<b>3</b>	<b>How is a member of KEEP?</b> ----- ----- ----- ----- -----

4	<b>How were the programs where initiated?</b>
	----- ----- ----- ----- ----- ----- -----
5	<b>How are they carried out?</b>
	----- ----- ----- -----
6	<b>Who is involved in these activities?</b>
	----- ----- ----- -----
7	<b>Has the group members been trained in the running these programs?</b>
	----- ----- ----- -----
8	<b>If yes, who did/ does the training?</b>
	----- ----- ----- ----- -----
9	Have you received any support in running your projects?
	Yes .....
	No .....
10	<b>If yes what support has the group received in running these projects?</b>
	----- ----- ----- ----- -----
11	<b>What are the achievements so far realized?</b>
	----- ----- ----- -----
12	<b>What challenges has the group faced in running these programs?</b>

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13	<p><b>How has the group been able to mitigate the challenges faced?</b></p>
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14	<p><b>What recommendations does the group offer to the enhancement of there projects?</b></p>
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Thank you

