SUSTAINABILITY DISSERTATION

Sustainable Tourism In Kenya

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"Wealth, if you use it, comes to an end; learning, if you use it, increases". ~ Swahili proverb

Abstract

This dissertation outlines a sustainable tourism model for the management, conservation and the sustainable utilization of natural resources and the benefits derived from them as part of the value of services provided by the ecosystem. The model is based on ecosystem service value tool which enhances conservation efforts and sustainable tourism by assigning value to the services derived from the ecosystem and also engaging the destination communities in decisions that not only affect their habitat and environment, but also their socio-economic wellbeing. The literature review explores the different forms of alternative tourism such as pro-poor tourism and ecotourism, their benefits and limitations, while also assessing the impacts of contemporary mass tourism on a developing nation, in this instance, Kenya. The paper also sheds light on projects in Kenya that aim to reduce emissions from deforestation and forest degradation (REDD) in conservancies, as another tool for sustainable tourism, their successes, environmental impacts and the effect they have had on the local communities. Synergies and trade-offs in the benefits derived from the ecosystem are also discussed within the context of governance. The role of governance in sustainable tourism development is assessed concluding with a proposed framework for the decision making process, regarding tourism, which involves the destination communities. The latter part of the paper analyses the climate change impacts on tourism and how tourism can be adaptive to effects of climate change in order to be sustainable both in the short and long run. Finally, a model for the framework for the adaptation of sustainable tourism is proposed as a means to achieve sustainable development.

Key words: sustainable tourism, sustainable development, eco-tourism, pro-poor tourism, ecosystem services, REDD+, climate change adaptation, adaptive capacity, synergy.

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1.0 Introduction

Tourism is the world's largest industry and there are several positive socio-economic and environmental impacts, for instance, creating a flow of foreign currency to the destination country thereby contributing directly to balance of payments. The flow of revenue creates employment, income and other multiplier effects, among other benefits for the local community. While international tourism brings in foreign currency reserves, domestic tourism redistributes the currency within the country's boundaries. Tourism can also generate income and employment in less developed regions of a country where opportunities for development are limited. In addition to this, tourism creates markets for local crafts while the hotels provide a markets for local produce, developing the local economy further. Apart from stimulating the local economy, tourism often leads to the development of infrastructure such as roads, airfields and access to clean water which the local community also derives benefits from. In addition to this, there is an increase in demand of the local area's scarce resources, such as land, which can result in a windfall for the owners when leased or sold to the developers. In addition to the economic benefits, international tourism can foster understanding between different nations and vastly differing cultures while domestic tourism fosters integration and can be a force that strengthens the national sentiment as people begin to experience national pride in their heritage which can be a powerful political force that brings unity and undermines fragmentation, so often a problem in developing nations. With adequate management and planning, tourism provides the impetus for ancient culture preservation in local areas, providing the much needed funds for conservation or restoration(B Archer, Cooper, & Ruhanen, 2005).

At the international level, the 1992 *Rio Earth Summit* established 12 principles for sustainable development, with *Agenda 21* setting the setting nine goals for governments and ten for the private sector to achieve so that sustainable tourism development can be attained. Sustainable tourism can therefore be perceived as a tangible expression of sustainable tourism development (Berry & Ladkin, 1997). Agenda 21 thus serves as a link for international cooperation and coordination whose objective is to achieve sustainable development as means to eradicate poverty by balancing the socio-economic development with environmental concerns. Nevertheless, a significant number of the initiatives and actions required by Agenda 21 take place at the local level, reflecting and reinforcing the dictum "think global and act local". Indeed, local authorities make a very valuable contribution to sustainable tourism through their involvement in the supply of tourism infrastructure in addition to having a regulatory role in the form of planning control as well as building and licencing. The local authorities, using various mechanisms available to them such as market instruments, aim to achieve a more equitable distribution of the benefits stemming from sustainable tourism in the locality. The implementation of Agenda 21 therefore demands a re-evaluation of public sector roles in the tourism sector, with respect to the environment, society and the economy. Attention and priority should be thus given to creating economic opportunities and engendering participation of the local destination communities (Hughes & Leslie, 1997). Agenda 21 targets sustainability achievement via a system of planned, democratic and cooperative processes that engages the destination community in decisions about the environment and development especially at the local government level. It is through utilizing the Agenda 21 guidelines that the local authorities recognise the importance of ensuring that tourism does not put the natural and human resources under threat and that these resources will be available for both present and future generations. The guidelines therefore enhance sustainable tourism by offering a pathway of community self-determination through engagement in decision making and encouraging sustainable development with an equitable distribution of socio-economic benefits without the over exploitation of the available resources (Jackson & Morpeth, 1999).

1.1 *Context*

Kenya, often known as the "old man of nature tourism", is one of the leading destinations in sub-Sahara Africa for tourism and the home of the original safari. According to the *Sustainable Tourism Report* released in 2016, Kenya's tourism is over 80% nature based, with the revenue generated utilized to protect the country's base resources. The sector contributes significantly to Kenya's GDP with the earnings averaging USD1 billion annually as evidenced in 2015 where its contribution to the total GDP was 9.9%. The sector is expected to grow at 5.8% per annum and projected to peak at 10.1 by 2026. The sector accounts for 9.3% of the total employment in Kenya, 0.3% higher than the global statistics, making it a leading employer. In addition to this, the country attracted KES 83.6 billion worth of investments in tourism in 2015 as this is projected to rise by 5.2% per annum over the next ten years to an estimated KES146.8 billion in 2026 as stated by the *World Travel and Tourism Council 2016*. Indeed, out of the 40,000 hotel rooms planned to be constructed on the continent, 1,437 will be in Kenya and consequently the country has won 23 out of 57 awards among them being Africa's leading beach destination and Africa's leading destination 2016. . Moreover, in order to achieve the objective making tourism sustainable in Kenya, the country relies on five pillars: Benchmarking, Broad and Inclusive Sustainability Guidelines, Education and Specialization, Recognition of Champions and Partnership or Integration. Kenya has 6 world heritage sites, great diversity in cultural groups, such as the Kipsigis and Maasai, exquisite natural landscapes with over 190 dedicated conservation areas and some of the most endangered flora and fauna species (Board, 2016).

According to the United Nations Environmental Programme report on *climate change adaptation and mitigation in the tourism sector*, tourism has been identified as a major source of foreign exchange earnings in 46 out of 50 least developed countries and therefore has the potential to lift people out of poverty through facilitating opportunities of enterprise and employment. According to Gössling (2000)in the period 1992-1996 international tourist arrivals in developing countries increased by 8% annually to a total of 182.6 million people, representing a share of 30.7% of all arrivals at the turn of the millennium. In 1996, tourism earned the developing nations a total of $ 129.7 billion, representing 29.9% of the global total. The tourism sector can therefore make substantial contribution towards the achievement of the *Millennium Development Goals.* It is a highly climate –sensitive economic sector, similar to agriculture, and the impacts of climate change have the effect of influencing decision making both in the short and long run. The four broad categories of climate change impacts are: direct climatic impacts, indirect environmental change impacts for example reduced landscape aesthetic, impacts on mitigation policies on tourist mobility such as fuel tax and indirect societal change impacts for instance political instability.

Sustainable Tourism meets the needs of present tourists without compromising the ability of future generations to enjoy the same resources, or tourism that sustain the local economies without damaging the ecosystem or environment on which it depends (Butler, 1999). Nevertheless, tourism has been a major contributor to rising global temperatures through the production of GHGs with contribution in 2005 estimated at 14% to the overall warming. It is therefore imperative that all societies and economic sectors in developing nations adapt to climate change, including the tourism sector, because some countries and regions such as island nations, are more vulnerable than others due to their specific geographic or economic characteristics (Simpson, Gossling, Scott, Hall, & Gladin, 2008). It is in this paper, different forms of green tourism such as eco-tourism and pro-poor tourism are promoted as alternative sustainable tourism, as well as the different tools of enhancing sustainability such REDD+ projects and good governance in order to optimize the service value benefits that flow from ecosystems. It is thus argued that tourism and the ecosystem are industry and

resource respectively, that can be quantified and valued, and this understanding can result in the preservation and conservation of natural resources. The natural resource can be touristic, only suitable for tourist purposes, shared tourist resource such as sea (for fishing) or forests (for agriculture) or common resources shared and used by all, such as water or roads. The extent to which these natural resources are employed in tourism depends on the opportunity costs and comparative merits of the industry relative to the other economic sectors (Liu, 2003). For sustainable development of the tourism sector, the local community must therefore be engaged in the decision making processes because most of the natural resources are either shared or common, affecting destination communities.

2.0 Research Question, objectives, Design and Methodology

2.1 Research Question and Purpose

The *Key Question* of the dissertation is:

How can Kenya, as a developing nation, enhance sustainable tourism through the optimization of the value derived from the ecosystem services, with minimal trade-offs?

The purpose of this research is to explain and deduce various ways to achieve sustainable tourism within the context of climate change.

2.2 Aims and Objectives

The specific aims and objectives of this research are:

- Identify problems and challenges of mass tourism
- Explore alternatives to mass tourism
- Analyse the practical application of Ecosystem Value theory in enhancing sustainable tourism
- Explore the role of governance in sustainable tourism
- Assess the impacts of climate change a mitigation and adaptation on sustainable tourism
- Explore and discuss the challenges of sustainable tourism

2.3 Research Design

This research is has been carried out with a restorative, exploratory and transformative intent that is premised on the anthropogenic link to climate change and other contemporary socio-economic and environmental challenges, that underscores the necessity not only to reduce GHGs emissions, but take adaptive and mitigation measures for the planet's sustainability.

It has three main points defining its scope, layout and methodology:

1-Tourism when properly managed, can be a vehicle for sustainable development and significantly contribute to the wellbeing of the society at large.

2-Assigning value to even seemingly intangible assets and services, such as tourism, recreation or land aesthetics, can assist in environmental and ecosystem conservation and preservation.

3- Tourism is vulnerable to climate change impacts and therefore it is imperative to be adaptive to minimise the negative effects that flow to the vulnerable such as destination communities.

2.4 Methodology

The destination community, the civil authority involved in governance with other stakeholders such as NGOs and businesses are all essential in the decision making processes and sustainability, involving the ecosystem services value and the benefits derived, and should a focal point in this sustainability research. The findings of this paper are therefore presented with a balance between the general community including the NGOs and other stakeholders, and the comprehension of the policy makers, such as those in local government. The resources utilized can be easily accessed without complex requirements. The methodology is comprised of desktop research using data from publicly available resources and academic search engines and these include: reports, academic papers, journals, books, media, credible publications, media, press releases, academic discussions and online interactive newspapers.

A desktop literature review conducted in areas relevant to tourism sustainability focuses on:

- Alternative forms of tourism and green tourism
- Local engagement and participation in decision making process in matters affecting community
- Sustainable tourism and climate change
- Governance and Ecosystem Services value

The findings from the above literature review were analysed qualitatively with the objective of presenting the underlying reasons, opinions and the conclusions within the scope of the research. It is in accordance with the intention of transforming tourism to be more sustainable, that the qualitative research method was selected for this dissertation. The qualitative research is exploratory (Berg, 2004) providing valid and relevant information crucial in developing ideas to the challenges posed by climate change and unsustainable mass tourism. Adequately informed policy makers and stakeholders can ensure the transformation towards a more sustainable form of tourism with minimal adverse environmental impacts and increased socio-economic benefits.

This paper is written with the intention of being accessible to a broad section of the society and not just the narrow academic world, in the research, analysis and the interpretations that underpin this dissertation. It hoped that it will facilitate and assist in understanding the contribution of tourism to sustainable development and to encourage actions and recommendations that support sustainable tourism within the context of climate change.

3.0 Mass Tourism

There are a myriad of negative social, economic and environmental impacts as a direct consequence of mass tourism. Tourism has been criticised for its exploitative nature due to low wages, over reliance on tips and seasonality in many developing countries. In addition to this, the employees have limited prospects of advancing career-wise to senior positions as most of the companies are foreign owned and controlled resulting in a high proportion of economic benefits being repatriated rather than enjoyed in destinations. Furthermore mass tourism has been criticized for environmental degradation and ecological destruction at destinations through resource overuse, diversion of important resources like water, pollution and unregulated construction. It is also often disruptive to culture and way of life of the local community and can also result in further economic inequality (Brown & Hall, 2008).

Stroebel(2015) states that mass tourism can make it improbable to overcome poverty and accumulate wealth due to the above stated reasons. Inequalities within destination can result in only the elite capturing the benefits of tourism while dominating the decision making processes. Research shows that about 40%-50% of gross tourism earnings are not retained at the destinations, thus higher arrival in numbers do not necessarily mean better livelihood outcomes. Therefore mass tourism not only increases the negative impacts on the ground, such as the destinations, but also increases GHGs emissions and hence climate change impact. Mass tourism in the Third World can result in a replication of the problems of dependency, due to the dominance of large transnational corporations leading to internal disarticulation and foreign exchange leakages and no or very minimal local participation earning it a tag of just another form of neo-colonial extension of economic dominance. In contrast, tourism sectors in the developed world are much linked to the local economy (Brohman, 1996).

Dependence on mass tourism has also resulted the reinforcement of spatial disparities in the developing world due to enclave type of tourist resorts. These have been promoted by these transitional companies, agencies and central government. In addition to this, Brohman (1996) states that in addition to creating disparities, mass tourism can also result in environmental degradation at destinations. Conflicts have started emerging among the various operations, stakeholders, other economic sectors and social groups due to the ecological damage resulting from the cumulative effects of environmental degradation at destinations. In addition to the environmental degradation, the importation of Northern values to these tourist enclaves often leads to feelings of alienation and even resentment by locals due to the perceived loss of control and cultural identity. This is because at times these Northern values sometimes contravene and contradict local values and maybe taboo for example alcohol consumption in Muslim destinations.

Mass tourism impacts directly and indirectly on ecosystems for instance, reefs can be damaged through trampling or collecting reef species or through temperature increases as a result of global climate change and the GHGs produced to partake tourist activities such as aviation. It can also create and facilitate the international trading of species that can result in extinction of the species through habitat disturbance/destruction, destruction of native species among other negative impacts (Azam & Sarker, 2011).

In Eastern Africa, the leading destination city for tourists is Mombasa, which has the highest concentration of tourism and hospitality facilities and infrastructure. Despite the presence of tourists and the opportunities afforded to the locals, 500,000 of Mombasa residents cannot afford a meal, do not have access to clean water and basic health care. In a recent study, 70% of Mombasa respondents stated poverty as the most serious problem they faced. As with most tourist destinations in the developing world, local residents that work in the tourism industry occupy lowly paid positions such as janitors, waiters and security guards while the well paying positions were reserved for expatriates (Akama & Kieti, 2007).

Recent studies have shown that as mass tourism grows, there is pressure on the resources, especially land, which appreciates in value due to demand and development. The locals, often languishing in poverty are often tempted to sell their land for short term gain and soon left landless worth with lowly seasonal work for income. Thus poverty can be perpetuated indirectly by mass tourism. In addition to this, uneven development can occur, due to incentives being offered for development of mass tourism destinations, creating inequalities between regions and classes of people as in the case of Turkey. It can also result in the diversion of resources from their alternative use, for the development of tourism (B. Archer, Cooper, & Ruhanen, 2012).

In many cases ,the developing nation that is the destination can find itself in a form of "neo-colonialism" by concentrating power on a few transnational corporations and totally alienating the locals in the process. Using badly need investments as a bargaining tool, these companies tend to negotiate at the national levels at the expense of local authorities. Furthermore, there cases where the local people's lives have been disrupted enough for them to move to new settlements elsewhere. On the other hand, tourist designed areas such as protected forests reserves and national parks can impinge on the nomadic existence of the local people such as the Maasai in Kenya, resulting in conflicts. To add to this, the alienation of the local people from wealth and affluence and decision making processes creates a sense of frustration and deprivation ultimately leading to hostility or even aggression.

Archer et al (2012) contend that there is a relationship between tourism density and the growth of resentment towards tourism. The increase in density results in overcrowding and the over extension of available facilities and reduces the value of the holiday experience for the tourist. In some cases, the locals may be even debarred from enjoying the natural facilities of their own country or region. In addition to this, poor forms of tourism development can also destroy valuable and irreplaceable natural resources for instance, marshland and mangrove swamps being drained to create tourist marinas. This affects the drainage and flood control natural systems and also disrupts the livelihood of local fishermen.

Furthermore, the amount of tourists themselves can lead to local environmental degradation as the more popular a destination is, the more the tourists and the more the resources are stretched sometimes beyond their *carrying capacity*. Doğan (1989) in his study of socio-cultural impacts of mass tourism, asserts that there is the disruption of personal and intimate human relations because human relations become a source of economic gain thus what was free becomes commercialized. Mass tourism also increases crime rates in society, a recent study found the increase in crime rate was proportional to the numbers of foreigners entering the country. Furthermore, the stresses, conflicts and pollution brought on by mass tourism may result in mental and physical diseases. For instance, prostitution, often a by-product of tourism, often results in the spread of venereal diseases in the community while congested conditions in tourist camps can lead to outbreaks of diseases like cholera.

Finally, a recent study on the socio-psychological problems of tourism growth found that rather than foreign mass tourism assisting in tackling the host country's essential cultural tasks, such as the preservation of heritage sites, customs and special crafts, it has tended to import industrially produced rubbish. In addition to this, the "international demonstrations effect", that is the adaptability of the younger members of the indigenous population, triggers a premature acculturation process, which can have profound negative effects on the values of an entire community (Edelmann, 1975).

4.0 Alternative Tourism

4.1 Eco-Tourism

Due to the negative impacts of mass tourism, there has been deliberate efforts globally to promote green tourism. This type of tourism is environmentally conscious and soft in character and examples of green tourism include "ecotourism", "alternate" and "nature tourism" (Gülez, 1994). There are several benefits that are realized when there is a move away from the often-destructive mass form of tourism, to a more sustainable form of tourism such as *ecotourism*. Apart from the fact that ecotourism is sensitive to the fragile nature of eco-systems and cultural systems, it emphasises on small scale, locally owned infrastructure in contrast to the expensive and most often foreign owned infrastructure of mass tourism. In addition to this, the broad goals of ecotourism are complimentary

to the ideals of sustainable development because the resources found in nature such as wildlife, are utilized for tourism according to local aspirations and knowledge.

Alternative forms of tourism such as ecotourism, are therefore forms of tourism that are consistent with the natural, social and community values in which both host and guest derive positive interaction and shared experience (Sindiga, 1999). In the case of Kenya, the Kenya Association of Tour Operators (KATO) and the Kenya Association of Hotelkeepers and Caterers (KAHC) have been at the forefront in showing commitment to ecotourism. For instance, KATO conducts extensive training for guides who take the tourist to ecotourism sites while also informing and educating them about ecotourism. KATO's code of conduct includes guidelines about keeping a distance from wild animals and respecting their habitat, avoiding damaging the fauna, respecting Kenyan customs and dressing decently and avoiding unnecessary waste of energy and pollution. For its part, KAHC ecotourism plan contains elements of implementing energy saving programmes, waste reduction, creating environmental awareness and conserving natural water systems from pollution (Sindiga, 1999).

In his research paper, Weaver (1991) contends that alternative forms of tourism such as eco-tourism strive to diversify the market as much as possible as opposed to mass tourism which focuses on a narrow range of market countries. This leaves the host countries vulnerable to factors affecting the source market countries such as political upheaval or economic stagnation, due to its dependence on the source market nations. In contrast to this, a diversified market reduces the impact of negative externalities confined to specific countries of origin. Another advantage of alternative forms of tourism is that it is not vulnerable to seasonality since "escaping the cold" is not a typical primary motivation of the eco-tourist. This is because the nature of the product and the market, that is eco-tourism, encourages a more stable, balanced and predictable visitation pattern which is much more desirable for infrastructure and revenue planning, employment, etcetera. Furthermore, eco-tourism can be used to promote the development tourism as a supplementary component of an economy with multiple sectors. This has the advantage in that other sectors of the economy are not disrupted but instead are integrated in a mutually beneficial way.

Moreover, Dernoi (1981) in his research paper, asserts that there are myriad of advantages to be gained in developing and investing in alternative forms of tourism such as ecotourism. Firstly for the individual in the community, this particular form of tourism channels revenue directly to local community, though by-passing the large dominant and often foreign owned multinational companies. Also, individuals in the community benefit from improved standard of living due to the increased revenue flows, all while gaining managerial skills and entrepreneurial spirit. The community benefits from increased living and housing standards, revenue generation, environmental conservation and infrastructure development. It also beneficial for the promotion of international/inter regional relations because it fosters inter cultural understanding.

4.2.1 Porini Ecotourism Project

In Kenya there are numerous examples of measures taken to encourage eco-tourism as part of a larger context of sustainable development of the community. One example is the *Porini Ecotourism Project (PEP*), which is a joint venture between Porini, a UK-Nairobi based private developer and the Eselenkei community, which is a group ranch in the outskirts of the Amboseli Biosphere in Kajiado district of Kenya. Firstly, the community derives revenue from the lease of the land to Porini ecotourism and these earnings are used support various community livelihood initiatives such as buildings roads, school and hospitals and the maintenance of boreholes. In addition to this, Porini pays 26 members of staff, drawn from the community, who serve at the camps (Ogutu, 2002).

Earnings from the ecotourism are used to a myriad of beneficial ways such as purchase of livestock drugs and steers and local food security. The constructions of boreholes and all-weather roads by Porini has vastly improved the infrastructure in the community enhancing community access to markets and clean water. The construction of telephone lines has improved the community's contact with the outside world. In addition, the Kenya Wildlife Service (KWS), the custodians of wildlife resources, contributes up to Ksh1 million annually to the community to offset the costs of living close to wildlife and the ensuing conflicts that may arise .Furthermore, the KWS also regularly holds awareness and mobilization functions which have improved the capacity of individuals in the community. Environmental benefits include the recovery of land which has been over utilized through grazing, due to the increased education and awareness drive in the community. There has also been a sharp decline in the illegal poaching of animals and conflict with wild animals (Ogutu, 2002).

However, a major criticism of ecotourism and community based tourism as a form of alternative tourism is that they focus on preserving the cultural and environmental base on which tourism depends but fail to consider the full range of impacts on the livelihoods of the poor. In eco-tourism discussed above, the stressed incentive is environmental preservation while benefits to the local people assume secondary importance. In contrast, Pro-Poor Tourism emphasises on expanding opportunities with the explicit goal of benefits to the poor (Chok, Macbeth, & Warren, 2007). In addition to this, there are arguments that the extent of which the present and future needs of the community are met by ecotourism remains dubious and there are factors that prejudice this likelihood. Finally, much of the expenditure of the Eco tourist, albeit affluent, is not made at the destination end, with approximately 20-25% being the only proportion spent at the destination. In addition, the wilderness is a poor economic bet since there is very little to spend there to directly benefit the locals (Cater, 1993).

4.3 Pro-Poor Tourism

In pro-poor tourism, the benefits of tourism flow directly to the local community rather than tour operators, ideally preventing leakages. In recent times, there have been revisions of the development concept in tourism with particular attention given to equity dimension of sustainable development and in particular, how the often poverty stricken local population in countries of the south derive tourism benefits. Thus, in PPT, there is a convergence of interest in the improvement of the wellbeing and equity of the community, tourism development and poverty reduction strategies. The reduction strategies are done with an emphasis on positive linkages with local economic activities. Thus, PPT is an approach to tourism management, and not a product itself, which aims at unlocking tourism benefits to the poor and to reduce poverty to enable to the poor to participate in tourism development(Soliman, 2015). PPT initiatives are valuable to communities due to the transfer to economic and intellectual capital to the local community as well as beneficial to consultants, researchers or companies that engage in such trade aid support initiatives (Hall, 2007).Those that favour PPT see it as a useful tool in poverty reduction precisely because it allows for increased income in impoverished section of the community. PPT defines "net income" as the tourism benefits minus the economic costs. For instance, the income derived from tourism minus the cost incurred due to the constructions of tourist complexes and facilities and the subsequent loss agricultural land, and hence source of traditional income (Gascón, 2015).

There are myriad of benefits derived from PPT, one of them being the enhancement of non-economic benefits such as access to infrastructure, addressing the socio-cultural impacts of tourism, mitigating the environmental impact of tourism on the poor and capacity building. In addition to this, PPT by promoting the participation of the local community and bringing the business sectors partners, assist in policy and process reformation through the building of supportive policy and planning framework.

Furthermore, apart from providing income and employment, PPT can support local arts and craft, enhancing the local community's economic diversification and creating partnerships by buying directly from suppliers. Moreover, PPT offers small scale and labour intensive activities compared to most sectors of the economy and employs a high proportion of women while preserving culture and natural resources. Additionally, PPT can generate funds for investment in community health, education and infrastructure and improve access to assets that help in economic livelihood (Soliman, 2015).

Nevertheless, criticism of PPT point out to the fact that unless there are structural changes particularly with agricultural trade, the hopes of poverty reduction will remain poor even when projects at the local level are beneficial to some communities. PPT, in the view of the critics, is just another form of neo liberalism that does not succeed in addressing the structural reasons for the north-south divide as well as the internal ones within the countries of the south (Hall, 2007) .Also, due to the sole focus of PPT in providing income for the improvised community, it can legitimise business practices that have serious and sometimes adverse effects on the local economies, societies and ecosystems. In addition to this PPT has been criticised for lack of consideration of the impacts of long haul air transport, which is supported and encouraged by PPT, and further increasing emissions and climate change impacts. Some scholars have argued that PPT does not efficiently stimulate the interest of the business sector, vital stakeholders in poverty reduction strategies. In addition to this, PPT is accused of overestimating the growth of tourism sector while rejecting the equitable redistribution of its benefits as a poverty reduction strategy (Gascón, 2015).

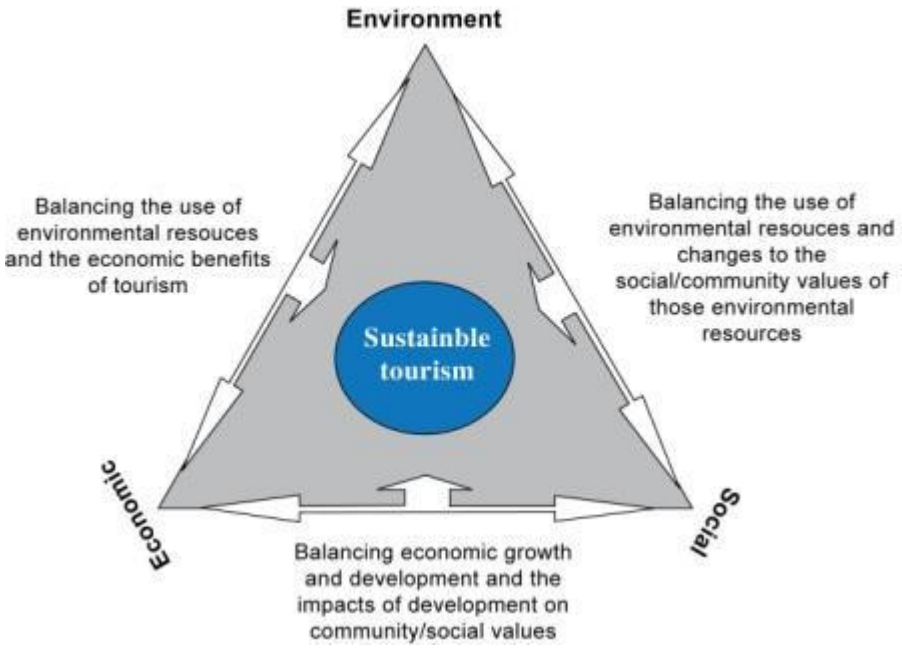

Figure 1: Sustainable Tourism (Brohman, 1996)

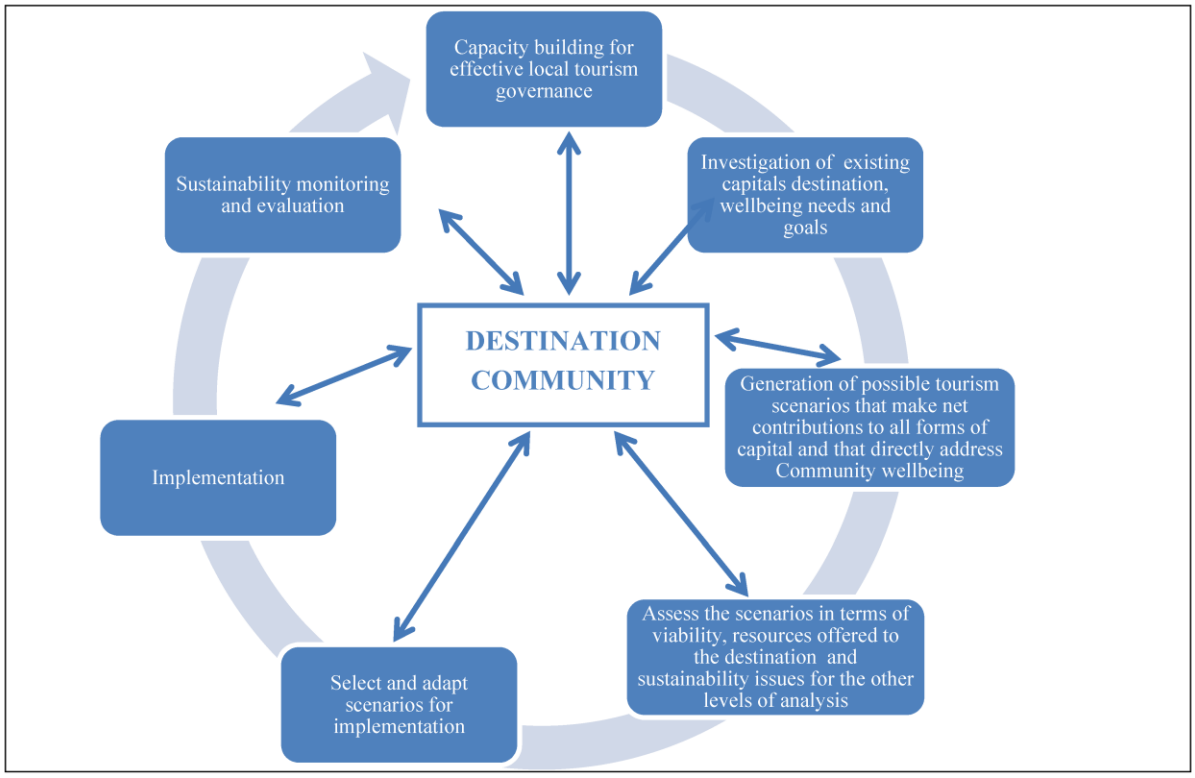

Figure 2: A community well-being approach to destination tourism planning (Gianna & Laurie, 2014).

5.0 REDD as a Tool for Sustainable Tourism

Forests play a vital role in the carbon cycle, absorbing and storing carbon in their biomass and the soil. Forests are therefore indispensable in their role of keeping GHGs houses down and therefore useful tools in mitigating and adapting to the effects of climate change. The United Nations Framework Convention on Climate Change (UNFCCC) estimates the global GHGS emissions from changes in land use, including tropical deforestation in developing countries account for 20% of annual emissions from all sources(Clark, Bolt, & Campell, 2008). Due to pressures of population expansion and competition over limited and scarce resources, there has been an increase in conflict between people and forest and wildlife conservation efforts. Many population rely on nearby forests for food, firewood and grazing for cattle and this puts them in direct conflict with wildlife. In addition to this, Land use, land-use change and forestry (LULUCF) activities in non-protected areas have resulted in increased emissions, contributing to further climate change impacts. There are a myriad of benefits to gained from policies to *reduce emissions from deforestation and degradation* (REDD) especially for the tropical forests of developing nations, both for the environment and for sustainable development. Benefits include biodiversity conservation, reduction of run-off, watershed protection, siltation, flooding, protection of fisheries and sustained income for the local communities (Myers, 2007). Implementing REDD policies and projects also assist in offsetting the emissions incurred as a consequence of tourism and enables the destination country to reduce the carbon footprint and alleviate the ecological destruction of habitats in destinations. Furthermore, having national REDD policies would give the host nation flexibility on how to manage its forest resources and adapt to shifting markets while conserving its resources, such as national parks. In addition to this, having project based REDD polices, such as those mentioned below in Kenya, allows for private sector involvement and easier development of project-level institutional capacity. These project based REDD

polices are also pragmatic and inclusive because they allow for a bottom-up approach in participation by eco-entrepreneurs and other stakeholders such as the local community members.

5.1 REDD Projects in Kenya

5.2 Kasigau Corridor

In Kenya, *Wildlife Works* was founded in 1997 as a REDD project with the goal of protecting endangered wildlife, while balancing the needs of the wildlife with the needs of the local rural community which shares the same environment. The project uses the UN backed REDD programme, with investments from BNP Paribas, to provide real value to those communities that have made commitment to preserve and protect the environment for future generation. The success of this REDD+ project has resulted in the expansion of the number of protected endangered species and solutions acceptable to the local community and the market place. The project protects about 500,000 acres of dryland forest in an area that forms a corridor, *Kasigau*, between two national parks, Tsavo East and Tsavo West, which is under threat from slash and burn agriculture as the local population expands, creating further conflicts with wildlife and resources. Agricultural productivity as greatly decreased in this area due to climate change, however the 150,000 Kenyans who reside there benefit from revenues raised from the sale of the projects carbon offsets. As such, the project was the first to be issued the Voluntary Emission Reductions for REDD under both the Verified Carbon Standard (VCS) and Climate Community Biodiversity Standard (CCB) due to its success. The project has built many classrooms for school children and has extended access to clean water to over 10,000 local residents. In addition to this, over 2000 elephants, the endangered grevy's zebra and cheetah call this corridor home, eventually resulting in being awarded Gold status by the CCB for exceptional biodiversity and climate benefits. The project, therefore, is demonstrating substantial positive results in supporting sustainable, eco-friendly tourism, the fragile wildlife and its eco-system while bringing benefits directly to the local community. The project has created over 400 jobs in the local community and brought the benefits of direct carbon financing (REDD, 2016).

5.3 Chyulu Hills

Another example of a highly successful REDD project in Kenya is the Chyulu Hills REDD+ project, which is a collaboration between the local community, NGOS, public agencies, landowners and private sector partners. The partner organization are strongly committed conserving the Chyulu Hills ecosystem together and possess an impressive array of skills and knowledge needed develop and implement a multifaceted and successful conservation project. The project integrates the protection of the unique and iconic eco-system with supporting the socio-economic wellbeing of the local community. The project therefore has the overall goal of promoting climate change mitigation and adaptation, create livelihoods and restore biodiversity and is located in the Amboseli-Tsavo ecosystem in south-eastern Kenya. The project is located between two major national parks, Tsavo and Amboseli, creating a corridor with a rich biodiversity. The Chyulu Hills forest resources face a lot of increasing pressure due to population explosion of the surrounding local communities and this has endeared for the project to aim to maintain the ecological health of this ecosystem. This they achieve by providing economic and sustainable alternatives, such as tourism and forest management, to the destruction of its forests through activities such as charcoal burning and agricultural expansion. As with the *Kasigau corridor* above, income generated by the Chyulu Hills project is used to improve social services for the local communities, especially in education and healthcare. Other benefits brought on by the project include increased food and water security, increased environmental awareness and rangeland management.

The project therefore protects the carbon stock and conserves bio-diversity which in turn results in socio-economic benefits for the local community, such as the creation of eco-tourism in the area. Presently, eco-tourism and conservation area management provide the most significant employment for the local people, providing jobs for about 700 people. In addition to this, there are several endangered species thriving on this corridor including the leopard, gerenuk, lesser kudu, thompson's gazelle, rock python, African elephant, cheetah and the martial eagle among others. It the aim of the project to create and generate benefits in areas of climate, community and bio-diversity under the Verified Carbon Standard (VCS) and Climate, Community and Biodiversity (CCB) akin to the afore mentioned project in Kasigau (WildlifeWorksCarbon, 2016).

Nevertheless, there is some criticism about the effectiveness and impact of REDD activities as means of promoting and enhancing sustainable tourism. One argument against REDD is that it may distract attention away from the fundamental problem of fossil fuel energy production, while reducing the pressure on the developed source countries of the north to increase their targets and implement their national carbon mitigation programmes. Also, incorporating REDD activities with tourism may have adverse impacts on the local communities and on sustainable development goals. Finally, it is argued that REDD programmes runs the risk of rewarding countries with high rates of deforestation while failing to recognise the conservation efforts of the nations that have already taken adaptation and mitigation measures, hence unwittingly creating a disincentive (Myers, 2007).

6.0 Conceptual Framework: Ecosystem Services

Ecosystem services are defined as processes and conditions through which natural systems fulfil and sustain human life or in other words, the direct and indirect benefits humans populations derive from ecosystem functions. The underlying rational for the use of ecosystem services concept is to demonstrate how the degradation of biodiversity directly affects ecosystem functions which are vital for the provision of basic services critical for human wellbeing. Ecosystem services has resulted in policy makers using market based instruments to create economic incentives for sustainable practice and conservation. In order to manage ecosystems that provide multiple services, and in order to sustain a considerable level of biodiversity, there must be a consistent approach. Without consistency, the quantification processes would be unreliable and without clearly delineated boundaries that cannot be legally enforced. The total bundle of ecosystem services should be included when assessing the trade-off between alternative uses of ecosystems. Indeed ,in his paper Braat (2013) states that the assessment should be explicit spatially and temporally, acknowledging the contextual nature of the ecological function and economic values, these being individual based, time specific and anthropocentric. For instance, local communities that rely on tourism and fishing around coastal areas and Eco tourists who engage in activities such as sport fishing and whale watching all depend on opportunities made possible through the sustenance of the coastal marine ecosystem and the provision of its services These services provided by the ecosystem have utilitarian value to both the local residents and the tourists, that can be quantified in value. It is important to establish this value which can be used as a basis for conservation measures and the maintenance of biodiversity, whose legacy can be passed on to future generations(Lorey, 2002). In the example on *Figure 3* below, the ecosystem provides vegetation cover which in turn slows water passage that consequently prevents floods resulting in socio-economic benefits to the community that can be quantified and valued, as well as contributing to overall human wellbeing.

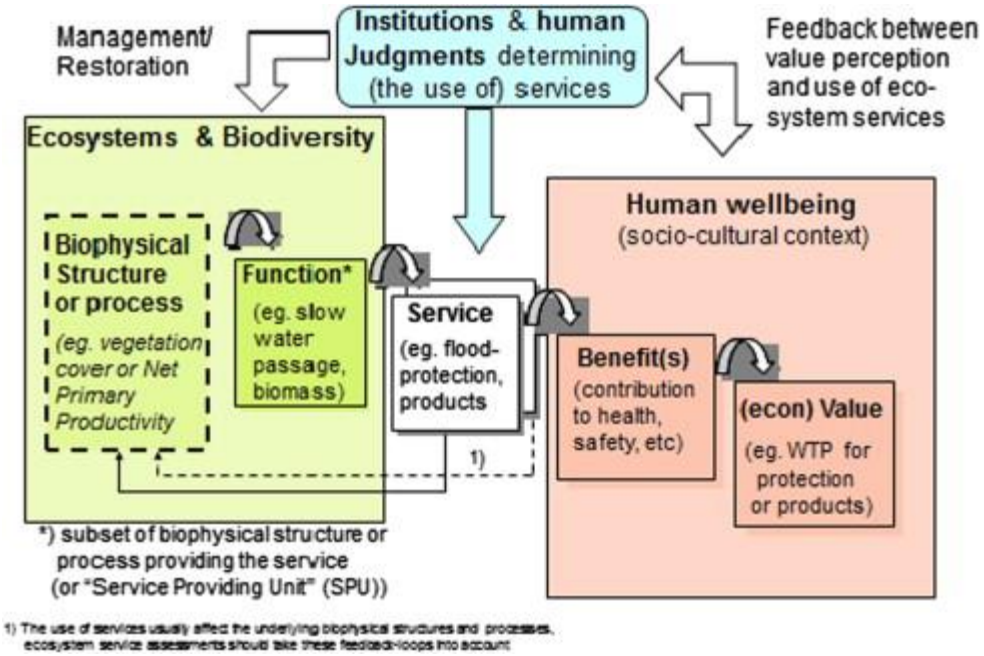

Figure 3: The economics of ecosystems and biodiversity (Braat, 2013)

Sometimes, there are interactions between among ecosystem services and this occurs when the multiple services respond to the same driver of change. At times, the interactions are such that the interactions among the services themselves result in the changes in one service altering the provision of another. Trade-offs occur when the provision of one service is enhanced as a direct result of the reduction of the provision of another while synergies arise when multiple services are enhanced simultaneously. For instance, nutrient retention maybe enhanced through the promotion of healthy and sustainable agricultural practices and policies resulting in enhanced landscape beauty and biodiversity and thus tourism and other socio-economic benefits to the society. On the other hand, regulation of services such as timber cutting for fuel to conserve forests in protected areas results in a reduction of the socio-economic wellbeing of the local community, as shown in *Figure 4* below. The *Millennium Ecosystem Assessment*, which is an international assessment of the global eco-system services, concludes that the challenge of managing multiple ecosystem services across landscapes and their interaction requires the identification of the trade-offs and synergies that exist among ecosystem services at different scales. Research has shown that there is a positive correlation between a greater diversity of ecosystem services and the provision of regulating ecosystem services(Raudsepp-Hearne, Peterson, & Bennett, 2010) .

Nevertheless, it imperative to include ecological and social values when valuing Ecosystem service. Valuing the ESS itself is important because alternatives are competing especially because different alternatives result in different outcomes of Ecosystem Service provision. In other words, it translates the consequences of opting for an alternative into comparable units of impact to human wellbeing. Valuation can also be useful in environmental accounting, increasing awareness, design of incentives among other uses. The ultimate goal of Ecosystem service valuation is the contribution to a sustainable and equitable resource use in order to improve the wellbeing of every individual now and in the future. In order to reconcile ecological and monetary valuation, an integrated three pillar valuation framework is appropriate, these being ecological valuation, monetary valuation and social valuation of Ecosystem Service (Dendoncker, Keune, Jacobs, & Gómez-Baggethun, 2013). By adequately quantifying ESS in terms that are comparable with economic services, ESS can be properly captured

commercial markets. ESS valuation can provide new policy insights because it ensures projects and policy appraisal fully consider the natural environment's cost-benefits while clearly highlighting their impacts of human wellbeing. Valuation can be used to inform impact assessments of proposed policies, making informed decision on trade-offs and provide feedback on the consequences of actions to the local community (Liekens, De Nocker, Broekx, Aertsens, & Markandya, 2013).

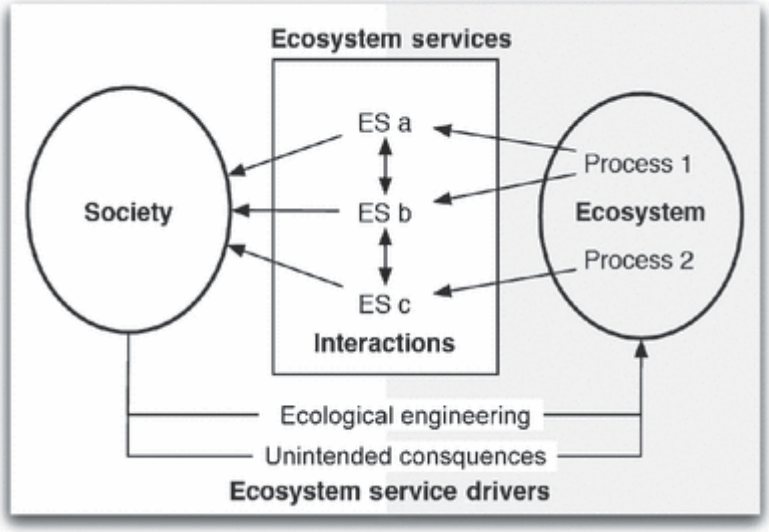

Figure 4: Ecosystem services can be usefully conceived as a socio-ecological system where benefits are derived by the society. They can modify the ecosystems to enhance production of services (Bennett, Peterson, & Gordon, 2009)

In his research paper,Spangenberg (2013) states the Ecosystem Service (ESS)provides a valuable means through which the local community, stakeholders and decision makers are made aware of ecosystems and positively contribute to their preservation. The concept can be used to integrate the multiple functions and services of manmade and natural resources thereby creating a basis an extended nature and biodiversity protection approach. ESS could serve to enhance conservation through raising awareness of the dangers of exploiting one service at the expense of another for instance in the case of this paper, promoting mass tourism at the expense of sustainable agricultural practices. Indeed, payment for ecosystem services often supports conservation efforts if designed as behaviour changing incentive. Ecosystem service can be useful in resolving conflicts by deliberations and well informed democratic decision making because the very concept helps in understanding *Ecosystem Service Potential* that are attributed to ecosystems by the various stakeholders .

There are different varieties of Ecosystem Services and the *Millennium Ecosystem Assessment* classifies them into for broad categories. These are *provisioning services* such as fresh water and food, *regulating services* such as climate regulation and water purification, *cultural services* such as aesthetic, spiritual or recreational or tourism experiences and finally *supporting services* such as nutrient cycling and soil formation. While provisioning services as deemed crucial for meeting human needs such as shelter or safety, and supporting services fundamental to all other services, cultural experiences are directly experienced and intuitively appreciated for instance nature or eco-tourism. Recreation and tourism, the subject of this paper, present a major nexus to illustrate the interactions

between people and the ecosystem including the development of a constituency that appreciates and are supportive of the protection of an ecosystem. Recreational and tourist activity such as camping, hiking and nature study present opportunities to directly experience the benefits of ESS. Although recreation and tourism can sometime have a negative impact such as wildlife and habitat disturbance, there are a myriad of benefits such as aesthetic experiences, intellectual stimulation, physical exercise and psychological wellbeing among others. The impacts and benefits of the ecological conditions have been widely demonstrated, for instance, a survey of visitors to urban parks found that psychological wellbeing was positively correlated to the species richness and habitat diversity of the park. There are a variety of monetary and non-monetary methods to capture the value of these experiences, however intangible it may appear to be; for instance, whale watching generated a total of US 2.1 billion in revenues in 2008 (Daniel et al., 2012). This also applies to sites of spiritual or religious significance, landscape aesthetics and cultural heritage. In his paper, Costanza (2000) asserts that one of the goals identified as crucial in managing the economic system in the context of ecology, that is ESS, is the fair and equitable distribution of resources within the current generations of humans, between this and future generations as well as with other species. In order to achieve this, a two tiered approach is taken whereby public discussions and consensus building on sustainability and equity goals at the community level are combined with methods for modifying both prices and preferences at the individual level. Constanza concludes in his paper that society can make better decisions about ecosystems if the valuation issue is made as explicit as possible by taking advantage of available information and data on ESS and being aware of society's different goals.

7.0 Governance

Governance involves processes whereby some degree of order in the society is achieved, the goals are decided on, with the policies elaborated and services are delivered. Governance provides a means of resource allocation, exercising control and coordination, thus producing social order through the provision of processes for regulation and mobilization of social action. It can also involve non-state actors such as the community, voluntary sector and private businesses. Some of the key requirements for the furthering of the objectives of sustainable tourism include tailored and effective governance. Effective governance enhances sustainability by encouraging the participation of a diverse range of actors in decision making in the tourism sector and this in turn enhances the democratic processes and ownership that are associated with sustainable development. This is especially true of the destination communities of the nations of the south. These processes must be contextual and adjusted to specific purposes in order to be progressive in securing environmental, socio-economic and cultural goals of sustainable development. Furthermore, because effective governance requires the correct and decision making procedures and practices, suitable instruments to implement sustainable tourism are developed in the process. Effective governance is essential to sustainable tourism as sometimes there are trade-offs between economic, that is developmental, and the environmental concerns in terms of the ecosystem services, as mentioned above. Good governance creates a balance or strives for a win-win scenario that creates synergy, instead of a trade-off, through an appropriate all inclusive, democratic decision-making process that involves all concerned parties when formulating policies (Bramwell & Lane, 2011).

There are two types of participation in sustainable tourism governance; community engagement and local partnerships. Community engagement in tourism often involves volunteers engaged in actions at local areas through cooperative working or community responses, as means of spontaneous self-governance, to external decisions that impact on their individual lives. It promotes local democracy by allowing people to work together to make decisions about an industry which affects their lives such

as tourism. The second type of participation, local partnership working, brings together public and private sector actors, environmental and community groups to collaborate and discuss policies about tourism development. This has the benefit of promoting discussions and negotiation that result in mutually acceptable policy proposals while fostering capacity building and the acquisition of skills among the participants. This community and collaborative based tourism planning can be viewed as an example of communicative planning which harnesses and optimizes on all available knowledge to make the best-informed decisions to build consensus. Furthermore, institutional changes such as decentralization of authority as is the case in Kenya with devolution, can have the effect of reducing the responsibilities and costs that rest with the central government, in effect creating democratic legitimacy through devolving power. There is therefore an intersection of the argument that communities can manage natural resources and develop ecotourism with the notion that a decentralized network of stakeholders can govern resources as opposed to leaving them in central authority's jurisdiction. Community participation can thus be combined with wildlife conservation policies and ecotourism to create a basic framework of sustainable tourism development. In order to be successful, a holistic approach is appropriate, in which all actions and interests of all the major stakeholders are combined while a critical approach is also needed to interpret the evolving and complex character of these societal relations (Bramwell, 2010).

Moreover, most the world's most vulnerable endangered habitats, ecosystems and species are contained in the conservation areas, for instance Tsavo national park in Kenya mentioned above, that require good governance and good management in order to be understood by current and future generations. The performance of governance involves three key elements; responsiveness to stakeholders, where institutions and processes try to serve these stakeholders in a proactive manner. The second element, effectiveness is about the capacity to realize organizational objectives and the last element, efficiency is about making the best use of resources, that is, the ability for optimum production with limited waste. There are eight management models for the governance conservation areas; national park model, parastatal, non-profit, Ecolodge, public and for profit combo, aboriginal and government and traditional model. For the case of Kenya, this paper argues for public and for profit governance management model because it has very strong levels of public participation with the private companies often participating through surveys and market studies. This models shows strong consensus orientation, strategic vision and responsiveness due to the government-private involvement. This model also demonstrates financial efficiency due to the private-government partnership because government agencies utilize private companies for many recreational and tourism activities. The profits earned can be used for conservation efforts and for the sustainable socio-economic development of the local community. The model thus encompasses all key elements of good governance; responsiveness, effectiveness and efficiency (Eagles, 2009).

It is therefore imperative to have an innovative framework model which is modelled to monitor leisure and tourism related sustainability situations, with varying importance of leisure activities and at various stages of economic development. This is in order to determine the means by which influential NGOs and the government could positively affect the decision makers in tourism according sustainable development's guiding vision. The aim is to facilitate participation of all stakeholders while optimizing the ecosystem service value through efficient governance and an appropriate framework model, so that synergy can be created as opposed to trade-offs. There are various assessment tools that are used for monitoring, improving and implementing specific sustainable tourism concepts at the destinations and these include sustainability indicators, Life Cycle Assessments, environmental impact assessment etc. The framework model proposed in this paper, which utilizes sustainable tourism as

an assessment tool, is both qualitative and content related in scope. The current and future measures by stakeholders, both NGOs and the government, are taken in consideration to inform the individual decision makers. The framework therefore builds on integrating sustainability concepts through referring impacts caused by tourism and leisure activities. The integration is also useful for analyses at state and national levels that aim to identify future major action needs by the stakeholders and represents a value oriented construct with the objective of summing up different sustainability objectives and values. The valuating system of the framework, borrowing from the concepts of ecosystem services, is therefore designed to assess leisure and tourism sustainability. Furthermore, the objectives and measures adhere to the *subsidiary principle*, meaning that local interests come before regional ones and regional interest come before national interest and so forth. In regards to nature and the environment, the framework takes an anthropocentric approach in that human interests have to be taken into account in addition to the ecosystem's carrying capacity(Klein-Vielhauer, 2009).

In the case of Kenya, the *Kenya Tourism Board*, which is the national destination marketing agency, has established a Sustainability Committee made up of 12 members from various departments whose decisions are guided by the *KTB Sustainable policy*, developed in 2014. The four areas the policy focuses on are: environmental conservation, education and empowerment, social responsibility and culture and heritage preservation. KTB has been previously voted 5 times consecutively as the leading tourism board in Africa by the World Travel Awards due to its efforts at promoting sustainable tourism. The KTB works with diverse range of stakeholders such as Ecotourism Kenya, Kenya Wildlife Service, World Travel Tourism Council, NGOs, the media and the private sector. KTB endeavours to communicate Kenya's sustainability story with partners and travellers globally, and join together for sustainability initiatives. In Kenya, all segments are engaged in sustainable tourism practices with examples of initiatives undertaken with partners including; capacity building for the sustainability committee, educating the industry at various levels, support for conservation and community initiatives and the celebration of achievements by destinations and organizations through sponsorship of award categories such as *eco-warrior*. In 2015, the Kenya Association of Tour Operators (KATO) signed an agreement with Travelife, consequently giving access to Kenyan operators *Travelife certification* in addition to the *Eco-rating scheme*, which was developed in 2002 as a certification tool for the accommodation sector. According to the *2016 Sustainable Tourism Report*, the private sector has been a proactive partner in promoting sustainable tourism, with government support, with many partnerships with the host communities. The private sector has supported the development of community conservancies, wildlife research and conservation and even trained the local people(Board, 2016) .

Thus, the private-public-government partnerships were maximising on synergies and benefits derived from the ecosystem through various initiatives promoting sustainable tourism. As mentioned above, the *Eco Rating Scheme* was introduced as certification programme with the objective of promoting responsible tourism and eco-tourism trough recognition of best business practices, among other criteria. *Travel Life* is a leading certification of tourism companies that offers training and management for companies aiming to attain sustainability. The *Eco-Warrior awards* recognizes and celebrates annually, the outstanding contribution to eco-tourism in order to motivate companies to adopt best and most sustainable practice. In addition to private-public-government and community partnerships and initiatives to promote sustainability, there are several policy and legislation enacted to support sustainability in the tourism sector. These include the tourist industry licensing act, the environmental management and coordination act, water, land and fisheries act and the wildlife conservation and management act (Board, 2016). Thus, although plagued with corruption and mismanagement, adequate governance of the tourism industry in Kenya, that has been supportive of the private sector

and often working in partnerships, has culminated in many initiatives that promote sustainable tourism. Particularly in areas where these partnerships have been created, the host communities not only derived benefits from the ecosystem but are also actively engaged in decision making processes through the community partnerships.

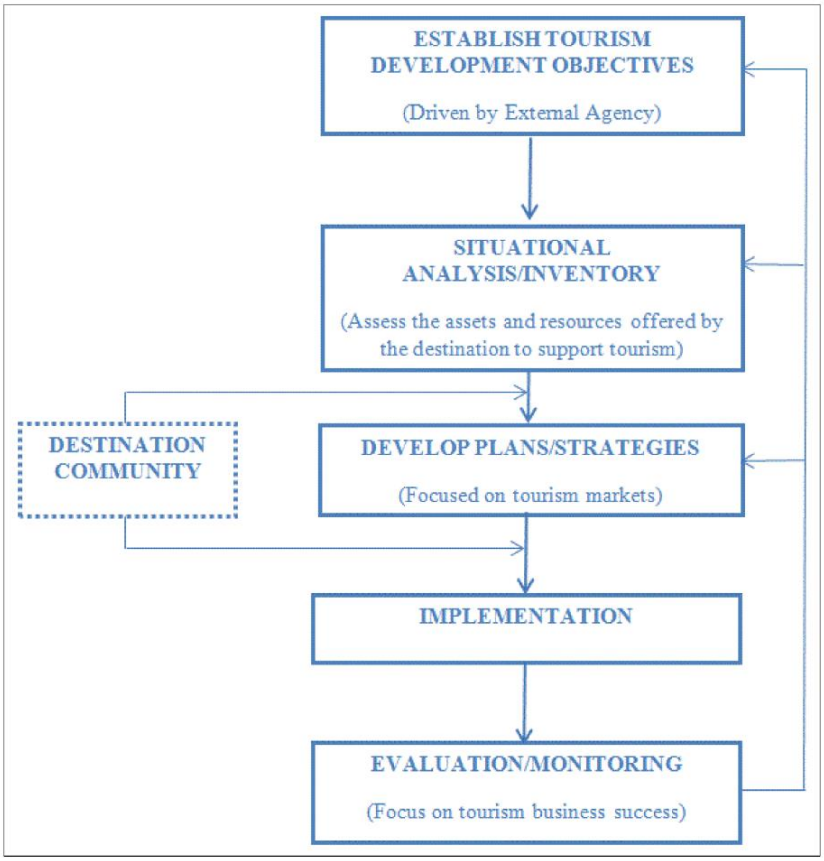

Figure 5: Proposed Framework for Planning Process for Sustainable Tourism (Gianna & Laurie, 2014).

In the framework shown in Figure 5 above, the tourism development objectives are first decided followed by a situational analysis/ inventory in order to assess the assets and resources offered at the destination. Once the assessment has been done, the authorities in consultation with the local community develop plans, strategies and ways of implementing them. The final stage is the monitoring and evaluation in order to get feedback so that there can be adjustments and improvements if necessary. This is consistent with the principles of community engagement and ecosystem services, through the evaluation of assets and resources, at destinations.

8.0 Climate Change Adaptation in the Tourism Sector

There is intrinsic evidence that demonstrates the importance of climate change impacts and considerations when making decisions regarding tourism as the changes in the spatial and temporal distribution of climate resources will have consequences for tourism at different scales. Simulation models for global demand patterns have been assessed and have revealed a gradual shift in international tourism demand to countries located in higher latitudes. In contrast, the relative demand for international travel to sub-tropical and tropical countries was projected to face a decline. Furthermore, studies have shown that reduction in regional GDP as a consequence of climate change would reduce the discretionary wealth of the consumer that is available for tourism and recreation and this will have a negative ripple effect for future growth of tourism and the socio-economic wellbeing of the destination community (Gossling, Scott, Hall, Ceron, & Dubois, 2012). The tourism

industry and the tourism-dependent communities are especially vulnerable to climate change and thus there is urgent need to develop adaptation strategies and policies in order to better cope with impacts and changing conditions. Adaptation is the ability of a unit, such as in this case the destination communities in Kenya, to transform its structure, operations or organization in order to survive changes threating its existence or success. Adaptive Capacity is the ability of the unit to learn and accumulate knowledge and experience using creative flexibility in risk evaluation and decision making and it is determined by underlying social factors such as resources, institutions, information management, human capital and participation levels. These social factors are influential in the adaptive capacity and are related to vulnerability in that they can determine the degree to which the unit can cope with climate change (Kaján & Saarinen, 2013).

Developing nations are therefore much more vulnerable to climate change due to their lower adaptive capacity brought about by lack of capital intensity and technological flexibility which hampers the ability to respond to climate change effectively. Most developing nations are reliant on the revenues brought by tourism and agriculture, economic sectors highly sensitive to climate change, putting communities at risk and further aggravating the socio-economic challenges that face these destination communities of the south, Kenya included. Because of the lowered adaptive capacity, developing nations focus on adaptive measures that are low in cost which address the stressors within the lower income population. In addition to this, due to financial constraints, these developing nations do not prioritize the actioning of projected impacts of climate change despite the severity, because they have more urgent concerns such as poverty reduction, economic growth, housing and service provision to the community. The effect of this is that nations of the south require assistance from the wealthier developed nations in order to build and enhance the human and technical capacity to adapt to climate change while they strive to meet the more severe short term needs and requirements of the community such as poverty alleviation and housing. Nevertheless, the climate change threats that face many developing nations especially in Africa are many despite the limited research on climate change impacts on tourism on the continent. The first impact will be increases in temperatures that is attributed to the GHGs, with the tourism industry accounting for 5% of the total emissions, especially from the transport sector particularly aviation. Rising temperatures not only cause comfort for tourism but can trigger other weather events and threaten to induce wildlife migration. Kenya is known for the annual migration of wildebeest, dubbed one of the seven wonders of the modern world, and temperature increase could not only detract but potentially eliminate key tourist attraction akin to the coral bleaching of the Great Barrier Reef in Australia (Hoogendoorn & Fitchett, 2016).

Furthermore, there could be precipitation changes resulting in cyclones and tropical storms which can be particularly disruptive for beach related and nature-tourism, not to mention the increase of diseases such as cholera and the destruction of infrastructure such as roads. Precipitation changes can also result in aridification, erosion, desertification and encroachment of deserts which can be devastating for the flora and fauna and the aesthetics of areas that would normally attract tourists such as national parks. Moreover, the rise of sea levels would threaten and eventually obliterate the tourism in low lying coastal regions and islands such as Lamu, in Kenya. For many cities and regions in developing nations, the climate change impacts would also usher in pollution, as climate change and pollution are intricately linked, and the decreased air quality would negatively impact tourism such as the case of Shanghai's smog in China. Nevertheless, there are various avenues for adaptation, for instance, tourist activities in Botswana are organized at cooler times of the day due to increasing temperatures. In addition to this, more trees have been planted to provide shade with a shift from water to land based activities while drilling more boreholes for the animals due to increased incidence

of drought. Another way of ensuring adaptation is educating the local communities on the importance of water conservation while striving to increase the diversity of tourist offerings. Nonetheless, successful adaptation of the tourism sector faces many challenges and one of them is that although the *Tourism Climate Indices* (TCI) provide a tool to assess the climate suitability of an area to tourism, in conjunction with economic modelling and climate focus, the levels of scientific confidence in these tools and the capacity for the translation of these quantitative outputs remain uncertain. In addition to this, another challenge is the apportioning of responsibility, with the government perceived to be the authority charged with ensuring sufficient adaptation to climate change and providing the various stakeholders such as tourist accommodation with alerts and information. There is thus an over reliance on government and lack enough of solid and credible information provided to the stakeholders regarding climate change (Hoogendoorn & Fitchett, 2016).

8.1 The Process of Climate Change Adaptation

Nonetheless, the United Nations Development Programme (UNDP) provides four guiding principles for adaptation that are highly relevant to the tourism sector. The first principle is place adaptation in a developmental context. The process of adaptation in the tourism sector cannot be undertaken in isolation and needs to be put in the wider context of a nation's sustainable development policies and strategies. The second principle is building on the adaptive experience to cope with future climate variability with a wide range of tourism stakeholder involvement to take full advantage of their diverse experiences and expertise in adaptation. Thirdly, there should be recognition that adaptation occurs at the local level, even though polices can be formulated at the international or national level, they are often implemented at the local level, consistent with the UN Agenda 21 that calls to "Think Globally and Act Locally". Finally, there also must be recognition that adaptation is an ongoing process as climatic conditions continue to evolve over the course of the century (Simpson, Gossling, et al., 2008).

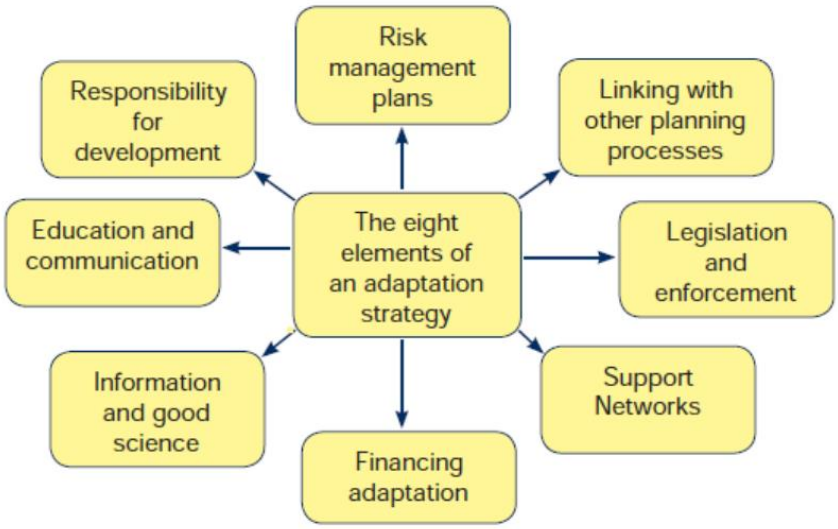

Figure 6: The 8 key elements for adaptation strategy (Simpson, Gossling, et al., 2008)

A useful and relevant adaptation framework should contain eight key elements essential for any adaptation strategy. In the above figure 6, Tompkins et al. (2005) summarize these eight common

elements, however it should be noted that while all the elements are necessary, the degree to which they are applied and emphasized is dependent on the stakeholders involved and the specific adaptation process. This is especially useful for the implementation of a formal planning process in the nations where climate change risks are well established in order to engage tourism stakeholders and also to allocate responsibilities. The Assessments of Impacts of and Adaptation to Climate Change in Multiple regions and sectors (AIACC) project was developed with the objective of enhancing scientific and technical capabilities of developing countries to assess the impacts of climate change and to design effective adaptive responses. AIACC has eleven projects in Africa alone and this has resulted in several lessons learnt. One of the lessons is adapt now because it can yield benefits adaptation to current risks. Other useful feedbacks include creating conditions to enable adaptation, integrating adaptation with development, increasing awareness and knowledge, strengthen institutions, protect natural resources, involve those at risk and use place-specific strategies (Simpson, Gossling, et al., 2008).

8.2 Developing and Implementing a Climate Change Adaptation Process

The seven step process, illustrated below in figure 7, is a representation of the common components that have been recommended from the frameworks proposed by UNEP,UNFCCC,UNDP,USAID and the knowledge and lessons learnt from the afore mentioned AIACC project. The frameworks represents best practice due to the lessons learnt from other economic sectors and organizations. The seven step process, discussed in details shortly, should be viewed as an iterative cycle of problem definition and adaptation implementation as opposed to perceiving it in a linear sequence.

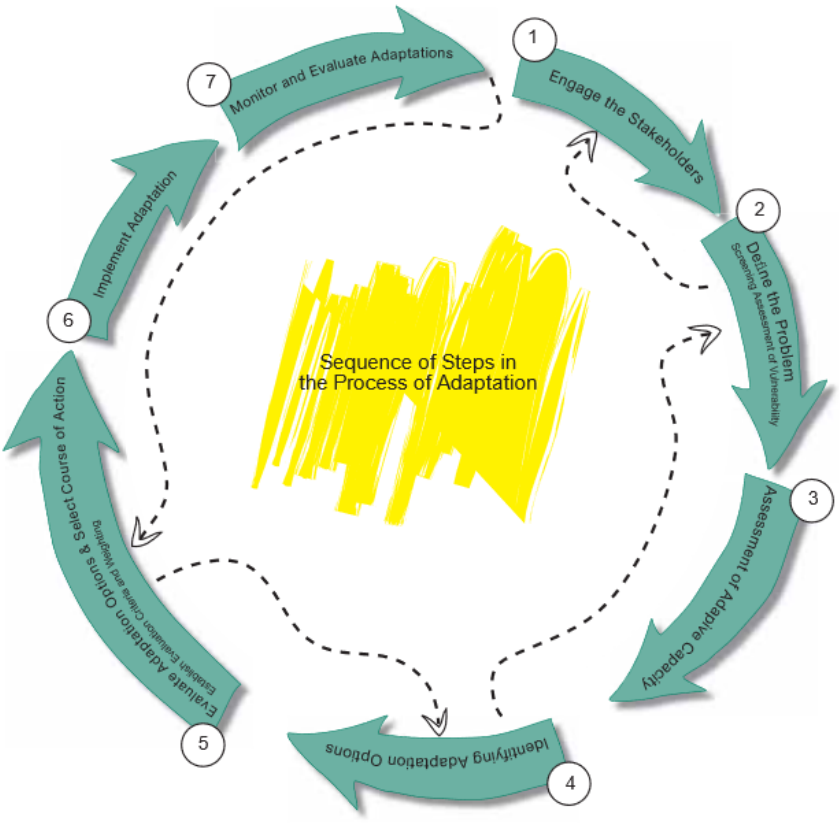

Figure 7: Sequence of Steps in the Process of Adaptation (Simpson, Gossling, et al., 2008)

The first step in the process is getting the right people to be involved in a participatory process in order to be as inclusive as possible in order to promote better decision making. Being engaged in the decision making also fosters a sense of ownership and bridges the trust gap that may exist amongst the stakeholders, for instance, the local government and destination community. In addition to this, through communicating relevant, credible and co-produced knowledge by the stakeholders, the participatory process can be strategic in improving the functions and development of knowledge networks. The knowledge, experience and expertise of the diverse groups in the tourism sector should be sort to optimize the advantages of having such variety in the process of decision making, and this in turn enhances the sustainability of tourism. The second step involves the screening for vulnerability and screening for current and potential risks in order to ascertain how climate change affects one's region specifically and the risks this poses for the tourism sector. In this regard, both AIACC and UNEP specify current and potential risks be assessed and examples of these are extreme climatic events, changing climate means and variability. One effective strategy for generating public and stakeholder interest and galvanizing the support for future adaptation has been communicating the potential impacts of climate change. The third step the assessment of the Adaptive Capacity. One way of enhancing adaptive capacity is designing and implementing adaptation strategies in order to minimise the likelihood of the occurrence of adverse events and lessen their impacts. This entails having the capacity of learning from past experiences in order to cope with current and future events. The identification of the systems involved as well as the hazards is essential in the assessment of adaptive capacity. Adaptive capacity of destination communities such as those in Kenya is determined by the interrelationships between communities and infrastructure, decision making processes, physical changes and ecosystems. The fourth step is identifying adaptation options which involves working with stakeholders in identifying and compiling a list of alternative technologies, management practices and policies that will assist in coping with the impacts of climate change, including both preparatory and participatory activities. An example of preparatory activity is reviewing recent climate change reports while an example of participatory activity is holding workshops and focus group meetings for stakeholders. There should be also consultation with experts on climate change risk assessment and adaptation at this stage in order to share information and experience and also to identify gaps in the adaptation portfolio of the stakeholders. The fifth step is to evaluate adaptation options and select the course of action and this typically involves a second round of stakeholder consultation in order to refine the portfolio of adaptations that are to be considered for implementation. The sixth step is the implementation of the previously mentioned adaption options selected in the fifth step and this requires the specific definition of the roles of the stakeholders, resource requirements and timelines. It should be noted however that these adaptation plans cannot be implemented in isolation but must relate to other existing planning and processes. The final step is the monitoring and evaluation of adaptations in order to ensure the optimal realization of this long term ongoing investment of both human and financial resources. Once again, as part of the monitoring and implementation plan, the stakeholders select the evaluation criteria and the related indicators (Simpson, Gossling, et al., 2008).

8.3 Financing Climate Change Adaptation

A crucial steps in climate change adaptation is identifying where the resources can be potentially be found to support it. Figure 8 below shows potential sources of funding with the size of the circle representing the relative importance of adaptation activity. The United Nations Framework Convention for Climate Change (UNFCCC) has identified that the wealthier developed nations should take leadership in meeting the incremental cost of climate change adaptation and also assist the developing nations that are particularly vulnerable to climate change impacts, such as Island nations and poor African nations, with meeting the costs of adaptation. Although there is no explicit commitment that requires the nations of the North to finance adaptive measures in developing

nations, three funds were created in 2001 to support adaptation and these were the Special Climate Change Fund, Least Developed Countries Fund and the Adaptation Fund. These funds were disbursed via the Global Environment Facility, shown below, which funds the costs of adaptation capacity building and research. The GEF's biodiversity operational area has relevance to sustainable tourism especially the Adaptation Fund which was created to finance adaptation projects and programmes in developing nations which are parties to the Kyoto Protocol with the World Banks serving as the fund's trustee. This is motivated by the ambitious objective to meet the *UN Millennium Development Goals* (Simpson, Gössling, Scott, Hall, & Gladin, 2008).

Nevertheless, the global adaptation costs are estimated to comprise 7-10% of the costs of total global damage due to climate change. It is imperative that rules and criteria are developed to determine the allocation of international resources for adaptation. However, under the UNFCCC there are no legally binding quantitative obligations to finance adaptation and this presents a major challenge as the funds are voluntary contributions. Another challenge is that it is difficult to distinguish between the adaptive costs due to anthropogenic induced climate change and the costs that arise from initiatives to lessen the impacts of natural climate variability. There is also difficulty in distinguishing between local causes of impacts, such as socio-economic changes, and the global causes such as GHGs emissions. In addition to this, the UNFCCC only covers costs that lead to global environmental benefits but not those that result in local benefits, which is a concern because most of the policy implementation occur at the local level. A major solution to these challenges is to mainstream climate change adaptation, which essentially means integrating the adaptation policies and measures into ongoing sectoral planning and decision-making processes. This is the case in many developed nations but not the same in the developing nations resulting in missed cheap and simple opportunities to reduce vulnerability (Bouwe & Aerts, 2006).

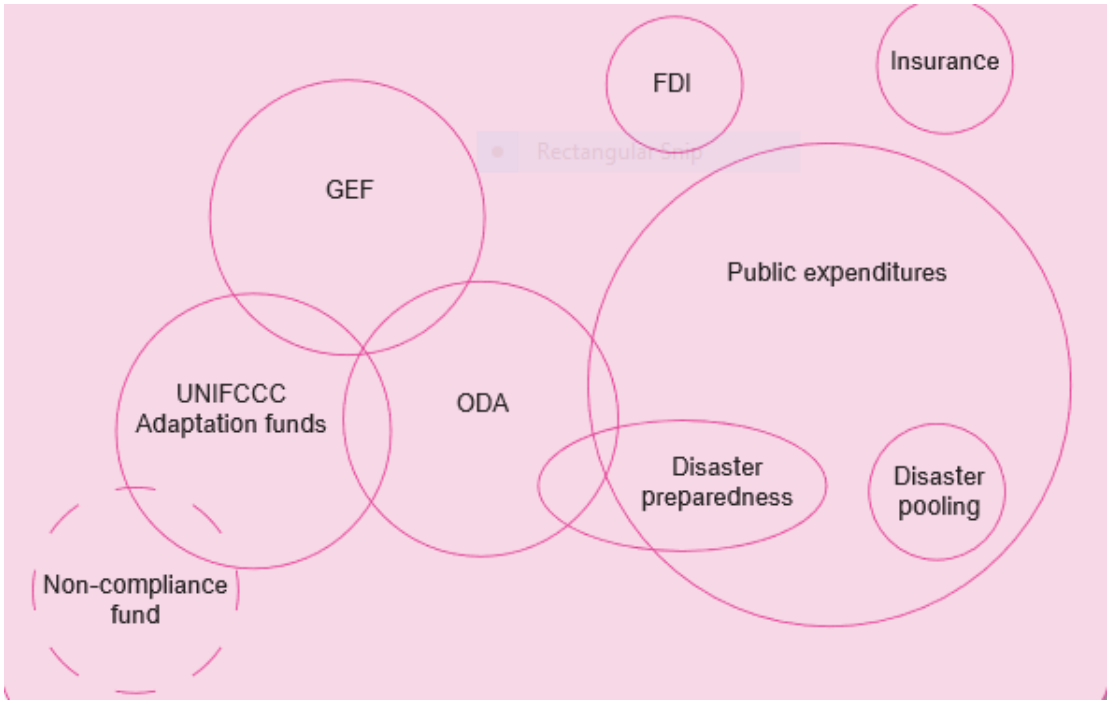

Figure 8: Potential sources for Financing for Adaptation in Developing Nations (Bouwe & Aerts, 2006)

GEF: Global Environment Facility, FDI=Foreign Direct Investment, ODA=Official Development Assistance.

In their paper, Bouwe and Aerts (2006) assert that one way of mainstreaming adaptation is developing a risk management approach, within which the climate risks assessments become part of activities in development work and such climate risks assessment would typically focus on climate variability, change and extreme weather events. At the national level, there can be integration of the climate risk assessments into existing sectorial risk management practices while international organizations can aid in implementation especially at the local level. This once again is consistent with the Agenda 21's "Think Global, Act Local". Thus it is quite evident that mainstreaming in developing nations can result in cheap opportunities allowing for the inclusion of adaptation objectives in development processes. Furthermore, there needs to be an evaluation of the benefits of risk reduction in order to highlight the advantages of and justify the investments in the integration of risk management approaches into development processes (Bouwe & Aerts, 2006).

9.0 Sustainable Adaptation

The *Intergovernmental Panel on Climate Change* (IPCC) report chapter 18 argues that the ability to successfully adapt is largely dependent on the adaptive capacity and thus nations of the South that are under developed have a limited capacity to adapt. Furthermore, in order to enhance the adaptive capacity of these developing nations, promotion of factors that enhance sustainable development would be required. These include reducing poverty, improving access to resources, moderating structural inequities, eliminating intergenerational inequities, encouraging stakeholder participation, respecting local experience and improving institutional capacity. Sustainable adaptation can thus be conceptualized as a move from conventional adaptation approaches to include the measures and tools utilized to combat vulnerability to climate change impacts and also to reduce poverty while also encouraging actions that promote long term resilience. In order to achieve sustainability in the adaptation process of the tourism sector, four principles have to be adhered to. The first principle is to recognise the context for vulnerability which includes the multiple stressors, by considering the underlying experience and circumstance of the climate change risk. The second principle is to acknowledge that the different values and interests affect the adaptation outcome and this reduces conflicts of interests and resistance in the adaptation process. The third principle is integrating local knowledge into the adaptation process through the recognition that adaptation is an ongoing process that produces learning relevant to the local context. Finally, the fourth principle is considering the potential feedback between the local and global processes due to the simple fact that climate change is a global phenomenon that is locally felt and experienced. There are implications in overall GHGs emissions as a result of local adaptation decisions. This is once again consistent with thinking globally and acting locally (Njoroge, 2014).

9.1 Tourism Sustainable Adaptation Framework

Building on the work on *regional tourism adaptation framework* (RTAF) by Jopp, Delacy, and Mair (2010), this paper proposes an enhanced tourism sustainable adaptation framework that addresses the weaknesses of the RTAF model. The original RTAF model did not have a feedback between the local and the global processes and this provides a leeway for maladaptation being repeated across the different levels. Secondly, the model, shown below in figure 9, is very business orientated with an overemphasis on tourist opinion which may result in bias engagement in the process. Thirdly, the model lacks an explicit formula for the evaluation of the adaptive methods hence also creating room for maladaptation. Finally, the model albeit simple and easy to comprehend, completely neglects the opinions of the host community in favour of that of the tourist and this diminishes sustainable tourism development. The RTAF model involves two major phases, one for assessing the vulnerability and the resilience of the destination and the second phase for identifying and accessing available options,

testing with the consumers and implementing and evaluating the options to increase the resilience and resistance.

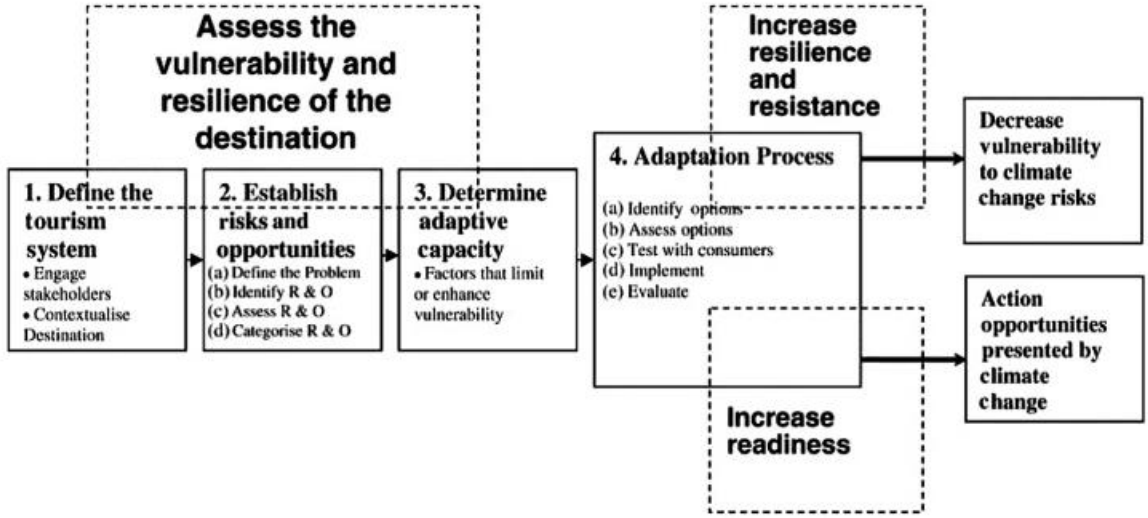

Figure 9: Regional Tourism Adaptation Framework (Jopp et al., 2010)

9.2 Proposed Tourism Sustainable Adaptation Framework

The proposed model shown in Figure 10 below, is aimed at addressing the weaknesses of the RTAF model mentioned above. Based on the RTAF model, there have been several crucial enhancements. The first enhancement is that the model addresses the need for explicit evaluation of all the proposed adaptation options hence the various stakeholders would be able to suggest options that promote social justice, environmental integrity and economic sustainability. This is linked to the second enhancement which advocates the needs to assess all stakeholder opinion and this is inclusive of the business and host community, not just the tourists, before the options are implemented. Finally, the lack of feedback between the local and global processes is addressed, adhering to sustainable adaptation principles (Njoroge, 2014).

There are three phases involved in the application and the implementation of the proposed framework. The *first phase*, which involves assessing the vulnerability and resilience of the destination, has a three step process, the first being using a system approach to define the tourism system. In addition to this, the risks and opportunities are identified and the adaptive capacity determined. This enables the user of the model to conceptualize the interactions among the different stakeholders and actors while providing a point of entry for stakeholder engagement of the tourism sector in the adaptive process. The next step involves identifying potential risks with the main focus on climate change associated risks that may impact the tourism system, with local knowledge and stakeholder expertise input being crucial. The final step is the assessment of the adaptive capacity, since this varies from place to place, influence by factors such as level of technology access, institutional factors and the socio-economic characteristics of a place. In it important to evaluate the adaptive capacity so that the best adaptation strategies and measures can be employed and implemented (Njoroge, 2014).

The *second phase* is the adaptation process, in which adaptation options are proposed with the aim of increasing the destination's resilience while enhancing its coping ability with climate variability externalities. A step by step processes is initiated to establish the best adaptation option which also includes an explicit evaluation, a major difference from the original RTAF model. The proposed model puts forward six important steps for sustainable adaptation. The first step is to identify the options, which is crucial in making the most of stakeholder knowledge and expertise and gaining support for the process. Next is evaluating the options which is a very important step in achieving sustainability and after the rating, they are ranked and the stakeholders opinion assessed. The third step involves testing the adaptation option, with the stakeholder opinion on the adaptation option being assessed. The fourth step is ranking the options after the expert evaluation has been done and the stakeholder opinion have been scored and the scores aggregated. The fifth and sixth step are implementing and evaluating the viability of the options, respectively. The *final phase* is the communication and feedback between the local and the global process. Due to the global interaction of processes and resources, local actions often have global scale implications in the context of sustainability and therefore it is imperative to have a good and reliant monitoring and reporting system that will inform local, national and global adaptation processes, such as the IPCC processes. Therefore this proposed *Tourism Sustainability Adaption Framework* model aims to achieve sustainable adaptation in the tourism sector by incorporating some elements of the RTAF, enhancing others and adding some new ones to make it more practical and sustainable by encouraging measures that promote social justice, environmental integrity and the economic sustainability of the destination/ host community (Njoroge, 2014).

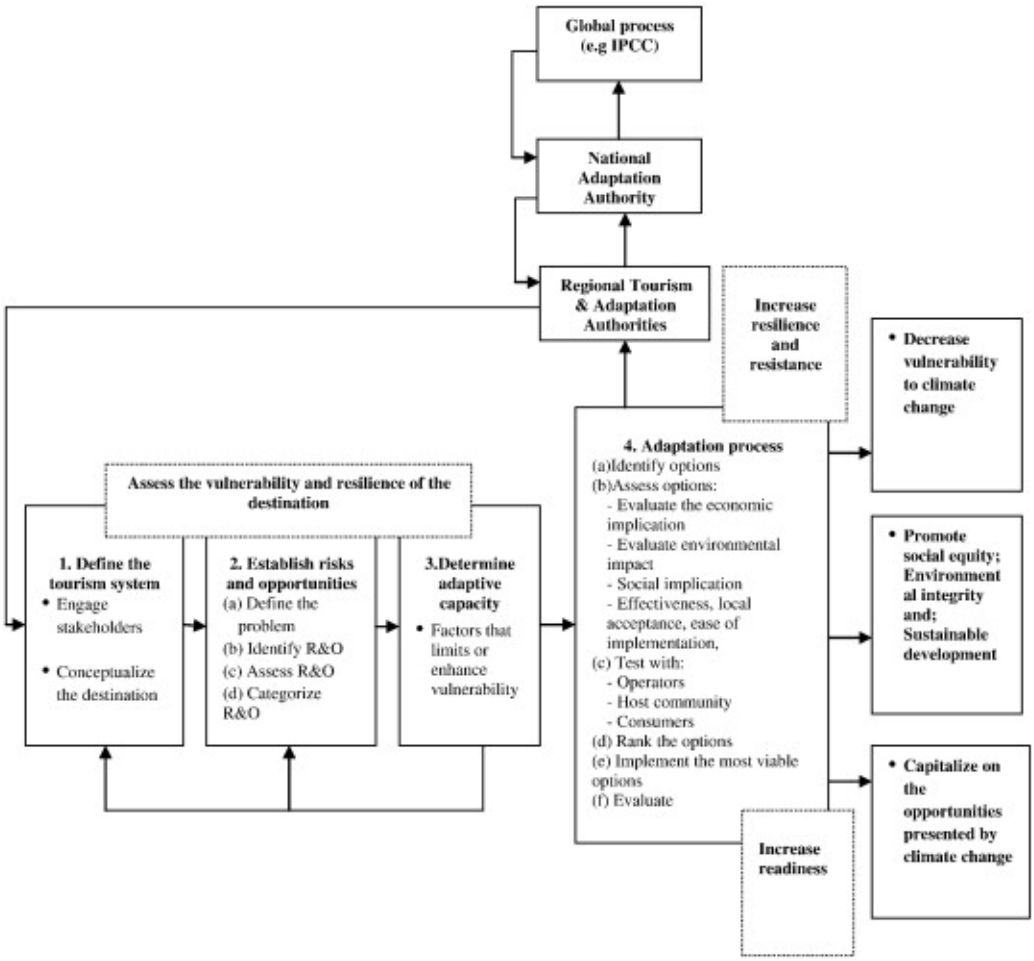

Figure 10: Proposed Tourism Sustainability Adaptation Framework Model (Njoroge, 2014)

9.3 Adaptation Challenges

Nonetheless, although the different adaptation measures can be employed to address vulnerability to climate change, the adaptation mechanisms and long term strategies can face obstacles in the process. Firstly, there may be a radical decrease of the actual adaptation possibilities due the interconnectedness, scale of change and uncertainties. One of the key future uncertainties the IPCC regards is the adaptive capacity of both human and natural systems to cope with critical rates of climate change, thresholds and tipping points. The tourism industry's interdependence with other sectors such as the natural environment that range in scale from local to global, results in the assessment of the only nearby impacts to be adaptation insufficient. Hence there is limited perspective on adaptation gained by just simply understanding the risks concerning part of the tourism system, creating a platform for vagueness especially when combined with the uncertainty concerning the temporal reference. Secondly, a disparity can arise between the actual measures to be taken and the adaptive capacity in the sense that there can be a mismatch between the future adaptation needs and the actual adaptation mechanisms, which would otherwise enhance the adaptive capacity. Although weather extremes are ever changing, there is failure in combining future hazards with present risks in planning systems and this can be perceived as lacking in climate change specific considerations in sustainable strategies for tourism development and this can be inclusive of increased risks that are related to tourism operations or access. The implication of this is that it will mean the

movement away from reactive actions to a more anticipatory approach. Another implication is the alignment with disaster risk management due to the significant barriers to sustainable development being presented by the different elements of climate change. Furthermore, in may be extremely challenging and even in some cases not pragmatic to expand the sustainability beyond business operations especially when you put into considerations the social and environmental consequences. In addition to this, there can be the emphasis on economic viability over the other elements of sustainability in adaptation. Another challenge is that adaptive polices are highly contextual and can be challenging when it comes to their implementation. The strategies that are successful from the policy perspective may differ from the community level. This underscores the importance of the role of the locals who assist in establishing the changes that have been observed and their effect on the locals. Thus, comprehending the current impacts can be instrumental in the creation of procedures in which there can be an effective monitoring of changes over the long-term. Another challenge is the development of adaptation strategies and decision making due to the problem presented by the distribution of adaptive capacity within societies and the tourism destination regions. In this regard, destination locals can participate in the sustainable development of their community through participation and detecting even detailed changes in their surrounding environments. Through this participation, there can be a reduction of the gap between the policies and the positive impacts at the community level(Kaján, Tervo-Kankare, & Saarinen, 2014).

10.0 Limitation and Scope of Literature

In the course of the research, the author has identified some weaknesses and areas that need further research in the available literature. For a start, there is very little attention paid to tourist demand especially at the destination level while the emphasis has been on the sustainability of tourism resources, such as conservation parks. A sustained flow of tourist cannot be taken for granted especially at the local level where the socio-economic impacts are more direct and immediate and this may differ from the global level. The literature also fails to appreciate that resources are a dynamic and complex concept that evolves with the changes in the needs, preferences and even the technological capability of a society. The available literature is instead largely limited to preservation and conservation of resources with respect to resource sustainability. Furthermore, little attention in the literature has been given to the fairness of the distribution of the costs and benefits among the stakeholders, that is *intra-generational* equity, while the emphasis has been on intergenerational equity. In the cases where there were attempts at community engagement, most of the writers failed to recognise the host population was excluded and often not empowered to take control of the development process. Furthermore, while the literature puts an emphasis on the host population's interests, there seems to be a misconception or at least an unrealistic expectation from the writers that the destination community should reap the economic benefits of tourism but keep its culture intact. As explored earlier, mass tourism brings a myriad of negative impacts and many put forward the argument that socio-cultural exchanges should all together be avoided due to these negative impacts. Moreover, many academics and tourism organizations have had limited success in finding ways to set the limit or threshold to tourism growth via identifying carrying capacity and indicators of sustainable development, hence it is very difficult to determine the absolute pace and level of development. Finally, it's quite evident that many of the writers enthusiastically promote such forms of tourism such as ecotourism, soft tourism, low-impact tourism and community tourism as tools, means and instruments to achieve sustainable tourism however this advocacy is fraught with simplistic and naïve views as experience shows that none of these forms can be sorely relied on as the way forward to achieve a growing globally sustainable tourism industry (Liu, 2003).

11.0 Conclusion

Tourism, as world's largest industry, can be a vehicle for sustainable development if properly managed and its resources utilized in a sustainable manner. There are a myriad of benefits that stem from tourism and these include contribution to balance of payment trough facilitating the flow of foreign currency and the creation of employment. Tourism directly and indirectly can be a source of income to the host population while stimulating the local economy and resulting in the instalment and improvement of infrastructure such as roads. On the macro-economic level, increased demand of land results in financial windfall for the local land owners while fostering understanding and exchanges between different nations or cultures. Nevertheless, contemporary tourism is global in scale although its impacts are locally felt and *Agenda 21* serves as a link for international cooperation and coordination in order to achieve sustainable development, so that there can be a balance between the socio-economic development and environmental concerns. Most of the initiatives of Agenda 21 take place at the local level, reflecting and reinforcing the dictum "think local and act local". Agenda 21 guidelines endeavours to facilitate and create processes that are democratic and cooperative in order to engage the destination community in decisions about the environment at the local government level. By offering a pathway of community self-determination through engagement in decision making, the Agenda 21 guidelines enhance sustainable tourism and encourage sustainable development with an equitable distribution of socio-economic benefits. Kenya is one of Africa's leading tourism destination with the sector contributing to 9.9% of the GDP in 2015, with 80% of it being nature based tourism. The country has 6 world heritage sites and the tourism sector is projected to grow at 5.2% employing 9.3% of the workforce with over 190 dedicated conservation areas. This is consistent with the UNEP report on climate change adaptation and mitigation in the tourism sector, which states that the sector is a major source of foreign exchange earnings for 46 out of 50 least developed countries, and this is inclusive of Kenya. With totals earnings of $129.7 billion in 1996 in revenue going to developing nations, tourism can indeed make substantial contribution towards the achievement the millennium development goals if properly and effectively managed, although it is a highly climate sensitive economic sector. It is imperative that societies and economic sectors in developing nations adapt to climate change as they are especially vulnerable.

Moreover, unregulated *mass tourism* can have the opposite effect of bringing destructive impacts instead of sustainable development. Tourism can be disruptive to the cultural way of life of the destination community while fostering economic inequality through payment of low wages, lack of promotion opportunities and being exploitative in nature. It can also lead to environmental degradation and ecological destruction through resource overuse. Mass tourism can exacerbate the problems associated with climate change by further adding to GHGs in the atmosphere. Furthermore, the decisions are in the hands of a few multinational companies and this alienates the destination community in addition to increasing the problems of dependence. Pressure on resources due to mass tourism often results in land appreciating in value and the locals selling their property in the hope of making a windfall from the developers and are soon left landless with low paying seasonal menial jobs as sources of income. The pressures on resources can also lead to habitat disturbance or destruction and the extinction of species. The concentration of decision making power in the hands of a few multinational companies at the expense of the local population can result in a form of "neo-colonialism". This alienation of the local community can result in hostility and even conflicts with the tourists. Furthermore, mass tourism can result in overcrowding which can in turn reduce the value of the experience to the tourists and some locals maybe even barred from enjoying the tourist facilities in their own locality. In addition to this, as the resources are stretched beyond their carrying capacity, environmental degradation occurs due to the mass tourism. Another problem that may arise due to mass tourism is crime, as it was directly proportional to the number of foreigners entering the county.

Other social ills brought on by mass tourism include the spread of venereal diseases due to prostitution and such diseases as cholera due to overcrowding in tourist camps.

Ecotourism is an alternative form of tourism that is sensitive to the fragile nature of the ecosystem and puts emphasis on small scale, locally owned infrastructure and whose goals are complimentary to the ideals of sustainable development. Ecotourism strives to diversify the market as much as possible and thus there is less vulnerability due to over dependence on source market nations and thus the impacts on negative externalities are minimised. There is also reduced vulnerability to seasonality because the nature of the product and market encourages a more stable, balanced and predictable visitation pattern. It also encourages the integration of other sectors of the economy in a mutually beneficial way instead of being disruptive. Ecotourism also channels the benefits of tourism directly to the local community in addition to increased standards of living due to higher revenue streams. It fosters inter cultural understanding thereby improving international relations while enhancing environmental conservations efforts, for example, the Porini Ecotourism Project in Kenya. However, ecotourism is criticised for not giving enough attention to full impacts to the livelihoods of the poor and instead concentrating on preserving the environmental or cultural base on which tourism depends on. In contrast, *Pro-Poor Tourism* (PPT) emphasises on expanding opportunities with the explicit goal of benefits to the poor, with the benefits flowing to the community rather than the tour operators. In PPT, there is a convergence of interest in the improvement of the wellbeing and equity of the community, tourism development and poverty reduction strategies. PPT is an approach to tourism management and not a product itself, unlike ecotourism, which aims at unlocking tourism benefits to the poor and to reduce poverty, in order to enable to the poor to participate in tourism development. It is a useful tool in poverty reduction as it allows for increased income in impoverished sections of the community. Other benefits derived from the PPT include the enhancement of non-economic benefits such as access to infrastructure and capacity building. PPT promotes the participation of the local community and assist in policy and process reformation through the building of supportive policy and planning framework. PPT can generate funds for community projects in addition to providing employment and a market for local art and crafts. However, PPT has been criticised for being another form of neo-liberalism that does not address the structural reasons for the north-south divide and the internal ones within the countries of the south. Another criticism is that PPT overestimates the growth of tourism sector while rejecting the equitable redistribution of its benefits as a poverty reduction strategy.

One way of ensuring the sustainability of tourism, conservation of natural resources and the reduction of Green House Gases (GHGs) is adapting and implementing REDD (*reduce emissions from deforestation and degradation*) policies as forests play a vital role in the carbon cycle, absorbing and storing carbon in their biomass and the soil. In addition to biodiversity conservation and sustained income for the local population, REDD projects assist in offsetting the emissions that are a by-product of tourism while also helping in reducing the carbon footprint of the destination country, thereby easing the ecological destruction that may occur as a consequence of tourism. Having REDD policies also gives the host country flexibility in how to manage its forest resources while also allowing for private sector involvement with a bottom up approach in decision making that involves all the various stakeholders. In Kenya, the *Kasigau Corridor REDD Project* has resulted in decisions that have been acceptable to the community due to the inclusiveness of the participation process while the number of protected endangered species has been expanded. Although the area has been adversely impacted by climate change, the 150,000 residents who reside in this corridor have benefitted from the revenue raised from the carbon offsets. The project has not only created jobs but also has been crucial in the socio-economic development of the area, such as building of classrooms. Another successful REDD project is the *Chyulu Hills REDD+ project*, which is a collaboration between the local community, NGOS,

public agencies, landowners and private sector partners. The project endeavours to integrate the protection of the unique and iconic eco-system with supporting the socio-economic wellbeing of the local community. The project has been especially useful in protecting the carbon stock and conserving the bio-diversity which in turn results in socio-economic benefits for the local community while also enhancing food and water security and also creating eco-tourism. In addition to this, there have been job creation and the preservation of endangered species. Nevertheless, REDD projects have been criticised for distracting attention away from the fundamental problem of fossil fuel energy production and also running the risk of rewarding countries with high rates of deforestation while ignoring those taking significant measures to curb it. *Ecosystem services* is a concept whereby the value is assigned to the direct and indirect benefits humans populations derive from ecosystem functions. Ecosystem can be a powerful tool in enhancing environmental conservation and protection measures as it has resulted in policy makers using market based instruments to create economic incentives for sustainable practice and conservation. It is imperative to include the total bundle of ecosystem services when assessing the trade-off between alternative uses of ecosystems and these trade-offs arise when the provision of one service is enhanced as a direct result of the reduction of the provision of another, while synergies occur when multiple services are enhanced simultaneously. Valuation is useful in environmental accounting, increasing awareness, design of incentives among other uses. It should be noted that the ultimate goal of *Ecosystem service valuation* is the contribution to a sustainable and equitable resource use in order to improve the wellbeing of every individual now and in the future. This is useful because valuation can provide new policy insights as it ensures projects and policy appraisal fully consider the natural environment's cost-benefits while also clearly highlighting their impacts of human wellbeing. The Ecosystem Service is therefore a valuable means through which the local community, stakeholders and decision makers are made aware of ecosystems and positively contribute to their preservation and conservation. This is crucial in that conflicts are resolved though deliberations and well informed democratic decision making because the very concept helps in understanding *Ecosystem Service Potential* that are attributed to ecosystems by the various stakeholders.

Governance involves processes whereby some degree of order in the society is achieved, the goals are decided on, with the policies elaborated and services are delivered and can involve non-state actors such as the community, voluntary sector and private businesses. Governance is a key requirement for the furthering of the objectives of sustainable tourism. Sustainability is enhanced through good governance because it encourages the participation of a diverse range of actors in decision making in the tourism sector, this in turn enhances the democratic processes and ownership that are associated with sustainable development, especially in developing nations such as Kenya. Effective governance is therefore essential to sustainable tourism because sometimes there are trade-offs between economic and the environmental concerns in terms of the ecosystem services, as previously mentioned. Good governance is crucial in striking a balance or strives for a win-win scenario that creates synergy, instead of a trade-off, through an appropriate all inclusive, democratic decision-making process that involves all concerned parties when formulating policies. Moreover, most of the most vulnerable and endangered habitats and ecosystems are located in conservation areas that require good governance and good management in order to be understood by current and future generations. The performance of governance involves three key elements; responsiveness, effectiveness and efficiency and for the case of Kenya, this paper argues for *public and for profit governance management model* because it has very strong levels of public participation with the private companies often participating . This models shows strong consensus orientation and financial efficiency due to the private-government partnership, with the profits earned used for conservation efforts and for the sustainable socio-economic development of the local community. The framework

model proposed in this paper, which utilizes sustainable tourism as an assessment tool, is both qualitative and content related in scope. The current and future measures by stakeholders, both NGOs and the government, are taken in consideration to inform the individual decision makers. The framework therefore builds on integrating sustainability concepts through referring impacts caused by tourism and leisure activities. The valuating system of the framework, once again borrowing from the concepts of ecosystem services, is designed to assess leisure and tourism sustainability. The framework takes an anthropocentric approach in regards to the nature and environment, in addition to considering the ecosystem carrying capacity. Furthermore, this paper proposes a *Framework for the Planning Process for Sustainable Tourism* which involves the development of objectives, followed by an assessment of the assets at destinations before devising ways and strategies of implementing them. The final stage is monitoring and evaluation in order to get feedback so that there can be adjustments and improvements if necessary.

The tourism industry is a highly climate sensitive economic sector and therefore it is imperative to develop adaptation strategies and policies in order to better cope with impacts and changing conditions. *Adaptation* is the ability of a unit to transform its structure, operations or organization in order to survive changes threating its existence or success. *Adaptive Capacity* is the ability of the unit to learn and accumulate knowledge and experience using creative flexibility in risk evaluation and decision making. Due to a lack of capital intensity and technological flexibility, developing nations have a lower adaptive capacity and this hampers their ability to respond to climate change effectively and thus making them much more vulnerable to climate change. Due to this low adaptive capacity, developing nations like Kenya have focused on low cost adaptive measures and as a result they have often required assistance from the wealthier developed nations in order to build and enhance the human and technical capacity to adapt to climate change. The climate change threats that face many developing nations especially in Africa are many including; increased temperatures that cause discomfort or the tourists and can induce wildlife migration, precipitation changes resulting in cyclones and tropical storms, aridification, erosion and the encroachment of deserts, the rise in sea levels and increased pollution which are all devastating not only to the destination communities but also to the tourism industry. The *United Nations Development Programme (UNDP)* provides four guiding principles for adaptation: place adaptation in a developmental context, building on the adaptive experience to cope with future climate variability with a wide range of tourism stakeholder involvement, recognition that adaptation occurs at the local level even though polices can be formulated at the international or national level, as such to "*think global and act local*" and finally the recognition that adaptation is an ongoing process, as climatic conditions continue to evolve over the course of the century .

This study then discusses the sequence of steps in the process of adaptation, which is a seven step process that should be viewed as an iterative cycle of problem definition and adaptation implementation. Adaptation to climate change is costly, with the global adaptation costs estimated to comprise 7-10% of the costs of total global damage due to climate change. There are various ways to finance adaptation in developing nations, such as Kenya, and some of these ways include accessing the Special Climate Change Fund, Least Developed Countries Fund and the Adaptation Fund which are disbursed via the Global Environment Facility. *Mainstreaming* climate change adaptation, which means integrating the adaptation policies and measures into ongoing sectoral planning and decision-making processes, is instrumental in the overcoming the challenges brought on by the costs of adaptation. In order to achieve sustainability in the adaptation process of the tourism sector, four principles have to be adhered to: recognise the context for vulnerability by considering the underlying experience and circumstance of the climate change risk, acknowledge that the different values and interests affect the adaptation outcome, integrating local knowledge into the adaptation process and

finally, considering the potential feedback between the local and global processes because climate change is a global phenomenon that is locally felt and experienced. This dissertation then proposes an *enhanced tourism sustainable adaptation framework* that is based on the regional tourism adaptation framework (RTAF). The recommended model is different from the original RTAF in that it addresses the need for explicit evaluation of all the proposed adaptation options, advocates the needs to assess all stakeholder opinion and this is inclusive of the business and host community before implementing the options and finally, the lack of feedback between the local and global processes is addressed, adhering to sustainable adaptation principles. Nonetheless, there are various *challenges and obstacles* that face adaptation mechanisms and long term strategies that address vulnerability to climate change. One challenge is that due to linkages of the tourism industry with other sectors of the economy, there may be a radical decrease of the actual adaptation possibilities due the interconnectedness, scale of change and uncertainties. In addition to this, there can be a mismatch between the future adaptation needs and the actual adaptation mechanisms. Another challenge is that there could be an emphasis on economic viability over the other elements of sustainability in adaptation as well as problems arising due to the fact that adaptive polices are highly contextual and can be challenging when it comes to their implementation.

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