

Tourism, millennium development goals and climate change in Kenya

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Abstract

Tourism growth in the last century has been remarkable with a record of 1 Billion global arrival recorded in 2012 and revenues at a tune of USD 1,075 billion. Tourism is also recognized as an important sector in achieving Millennium development goals including poverty eradication and provision of livelihood to marginalized societies. However, the sector is faced by the challenge of changing climate regime because tourism is highly dependent on climate and the environment. Therefore the viability of tourism is at stake and so it is to most livelihoods especially in developing countries where tourism plays a significant role. Coupled with uncertainty in climate change research and scarcity of regional studies most destination managers remain uninformed of possible implication of the plausible impacts of climate change on their destinations.

Using multidisciplinary secondary sources this paper aims at consolidating information on climate change impacts and vulnerability of Kenya's tourism industry to climate change and further discusses the implication of climate change on the widely popularized role of tourism in contributing to Millennium Development Goals. The paper also highlights on milestones achieved towards having a National Policy on Climate Change. Despite limited regional research on climate change impacts on different tourism regions in the country and current adaptation measures, sea level rise, loss of biodiversity, temperature rise, desertification and changes in precipitation are expected to have serious implication on its tourism sector. High dependence on wildlife and beach tourism, struggling economy, population growth among other stressors makes the country's tourism sector extremely vulnerable to climate change. I therefore conclude there is urgent need for urgent measures to respond to climate change.

Key words: Climate change, Millennium Development Goals, Tourism, Kenya.

1.0 Introduction

Historically, tourism was subscribed by the elite in the society as characterized by the *Grand Tour*¹ at the wake of human civilization in Western Europe. During the era of industrialization travelling for leisure and other recreational activities became accessible to more and more middle class population attributed by rapid transport means, awareness, post world war peace,

availability of discretionary income among other factors that promoted travel. Since then tourism has recorded continuous upward growth despite a slow growth in 2008 and 2010 economic crisis, (see fig. 1).

According to United Nations World Tourism Organization (UNWTO) (2013), tourism grew by 4% in 2012 compared to the previous year 2011 posting a record 1.035 Billion tourist arrival worldwide which was unprecedented. Regionally, Asia recorded the highest growth rate of 7%, equivalent to 16 million more arrivals; followed closely by Africa 6% (3 million more arrivals) reaching a 50 million mark for the first time. The Americas increased

¹ The Grand Tour was a traditional trip of Europe by the Upper-Class European young men between 1660-1840s as part of their education career, (Chaney, 2000)

arrivals by 5% (7 million more arrivals) while Europe recorded a 3% increase (18 million more arrivals). However, Middle-East recorded a negative growth (-5%). A positive growth trend is forecasted in the period 2013-2030 at an average of 3.3% annually (Fig. 1).

Global tourism not only grew in the number of arrivals but also in revenue. A 4% growth in revenue was recorded in 2012 to reach USD 1,075 as compared to

the previous year. This was attributed by the equivalent surge in the number of global arrivals for the same year period. Asia and Pacific, Americas and Africa all recorded a 6% surge in tourism earnings while the Middle-East's earnings dipped by 2% (UNWTO, 2013). Because of this industry's resilience over the years and more recently the economic turmoil of 2008-2010 tourism will remain in focus as a key economic sector.

UNWTO Tourism towards 2030: Actual Trend Forecast: 1950-2030

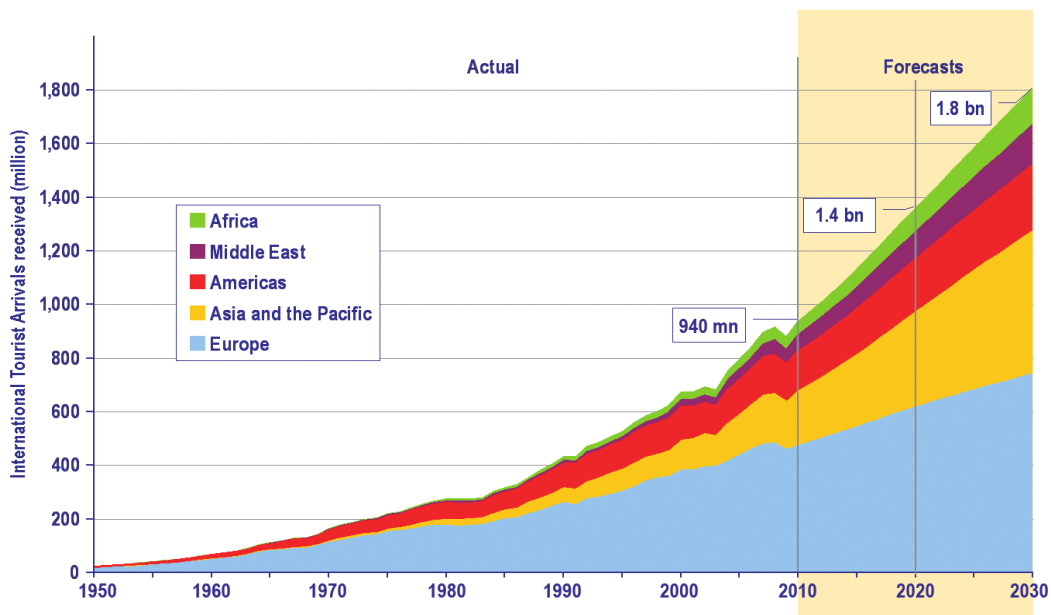


Fig. 1: Source: UNWTO (2013): *Tourism Highlights 2013 Edition*

Tourism is acknowledged as an important social economic industry. This has led to tourism being promoted as a critical industry in social economic development especially in employment creation (Saarinen et al. 2011). It is also considered as a critical industry contributing towards the Millennium Pact popularly known as the Millennium Development Goals (MDG). In September 2000, world leaders converged at UN headquarters in New York to adopt the UN Millennium Development Goals (UN-MDG) calling their nations to a new global pact to eradicate extreme poverty, hunger and diseases and setting the timeline targets of 2015. These 8 Millennium Development Goals aim to: Eradicate extreme poverty

and hunger (Goal 1); Achieve universal primary education(Goal 2); Promote gender equality and empower women (Goal 3); Reduce child mortality (Goal 4); Improve maternal health (Goal 5); Combat HIV / AIDS, malaria and other diseases (Goal 6); Ensure environmental sustainability (Goal 7); and Develop a global partnership for development (Goal 8) (United Nations, 2000).

Since then, the role of tourism in contributing to the Millennium Development Goals have been of great interest among researchers, academicians, government, politicians and development partners alike. The world bank report by Christine and Crompton notes an emergency of interests in the

early 2000 on tourism as an important “source of growth and diversification”(2001 p 1). The complex interaction and interdependency between

tourism and other sectors provides for leverage for multiplier effect and tourism is widely seen as an important “entry point” for stimulating other sectors as commented by Christine and Crompton (ibid). Whereas in a synthesis paper by Hawkins and Man, it is noted that 80% of 56 countries with poverty eradication strategies ‘cite tourism as one option for economic growth, employment and poverty reduction” including Ethiopia, Tanzania, Uganda, Ghana, Nigeria, Mozambique, Kenya, Colombia and Honduras where tourism is equated with agriculture and manufacturing sectors (2007, P. 353). However, sceptics also exist in academia on regional benefits in the globalised industry especially where big multinationals are involved hence there is need to look at different cases benefits and costs in relation to context (Saarinen et al., 2011).

In a study commissioned by United Nation World Tourism Organization (UNWTO) and United Nations Entity for Gender Equality and the Empowerment of Women (UN Women) (2010), ‘women in tourism’ report indicated that about 49% of jobs in hotel and restaurants sector are taken by women on average in a survey conducted among 101 countries that had such records. However, the same report noted discrepancies in labour compensation between men and women colleagues. Despite that, there is a clear indication on how women have been able to access formal and informal employment within the tourism sector both direct and indirect therefore contributing towards UN-MDG goal 3-promoting gender equality and empowering women. However, there is a need to put better policies to enhance the ability of tourism to contribute to women empowerment through employment, (Ferguson, 2011).

In other studies, Novelli and Hellwig (2011) in a case study of Namibia reports

on how tourism can contribute to goal 1-fighting extreme poverty (see also Lapeyre, 2011; Butcher, 2011); while tourism have been popularized as a tool for promoting environmental sustainability, conservation and biodiversity hence contributing to goal-7 (e.g. Jang, 2009; Hughes, 1996;). However, while tourism contribution to UN-MDG is acknowledged, tourism cannot address all the MDGs but can play a role in contributing to some of the goals (Saarinen 2011)

Besides these achievements in tourism, the ability of the tourism sector to contribute to these Millennium Goals is challenged by changing climate regime. The IPCC 4th assessment reports that the viability of climate dependent industries including tourism is under threat (IPCC, 2007). Therefore, urgent response is needed by different countries and territories through adaptation in order to reduce the vulnerability of physical, social-economic and human systems under different climate scenarios (IPCC, 2012). However, regional studies from developing countries on climate change and tourism nexus are still limited despite the important role tourism play in their social economic development (Kaján & Saarinen, 2013; Weaver, 2011).

Using Kenya as a case, this paper aims at consolidating information on climate change Kenya’s tourism industry climate change impacts and vulnerability. It further discusses the implication of climate change on the widely popularized role of tourism in contributing to Millennium Development Goals. An assessment of current ‘status of affairs’ in developing a national policy for climate change is highlighted. Research gaps are identified and future research directions are proposed for the Kenya’s tourism industry.

1.1 Methods and materials:

This paper uses secondary materials that include: government publications, online materials, and minutes of meetings, newspaper, journals, and books s to consolidate information on Kenya’s

tourism industry climate change impacts, vulnerability and state of policy response. Due to lack of local tourism specific studies on matters of climate change and tourism, methodologically, this approach provides the author access to multidisciplinary sources that has helped deduce how climate change may affect the Kenya's tourism industry. By linking tourism, MDGs and climate change this paper provides an entry point for discussion for the matter.

2.0 MDGs and Tourism development in Kenya

2.1 Tourism Highlights

Since independence, Kenya has been a popular destination for wildlife safari among westerners (Akama, 1999). This has led to a steady growth on arrivals of international tourists. However, the growth can only be attributed to the period of 1970s where tourism promotion became an important agenda for the Kenyan government. It is in this period that the

country experienced a drop in foreign income earnings attributed by falling tea and coffee prices. Coffee and tea exports had been the key export commodity for the country that provided much needed foreign income (Akama, 1996, Chege, 1987). With the turn of events, Kenya turned to tourism and invested in tourism development increasing the budget for tourism promotion. Since then Kenya has grown its tourist arrivals and income from tourism from diverse tourist source markets dominated by holiday makers from Europe. According to the Economic report of 2013, Kenya recorded 1,780,768 tourist arrivals for the year 2012, where: (75%), of all arrivals are holiday makers, 8% business travellers, while 3% conference attendees (KIPPRA, 2013). Europe remains the top tourist source market commanding a 43% share, followed by Africa at 24%, the Americas 13%, Asia 12%, the Middle East 5% and Oceania 3% (fig. 2).

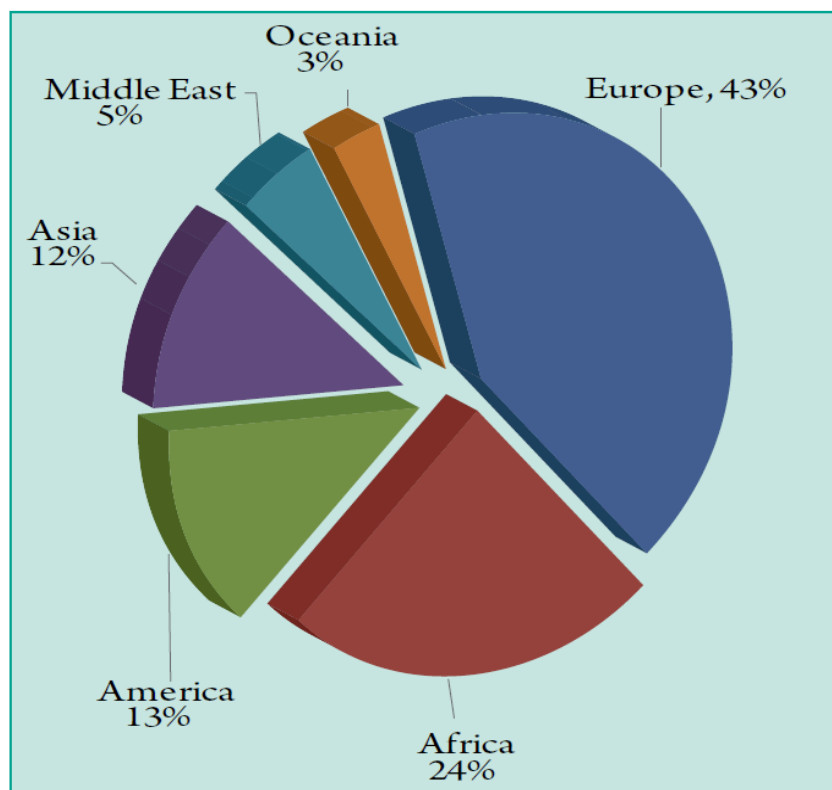


Fig. 2 Tourists arrivals by region. Source: KIPPRA (2013)

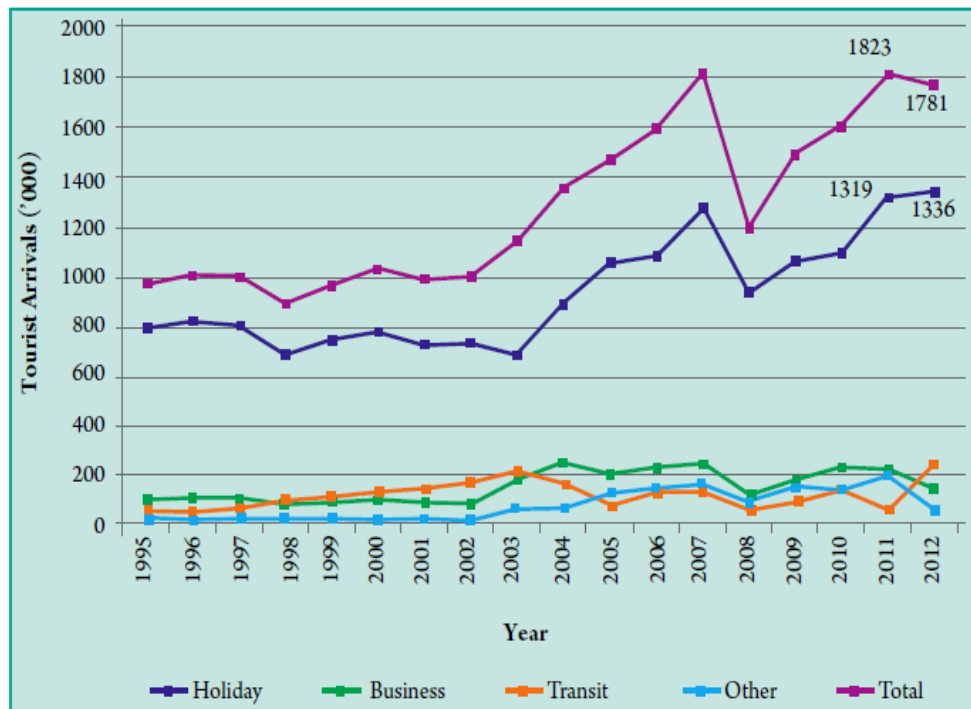


Fig.3 Tourists arrival by purpose, 1995-2012, Source: KIPPRA (2013)

According to the World Travel and Tourism Council (WTTC), the direct contribution to Gross Domestic Product (GDP) of tourism in 2011 was 1.9Bn US\$ which was about 5.7% of the total GDP and is expected to rise in 2012 by 4.4% and 3.4% from 2012-2022 to 2.8Bn US\$ in 2022. The total contribution of tourism to GDP was 4.6Bn US\$ in 2011. Furthermore, tourism supported 313,500 jobs about 4.8% of total employment and is expected to rise by 1.3% in 2012 and rise by 1.2% p.a to 357,000 jobs (4.3%) of the total employment by 2022 (WTTC, 2012). Kenya's tourism industry has also shown resilience after the 2007/2008 post election violence, the 2008-2010 economic crises and the ongoing security challenge posed by extremist groups.

2.2 Kenya's Tourism product

Kenya is endowed with spectacular attractions including sandy beaches, rich cultural heritage, sceneries from geographical formations and diverse wide

range of wildlife. However, Kenya's tourism product is highly nature based. About 8% of the land is protected for wildlife conservation which tourism depends on. They include National Parks and National Reserves which are part of different types of ecosystems including: forests, wetlands, and savannah, marine, arid and semi-arid land. There are 23 terrestrial National Parks, 28 terrestrial National reserves, 4 marine National Parks, 6 Marine National Reserves and 4 sanctuaries which are managed by Kenya Wildlife Service (KWS).

Kenya is also home to 6 UNESCO World Heritage sites including three cultural sites (Fort Jesus in Mombasa, Lamu Old Town, Sacred Miji Kenda Kaya forests) and three natural heritage sites (Kenya Lake System in the Great Rift Valley, Lake Turkana National Parks and Mount Kenya National Park) (KIPPRA, 2013).

Kenya. For example USAID has supported conservation linked enterprises through community-investor partnerships in parts of Kenya under its programme 'Conservation Resource through Enterprise Programme' (CORE). These projects include Siana Springs Tented Camp in Masai Mara, Maasai group ranches in Laikipia, Lion Rock Tsavo tented camp and Kasiagu banda,

ecolodges near Amboseli National Park, Mwaluganje elephant sanctuary and ecolodges in Kwale and a mangrove boardwalk in Wasini Island in Kwale. At Wasini boardwalk women were trained in business management skills and the projects employs three local women who manage the operations and part of the income is used to support girl child education (Zeppel, 2006, pp. 134,).

Table CORE Community Ecotourism Enterprises in Kenya

Establishment	Enterprise type	Location
Siana Spring tented camp	Ecolodge	Masai Mara
Kojia Starbeds	Ecolodge	Laikipia
Kijabe Ecolodges	Ecolodge	Laikipia
Ngutuk Ongiron lodge	Ecolodge	Laikipia
Lion Rock Tsavo tented camp	Ecolodge	Taita Taveta
Kasiagu bandas (hot) for 5 villages	Ecolodge	Taita Taveta
Elerai/Entonet lodge	Ecolodge	Amboseli
Imbirikani lodge	Ecolodge	Amboseli
Olgulului/Lolawashi tented camps	Ecolodge	Amboseli
Shompole ecolodge	Ecolodge	Amboseli
Mwaluganje Elephant sanctuary	Sanctuary and stationary	Kwale, South coast
Wasini Women Group	Boardwalk and craft	Kwale South coast

Other CORE enterprises include Il Polei cultural manyatta, Laikipia; Ewaso and Oiti Women Groups Crafts and Jewellery, Laikipia; Amboseli cultural centers manyattas, Amboseli; Dupoto and Shompole Women groups, crafts and jewellery; Amboseli.

Source: Zeppel (2006, pp. 134)

Eco-tourism, a form of tourism that aims at promoting responsible tourism by conserving the environment while ensuring improved well being of local people is also widely promoted in Kenya. A classical example is the case of Gazi bay in Kenya where tourism is 'moderately developed' with well established infrastructure. Through 'Gazi retreat', there is a lodge that provides high class services and amenities to high end tourists and a 'Gazi women boardwalk' that provides 'a responsible' visit to the mangrove area

without interfering with the ecosystem (UNEP, 2011).

3.0 Kenya's climate change and tourism nexus: what do we know?

Despite lack of tourism specific national study that evaluates the impact and vulnerability of the tourism sector to climate change, a number of studies on national level and studies from other disciplines are available some of which

have implications for the Kenya's' tourism sector.

The IPCC 4th assessment report cites Africa as one of the most vulnerable regions in the world. This is because of social-economic conditions where most countries are poor. Some of the issues raised by the report includes 75 to 250million people exposed to water stress by 2020; up to 50% drop in yield of rain fed agriculture; Low lying coastal zones being affected by sea level rise; and an estimated 5-8% increase of arid and semi arid land by the year 2080 (IPCC 2007). It further reports a warming trend in East African lakes including Lake Victoria by 0.2 to 0.7 degrees Centigrade's since the early 1900s. Massive coral bleaching observed in 1997-1998 in the Indian Ocean as a result of strong ENSO resulted to tourism losses to the cost of about US\$ 12-18 Million. Mangrove and coral reefs which are the main coastal ecosystem are likely to be affected by climate change, (Nitto et al., 2013).

Drought and flooding events are considered as having had 'devastating consequence on the environment, society and the wider economy' (GOK, 2013). The drought of 2008-2011 is estimated to have caused a loss of KES 968.6 (USD 12.1billion) and was predicted to further cause a decrease in economic growth by 2.8%. Whereas in 1998-2000, post EL Nino drought is estimated to have led to a 16% reduction of GDP. A further loss estimate for the same period due to shortage in power supply is estimated to be 110 bilion (USD 1.4billion) . Floods on the other hand have had equally severe consequences on the economy including loss of lives and livelihood, property damage, infrastructure damage, and slow economic growth. The 1997-1998 EL Nino related flooding is estimated to have caused losses estimated to about 11% of the GDP including KES 16bilion (USD 777million) in transport infrastructure damage and KES 3.6bilion (USD 45million) in water infrastructure damage (Gok, 2013).

In a study project led by The Stockholm Environment Institute 2009, a report on The Economics of Climate Change in Kenya submitted ahead of COP15 notes a significant economic cost of Climate change despite uncertainty involved using an aggregated model a loss of about 3% of GDP each year is estimated. Such costs are associated with sea level rise in coastal zones, health burden, energy demand, infrastructure loss, water resource constrain, agriculture and loss of eco-system services. However, such costs can be reduced though strategic adaptation estimated at US \$ 500 million per year which may surge to US\$ 1-2 per year.

On local level studies, one area of interest in Kenya on matters climate change has been the coastal city of Mombasa under environment and human development studies. A study by Awuor et al. (2008) discusses the implications of 0.3 meter sea level rise. Such a rise would render a larger part of the city inhabitable while agricultural land would not be viable for agriculture due to water logging and salt stress. Sandy beaches, historical sites, cultural monuments and hotel infrastructure, industrial and port zones would be negatively affected.

The first ever GIS-based analysis showed that 19% of land area of Mombasa county Low Lying Coastal Zones (LLCZ) where estimated 190,000 people and US\$ 470 million of assets would be exposed to a 1:100 return period extreme water levels. Furthermore by 2080, under A1B sea level rise scenario (43cm sea level rise by 2100) and A1 social economic scenario with rapid urbanization, an estimated 426,000 people and infrastructure worth US\$ 17 Billion would be affected, (Kebede et al., 2010). Considering Mombasa as an important touristic region, climate change associated risks would have serious implication for Kenya's tourism sector.

Kenya's tourism product is highly dependent on ecosystem services where flora and fauna forms the core of the tourism product. This is noticeable with the

promotion of safari and beach tourism as its traditional product. These eco-systems are under threat. The Stockholm Environment Institute (SEI) report synthesises a series of case studies on Kenya's major ecosystems which indicates that a number of these ecosystems are already critically stressed in terms of maintaining biodiversity, food provision, water supply, purification and regulation and energy sources (SEI, 2009).

On 27th March 2013, the Kenyan government launched a climate change action plan and in its strategic document on climate change and tourism climate change impacts on coastal zones and terrestrial land have been speculated as shown in Box 1 below.

Box 1. Climate Change Impacts and Risks on Kenya Tourism Resources and infrastructure

- Coastal inundation and erosion damaging coastal infrastructure and ecosystems, can impact tourist establishments situated close to the coast.
- Extreme events, especially more frequent droughts, negatively impacts wildlife and biodiversity can lead to fewer opportunities for tourism.
- Gradual changes in temperature and precipitation prompting species to migrate to more favourable habitats can negatively impact certain locations for wildlife--based tourism.
- Changing environmental conditions caused by climate change can deter tourists, such as Infectious disease, wildfires, and insect or water borne pests (jellyfish, algae blooms).
- Extreme weather events can reduce access to tourist destinations due to damage to road infrastructure, as was the case in the Maasai Mara in 2011 due to flash flooding.
- Reduction in Mara River flows (driven in part by climatic variation, but also by degradation of the Mau catchment) has negatively impacted the migration of wildebeests through the Mara River from the Serengeti National Park in Tanzania to Kenya's Maasai Mara reserve.
- The Kenya Wildlife Service has claimed that droughts are pushing lions closer to waterholes adjacent to human settlements, fuelling human--wildlife conflict.
- Increases in average annual temperature are likely to severely compromise or eliminate certain ecologically sensitive tourist destinations, such as the snow caps of Mount Kenya, sensitive marine ecosystems, and coastal rainforests. Bleaching of Kenya's coral reefs has been observed.
- Increased incidence and transmission of wildlife diseases from a changing climate, including babesiosis and trypanosomiasis, as well as a number of intestinal and external parasites. For instance, in 2007 the Grevy's Zebra population in Samburu National Reserve was placed under severe threat due to an outbreak of anthrax caused by drought in Northern Kenya.

Source: Kenya Climate Change Action Plan (2013a) (www.kccap.info)

4.0 National Policy on climate change:

Recognition of climate change as a challenge to achieving MDGs is acknowledged, at least rhetorically by the Kenyan government. The latest statement, by the time of writing this article was during an event organized by Pan African

Finalist and the United Nation Organization Programme (Nairobi) on 5th

June 2014 where the director of communication of the Environment ministry stated that:

"Our high dependency on climate-sensitive natural resources for our livelihood will inherently increase our

vulnerability to the phenomenon” and ... ‘climate change is not only a threat to economic sustainability but has the potential to reverse the gains made in the efforts to achieve MDGs” and its impacts are already being felt ... ‘Kenya and the region in general have in the last few days come face-to-face with the unprecedented changes in the climate,” adds Mr. Mulei as reported in the media (Daily Nation, 2014, June 5)

The forum noted that all the 8 millennium development goals are affected by increase in diseases, severe flooding, food shortage and massive coastal flooding. This is a clear indication that the government recognizes the threshold of the climate impacts and there is a need to come up with a road map to address the issues surrounding climate change which is provided in the National strategy on the Climate draft Bill of 2014.

The current political will as observed in Kenya’s commitment to develop a roadmap for climate change policy has come a long way. Efforts to have a national policy on climate change can be traced between 2008 and 2010 just after the infamous post election violence of December 2007. During that period; civil society movement, Non-Governmental Organizations, conservationists, development partners among others came together and formed a forum for engagement on climate change and Kenya’s social-economic development issues within the context of the environment. The forum recognized lack of political will within government hence there was a need to come up with a strategy to reach out to the government to enact a bill on climate change policy. Later in 2009, the Kenya Climate Change Working Group (KCCWG) was formed. The working group

has been the platform that opened up for stakeholders which was later registered as an association in 2011.

After the group formation, the KCCWG elected a National Steering Committee (NSC) which was mandated to fundraise, recommend KCCWG activities, facilitation, capacity engagement, and more important linking with the government. Critical partners in keeping the group alive have been donor agencies who facilitated engagement since the government had shown no will to engage with KCCWG.

4.1 The 2014 Climate Bill

On 1st April 2010 the KCCWG convened a meeting to review the drafted climate change bill. From the minutes of the meeting it is noted that serious concerns were raised that includes, just to mention a few:

- i) The need to purview the plight of pastoral communities in the proposal bill
- ii) Concern on clarity of the bill in terms of definitions, issues and concerns
- iii) The need to review the just concluded government strategy paper on climate change
- iv) Need to ensure participation of local communities in the drafting of the bill

Other remarks include that the bill was ‘raw’ and ‘one of its kind’ in Sub-sahara and the whole of Africa and that initially, response to climate change was ‘limited to the reduction of GHGs emission. The meeting therefore recommended the draftsman to rewrite the draft which would then be presented to KCCWG members in the Annual general meeting. The draft would also be used in a regional meetings scheduled at a future date.

Moreover the meeting noted that it was critical to engage other organs including a parliamentarian committee and the office of the Attorney General in order to ‘facilitate informal engagement’ and to ensure a ‘focused parliamentary debate’. Other ‘important recommendations’ include:

- i) The need to engage the mother ministry and relevant ministries
- ii) The need to draft a simple bill for engaging the public
- iii) To 'impress upon the parliamentarians the need to measure up to their legislature mandate seriously by ensuring popular parliamentarians support for the bill.

It was also noted that once the draft bill was ready it would seek a way to push the bill into parliament. Therefore a member of parliament was earmarked to introduce the bill as a private member bill at the floor of parliament.

Through regular meetings and forums for discussion, the KCCWG proposed for the first time a draft bill on climate change in 2012. This set the stage for future climate policy negotiations. The bill would later be introduced in parliament as a private member bill by Hon. Franklin Bett a member of the 10th Parliament and was taken through normal parliament processes until it was passed into law. However, the bill was never ratified into law as the president rejected the bill citing 'lack of extensive consultation'.

Following rejection of the 2012 bill on climate change, the government took initiative to engage relevant stakeholders including the drafters of the rejected bill. One year later a new bill draft on Climate change was tabled to undergo debate. Members of parliament were also engaged by national government in series of workshops to sensitize them on the need of passing the crucial bill. Currently the bill has so far received support from the government and there is a high chance that Kenya will have a National policy on Climate change, Climate Bill 2014.

4.0 Discussions and conclusions

Kenya's tourism industry is an important social economic sector contributing to a considerable portion to the GDP and a key source of foreign income that is crucial for

maintaining its balance of payment. It is also a key source of employment through which women have been able to access employment hence empowering women which is a contribution to MDG-Goal 3.

Through conservation models, Kenya has showcased the ability for tourism to be developed sustainably through 'ecotourism', 'community based tourism', 'pro-poor tourism', among other models. These models have promoted conservation (MDG-Goal 7); helped in fighting extreme poverty (MDG-Goal 1) and; has provided employment to the locals including women (MDG-Goal 1).

However, these steps towards achieving MDGs are challenged by changing climate regime. It is reported that some ecosystems, both terrestrial and marine are already facing climate change related stresses. It is also noted that Kenya's tourism product is highly nature based hence there is a need to understand how these tourism related ecosystems are being impacted by climate change in order to consider measures for adaptation to reduce industry's vulnerability. Such studies should focus on local regions rather than national focus.

Further more in order to keep up with research from other regions in the world, I hereby propose the need for research on the destination climate change impacts, vulnerability analysis and response strategies.

Considering that humans have been adapting to changing conditions since time immemorial, I also propose studies on how different tourism stakeholders are adapting to climate change. Such themes may include 'tourism business adaptation', 'community adaptation in tourism', 'destination adaptation', 'frameworks and models for adaptation', and 'tourist adaptation' to changing climate regime.

Finally, it is also noted that the country has made some efforts to develop a National adaptation action plan under the Climate Bill 2014 which is yet to be passed by

parliament. However this action plan should be informed by sound research especially in mainstreaming sectoral adaptation which is lacking for the tourism sector.

In conclusion, it is high time for the academicians, destination managers and other stakeholders to engage in developing regional studies in order to understand how the Kenya's tourism industry will be affected by climate change in order to develop. Such studies are important in forming the basis for sound adaptation work plan for every tourism circuit/region.

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Appendix 1

HOTEL BED OCCUPANCY BY ZONE							
ZONE	2003	2004	2005	2006	2007	2008	2009
Coastal-Beach	1,269,600	1,883,500	2,273,700	3,228,800	3,768,100	1,643,700	3,011,400
Coastal-Other	36,500	29,400	43,500	108,600	153,500	118,100	152,500
Coastal-Hinterland	60,900	52,900	75,100	83,700	210,500	93,900	210,900
Nairobi-High class	572,700	793,700	870,900	946,800	1,028,400	716,200	1,164,100
Nairobi-Other	124,000	194,500	180,500	257,200	302,700	224,500	498,100
Central	143,800	247,800	265,100	300,300	388,900	255,100	347,500
Masailand	130,400	272,300	361,900	460,900	519,800	231,800	312,800
Nyanza Basin	127,900	167,700	196,700	284,100	246,600	185,400	213,200
Western	97,200	100,800	128,000	167,600	234,400	224,600	319,000
Northern	42,900	48,800	81,200	83,700	86,300	5,700	13,300
total occupied	2,605,900	3,791,400	4,476,600	5,921,700	6,939,200	3,699,000	6,242,800
total available	7,765,700	10,030,700	1,084,500	13,003,500	14,711,600	14,233,600	17,125,300

Source: Kenya's Department of Tourism Website. (www.tourism.go.ke)