The Lake Region Economic Blueprint

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Figure 1: Counties of the Lake Region

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Acronyms and Abbreviations

ADSL	Asymmetric Digital Subscriber Line
AIDS	Acquired Immune Deficiency Syndrome
CBD	Central Business District
CBK	Central Bank of Kenya
CIDP	County Integrated Development Plans
COMESA	Common Market for Eastern and Southern Africa
ECDE	Early Childhood Education and Development
EDGE	Enhanced Data Rates for GSM Evolution
FTTX	Fiber to the X
GDP	Gross Domestic Product
GER	Gross Enrolment Ratio
GOK	Government of Kenya
HIV	Human Immunodeficiency Virus
ICT	Information and Communication Technology
IDP	Internally Displaced Persons
IFMIS	Integrated Financial management and Information System
KARI	Kenya Agricultural Research Institute
KDHS	Kenya Demographic and Health Survey
KEMSA	Kenya Medical Supplies Authority
KIHBS	Kenya Integrated Household and Budget Survey
KWH	Kilowatt Hour
LBEBP	Lake Basin Regional Economic Blue Print
LBR	Lake Basin Region
LVKTC	Lake Victoria Tourism Circuit
MT	Metric Tonnes
MTP	Medium Term Implementation Plan
NER	Net Enrolment Rate
NGO	Non-Governmental Association
PGA	Professional Golfers Association
PPP	Public Private Partnership
SACCO	Savings and Credit Cooperatives
SADC	Southern African Development Community
SONY	South Nyanza Sugar Company
TTC	Teachers Training College
UNDP	United Nations Development Programme

Executive summary

Kenya Vision 2030 is the country's blueprint that charts the strategic priorities and interventions for development between 2008 and 2030 for the country. It aims to transform Kenya into an industrializing, 'middle-income country providing a high quality life to all its citizens by the year 2030' (Kenya Vision 2020, 2007). The Vision is based on three pillars: the economic, the social and the political. The economic pillar aims to improve the prosperity of all Kenyans through an economic development programme, covering all the regions of Kenya, aiming to achieve an average Gross Domestic Product (GDP) growth rate of 10per cent per annum from 2012 onwards. The social pillar seeks to build a just and cohesive society where social equity is prevalent in a clean and secure environment. The political pillar aims to realize a democratic political system founded on issue-based politics that respects the rule of law and protects the rights and freedoms of every individual in Kenyan society. The Kenya Vision 2030 is planned to be implemented in successive five-year Medium-Term Plans, the first of which covered the period 2008- 2012. The second Medium-Term Plan covers the period 2013-2017 and has already been launched.

Why a Regional Blueprint?

The promulgation of the Constitution 2010 brought previously non-existent opportunities for regional growth closer to Kenyan citizens by introducing a devolved system of government that brings decision-making structures and processes closer to the people. Within the devolved structure, Kenyans can more actively participate in the planning and implementation of development plans for their region. However, the main drawback of devolution is that often counties are too small a unit to leverage economies of scale often unable to tap into a robust pool of skilled labour or funding options required to catalyse positive change within a given jurisdiction. The Economic Blueprint for the Lake Basin Region was born out of the understanding that strategic connections between counties with shared interests seated in a desire for mutual benefit can be an effective and intelligent means of increasing the possibility of creating notable development impact across several counties. Additional reasons for a regional Blueprint are:

- Access to New & Expanded Markets
- Economies of Scale e.g. Large labour force
- Comparative County strengths
- Youth – The Demographic Dividend
- Shared Resources i.e. Lake Victoria, River Yala, River Nzoia, Mt. Elgon etc.
- Shared values i.e. economic growth as a vital Development Imperative to support the ailing social sectors such as Education, Health etc.

The Lake Region is one of the most densely populated regions of Kenya with over 10 million people which constitute about 25% of the population in Kenya. This Economic Blueprint presents the socioeconomic aspirations of 10 counties in the Lake Basin Region and seeks to boldly secure and shape the region's destiny. This Economic Blueprint is designed to guide development efforts by leveraging existing assets, addressing constraints and defining key steps that leaders and citizens of the region can take to transform the shared vision of prosperity into reality.

The counties that constitute the Lake Region in this blueprint are Bungoma, Busia, Homa Bay, Kakamega, Kisii, Kisumu, Migori, Nyamira, Siaya and Vihiga. They not only have similar ecological zones and natural resources, they have analogous cultural histories that date back to historical migrations and trading routes. Thus a partnership between the counties is both essential and timely and creates a practical framework through which county government efforts can be pooled to harness the abundant natural resources, build on existing strengths and address challenges.

The Evolution of the Lake Region Economic Blueprint (LREB)

The LREB has been developed with the support of Deloitte East Africa and Ford Foundation in partnership with the county governments of the aforementioned 10 counties. During the process of developing the Blueprint, seven (7) strategic intervention areas emerged as follows:

- Productive Sectors: Agriculture and Tourism
- Social Sectors: Education and Health;
- Enablers: ICT, Financial Services and Infrastructure

The process of developing the blueprint consisted of rigorous consultative activities in which Deloitte teams visited all 10 counties and met with county governments and the citizenry to collect the data herein. The process also drew on the County Integrated Development Plans as well as existing data and information on the 10 counties.

How the LREB can Catalyse Regional Growth

By bringing together well researched data and information in addition to well thought out interventions and growth strategies, the Economic Blueprint presents a one-stop shop for investors interested in investing in the region, particularly in the seven intervention areas of Agriculture, Tourism, Health, Education, ICT, Financial Services and Infrastructure. By facilitating an understanding of the region, the LREB is a prudent starting point for the region to secure funding that can create access to new markets and expand access to existing markets not only in Kenya but the larger East Africa region. As the Lake Region is strategically placed in close proximity to Uganda, Tanzania and Rwanda, entrance into these country markets can be easily coordinated through the Lake Region. Further, the Lake Region has access to transportation routes into the COMESA and SADC regions.

According to Kenya's 2009 population and household census, and in line with the projected population growth rates, the Lake Region has an estimated population of at least 10 million, which is about 25% of the total population of the country. More than 50 percent of this population are youth aged between 15-35 years. This indicates the economic potential of a region with an active population whose labour can be channelled into economically productive activities that ultimately reduce dependency ratios and increase per capita income.

Rationale for the Selection of the 7 Intervention Sectors

Seven key sectors were selected as points of interventions on which the development of the Lake Region can be founded as follows:

Agriculture

The Lake Region has significant agricultural potential attributed to large amounts of fertile, arable land as well as healthy rainfall levels and patterns. For example, the Kisii highlands are highly productive, and counties such as Siaya and Migori have large tracts of fallow, arable land suitable for intensive agricultural activity supported by irrigation. Currently, the main cash crops of the region are sugarcane, pyrethrum, tea and cotton whereas dominant food crops are maize, rice, potatoes, tomatoes, beans and sorghum. Segments of the population derive their livelihoods predominantly from fishing from Lake Victoria and the smaller rivers of Yala and Gucha among others. The presence of lakes in the region indicates the upward economic potential of fishing and fish farming in the region. There is additional potential for intensive livestock farming and ranching. The main impediments to the optimum agricultural productivity in the region include subsistence farming rooted in low levels of education among farmers as well as the lack of the use of irrigation and modernized farming methods. These impediments are related to fact that most agricultural activity occurs on small farm holdings that limit yields.

Proposed Flagship Project for Agriculture: Establishment of an Agricultural Commodities Exchange.

Tourism

The Western Kenya Tourism Circuit has significant potential that has yet to be tapped into. Key areas of potential include nature and wildlife tourism; agro-tourism; water sports tourism, and cultural heritage and community based tourism. However, the limited investment in these areas has stunted the growth of tourism in the region. Opportunities exist to create demand-led tourism by expanding the hospitality industry and undertaking aggressive marketing of the region to local and international markets.

Proposed Flagship Project for Tourism: Creation of a Lake Region Tourism Circuit

Health

The Lake Basin Region faces several health challenges key of which is low levels of skilled medical personnel. The doctor to patient ratio is 1:40,000 and the nurse to patient ratio is 1:2,500. The prevalence of diseases such as malaria and HIV/AIDs are high, and morbidity and mortality to illnesses such as diarrhoea and pneumonia remain common. Health facilities are scant with only one high trauma hospital in the region based in Kisumu County.

Proposed Flagship Project for Health: Establishment of Specialist Hospitals in each county.

Education

Less than 50 per cent of the population in the Lake Region have access to Early Childhood Education and Development (ECDE) services. At the primary level, the Gross Enrolment Ratio, which refers to the share of children of any age that are enrolled in primary school, is high. However the Net Enrolment Ratio which is the share of children of official primary school age that are enrolled in primary school is on average 75-80per cent. Enrolment in secondary level education is on average below 40per cent in all the counties; the national target is 70per cent. Tertiary education enrolment is very low and this component of the education system in the region is poorly developed. The quality of education services in the region is subpar.

Proposed Flagship Project for Education: Creation of Centres of Excellence in each county.

Financial Services

The Lake Region hosts major banks in Kenya such as Kenya Commercial Bank, Barclays Bank, Equity Bank; however access to banking services remains clustered in urbanised areas and there is limited access to appropriate business advisory services. There are numerous Savings and Credit Cooperatives but saving rates in the region are low.

Proposed flagship project for Financial Services: Creation of a Regional Bank.

Information and Communication Technologies (ICT)

Key mobile phone operators present in the region are Safaricom, Airtel, Orange, Telkom and Yu. Mobile phone usage is popular for phone calls, SMS and accessing the internet. However the ICT infrastructure is not fully developed and internet connectivity is concentrated in the central business districts of counties. Further, there is limited ICT training and education that limits the extent to which the ICT can enable higher economic productivity in the region.

Proposed Flagship Project for ICT: Improving service delivery through ICT.

Infrastructure

Infrastructure here refers to roads, bridges, tunnels, water supply, sewers, electrical grids and telecommunications hardware. Transport infrastructure remains poor, less than 50per cent of the roads are paved. Only 30per cent of the population have access to electricity, and the majority of the population have no access to proper water and sanitation services.

Proposed Flagship Project for Infrastructure: Creation of a Lake Region Ring Road

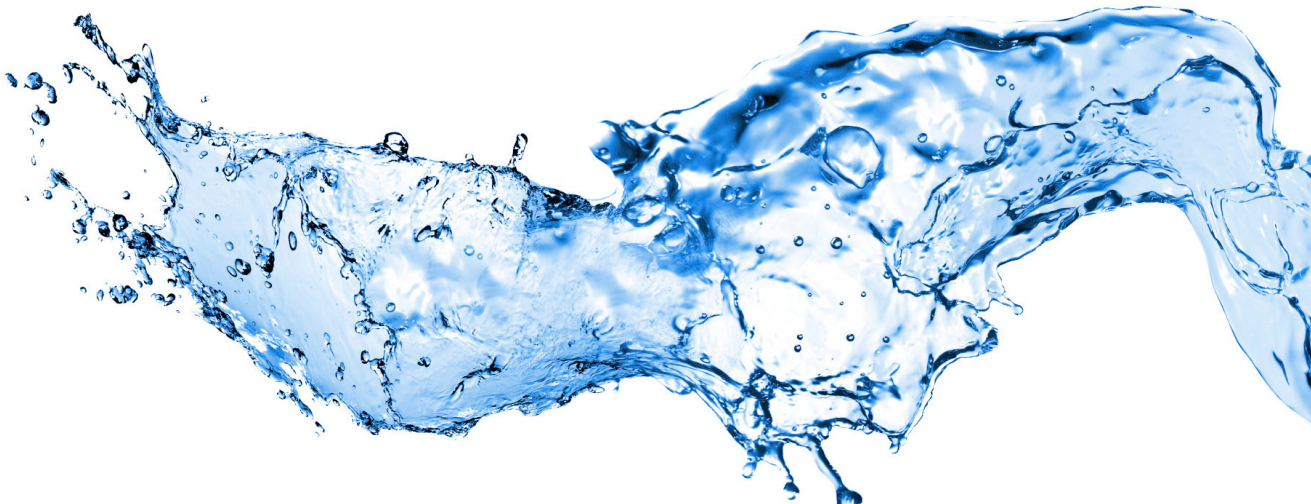


Table 1: Summary of Investment Opportunities in the Lake Basin Region by Sector

Sector	Opportunity	Counties
Agriculture	• **Agricultural Commodities Exchange** • Large Scale Irrigation of High Value Crops • Fish Auction • Value Chains • Agro processing Factories	Migori, Bungoma, Siaya, Kisumu, Nyamira, Kisii, Homabay, Kakamega, Busia.
Tourism	• **Lake Region Tourism Circuit** • Nature and Wildlife • Culture, Heritage and Community • Adventure • Agro tourism and Ecotourism • Water sports • Health and Wellness • Conference Tourism • Lake Victoria Islands Golf Resorts	All
Education	• **Centres of Excellence** • Schools for children with disabilities • Satellite Campuses • Research Labs • Regional Scholarship Program	All
Health	• **Regional Specialist Hospitals** • ICT/Digitization of Health • International Satellite Hospitals	All
Financial Services	• **Regional Bank**	All
ICT	• **Regional ICT platform for Services** • Regional Data Centre • Revenue Collection	All
Infrastructure	• **Lake Victoria Ring Road** • Road concessions • Great Lake Basin Railways • Water Ways	All

1. Introduction

Kenya Vision 2030 is the country's blueprint that charts the strategic priorities and interventions for development between 2008 and 2030 for the country. The Kenya Vision 2030 is planned to be implemented in successive five-year Medium-Term Plans, the first of which covered the period 2008- 2012. The second Medium-Term Plan (MTP) covers the period 2013-2017 and has already been launched. In 50 years of independence Kenya has made notable strides in development strides. Those noted in the 2014 Economic Update by the World Bank include (World Bank, 2014):

- Implementation of a devolved governance structure aimed at realizing equitable development;
- Increasing life expectancy by two decades;
- Expanding access to primary education to near universal levels;
- Doubling secondary school access, and significantly increasing tertiary education opportunities;
- Reducing infant mortality by half and reducing fertility rates;
- Expanding GDP per capita eightfold; and
- Overseeing a steady economic growth.

In addition to these, in 2014 Kenya rebased its economy and officially became a middle income economy with an estimated economic output of 4.76 trillion shillings (US$ 53.4bn). According to the World Bank Kenya's economy grew by 4.7per cent in 2014 with a projected growth of 6.0 per cent for 2015 (World Bank, 2014). Despite these achievements, there is recognition of the fact that Kenya continues to face challenges and perform below potential.

For example:

- Over 40 percent of the population still live in extreme poverty;
- The maternal mortality is one of the highest in Africa; and
- Secondary education access remains less than 50 percent and of low quality.

This realisation prompted the development of the *Kenya Vision 2030* in 2008 as a coordinating framework for Kenya's socioeconomic development.

1.1 Vision 2030 and Development

Kenya is currently in the process of implementing the second MTP. The first MTP covered the period 2008-2012 with the following achievements reported (GoK, 2014):

- Repair of damaged infrastructure; a total of 2,200 km of roads constructed exceeding the MTP target of 1,500 km;
- Resettlement of internally displaced people following the 2007/08 post-election violence;
- Increase in enrolment in early childhood education by 40 per cent from 1.72 million in 2008 to 2.4 million in 2012;
- Transition rate from primary to secondary education increase from 64 per cent in 2008 to 77 per cent in 2013;
- Increase in university enrolment by 103 per cent from 118,239 in 2008 to 240,551 in 2012/3;
- Completion of three undersea submarine fibre optic networks linking Kenya to the global internet network including 5,500 km of terrestrial fibre optic network;
- An increase of 22per cent to total installed capacity for generation of electricity; and
- Enactment of the Constitution of Kenya (2010).

The following have been identified in the second MTP (GoK, 2013) as critical issues and challenges to be addressed in the period 2013-2017:

- **Low domestic savings and investments:** Kenya's saving rate was 13 percent of GDP during the last MTP period, just half of the average for low income countries and less than the 17 percent of the sub Saharan Africa average;
- **Low per-capita income growth:** Real per-capita income growth of 7.8 per cent in the last 5 years;
- **High levels of unemployment and poverty:** The last published rate of unemployment by the Kenya National Bureau of Statistics was in 2005/6 with an unemployment rate of 12.7 percent. Recent estimates by non-Bureau sources puts the youth unemployment rate at 25 percent;
- **High energy costs:** In Kenya the cost of electricity is up to 21 US cents per Kwh, compared to approximately 6 US cents per Kwh in India and China;
- **High costs of finance:** High bank lending rates and wide interest rates spread;
- **Inefficiencies in rail and port operations;**

- **Poor business environment:** Prohibitive regulations and procedures for businesses and investors;
- **Major economic and social disparities** across regions of the country;
- **A rapid population growth rate** and the proliferation of informal settlements;
- **High dependence of the country on rain-fed agriculture** and low agricultural productivity which is particularly problematic given that the agriculture sector employs more Kenyans than any other sector;
- **Slow structural transformation** exemplified by low and declining share of manufacturing to GDP and low share of export to GDP;
- **Narrow range of exports** and the slow growth in their value compared to the growth of imports;
- **Health:** Upsurge in non-communicable diseases across the country and global pandemics;
- **Governance problems**, insecurity and cyber-crime; and
- **Environment:** Threats emanating from climate change.

The confluence of these challenges present Kenya with development tasks that can last well into the next decade. Priority areas of intervention to address these challenges have been outlined as follows:

- **Agricultural modernization:** To guarantee food security for its population;
- **Raising the GDP growth rate** to double digits over multiple years will be important to ensure there are adequate domestic resources to address health and education challenges for example;
- **Expanding secondary education access** and ensuring that there is high quality learning for those enrolled in both primary and secondary schools as an important component of investment in human capital particularly in scientific knowledge and skills sets;
- **Tertiary Education:** Investing in relevant research and innovation centres that exist in tertiary education institutions while establishing new ones;
- **Health:** Tackling key health challenges such as maternal mortality in which Kenya performs abysmally even when compared to other countries in Africa;
- **Reducing poverty levels** by 2 percentage points per year as recommended by the World Bank;
- **Reducing unemployment growth rate;**
- **Tackling inequalities in social and economic sectors** with the creation of social security nets for the most vulnerable; and
- **Supporting and encouraging positive urbanization** by addressing the current challenges of informal settlement, including poor housing and the related infrastructure. It is estimated that half of Kenya's population will live in cities by 2050.

These figures are important as they provide the context within the Lake Region Economic Blueprint, like any other sub-national development framework, should be planned and executed.

1.1 The Lake Basin Economic Blueprint (LREB)

The Birth of the Lake Region Economic Blueprint

In January 2014, a meeting was convened in Kisumu County to discuss the role and use of ICT in improving service delivery. It is during this meeting that the Governors of Kisumu, Vihiga, Homa Bay and Kisii counties discussed the possibilities of not only expanding this ICT initiative to include the counties of the Lake Basin region but also expanding the scope of the initiative to develop an Economic Blueprint through which shared regional challenges could be addressed. They therefore resolved to invite the neighbouring counties to a forum to discuss the development of a Blueprint for the region. Between February and March 2014 neighbouring counties joined the conversation to make a total of 10 counties of Bungoma, Busia, Homa Bay, Kakamega, Kisii, Kisumu, Migori, Nyamira, Siaya and Vihiga. Led by the Governors, the realisation emerged that there is a need for 'multilateral' cooperation between counties in and around the Lake Region to develop partnerships through which common challenges could be addressed and development opportunities seized in a manner that transcends county frontiers. It is through this discussion that the idea of an Economic Blueprint for the counties around the Lake Region arose. It was agreed that the Economic Blueprint would form the basis on which the County Integrated Development Plans (CIDPs) would be implemented in a manner that reflects county priorities, situational interests, shared values, and relevant capabilities.

Objectives of the Lake Region Economic Blueprint

The broad objective of the Lake Basin Economic Blueprint is to leverage economies of scale in the region, including shared resources such as Lake Victoria, in order to improve the livelihoods of the people in these counties. The counties further resolved to focus on the seven key intervention areas as follows:

- **Productive Sectors:** Agriculture and Tourism;
- **Social Sectors:** Education and Health; and
- **Enablers:** ICT, Financial Services and Infrastructure.

They further advised that there should be clear alignment between the LREB and national development plans such as the Vision 2030 and its Medium Term Plan II for 2013-2017.

1.2 Approach and Methodology of the Blueprint

The process of developing this Economic Blueprint included rigorous and consultative activities in which Deloitte teams visited all the ten counties to meet with the county governments and the citizenry to collect data. The resulting recommendations in the Blueprint have thus been drawn from the County Integrated Development Plans as well as the views of the county governments and its citizens.

1.3 Structure of the Blueprint

This Economic Blueprint is divided into 8 chapters.

Chapter 2 explores the physical, demographic and socioeconomic features of the Lake Region. It also highlights key opportunities for development in the region.

Chapter 3 presents the Productive Sectors of Agriculture and Tourism detailing the state of the sectors in the Lake Region; key challenges; opportunities for investment and economic activity for each sector; resource mobilisation strategies and the potential socioeconomic impact of investment into each sector.

Chapter 4 explores the Social Sectors of Education and Health again delving into the state of the sectors in the Lake Region; key challenges; opportunities for investment and economic activity for each sector; resource mobilisation strategies and the potential socioeconomic impact of investment into each sector.

Chapter 5 goes into the Enabling Sectors of Financial Services, ICT and Infrastructure. The state of each sector is analysed, and key challenges and opportunities elucidated with a conclusion that details the resource mobilisation strategies and potential socioeconomic impact of investment into each sector.

Chapter 6 addresses the Cross Cutting themes of Women and Girls; Youth; Persons with Disabilities and the Environment with the view of ensuring that the special concerns of each cluster are addressed within the Blueprint and the implementation thereof. The chapter explores the state of each of these groups in the Lake Region in each of the Productive, Social and Enabling Sectors of the Blueprint. The chapter then details interventions targeted at each group/ issue with specific elucidation for interventions in each of the Productive, Social and Enabling Sectors.

Chapter 7 presents Key Risks that may compromise the success the Economic Blueprint and the creation of a regional bloc, and details Mitigation Strategies for each.

Chapter 8 is the concluding chapter of the Blueprint.

The Addendum specifies that three additional counties namely Kericho, Bomet and Trans Zoia have agreed to and signed up for inclusion into the Lake Region Economic Blueprint.

2. Key Features of the Lake Region

This section outlines the social and economic features in which the Lake Region Economic Blueprint is contextualised.

2.1 Physical Features of the Lake Region

The Lake Region is made up of territories from the Western part of the country with a population of an estimated 10 million people of diverse ethnic and cultural backgrounds. The counties of which the region is comprised for this blueprint are Bungoma, Busia, Homa Bay, Kakamega, Kisii, Kisumu, Migori, Nyamira, Siaya and Vihiga. The region lies between latitudes 10 16'N and 10 54'S and longitudes 330 55' and 350 51'E and the equator passes across the region. The climate of the region is generally mild with monthly temperature ranges between 19 and 25 degrees Celsius throughout the year. The rainfall is governed by a modified equatorial climate characterized by long rains (March to June) and short rains (September to November). The average annual rainfall varies from 700mm along the Lake Victoria shores to 2000mm in the highlands.

2.2 Demographic Features

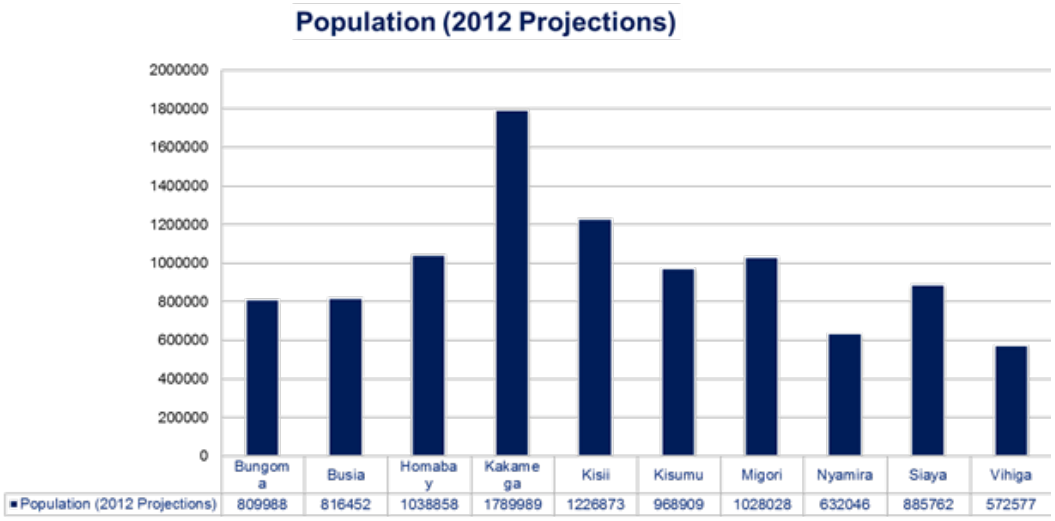
The Lake Region is one of the most densely populated regions of Kenya with over 10 million people which constitute about 25% of the population in Kenya.

2.3 Socioeconomic features of the Lake Region

Agriculture

Farming and fishing are the dominant agricultural activities of the region. In the highlands of Kisii and Nyamira, farming is the dominant activity with the cultivation of food crops such as maize, beans, bananas and tomatoes; cash crops include tea and pyrethrum. In the lowlands around the lake in Kisumu, fishing is a dominant economic activity. The main crop grown there is maize with potential for the production of rice, sugarcane and cotton. The lowlands also have potential for livestock farming and an expansion of fishing and aquaculture activities. In Migori, a blending of fishing and farming exists. Main crops grown include maize, sugarcane and sorghum. In the Western regions of the Region around Kakamega, Busia and Bungoma, farming is dominated by the cultivation of maize, tea and sugarcane; there is also growing interest in fish farming. The climatic conditions and the rainfall in the lake basin counties tend to support agricultural activity.

Despite favourable ecological features, productivity of the agriculture sector remains low primarily due to the use of the traditional farming methods as well as the cultural practise of generational subdivision of land.



This has led to a dominance of small size land holdings on which limited agricultural activity occurs. Therefore, despite the fact that the region contains fertile arable land, the nature of land holdings make it difficult to use modern agricultural farming methods. A further complicating factor is that often farmers do not have title deeds stating their ownership of the land and are thus unable to use their land as collateral for credit qualification. In addition, small holder farmers tend to have low levels of education exacerbated by the fact that farmers cannot access extension services that could boost their productivity. As a result, the use of modern farming methods is marginal and tends to occur around sugar factories such as the South Nyanza Sugar Company (SONY) in Migori County, Muhoroni and Kibos Sugar and Allied Industries in Kisumu County, and Mumias Sugar in Kakamega County.

Trade

Trade occurs across the region with several trading markets dotted in small and large town centres across the region. Some of the active trading centres include Kisumu, Migori, Kisii town, Oyugis town, Kakamega, Bungoma and Mumias among others. Existing trade patterns are a useful platform on which further economic activity can be based.

Urbanization

There is rapid urbanization in the Lake Region which is projected to double in the next decade. Urbanisation in the Lake Region has both positive and negative consequences. The negative consequences have included the unplanned growth of urban areas often driven by young Kenyans migrating from rural to urban centres, often seeking employment. Positive consequences include the possibility of enhanced provision of services, the creation of jobs, and potential improved quality of life. There has been notable growth in housing sector in Kisumu, Kakamega, Migori and Kisii that attracts contract youth labourers. Formal employment creation in urban areas however remains grim.

Infrastructure

Transport infrastructure remains poor; less than 50per cent of the roads are paved. Only 30per cent of the population have access to electricity, and the majority of the population have no access to proper water and sanitation services. Part of the challenge in the infrastructure sector stems from the fact that the counties are predominantly rural; this often translates into higher costs of providing services to the population. Further, given the low income generating capacity of these rural households, most are unable to afford connection costs associated with rural electrification. In terms of water infrastructure, opportunities exist to link the counties of Migori, Homa-Bay,Siaya, Busia and Kisumu through Lake Victoria. Air transport can also be improved by the rehabilition of airstrips in several counties including Kakamega, Kabunde in Homa-Bay County, Lichota in Migori and others in Bungoma County.

Poverty Rates

A 2014 report by the Ministry of Devolution and Planning titled Socio-Economic Atlas of Kenya analysed data from the 2009 Kenya Population and Housing Census and determined that three counties in the Lake Region are among the poorest in the country. According to the report, Kakamega is considered the poorest county in the nation and contributes 4.8per cent to national poverty. The county's poverty incidence stands at 49.2 per cent with more than 809,500 people living below the poverty line. Bungoma is reported to contribute 3.8per cent to national poverty with a poverty rate of 47.3per cent and 643,300 people living below the poverty line. Kisii contributes 3.4per cent to national poverty with a poverty rate of 51.4 per cent and 586,200 people living below the poverty line. Given poverty rates in the Lake Region, it is important the Blueprint focuses on pro-poor policies and approaches targeted at poverty alleviation, equitable wealth creation and the creation of an environment in which individuals can be holistically productive.

2.4 Spotlight on Opportunities in the Lake Region

Key development opportunities for the region lie in the currently underexploited expanse of the region's natural resources. For example, in the highlands of Kisii and Nyamira counties, adequate rainfall and red volcanic soil exist that can support extensive, high yield farms. The dormant agricultural potential exists in Bungoma, Kakamega and Vihiga where sugar cane and tea farming can be strengthened. Migori County has greater potential in building on sugar cane and tobacco farming as well as fishing along its Lake Victoria coast line. Kisumu and Homabay counties have potential for rice and cotton farming, as well as the cultivation of sorghum and sugar cane.

The natural resources of the region can also be tapped into for energy generation. Numerous rivers in the region offer opportunities for the development hydroelectric power in Odino and Nyamira County. This can be extended to Migori County at Uriri where water falls are present. Harnessing water energy provides ample opportunity for the counties to cooperate and offer sustained electricity supply to the national grid.

The interface between the features of the Lake Region and the Blueprint exists in the 7 key intervention areas. Agriculture seeks to build on the region's natural resources to ensure food security in the region; Tourism seeks to more effectively market the natural features of the region to attract investment and inward bound visitors; Education seeks to invest in human capital to create productive labour that can raise the counties out of poverty; Health seeks to reduce the burden of disease in the region; Infrastructure seeks to create an interconnected region with adequate transport, energy and water infrastructure; Financial Services aims to modernize saving, lending and borrowing practices in the region; and ICT seeks to support the operationalization and management of all the aforementioned sectors using modern technology.

These key sectors, their growth opportunities and potential projects are detailed in the following sections of the Blueprint.

3. Productive Sectors: Agriculture and Tourism

3.1 Agriculture

Agriculture is a key sector of the Kenyan economy and employs the largest number of Kenyans in a single sector. Agricultural activities include food and cash crop farming, livestock farming as well as fishing and aquaculture. Under the new constitution agriculture functions are devolved and county governments can leverage public-private partnerships (PPPs) to enhance agricultural production and productivity. Statistics indicate that the agricultural sector directly accounts for about 26 per cent of Kenya's GDP (Herrero, 2010). The sector accounts for 65 per cent of Kenya's total exports, and 18 per cent and 60 per cent of the formal and total employment, respectively (KIPPRA, 2013).

3.1.1 The State of Agriculture in the Lake Region

The Lake Basin region has the advantageous environmental features of arable land, good soil, and consistent water supply from rain as well as several rivers and lakes. These features have formed the foundation on which residents have relied on for generations. In the past these features were adequate to ensure the food security of the region, however over the past 50 years Kenya's population, and that of the Lake Basin region in particular, has grown to a point where existing farming practices and food supply chains do not meet current food security needs.

The main farming practices in the region include small-scale rain-fed farming, small-scale river irrigation, wetland farming, fish farming and free-range livestock keeping.

Crop Farming

Key crops farmed in the region are divided into cash crops and food crops. Key cash crops are sugarcane tea, pyrethrum and cotton; key food crops are maize, rice, and beans, and horticultural crops such as passion fruits, mangoes, and tomatoes. Clear opportunities exist to enhance the productivity of these crops particularly sorghum, soy beans and sugar due to the demand for these crops at national level. The table below is an illustration of the major food and cash crops.

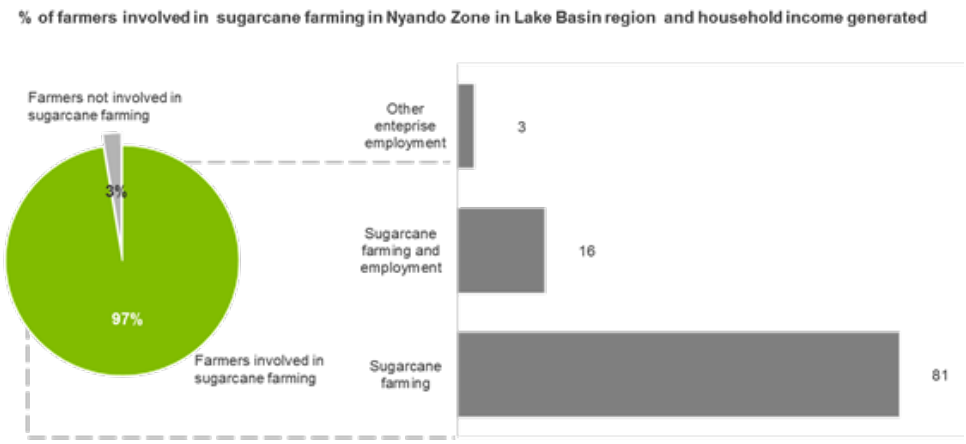
Figure 1: Dominant cash and food crops in Lake Basin Region

Sugarcane

Sugarcane is an important cash crop for the Lake Region as the sugar industry is a major employer of rural populations and client to rural farmers in the region. Sugarcane contributes an estimated 15 per cent to the agriculture GDP, and that production is dominated by the Lake Region. Approximately 250,000 small-scale farmers predominantly from the Lake Region operate in the sugar industry and supply over 92 per cent of the cane milled by sugar processing companies (Kenya Sugar Board, 2010). Further, according to the Kenya Sugar Board, the industry directly and indirectly employs approximately six million Kenyans (Kenya Sugar Board, 2010). A study conducted in Nyando zone of Nyanza, indicated that that over 97 per cent of farmers in the area are involved in sugarcane agriculture and derive about 81per cent of their household income from it. Kakamega County is also an important player in the sugar industry and hosts one of Kenya's largest sugarcane processing firms, Mumias Sugar Company.

The sugarcane industry has additional economic impact due to its contribution to Kenya foreign exchange through exports as well as providing inputs into other industries. According to the Kenyan Sugar Board, the industry saves Kenya over USD250 million in foreign exchange annually and contributes tax revenues to the Exchequer (VAT, Corporate Tax, personal income taxes) (Kenya Sugar Board, 2010). The industry also provides inputs to other industries such as bagasse for power generation and molasses for the manufacture of industrial products such as ethanol, beverages, pharmaceuticals, and confectionery. The production potential of the industry is measured at over 1 million tons of sugar if operated at 89 per cent of industry capacity. In terms of challenges, the industry struggles with inefficiencies in both production and the processing value chains.

Figure 2: Illustrative sugarcane farmer farming in Nyando zone



Soybeans

The Lake Region accounts for over 50 per cent of soybean production in Kenya. The main soybean producing counties are Busia, Bungoma, Kakamega, and Vihiga. Busia and Bungoma alone produce an estimated 80 per cent of the total soybean production in the Western province of Kenya.

Annually Kenya consumes 400,000 Metric Tonnes (MT) of vegetable oils of which soybeans are constituents. Only one third of this amount is produced locally. Animal feed use of vegetable oil is 150,000; this combined with human domestic consumption of vegetable oil indicate ample opportunity to increased soybean production to meet existing demand.

Sorghum

Sorghum is a staple food crop for most low income households in Kenya, Lake Region included. According to the Food and Agricultural Organization (FAO), sorghum is the only indigenous crop in the region, and can grow in many areas including those with low-agricultural potential (FAO, 2013). Sorghum is also widely grown in Lake Basin region (see Figure 3). The production of sorghum fluctuates in that although production increased by 40 per cent over the past 5 years, there was a 17per cent decrease in production between 2012 and 2013.

Figure 3: Sorghum production (tons) for past five years to 2013

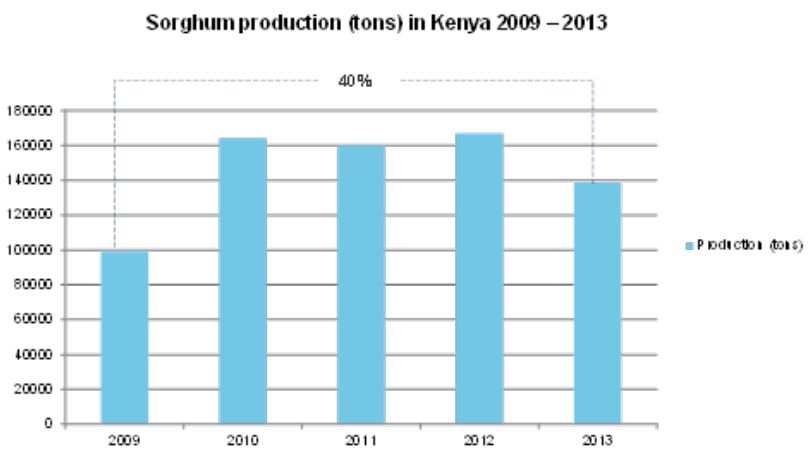


Figure 4: Regional per cent contribution of production and crop area of Sorghum

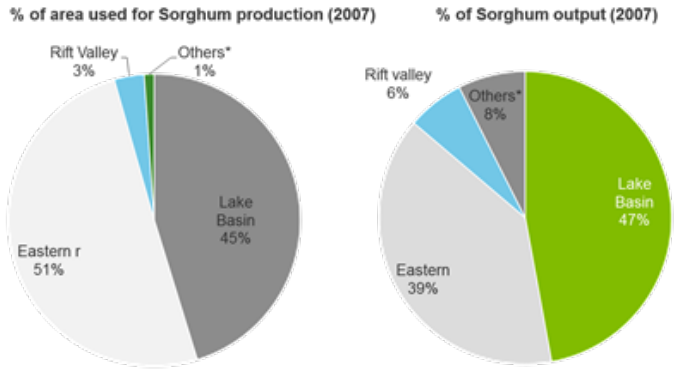
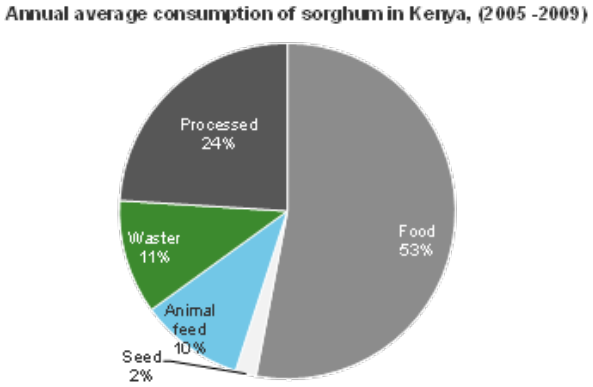


Figure 5: Annual consumption of sorghum in Kenya



Typically the sorghum produced is consumed by rural households; farmers in Busia County and Homa Bay reported harvesting between 40kg and 1000 kg per acre of Sorghum of which up to 240 kg is consumed and the rest sold to other households (Weber, 2012). Sorghum not consumed at the household is processed into flour for commercial marketing human use and animal feeds.

Sorghum production and consumption declined between 2005 and 2007 following post-election instability. Figure 5 illustrates the average annual percentage breakdown of Sorghum consumption in the Kenyan market.

Another source of increased demand for sorghum comes from local breweries. In 2012, East African Breweries Limited (EABL) demanded 25,000 tons of sorghum of which only 5per cent was supplied by the farmers in Kenya. The demand is expected to double to above 50,000 tons. This clearly presents the Lake Region with an opportunity to invest in sorghum production and secure significant market share of the sorghum market.

This is particularly prudent because breweries such as EABL actively invest in the sorghum value chain in order to meet their demand. In 2012 alone EABL contributed US$ 3million to the East African Sorghum Value Chain Development Project managed by USAID. Other potential buyers of sorghum include African Breweries Uganda Ltd, Nile Breweries Ltd, Spectre International Limited, and Unga Limited which process sorghum for animal feeding, beer production, and flour production (Weber, 2012). A clear opportunity for the Lake Region is to focus on meeting the increasing demand for sorghum particularly by breweries. The potential is immense given that Lake Region counties such as Busia and Homa Bay currently have capacity to supply less than 1per cent of the demand in 2012.

Interestingly Kenya both imports and exports sorghum. Thus although Kenya exports of sorghum increased from 2009, the country still imports sorghum from other countries particularly Tanzania and Uganda from which over 90 percent of imports come.

Figure 6: Sorghum imports and exports in Kenya in year 2007 to 2009

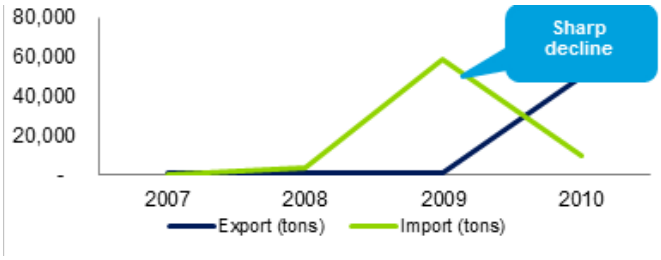
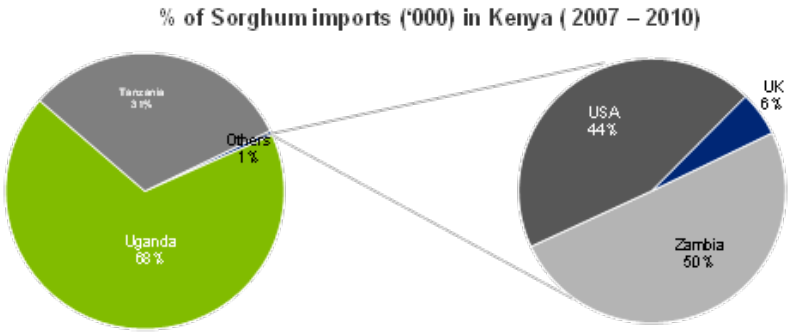


Figure 7: Countries importing Sorghum to Kenya



Fish Farming

Lake Victoria accounts for about 96 per cent of Kenya's total fish production. However, pollution and overfishing is threatening fish stocks and its economic contribution to the Lake Region. The Lake Victoria Fisheries Organization (LVFO) states a 55 per cent decline of Nile Perch in Lake Victoria between 2005 and 2008, and a 9 per cent drop in tilapia catch over the same period (LVFO). The declining stock has had the domino effect of a twofold increase in consumer fish prices squeezing out affordability of fish for some households which then decreases household income for fish farmers who meet lower demand due to higher pricing.

Lake Victoria is relatively shallow, with a maximum depth of 84m and mean depth of 40m, which makes it susceptible to pollution. Already densely populated, the population around the Lake is expected to double by 2028. High population influences increased pollution from raw waster deposited in wetlands, and the uncontrolled spread of homes, factories, farms and hospitals around the basin exacerbate pollution. In addition, fishermen operating in regions use insecticides such as endosulfan to catch small fish. All these factors exert negative pressure on the Lake.

Despite these challenges, the Lake Region still carries significant further potential for fish farming through its current water bodies, particularly Lake Victoria, riverine fisheries and through inland fish farming development. The fishing sector in Kenya serves as an important source of food and employment, providing over 50,000 fishermen with a source of livelihood.

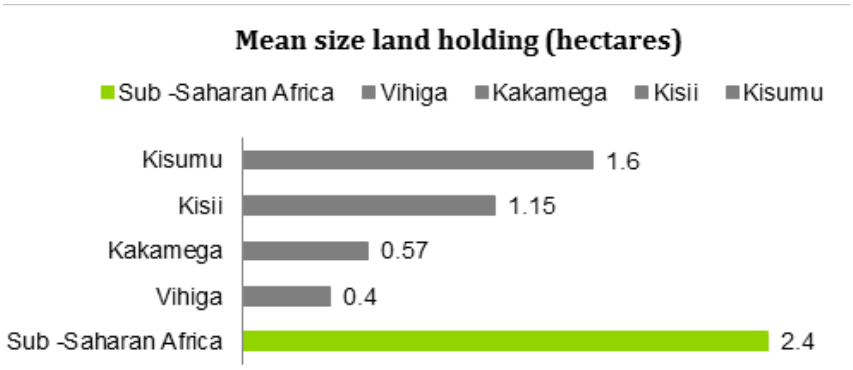
3.1.2 Key Agricultural Challenges in the Lake Region

Declining yields

A key challenge with regards to farming is declining yield per hectare and the lowering quality of yields. This is attributed to small farmland size holdings, use of poor farming methods and the lack of legal title deeds which then impedes possibilities of farmers getting access to credit. Interestingly, in certain counties such as Migori County the problem is the under-utilisation of large tracts of fertile land. Additional challenges include the lack of education and agricultural extension services, as well as the failure to manage the effects of climate change. All these factors contribute to the sector's declining contribution to national development, regional development, and the food security in the Lake Region.

Population pressure and decreasing size of farm holdings

In counties such as Nyamira and Vihiga, population density is an impediment to agriculture because the sheer density of people prevents the uptake of mechanized farming and growing farms scales to improve productivity particularly with regard to cash crops. In Vihiga County for example, the mean holding in farm size is only 0.4 hectares for small scale farming and 3 hectares for large scale farming. In Kakamega the average land holding size is 0.57 hectares, in Kisumu County the mean holding size is 0.65 hectares and farm holdings in Kisii range from 0.2 to 2.1 hectares. Compare this to the average farm size in Sub-Saharan Africa of 2.4 hectares.



The average size of land holdings will continue to reduce due to the cultural practice of subdivisions of the land for each son in the family for inheritance purposes. The combination of growing populations and reducing land holdings means that more arable land will be used for residential purposes. On the land that is used for farming purposes, yields will continue to decline as ever decreasing land holdings are over cultivated to feed growing populations. In addition, key cash crops require at least 0.8 hectares for good production. Further, there is a need for land to be designated as residential, commercial or agricultural land and the creation of measures that prevents the issuance of title deeds to parcels of land below a certain size.

Poor agricultural practices

On the other hand, the Lake Region suffers for the opposite problem as well; counties such as Siaya, Migori, Busia and Bungoma have large amounts of land but still record low productivity. The lack of irrigated acreage, the collapse of agricultural extension services

system, and the continued use of poor agricultural practices all lead to low yields. In addition, although there have been efforts to integrate value addition into the sector particularly for cash crops such as tea and coffee, the region continues to be a net exporter of unprocessed produce and importer of finished products.

Lack of title deeds

Related to the size of land holding is the low percentage of land with title deeds. A review of the information in the County Integrated Development Plans (CIDP) indicates that large proportions of land holders do not have title deeds; the land is simply passed down from father to son in the traditional spirit of inheritance. In Homa Bay County, only 48 percent of land has title deeds, in Kisii this figure stands at 40 percent. There are numerous reasons behind low title deed issuance. As the counties are mostly rural, local communities do not feel the pressure to have rights over transactions related to the land as they have the view that the land should be free for use in the most productive manner possible. There is also a sense of an unwritten understanding of which households hold each parcel of land. Another reason behind low title deed issuance is the associated cost, often prohibitive for most county residents.

The lack of title deeds has serious implications to the County's development. Firstly, the lack of title deeds prevents most of the population from accessing credit facilities that could be used to boost agricultural productivity. Secondly, the lack of legal title depresses demand for rural land because potential buyers do not want to negotiate the complexities of proving ownership. As a result, the exchange value of some of the most productive land in the region is low. The lack of legal ownership also makes it difficult for owners to come together and combine smaller pieces of land into a mass that can more effectively attract capital investment. Lack of title also makes it difficult for industries that could process farm produce to be set up in the region. There is a need for proper land adjudication and demarcation of public, private and community land to ensure that the land is properly utilized within the existing legal framework.

Low uptake of research

Another key challenge is the low uptake of research and technology in the agriculture sector. Despite the fact that Kenya has some of the most robust agricultural research institutes such as the Kenya Agricultural Research Institute (KARI), research findings often do not reach small holder farmers (who make the bulk of producers). Farmers are neither told about new crop and livestock varieties nor briefed on advanced farming practices. As a result the uptake of new crops, with higher returns per acre, such as soya beans, remain unexplored.

Other Key Challenges

- Heavy postharvest losses especially by small holder farmers;
- Unpredictable rainfall/ low rainfall in some areas;
- Over reliance on rain fed agriculture;
- High inputs cost;
- Flooding;
- Weak marketing Channels;
- Crop diseases and pests;
- Accidental fires that destroy farms;
- Delayed harvesting by farmers which reduces crop quality and yield;
- Inadequate market infrastructure namely storage, sales area, loading/unloading facilities; and
- No organized access to trading and individual credit facilities.

3.1.3 Economic Opportunities in the Agriculture Sector

Despite the challenges, the Lake Region offers numerous opportunities for expansion and diversification in crop, livestock and fish farming. The County Integrated Development Plans as well as the results from the field visits note the following opportunities:

Flagship Project: Creation of a Commodities Exchange

- Skills development and training on improved farm management
- High Value Crop Farming: Particularly soya beans, sorghum, floriculture and horticulture
- Fish farming
- Large Scale Irrigation
- Agro Processing and Value Addition
- High Value Crop Farming

High Value Crop Farming

Spotlight on Soy Beans

Kenya consumes about 400,000 Metric Tonnes (MT) of vegetable oils including soy bean oil. Local production only meets a third of this demand. In addition, the manufacture of animal feeds has increased demand for soybean cake. Kenya has the potential to absorb up to 150,000 MT of soybean annually. Further, there are industrial uses of soybean such as in the manufacture of anti-corrosion agents, core oils, bio fuel, disinfectants, pesticides/fungicides, printing inks, paints, adhesives, antibiotics, and cosmetics

Fish Farming

The long term sustainability of current fishing output in Lake Basin is not guaranteed because of overfishing and pollution. Sustainable practices in fish farming can result in greater yields and variety of fish from the region and improve income generation of fishing communities. Proposed activities in which the region can invest are detailed below.

For successful implementation of the listed interventions, the region needs to secure buy-in from fish farmers through the following:

- Production of high-quality fish feed from local and easily available ingredients;
- Revive/ Create fish farming groups and cooperatives that can support fish farming activities;
- Establish a fish Processing Factory ;
- Raise awareness of the economic viability of farmed fish in rural communities; and
- Establish local feed mills and hatcheries to reduce transport costs for important fish farm inputs.

Table 2: Proposed Fish Farming Activities in Lake Basin region

Activity	Description of project/intervention	Expected impact
Establishment of Cold Storage facilities	The facilities can be used for handling, processing and packing freshly caught fish. The storage facilities can be made in conjunction with farmers.	Cold storage facilities allow for better preservation of fresh fish and increase of fish shelf-life. As a result, fish can be sold at a higher price during low season or promoted for export.
Construction and rehabilitation of fish ponds	Fish ponds that serve as a breeding and farming location for fish	Higher production of fish in the region
Provision of extension services	Extension services to provide support and promotion of fish farming among farmers	Increased engagement of farmers in aquaculture which in turn improves region income and economy
Partner with animal feed manufacturing plants	Animal feed plants can use waste from fish fillet production for animal feed as well production of fish meal, fish oil and fish skins.	Reduces wastage of fish farming by-products

Large Scale Irrigation

Large scale irrigation is an important vehicle for increasing productivity of high value crops in the counties especially sugarcane, soy beans, tea, rice and cotton. Large scale irrigation can not only increase crop production to meet the national and export demand by guaranteeing sufficient water supply, land acreage is used optimally. Counties with high potential for large-scale irrigation schemes are areas with underutilized yield of high value crops, including Siaya, Migori, Busia, and Bungoma. The irrigation component of the agriculture strategy falls in line with the Government's Development Strategy to open up at least one million acres of new land under irrigation. As the Lake Region has limited experience in irrigation investments, it is important to ensure adequate financial and technical support is secured.

Agro-Processing

Kenya imports approximately KES 12 billion worth of edible oil alone per year. The Lake Region can establish new agro-processing factories and invest in the improvement of existing factories. The region is still a net exporter of unprocessed produce and an importer of finished products. Bolstering agro-processing industries will clearly reduce the cost of imports and enable the region to meet the national and export demand of finished products. Illustrative processing projects are summarized below.

In order to build a vibrant agro-processing sub-sector, the following ought to be considered:

Government policy reforms and support

- Government must continue its efforts to privatize the existing sugar cane factories to attract private investment;
- Government support of a mandate of blending ethanol with petrol to promote ethanol production and use;
- Electricity generation would require a connection to the national grid and a purchase agreement to enable the sale of excess electricity.

Integration with small scale holder farmers:

Formation of cooperatives with a membership of smallholder farmers in order to combine land use into large areas for mechanised agricultural production.

Table 3: Illustrative Agro-Processing Projects in the Lake Region

Project	Description
Edible Oil Processing Factory	Establish a factory that processes sunflower, cotton, soy bean and groundnuts into edible oil.
Sugarcane Processing	Invest in existing state-owned sugarcane processing factors Establish a new factory with sugarcane processing technology
Coffee and tea factories	Complete the process of production and add value to the farm produce to be sold in markets
Juice and Canning factory	Process and can horticultural products such as pineapple, and tomatoes. In Vihiga, there is potential to increase production of passion fruits into fruit juices
Milk Factory	To process large quantities of milk and diversify further to production of powdered milk.

Spotlight on Sugarcane

Sugar Processing Factories

At the moment, opportunities exist for investment in privatized state-owned sugar processing factories as well the construction of new ones. State owned factories in the Lake Region are the South Nyanza Sugar Company (Sony Sugar) in Migori County, Muhoroni Sugar in Migori and Kisumu Counties. The government of Kenya announced interest in privatizing these factories after reporting total losses of KSH 6.1 billion in June 2013. Therefore, opportunities exist for the county to engage private actors in reviving sugar processing factories.

The aforementioned factories are significant employers with plans for improving production. The South Nyanza factory employs at least 1,800 and plans to increase sugar production by 20per cent to 60,000 tons in 2015. The company also has plans to diversify its products into processing jiggery, molasses, and sugar syrups. The factory is in discussions with Cooperative Bank, KCB, and Barclays Bank to receive at least KSH 1 billion to support the renovation of factory and product diversification.

Energy

Opportunities exist in the region for biogas production from sugarcane. For example, Kisumu that has a potential to generate between 400–600 GWh of electricity per year (approximately 7–11 percent of total Kenyan demand) using bagasse (by-product from current sugarcane production). The region also has a potential to produce 20 – 200 million litres for power/industrial application of the region.

Table 4: Investment Opportunities in the Agriculture Sector per County

County	Agricultural Opportunities
Bungoma	• Food crop farming (maize, beans, finger millet, sweet potatoes, bananas, Irish potatoes and assorted vegetables) • Cash crop farming (sugar cane, cotton, palm oil, coffee, sun flower, tobacco) • Livestock farming (cattle, sheep, goats, donkeys, pigs, poultry) • Bee keeping • Fish farming in fish ponds and dams • Agroforestry (apiary systems, aquaculture, biomass transfer, boundary planting, fallows, fodder banks, orchards, hedgerow/alley cropping, home gardens, live fences, ornamental planting sericulture, terrace stabilization, trees on cropland, woodlots)
Homa Bay	• Food crop farming (maize, beans, sorghum, millet, kale, sweet potatoes and peas) • Cash crop farming: Sugar cane in Ndhiwa, sun flower growing in Suba, pineapples in Rangwe and potatoes in Kasipul and Kabondo Kasipul • Livestock farming • Fish farming • Cotton farming in Mbita, Homa Bay Town, Rangwe and Karachuonyo Sub-counties
Kisii	• Food crop farming (maize, bananas, beans, potatoes, tea, sugarcane, coffee and horticultural crops) • Livestock farming • Fish farming • Cash crop farming (bananas) • Tree seedling production

County	Agricultural Opportunities
Kisumu	• Sugar cane farming in Muhoroni, Chemelil, Kibos • Rice in Nyando and Awach, Chemelil, Miwani and Kibos. • Livestock keeping • Fishing in Kaloka Beach, Ndere Island, Kisumu Port, Dunga Beach, Sango Beach and Kusa Beach • Agroforestry • Soya bean farming • Sorghum farming • Rice Mill
Siaya	• Food crop farming (maize, sorghum, millet, beans, cowpeas, cassava, sweet potatoes, groundnuts and finger millet) • Cash crop farming (cotton, rice, sugar cane and groundnuts) • Emerging crops (irrigated rice, palm oil, chilli, passion fruits and grain amaranth) • Livestock farming (zebu cattle, up-grade and pure dairy cows, dairy goats, poultry, local goats, sheep, pigs, rabbits, donkeys) • Bee keeping • Fish farming in Lake Victoria, Lake Kanyaboli, dams and fish ponds • Agroforestry: Tree nurseries, fruit trees and establishment of woodlots • Rice production in Yala swamp
Vihiga	• Food crop farming (maize, beans, millet and sweet potatoes) • Cash crop farming (tea and coffee) • Livestock farming (dairy cattle, poultry, rabbits) • Bee keeping • Fish farming in fish ponds in Emuhaya • Expansion of Mudete tea factory
Busia	• Food crop farming (maize, cassava, finger millet, beans, sorghum, rice, sweet potatoes, cowpeas, groundnuts, bananas, green grams, sesame, soya beans) • Horticulture farming (pineapples, tomatoes, kale, cabbage, water melons, indigenous vegetables, papaya, amaranth, onions and, mangoes) • Cash crop farming (cotton, tobacco, sugarcane, oil palm, and pepper) • Fishing in Budalang'i and Funyula • Promotion of oil crops, root tubers, indigenous vegetables, tissue culture
Migori	• Food crop farming (maize, sorghum, beans, cassava, finger millet and sweet potatoes) • Cash crop farming (tobacco, sugarcane, potatoes (Kuria) and maize (Kuria)) • Sunflower and Sisal farming in Nyatike sub-county • Irrigation schemes along the rivers • Livestock farming (traditional breeds such as the Zebu cattle, East African goat, indigenous chicken and bee) • Accelerated Bamboo Farming and Utilization Project in Suba East • Increase area under rice farming in Uriri, Rongo, Migori, Kuria West & Awendo sub counties
Nyamira	• Cash crop farming (tea, coffee, pyrethrum and banana) • Food crop farming (maize, beans, cassava, sweet potatoes, vegetables, millet and sorghum) • Horticulture • Livestock farming (dairy cattle, beef cattle, pigs, goats, sheep, poultry, rabbits) • Bee keeping • Upgrading of indigenous livestock breeds • Construction of tea buying centers • Rehabilitation of the coffee factories

County	Agricultural Opportunities
Kakamega	• Food crop farming (maize, beans, cassava, finger millet, sweet potatoes, bananas, tomatoes, tea and sorghum) maize and beans are usually grown on large scale. • Cash crop farming (maize, tea and sugarcane) • Livestock farming (cattle, chicken, goats, pigs) • Forest farming in Lugari Constituency • Fish Farming

3.1.4 Resource Mobilization Strategy

The Resource Mobilization Strategy for the Agriculture sector in the Lake Region requires a three pronged approach i.e. Public Sector Financing, Private Sector Investment and Public-Private Partnerships:

Public Sector Financing

The County Governments in the Lake Region have budgets for various agriculture projects. However, it is clear this funding is limited and cannot fund both development and recurrent costs of the sector. The blueprint proposes a regional pooling of funds by the county governments to support agriculture. A flagship project that would be financed by pooled funds is the Agricultural Commodities Exchange.

Private Sector Financing

Private investment is key to agricultural development, but is currently limited. While public investment is necessary to create the infrastructure and environment for agricultural investment, a large proportion of the required capital is often made by private actors. In order to boost private investment in agriculture, incentives must be provided and constraints minimised. The blueprint proposes the following types of private investment:

- Foreign Direct Investment;
- Guarantees Agricultural Lending: These can be supported by private sector as well as donor funding. Similar existing funds that provide guarantees include the Africa Agriculture Trade and Investment Fund;
- Public Warehousing System;
- Collateral Management; and
- Diaspora Remittances.

Public-Private Partnerships

There are several innovative ways to stimulate private sector investments in rural infrastructure. The blueprint proposes PPPs that leverage funds from the private sector to invest in agricultural infrastructure or services benefiting small holder farmers in the Lake Region. The Africa Agriculture Trade and Investment Fund (AATIF) by KFW and Deutshe Bank provide loans, guarantees and to a limited extent equity, to experienced private sector enterprises and farmers located in Africa. It encourages the engagement of private investors that look for more 'risky' investment opportunities.

3.1.5 Socioeconomic Impact of the Agricultural Sector

The potential impact of interventions in agriculture are as follows:

- Giving smallholder farmers access to better-quality seeds, training and fertilisers has been seen to increase their yields– often doubling or even tripling yields (Unilever);
- Skills development and training on improved farm management creates a change in attitude towards farming as a business, creating employment and contributing to food security (IFAD, 2003);
- Providing access to up-to-date knowledge on good farming practices such as selection of crop varieties, crop rotation soil management and irrigation technology help farmers to mitigate and adapt to climate change (Unilever);
- Irrigating no-till fields could increase maize yields by 67 percent in 2050 (Immenschuh, 2014);
- Public investment that makes market centres broadly available to farmers improve farm productivity because great distances from market centres reduces farm yields (Evenson, 1998);
- The creation of a cooperative will provide practical experience to farmers, encourage them to talk about common problems, find solutions and to identify sustainability best practices all of which can improve farmers' profitability and increase their tea yields by an average of 5-15%. (Unilever);
- Incorporating sustainability practices in farming allows farmers to qualify for certifications such as the Rainforest Alliance certification that helps boost their incomes (Unilever).

3.2 Tourism

The tourism industry has been a critical contributor in Kenya's economic growth. In 2014 the sector contributed 10 percent to GDP, was the 2nd highest foreign exchange earner and accounts for 11 percent of total employment (Ministry of East Africa, Commerce and Tourism). Kenya's main tourist appeal is found in the country's natural features, the safari experience as well as beach attractions. Traditional tourist attractions have become routine thereby providing an opportunity for the creation of non-traditional attractions unique to the Lake Region. Kenya's Vision 2030 identifies tourism as one of the sectors poised to make significant contributions to the socioeconomic growth of the country. This mandate however, will require efforts to address constraints facing the sector such as declining tourist numbers due to security threats posed to Kenya by Islamic militant groups. It is important for the Lake Region to be part of the conversation around how to overcome the challenges the sector faces, improve the quality of Kenya's tourist offerings and above all market itself as a new tourist destination and experience.

3.2.1 The State of the Western Kenya Tourism Circuit

Although still relatively unknown the Lake Region tourism sector, commonly known as the Western Kenya Tourism Circuit, is growing particularly through private tours that focus on tourists seeking novel experiences that have a direct socio-economic impact to the communities. The Western Kenya Tourism Circuit is, 'a new concept of tourism that seeks to move away from game safaris. Beach visits and partying that has taken root in Kisumu and is fast extending to other parts of western Kenya'. (Stella Chirono, Business Daily)

The Dutch Government signed a 10 year agreement with local tour operators to market tourism activities in 14 counties of the Western Circuit including Kisumu, Siaya, Bungoma, Migori, Kakamega, Busia, Kericho, Vihiga and Homa Bay. According to the Kenya Bureau of Standards (2012), the Lake Region has a total of 695 hotel rooms available with an occupancy rate of 31per cent (KEBS). Beds available stand at 958 with an occupancy rate of 26 percent. This region is typically been referred to as the Western Tourist Circuit although stakeholders propose this be changed to Lake Region Tourist Circuit.

Figure 9: Hotel Occupancy in Nyanza Province and Western Province 2006 – 2010

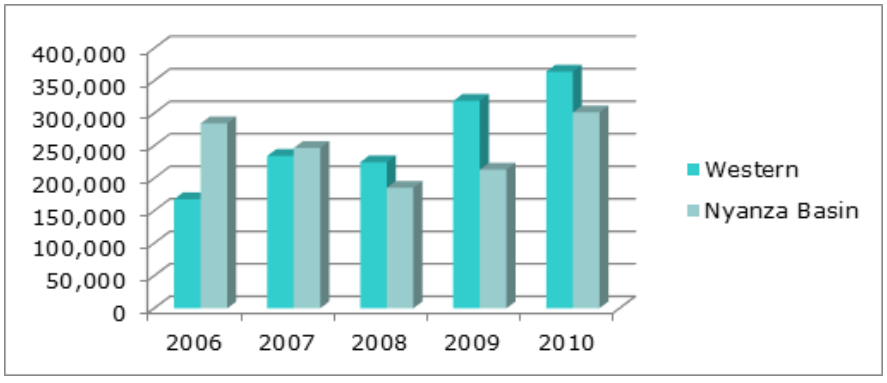
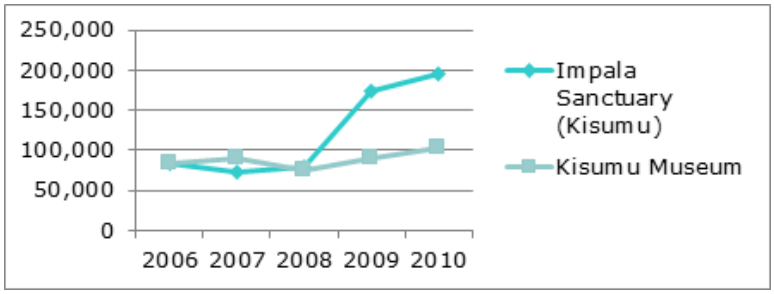


Figure 10: Number of Visitors to Attractions in Western Tourist Circuit 2006– 2010



Source:
Economic Survey 2011

3.2.2 Current Attractions

The Lake Region hosts a wide range of tourist attractions with landscapes that range from lush green highlands and tropical forests to lake beaches and islands. Tourist attractions of the Lake Region are categorised as follows in this Blueprint: Nature and Wildlife, Culture, Heritage and Community-Based Tourism, Adventure, Agro-tourism, Eco-tourism, Water Sports Tourism, and Health and Wellness Tourism.

Table 5: Existing Tourism Activities in the Lake Victoria Region

Category	Name Of Activity	Attractions	Comments
Nature & Wildlife	Game viewing, bird watching,	Kakamega Forest, Ruma National Park, Ndere National Reserve, Mt. Elgon National Park, Simbi Nyaima , Gogo Falls, Manga Escarpment etc	Minimally established
Culture, Heritage and Community Based	Cultural events and festivals, traditional music and dance	Thimlich Ohinga, Kisumu Museum, Got Ramogi, Cultural Festivals, Kit Mikayi etc.	Minimally established
Adventure	Visits to sacred places, waterfalls, forests and other wildlife areas, scenic viewing	Lake Victoria, Yala Swamp, Manga Ridge, Homa Hills, Odino Falls etc.	Moderately established
Agro and Eco-Tourism	Education and Research	Sugarcane Plantations, Rice Fields, Tea and Coffee Farms, Eco-lodges etc.	Highly established
Water sports and Health & Wellness	Boat riding, water rafting	Boat racing sites, Bala hot springs, Lake Victoria, Water rafting on River Nzoia etc.	Minimally established

Nature and Wildlife

This category targets those interested in wildlife, forests and scenic places of natural origin. In This category includes Kakamega Forest with an area of approximately 23,777.3 hectares and is the eastern-most rainforest in East Africa and the only one in Kenya. Other attractions in this category include, Ruma National Park, Ndere Island National Park, Mt. Elgon National Park, Lake Simbi Nyaima Bird Sanctuary, Mbusi Rakuena Bird Sanctuary, Mbasa Island and Otok Bird Sanctuaries and Impala Animal Sanctuary in Kisumu. Additional attractions include water features such as Gogo Falls, Webuye Falls, Odino Falls, Manga Ridge and Escarpment, Ndano Falls and the Lake Victoria beaches.

Culture, Heritage and Community Based Tourism

Culture and heritage tourism attracts enthusiasts of different cultural and ethnic experiences. Although this is a new concept in the tourism sector some of the counties in the Lake Region are developing different products such as cultural festivals, cultural centers, cultural sports activities, such as, bull fighting events and ceremonies such as the circumcision rituals among the Bukusu of Bungoma County. Additional attractions are museums where cultural materials are displayed, mausoleums, archaeological and paleontological sites and a number of built heritage facilities like Thimlich Ohinga Cultural Landscape. Community Based Tourism also falls under this category as cultural and heritage events involve close engagement with local communities and can be structured in a manner that ensures communities benefit.

Adventure

Adventure tourism involves exploration or travel to remote areas and includes activities such as hiking and mountaineering, trekking, rafting and rock climbing. The Lake Regions has multiple attractions such as the falls previously mentioned, Yala swamp and Manga ridge.

Agro and Eco-Tourism

Agro-tourism involves any agriculturally based operation or activity that brings visitors to a farm, ranch or plantation. Eco-tourism refers to responsible travel to natural areas that conserves the environment, sustains the well-being of the local people, and involves interpretation and education. Sites for this category include forests, sanctuaries, swamps as well as organic farms; sugar cane growing areas of Mumias, Chemelil, Muhuroni and SONY; rice growing areas of Ahero Irrigation Farms; Dominion Farms in Siaya County as well as tea and coffee plantations in Kisii and Nyamira.

Water Sports and, Health &Wellness

Water sports tourism and, health & wellness tourism are new concepts within the Lake Region and have not been explicitly developed to the standards that can be exploited by visitors Attractions include Homa Hills hot springs and the vast Lake Victoria waters.

Category	Attractions		County	State Of Use
Nature & Wildlife	1	Kakamega Forest	Kakamega	Highly utilized
	2	Ruma National Park	Homa Bay	Moderately utilized
	3	Ndere National Reserve	Kisumu	Minimally utilized
	4	Mt. Elgon National Park	Bungoma	Moderately utilized
	5	Simbi Nyaima Bird Sanct.	Homa Bay	Minimally utilized
	6	Mbusi-Rakuena Bird Sanct.	Homa Bay	Minimally utilized
	7	Mbasa Is. Bird Sanctuary	Homa Bay	Minimally utilized
	8	Otok Bird Sanctuary	Homa Bay	Minimally utilized
	9	Dunga wetlands	Kisumu	Minimally utilized
	10	Kusa wetlands	Kisumu	Minimally utilized
	11	Nyando wetlands	Kisumu	Minimally utilized
	12	Odino Falls	Kisumu	Minimally utilized
	13	Gogo Falls	Migori	Minimally utilized
	14	Webuye Falls	Bungoma	Dismally utilized
	15	Manga Escarpment	Nyamira	Minimally utilized
	16	Impala Park animal Sanct.	Kisumu	Moderately utilized
	17	Remba Island Bird Sanctuary	Homa Bay	Minimally utilized

Category	Attractions		County	State Of Use
Culture, Heritage and Community Based Tourism	1	Kisumu Museum	Kisumu	Moderately utilized
	2	Kit Mikayi	Kisumu	Minimally utilized
		Obama Kogelo Cultural heritage.	Siaya	Moderately utilized
		Abindu Cultural site	Kisumu	Moderately utilized
	3	Got Ramogi	Siaya	Minimally utilized
	4	Thimlich Ohinga Cultural Landscape	Migori	Minimally utilized
	5	Archaeological and Paleontological sites	Homa Bay and Migori	Minimally utilized
	6	Abasuba Peace Museum	Homa Bay	Minimally utilized
	7	Teso Cultural Festival	Bungoma	Minimally utilized
	8	Samia Cultural Festival	Busia	Minimally utilized
	9	Maragoli Cultural Festival	Vihiga	Minimally utilized
	10	Migwena Cultural Festival	Siaya	Minimally utilized
	11	Bukusu Circumcision Ceremony	Bungoma	Minimally utilized
	12	Chetambe Ruins	Bungoma	Minimally utilized
	13	Jaramogi Oginga Odinga Mausoleum	Siaya	Minimally utilized
	14	Tom Mboya Mausoleum	Homa Bay	Minimally utilized
	15	Achieng Oneko Mausoleum	Siaya	Minimally utilized
	16	Elijah Masinde Mausoleum	Bungoma	Minimally utilized

Category	Attractions		County	State Of Use
Adventure	1	Lake Victoria		Moderately utilized
	2	Kakamega Forest	Kakamega	Moderately utilized
	3	Got Ramogi	Siaya	Minimally utilized
	4	Yala Swamp	Siaya	Minimally utilized
	5	Lake Simbi Nyaima	Homa Bay	Minimally utilized
	6	Manga Ridge	Nyamira	Minimally utilized
	7	Homa Hills	Homa Bay	Minimally utilized
	8	Plantations	Busia, Kisumu and Migori	Minimally utilized
	9	Odino Falls	Kisumu	Minimally utilized
	10	Gogo Falls	Migori	Minmally utilized
	11	Webuye Falls	Bungoma	Minimally utilized
	12	Bala Hot Springs	Homa Bay	Minimally utilized

Category	Attractions		County	State Of Use
Agro and Eco-Tourism	1	Sugarcane Plantations	Busia, Kisumu, Migori, Kakamega, and Bungoma	Minimally utilized
	2	Rice Fields – Ahero & Dominion Farms	Kisumu and Siaya	Minimally utilized
	3	Tea and Coffee Farms	Nyamira & Kisii	Minimally utilized
	4	Eco-lodges Ndunga wetlands		Minimally utilized

Category	Attractions		County	State Of Use
Water sports and Health & Wellness	1	Boat racing sites	Migori, Homa Bay, Kisumu, Siaya and Busia	Minimally utilized
	2	Bala hot springs	Homa Bay	Minimally utilized
	3	Lake Victoria	Migori, Homa Bay, Siaya and Busia	Minimally utilized
	4	Water rafting on River Nzoia	Bungoma and Busia	Minimally utilized

3.2.3 Opportunities and Prospective Projects for Tourism in the Lake Region

The Lake Region has clear potential for becoming an attractive tourism site in the country but there is a clear need to take measures to develop the industry. Existing tourist attractions are underdeveloped and underutilized and this need to be addressed urgently. This section proposes key projects unlock the region's potential in a manner that bolsters the socio-economic development of the region.

At the macro-level the following tourism related projects are planned:

Flagship project: Development of a Lake Region Tourism Circuit

- Development of high-end hotel and Conference facilities in each of the 10 Counties;
- Development of Community-Based Tourism activities and attractions at selected sites in each of the 10 Counties;
- Development of a 3-Star 100-Bed capacity tourist lodge at Thimlich Ohinga Cultural Landscape;
- Marketing Initiatives to enhance visibility of the Lake Region Tourism Circuit;
- Development of Wildlife Conservancies to promote tourism and solve wildlife-human conflict;
- Establishment of standards for tourism products and services in the Lake Region Tourist Circuit; and
- Development of road network within Kisumu City for city tours targeting unique heritage facilities and sceneries around and within the city.

There are already indications of interest in developing specific projects in the region as follows:

- Kakamega National Reserve: The creation of a 60-Bed forest eco-lodge and a 40-Bed Luxury Tented Camp;
- Ruma National Park: The creation of a 60-Bed Eco-Lodge;
- Ndere Island National Park: A 60-Bed Eco-Lodge or a 40-Bed Luxury Tented Camp;
- Kisumu Impala Park: 24-Bed Luxury Tented Camp;
- Lake Victoria: High end hotels and conference facilities;
- Kakamega Town: A 100-Bed high class hotel in Kakamega town;
- Rusinga Community Lodge on Rusinga Island;
- Yala Swamp Nature Interpretation Centre at Lake Sare in Usigu;
- Siaya, Mwibale Rock Eco-Lodge and Cultural Centre; and
- Kakamega Forest Visitor Centre at the entrance to Kakamega Forest.

Table 7: Summary of Investment Opportunities in the Tourism Sector in the Lake Region

County	Current Tourism Features and Attractions	Opportunities
Bungoma	• Mt. Elgon Forest Reserve, Mt Elgon National Park • Scenic hills such as Chetambe, Sang'alo and Kabuchai • Man-made attractions such as dams as well as the cultural centre at Sang'alo, dini ya msambwa headquarters at Maeni in Kimilili and Mfunje-ropes Bridge in Webuye • Conference, eco-tourism and cultural heritage tourism- especially the circumcision ceremonies, songs and dances practiced in the County • Hotels found in Bungoma include; Elegant Hotel, Sarasa Resort, Greenvalle Hotel, Ross Wood, Happy Moments, West gate, Bustani, Cool Base and Tourist hotel in Bungoma Town, Guest House, Webuye Motel, Golf Hotel, Minata and Park Villa in Webuye, Elgon View in Misikhu, Mount Crest, Lencante and Barasa Park hotels in Kimilili Town	• Intensify eco- tourism and sports tourism. • Promote cultural day celebrations. • Construction of an Eco-lodge and Conference facility in Bungoma. • Reclamation of Chetambe, Sanga'lo, Kabuchai, Mt. Elgon and Nabuyole falls for tourism
Homabay	• Home to Ruma National Park which is the only park where the Roan antelope can be found • Tom Mboya Mausoleum, the Mfangano Rock Art, Homa Hills Hot Spring and Simbi Nyaima • There are over 18 islands, peninsulas and bays some with unique fauna and flora • Homa Bay County has only three classified hotels: Homa Bay Tourist Hotel, Rusinga Resorts and the Governors Camp (Msaria) Mfangano with bed capacity of about 120	• Development of Regional Sports Stadium. • Initiate an annual Community Cultural Festival in the county. • Construction of Cultural Centers in all constituencies.
Kisii	• Geological sites such as Nyangweta Forest, Ritumbe Forest and Ibencho offer good tourist sites • Kisii County does not have tourist class hotels/ restaurants	• Set up tourist hotels to attract tourists from Masai Mara in the Narok County and Ruma Park in Homabay County. • Protect and gazette Nyangweta Forest, Ritumbe Forest and Ibencho. • Reclaim recreational areas that were earmarked in the 1971 Kisii Town Master Plan. This includes the riparian reserve from Daraja Moja to Makutano Junction. • Registration of cultural groups in the county ie herbalists, choirs, dancers, drummers, artists and Documentation of various aspects of culture. • Establish a County Cultural Centre. (Kisii Township) • Construction of Museum in the county
Kisumu	• Tourist attractions in Kisumu include the Ndere Island National Park and the Kisumu Impala Sanctuary • The National Museum, Historic sites such as Songhor Paleontological Site situated in Muhoroni, the viewpoints in Nyabondo, the legendary Luanda Magere site, Kit Mikayi. • Recreational sailing and sport fishing on Lake Victoria • Hotels of a competitive standard in the county are mainly found in Kisumu City. These includes; Kisumu Hotel, Sunset Hotel, Imperial hotel, Jumuia Guest House, Great Lakes Hotel and Lasavana Hotel.	• Construct a 10,000 seat convention centre on the beach front • Resort city • Establish hospitality facilities. • Beautify the county • Preserve eco-sites

County	Current Tourism Features and Attractions	Opportunities
Siaya	• The County has only one gazetted game reserve; Lake Kanyaboli Game Reserve • Alego Nyang'oma Kogelo Village, a place of international attention because it is the birth place of Barack Obama Senior. • Cultural sites in the County include; Olua Sacred Trees, Holy Got Adodi, Bullock of God Podhe, Rambugu hills, Got Ramogi, Jaramogi Oginga Odinga Mausoleum, Achieng' Oneko Mausoleum, Mageta Island, Odera Akang'o office and cells in Yala and several island lakes along River Yala (Sare, Nyamboyo) • The County currently does not have any classified hotel.	• Construction and equipping of cultural centers. • Undertake and develop a business and conference tourism initiative. • Fence Lake Kanyaboli conservation area. • Develop sports tourism (boat, racing, water skiing, swimming competitions and a floating restaurant,)
Vihiga	• The sites in the county include forests, Mungoma cave, bird's sanctuary and Wagevere rocks. • Rich cultural Maragoli festivals observed annually. • There is only one tourist class hotel, Sosa cottages with a bed capacity of 56.	• Establish Tourists sites at Maragoli hills, Bunyore hills and Kaimosi forest • Tap into the rich cultural heritage as a tourist target. • Establish Tourists sites at Maragoli hills, Bunyore hills and Kaimosi forest • Upgrading of cultural sites-Mulutia shrine, Maragoli, Mungoma, Tiriki • Construction of cultural/recreational centers in Sabatia, Vihiga, Hamisi, Emuhaya and Luanda, Maseno disabled, mwibona, Wemilabi,Luanda South, Emabungo.
Busia	• The county has tourist attraction sites such as Kakapel Rock Art Museum, captivating Kakapel caves, rock paintings found at the Kakapel National Monument in Teso North, rocky hills of Kisoko, Lake Victoria Viewpoints, • Beaches such as Marenga and Busijo in Funyula Sub-county. • The main types of wild life found in the County include hippopotamuses, wild pigs and velvet monkeys.	• Establish a 3-star and above hotel and resorts within the County • Construction & equipping of Community Cultural centers countywide
Migori	• The county has no game parks and game reserves • Cultural and historical sites include Thim Lich Ohinga museum, Godkweru religious site and the Mugabo caves • Wildlife in the county include hippopotamus and variety of birds • Existing hotels have not been classified.	• Map and protect all the potential tourist sites. • Establish a cultural centre with modern theatre and cinema facilities • Documentation of the various Intangible cultural heritages (ICH) and artifacts within the county. • Upgrade Migori Stadium to National stadia status. • Establish museums Art Gallery • Protection of cultural and historical sites.
Nyamira		
Kakamega		

County	Current Tourism Features and Attractions	Opportunities
Nyamira	• There are no national parks or game reserves within Nyamira County • There are potential tourist sites like the hilly nature referred as "Gusii highlands", the Orotuba Manga ridge, Kiabonyoru, Nyabisimba, Nkoora and Kemasare hills • The county has no main wildlife but there exists several other fauna and flora species • Nyamira County has no tourist hotels and camping sites for any high class services but there are 24 unclassified hotels with a bed capacity of 575.	• Cultural education, information and research centre • Visual arts through preservation of indigenous knowledge. • Organize cultural festivals – county wide and registration of cultural groups. • Establish cultural centre – Keroka, Nyamaiya, Nyamira • Refurbish traditional caves at Manga Sub county • Establish a botanical garden at the county Headquarters
Kakamega	• Kakamega County has one national park, no game reserve and two camping sites. • Natural attractions such as Kakamega Forest • Cultural attractions such as bull fighting in Khayega and Ikolomani, cock fighting in Shinyalu, the dog market in Lubao, Malava, the crying stone in Ilesi, Lukova in Matete and Mawe Tatu in Likuyani. • The main wildlife in the county are monkeys, birds, snakes, baboons, hares, hippos, monitor lizards and coloured butterflies. • The County has a three star hotel- Kakamega Golf Hotel with a bed capacity of 102, and 24 established bars and restaurants. It also has 540 unclassified hotels.	• Gazette some of these attractions such as the crying stone. • Build cultural centers to promote cultural tourism • Enhance the capacity of the County as a centre for conference tourism.

The discussion will now turn to a more detailed exploration of some of the opportunities that can be exploited in the Lake Region:

Creating Access to Regional and International
Destinations through Kisumu International Airport
Access to and from the Lake Region is crucial and forms the foundation on which tourism can occur. Kisumu International Airport is currently only international in name as no international flights land or take off from the airport. The airport also lacks basic services such as fuelling facilities and thus cannot serve international airlines. One project proposed is to establish facilities at Kisumu airport that allow for international flights to land and take off at Kisumu so that the airport can be the hub that connects to other parts of the Lake Region. The project seeks to expand the runway, air side plane parking and loading area, create fuelling systems, storage facilities, lounge facilities, health facilities as well as airport police and fire departments.

Development of Boating/Water sports and Cruise Tourism in Lake Victoria
The objective of this project is to enhance the use of Lake Victoria as a premier cruise, boating and water sports attraction. The choice location for these activities will be informed by the development of partnerships with the five counties that border the lake, namely; Migori, Homa Bay, Siaya, Kisumu and Busia. Once routes have been determined, suitable beaches will be identified and jetties constructed to support sporting and leisure activities. Relevant organizations and stakeholders will be engaged to moderate the use of the lake for the stipulated tourism related activities.

Development of an International PGA level Golf course and Holiday Homes on Nyakagera and Imra islands
There is robust tourism activity that accompanies high end sporting events such as golf. Nyakagera (150 acres) and Imra islands (90 acres) provide a unique opportunity to develop Kenya's first golf course on an island. The proposed plan will include high end holiday homes and villas.

3.2.4 Key Challenges in the Tourism Sector

Lack of capital
The Western Tourism Circuit has not been marketed as a tourist attraction in Kenya and therefore has not attracted financing and is not considered an investment destination in the sector.

Poor government support
The Lake Region is not viewed as a tourist destination that warrants government support and investment and thus does not feature in activities and allocations related to tourism.

Poor infrastructure
The infrastructure within the Lake Region as well as to and from most tourist attractions is dilapidated and needs rehabilitation. For example, Thimlich Ohinga Cultural Landscape does not have an adequate all-weather road network.

Security Issues
These stem both from political instability and tribal tensions as well as threats from the militant group Al-Shabaab.

Natural disasters
The region is often subject to flooding at various tourist sites which creates reluctance to visit the region.

Disease and Illness
Tropical diseases such as malaria which is endemic in the region are deterrents. Further, health scares in neighbouring regions such as Ebola in West Africa reduce the appeal of travel to the country.

Poor facilities
The region lacks social services such as hospitals and most of the tourist sites are located in the remote areas of the country far from access to medical facilities. In terms of accommodation, the region lacks internationally competitive facilities. For example, Ndere Island National Park does not have the capacity to cater for overnight stay. [1] Kit Mikay does not even have amenities to cater for day visitors.

Poor communications infrastructure
The area has limited communications and technology services which reduce the appeal of the region as business activities cannot be hosted there. Further, visitors often want to but cannot maintain touch with family and friends as most no longer have the mentality of 'leaving it all behind'; this lack is a deterrent.

Environmental damage
Environmental threats exist in national parks and game reserves particularly poaching. Further, Kenyans often engage in activity in and around tourist attractions that fails to sustain the wildlife of the region. In addition, the increasing population in the region has led to human encroachment into wildlife habitats such as forests and grasslands. This has led to human-wildlife conflicts resulting in the migration of some animal species to other areas.

Given these challenges, it is important to for each county to pursue strategies aimed at revamping the sector. County Governments should be committed to pursuing the following:

1. Establishing an attractive tourist circuit that makes the Lake Region a destination of choice;
2. Developing and improving products, mini-circuits and source markets within a sustainability framework and ensuring maintenance of standards;
3. Refurbishing hotels and other accommodation facilities while actively involving members of the community in developments;
4. Promoting domestic tourism by providing incentives and establishing an information dissemination system to alert domestic tourist of attractions, promotions and deals; and
5. Providing skilled labour to establish excellent service delivery dependent on informed policies, clear tourism development plans, supportive legislation and regulatory framework.

[1] A plan to develop a golf course and holiday homes on Nyakagera and Imra Islands, neighbouring Ndere Island National Park is currently underway

3.2.5 Resource Mobilization Strategy

Tourism products require development, packaging and marketing before any meaningful returns can be realized. Thus there is a need for clear strategies for resource mobilization to meet the required threshold for the development of successful tourism packages in the Lake Region. The strategy can consists of different components as follows:

Create a Fundraising Team: Develop a fundraising initiative tasked with capital raising responsibilities specifically for the Lake Region.

Improve Investment Environment: Incentivise investment into the sector.

Short term funding: Focus on national and county government allocations for quick fixes that can get key projects up and running as well as fund marketing activity.

Long term funding: Develop partnerships with NGOs, international donor organizations and private sector resource mobilisation purposes.

3.2.6 Socioeconomic Impact of the Tourism Sector

The following are the potential impacts of investment in the tourism sector:

- A 20% increase in tourism demand results in an increase in real GDP of 0.1% (Njoya);
- A 10% increase in tourist expenditure can lead to a 0.3% increase in rural household consumption and in a 0.02% increase in welfare (Njoya);
- 10% increase in tourism results in an increase in the domestic consumption of agricultural commodities; tourism growth in Kenya is pro-agriculture (Njoya);
- Economic activity created by tourism expansion increases real wage rates by 0.8%.(Njoya);
- Inbound tourism increases the output of agricultural products, decreases its prices and increases employment. (Njoya);
- Tourism can serve as a powerful incentive to protect natural resources (UNEP, 2011);
- Tourism generates revenue to support conservation and management of natural environments (UNEP, 2011); and
- Tourism has larger multiplier effects, with revenue spreading from hotel accommodation, food and beverages, shopping, entertainment and transport to income of hotel staff, taxi operators, shopkeepers and suppliers of goods and services (UNEP, 2011).

4. Social Sectors: Education and Health

4.1 Education

Kenya Vision 2030 articulates the ambition to create an education system that is responsive to the critical role of Science, Mathematics, Technology and Communication in the development of the human resources of the country. In August 2010, Kenya promulgated a new constitution which enshrined Free and Compulsory Basic Education as a basic human right to every Kenyan child. As part of the decentralisation of Pre-primary Education, Adult and Continuing Education (ACE) and Youth Polytechnics became components of the education system to be devolved to the county level.

Inadequate training for mid-level technicians and artisans in Kenya contributes to youth employment in the country. There is an estimated gap of 30,000 engineers, 90,000 technicians and 400,000 artisans in Kenya; a shortage that hampers the country's economic growth prospects. The Kenya Engineers Registration Board estimates the ratio of engineers, technicians and artisans required by the country to achieve middle-income status is at 1:12:60. However, Kenya's ratio was estimated at only 1:3:13 (2012).

According to the Kenya National Bureau of Statistics 2014 Economic Survey:

- Total number of education institutions in Kenya is 80,172; an increase of 2.7 per cent from 2012.
- Technical, Industrial and Vocational Educational Training (TIVET) institutions rose by 6.7 per cent in 2013
- 22 Public universities
- Pre-primary school enrolment rose by 2.5 per cent from 2012 to stand at 2,465,605 in 2013.
- Enrolment at primary level rose by 1.9 per cent to 10.2 million in 2013
- Enrolment at secondary level increased by 9.9 per cent to 2.1 million in 2013
- Number of teachers in public primary schools increased by 4.5 per cent to 199,686 in 2013
- Teachers in public secondary schools increased by 1.8 per cent.
- Enrolment at teacher training institutions, TIVET institutions and universities increased by 20.6, 15.9 and 34.9 per cent, respectively.
- The Lake Region population with primary education stands at 68 per cent average across the 10 counties and 12 per cent for secondary education.

4.1.1 The State of Education in the Lake Region

The Lake Region houses some educational institutions of past repute in the country. These include secondary schools such as Cardinal Otunga, Homabay, Mbita, Musingu, Kakamega, Lugulu, Butere, St, Marys Yala, and training institutions such as Kitale Technical Training Institute and Bukura Agricultural Training Institute. These institutions once produced national and global leaders but have since failed to produce high calibre graduates.

The table below summarizes the state of education in some of the counties in the Lake Region.

Table 8: Education Levels for the 10 counties

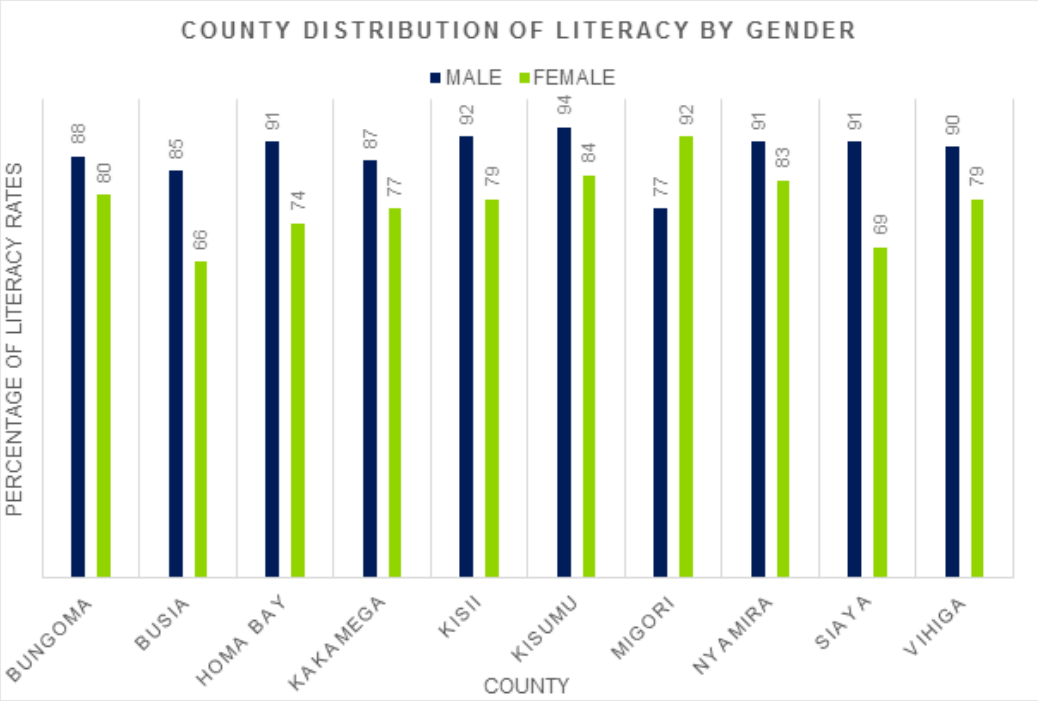
County	None	Primary	Secondary	Total Population
Kisumu	17.7	56.9	25.4	844,752
Kakamega	20.6	60.9	18.5	1,449,141
Bungoma	17.9	60.9	21.2	1,195,784
Busia	22.7	61.8	15.5	647,461
Kisii	17.1	55.2	27.7	1,010,601
Nyamira	16.1	53.6	30.3	528,317
Siaya	20.5	63.8	15.7	736,992
Migori	20.3	64.6	15.2	786,472
Homa Bay	19.8	62.9	17.3	836,555
Vihiga	17.6	62.8	19.6	491,499

Source: Exploring Kenya's Inequality National Report (KNBS & SID), 2014

In the data recorded in Exploring Kenya's Inequality compiled by Kenya National Bureau of Statistics and the Society for International Development (SID), Migori County is leading in the population with primary education at 64.6 percent followed by Siaya County at 63.8 percent and Homa Bay County at 62.9 percent. The bottom three counties in terms of primary education are Nyamira County with 53.6 percent, Kisii County with 55.2 percent and Kisumu County at 56.9 percent. In terms of the percentage of the population with secondary level education, Nyamira leads with 30.3 percent followed by Kisii at 27.7 percent and Kisumu at 25.4 percent; the lowest county is Migori with 15.2 percent.

In terms of literacy, disparities exist between genders and counties:

Figure 11: County Distribution of Literacy by Gender (percent)



Kisumu has the highest numbers of literate males at 94 percent followed by Kisii at 92 percent; Homa Bay, Nyamira and Siaya tie at 91 percent. Migori has the lowest number of literate males at 77 percent followed by Busia and Kakamega at 85 percent and 87 percent respectively. Migori County has the highest number of literate females at 92 percent followed by Kisumu and Nyamira with 84 percent and 83 percent respectively. The lowest female literacy rates are in Busia, Siaya and Homa Bay with 66 percent, 69 percent and 74 percent respectively. These statistics indicate the continued need to emphasise the importance of girl child education in the counties lagging behind.

Table 9: Population attending School by Highest Level of Education Reached

	Bungoma	Busia	Homa Bay	Kakamega	Kisii	Kisumu	Migori	Nyamira	Siaya	Vihiga
Pre-primary	84,738	50,100	89,450	105,312	84,873	81,361	80,132	32,638	57,592	31,821
Primary	425,597	221,071	281,471	468,437	349,499	246,582	272,953	130,756	232,691	161,190
Secondary	64,214	30,107	50,495	72,834	93,486	51,871	41,267	36,231	35,780	28,763
Tertiary	6,243	2,270	4,658	7,240	8,371	9,724	4,229	3,027	2,759	2,831
University	2,997	1,226	2,195	5,594	4,065	6,909	2,075	1,268	1,847	1,199

(Source: Statistical Abstract 2014, KNBS)

These statistics indicate varying transition rates from primary to secondary school between the counties and this is where the largest drop-out rates happens. Evidence indicates significant benefits exist when levels of secondary education are widespread in the population and can be the tipping point towards tapping into the transformational role of education in improving health, employment and wealth. Most of the interventions detailed in this Blueprint will not come to fruition with the existing levels of secondary education in the population.

In terms of populations with tertiary education, Kisumu leads with 9,724 followed by Kisii with 8,371 and Kakamega with 7,240. The counties that lag begin in terms of tertiary education are Busia (2,270), Siaya (2,759), Nyamira (3,027) and Vihiga (2,831). The education provision in Kisumu County, especially at tertiary level, seems well developed with 3 universities, 5 university colleges, 1 medical training college, 1 national polytechnic and several commercial private colleges. Kakamega County has one fully fledged university- Masinde Muliro University and several university campus branches. Vihiga County has mobilized its resources to set up Kaimosi University of Science and Technology which opened in September 2014. Twin workshops in the county are under construction at Karandini and Kitulu Polytechnics and the county government will be collaborating with NINGBO Polytechnic in China. Siaya County has 1 technical institute, 1 medical college and 1 Constituent University (Bondo University College, a constituent of Maseno University) and a University campus (Odera Kang'o Campus of Moi University).

4.1.2 Key Education Challenges in the Lake Region

Poor funding

The sector is subject to chronic underfunding that does not adequately support the physical and human resources required to ensure the quality of education delivered is high.

Low transition and completion rates

The transition rate into secondary and tertiary education is especially low. Females are at particular risk due to early marriages, child labour and pregnancies.

Poor and declining education standards

Even for those who complete their education, they are not skilled and often unable to create or gain meaningful employment and improve their standards of living. This seems to be linked to poor teacher supervision and low expectations by teachers. This may be due to low levels of motivation on the part of teacher, high workloads and teacher absenteeism. In effect the low quality of education translates to gross amounts of malinvestment that fail to boost and improve the human capital of the region.

Poor facilities and learning resources

The physical educational infrastructure is abysmal with many learning in dilapidated buildings with no electricity, adequate seating or learning materials. Further, the lack of learning resources such as text books, library books, wall maps and the exercise books impedes performance as well as the learning and teaching environment.

Poor infrastructure
There is a poor network of road and transport infrastructure which can make it difficult for pupils and teachers to get to the schools.

4.1.3 Opportunities for Investment in Education

The opportunities for investment in the education sector in the region include:

Flagship Project: Developing Centres of Excellence that link industry and research

- Public Private Partnerships (PPPs) in Early Childhood Education
- PPPs for the development and maintenance of educational infrastructure
- Development of regional centres of excellence. Some institutions such as Kisumu Polytechnic can be targeted as a hub for specific skills training relevant to key industries in the region
- Development of regional centres of Technical training in key economic areas; doing so will avoid duplication at county levels
- Development of Research and Technology parks that create and incubate ideas for implementation and support by the County governments.
- A university that serves the region.

County	Current Education Situation	Opportunities
Bungoma	• 80.5per cent of the population in the County aged 15 and above are literate • The County has 651 public and 200 private primary schools. With eligible primary school age population of 376,032 (187,645 boys and 188,387 girls) • The County has 229 public and 12 private secondary schools	• Construction and rehabilitation of at least one boarding school per constituency • Establish Secondary school centers of excellence • Support and invest in Early Childhood Development and Education (ECDE). • Invest in Adult and Continuing Education (ACE) • Support and construction of youth polytechnics in each sub- county. • Construction and provision of equipment of libraries, computer and science laboratories • Establishment of a Bursary Fund • Subsidized secondary education
Homabay	• Homa Bay County has over 1,183 ECD centers. The teacher pupil ratio at this level stands at 1:40 • There are over 905 primary schools in the county catering for the educational needs of the over 229,431 children with over 5,385 teachers • The literacy rate in Homa Bay County stands at 64 per cent with males account for 66 per cent and females at 54 per cent • There are over 180 secondary schools in the county catering for the secondary education needs of the 63,400 • Homa Bay has two public technical training institutions: Mawego and Wanyama and one public Teacher Training College at Asumbi	• Improve School Infrastructure • Increasing Subsidies to Youth Polytechnics • Expansion of Centers of Excellence • Construction of Model Workshops in Youth Polytechnics and upgrading of Youth Polytechnics • Up-scaling of Constituency-Based Bursary Schemes • Establish Early Childhood Development centers • Develop School Inspection Improvement Programme.
Kisii	• There are 904 Early Childhood Development centres in the County with 1,184 teachers • There are 467 primary schools in the County with 6,278 teachers • The literacy level among adults in the County is 71.5 percent against the national level at 79.2 percent • There are 334 secondary schools both private and public in the County staffed with 3,940 • There is only one full-fledged university in the county and seven satellite campuses	• Construction of ECD centers in all public primary schools and recruit teachers • Establish a feeding programme for ECD • Construction of laboratories in schools and upgrading public primary schools to boarding schools • Establishment of a Bursary Fund in all sub-counties • Establish adult education centers in all sub-counties
Kisumu	• Total enrolment in primary schools in the county is 236,334 with a teacher population of 6,081. • Of the population above 15 years of age 90.8 percent can read while 83.4per cent can write. • Total enrolment in primary schools in the county is 113,314 with a teacher population of 1,647. • The county has two universities Maseno and Great Lakes University.	• The introduction of feeding programmes in needy institutions • Issuance of sanitary towels among the adolescent school going girls • Recruitment of additional teachers • Establishment of centers of excellence. • Rehabilitation of existing schools. • Establishing ICT labs in identified institutions in all the sub-counties. • Give incentives to potential investors in the private education sector

County	Current Education Situation	Opportunities
Siaya	• There are 636 primary schools, 179 secondary schools, six tertiary institutions, 12 special education schools, one public university and 13 special units in regular primary schools. • Literacy rate stands at 80 per cent. • School enrolment is 57,592 pupils at pre-primary level, 232,691 pupils at primary school level, 33,780 students at secondary school level, 2,759 at tertiary level, 1,847 in the university and 104 in the youth polytechnics. • There are currently 636 primary schools in the county, 192 public secondary schools and 2,759 tertiary institutions.	• Recruitment of more teachers in Primary and secondary and more instructors in Polytechnics. • Establish ECD feeding program • Subsidized youth polytechnic tuition (SYPT) scheme.
Vihiga	• The County had 754 pre-primary schools. • Majority of the population 82.1 per cent aged 15 years and above are able to read or write while 15.2 per cent of the same category is unable to neither read nor write. • The County had 114 secondary schools by 2012 and no fully fledged University.	• Establish a university in the county • Improve and equip youth Polytechnics. • Establish more special schools • Establish more science laboratories and libraries • Establish centers of excellence in all the constituencies • Develop a school feeding programme for ECD. • Develop a Bursary Fund • Install electricity to all schools • Establish Education Manangement Information System (EMIS)
Busia	• The county has 459 Early Childhood Development Centers, 450 Primary schools and 105 Secondary schools, 17 Youth Polytechnics and 3 University constituent colleges	• Install electricity to all schools • Provide water to schools • Establish new tertiary institutions • Restructure existing Special schools in the County • Construction of school libraries and laboratories.
Migori	• The County has more than 816 primary school, 217 secondary schools, 1 University College, 2 public university campuses, 1 public and 1 private teachers training college and 13 youth polytechnics • The county has 1,149 ECD centers and 1,785 teachers	• Construction of ECDE classroom in all wards, equipping them and recruit more teachers • Establishment of a Bursary Fund • Support for special needs teachers and provision of counsellors • Construction of school libraries, laboratories and classrooms in primary and secondary level • Provision of sanitary towels • Upgrade Rongo University college to a University
Nyamira	• The county has 553 ECD centres, 545 primary schools, 173 secondary schools, 2 public university campuses, 2 science and technology colleges, 15 youth polytechnics and 8 accredited private colleges.	• Construction of libraries, laboratories, classrooms, toilets, dining halls, administration blocks and dormitories in schools around the county. • Install electricity and water supply to schools. • Construction of workshops in youth polytechnics. • Establish adult learning center • Establish special schools in Borabu and Manga.

County	Current Education Situation	Opportunities
Kakamega	• Literacy rate of 83.1 percent • The County has 1943 ECD centers, 2,463 primary schools with 24,362 teachers, 807 secondary schools with 7,444 teachers • One public university, Masinde Muliro University of Science and Technology • Satellite campuses of other universities such as Mt Kenya University, Jomo Kenyatta University of Science and Technology and the University of Nairobi • The county has who can read and write.	• Construction of ECDE centers in every public primary school. • Construction of 24 County Polytechnics and hiring instructors. • Establishment of a bursary scheme for needy students. • Construction of computer labs in each school in the county.

4.1.4 Education Interventions

This Blueprint looks to elucidate synergies that exist between the 10 counties so as to pool resources and efforts towards ending subpar performance in education. It seeks to answer questions such as: How can graduates of higher learning be attracted back to the counties?; To what extent are training curricula aligned to the economic needs and opportunities in the region and, what are the supply and demand bottlenecks in the education sector in the region?

As mentioned the county can directly intervene in the following segments of education: Pre-primary Education, Adult and Continuing Education (ACE) and Youth Polytechnics. But coordinated and concerted efforts can also be directed at improving transition from primary to secondary school and raising the quality and relevance of these segments of education. The national target of a literacy rate of 80per cent and enrolment rate of 95 percent set out in Vision 2030 should also be a regional target. Vision 2030 also seeks to increase the transition to technical institutions and universities from 3 to 8 percent.

Opportunities that align with Vision 2030 in which the Lake Region can participate are as follows:

- A national target to build 560 new secondary school
- Employ 28,000 teachers nationally
- Build one boarding primary school in each constituency
- Creation of Centres of Excellence

The following section looks at aligning educational goals with the productive sectors of agriculture and tourism as well as suggesting other sectors for consideration.

Agriculture

Agriculture is the back-bone of the Lake Basin Region county governments should focus on investing in Agricultural Training Institutes geared towards training students in modern agricultural knowledge and the use of modern technology and equipment. Both the youth and farming population should be targeted. Emphasis should be placed on how to manage climate change. There should also be a focus on partnering with mechanical and electrical training institutes in order to ensure the repair and maintenance of agricultural equipment and machinery. In addition specialist training in value chain management, value addition as well as the sales and marketing of agricultural produce can be included.

Tourism

The development of hospitality, tours and travel, catering and leisure management training institutes is crucial for the region if it is to become a tourist destination of note.

Sports

Kenya excels in sports such as athletics, rugby and soccer and a significant number of famous professionals of these sports in Kenya are from the Lake Region. Soccer players such as Dennis Oliech, Macdonald Mariga, Victor Mugubi Wanyama, Allan Wanga and Arnold Origi come from the region. In rugby, notables such as Humphrey Kayange, Collins Injera, Andrew Amonde, Lavin Asego are from the region as well. The county governments of the region can therefore consider establishing sports talent academies to identify and nurture talented youth who can then be introduced on the national, East African and global sports industry.

Spotlight on setting up a university for the Lake Region

Establishing a new university or upgrading a polytechnic into a fully-fledged university is a multi-year process. The information below was obtained from an expert in the matter, Rev. Dr Anthony Mutuiri. The costs related to university establishment are as follows:

- Administration: The applications to government agencies such as the Commission for University Education which costs approximately USD 60,000.
- Infrastructure: Required in the first year and often includes administration buildings and lecture halls; can amount to USD 6 Million.
- Curriculum: Courses and programmes to be taught must be developed, designed and specified by experts in academia. Programme architecture determines the number and types of degrees to be conferred and for which the institution needs to apply and pay. Once designed, programmes are reviewed by peers and the industry, and an inspection conducted by the Commission for University Education completed. These costs are several million USD.
- Staffing: Hire anchor staff who establish the systems and processes of the institution. For example they support the first students to settle in, find their way around the institution, and familiarise them with rules, code of conduct and course outlines.
- Vice Chancellor: Ideally a person of repute in academic and scholarly circles. Vice Chancellors normally come with their own teams of professionals such as registrars all of whom have to be remunerated in monthly salaries plus benefits. The Vice Chancellors' remuneration and allowances often add up to USD 24,000 per month. S/He is responsible for representing the institution at local and international events, all of which are catered for by the institution.

This process takes five years or more and costs approximately USD 15 million.

4.1.5 Socioeconomic Impact of Interventions in Education

The impacts of a better education system are as follows:

- Early childhood education is associated with substantial effects for both cognitive and socio-emotional outcomes. (Melhuish, 2014)
- Studies have associated attending a pre-school with increased qualifications, employment, and earnings up to age 33 (Melhuish, 2014)
- State-collected data in some countries reveal that pre-school helps children succeed in school and obtain higher wages in the labour market (Melhuish, 2014)
- Pre-school reduces socio-economic inequalities, as children from less advantaged backgrounds benefitted more than the more advantaged (Melhuish, 2014)
- Pre-school expansion is associated with improved inter-generational educational mobility (Melhuish, 2014)
- Formal schooling is one of several important contributors to the skills of an individual and to human capital (UNESCO, 2005)
- More schooling means higher lifetime incomes (UNESCO, 2005)
- A more educated society may translate into higher rates of innovation, higher overall productivity through firms' ability to introduce new and better production methods, and faster introduction of new technology (UNESCO, 2005)
- There is a strong impact of differences in school quality on economic growth: a difference of one standard deviation on test performance is related to a 1% difference in annual growth rates of GDP per capita.
- The quality of the labour force, a measured by mathematics and science scores, appears to be an important determinant of growth, and thus of the potential to alleviate poverty (UNESCO, 2005)
- Those with more years of schooling tend to have better health and well-being and healthier behaviours (Feinstein, 2005)

- Education is an important mechanism for enhancing the health and well-being of individuals because it reduces the need for health care, the associated costs of dependence, lost earnings and human suffering (Feinstein, 2005)
- Education helps promote and sustain healthy lifestyles and positive choices, supporting and nurturing human development, human relationships and personal, family and community well-being (Feinstein, 2005)
- Those with more education are also more likely to take advantage of health care provision (Feinstein, 2005)
- Education reduces the likelihood that individuals will work in the most hazardous jobs
- There is evidence of a causal relationship between education and civic participation (Feinstein, 2005)

4.2 Health

The health sector plays a pivotal role in economic growth and poverty reduction exemplified in the fact that three of the eight Millennium Development Goals (MDGs) pertain to health. A healthy nation means a more productive nation. The health sector in Kenya operates within and is influenced by several policies and frameworks; Kenya Vision 2030 Sector Plan for Health, Kenya Health Policy 2012 – 2030 and global initiatives such as the Global Fund and the Millennium Development Goals (MDGs). Kenya has made improvements in some of the health-related MDGs as per the latest reports: infant mortality decreased from 58 per 1000 live births in 2008 to 52 in 2011 and under-five mortality decreased to 74 per 1000 live births. However, maternal mortality increased from 414 to 488 during 2008-11, compared to the MDG target of 147 per 100,000 births. This is largely attributed to poor access to functional health facilities in rural areas, high malaria prevalence, HIV/AIDs, and high cost of maternal health care.

4.2.1 The State of the Health Sector in the Lake Region

Health indicators in the Lake Region are a cause for concern and pose serious challenges to the region's development. Health challenges include high rates of infant and child mortality – ranging to highs of 12 to 15per cent in some Counties; HIV/AIDS prevalence- Homa-Bay, Kisumu and Migori counties have the highest HIV prevalence rate in the region; high rate of HIV infections which contribute 54 percent of new HIV infections in the country and high under five mortality rates. With regards to malaria, the Lake Region, particularly around Lake Victoria, is classified as an endemic zone with a malaria prevalence rate of 38 percent. In terms of HIV, 75 percent of new HIV infections among children occurred in 5 of the 10 counties in the Lake Region: Homabay, Kisumu, Siaya, Migori and Kisii. Counties with the highest adult HIV prevalence in 2013 included Homa Bay 25.7 percent; Siaya 23. 7percent; Kisumu 19.3 percent; Migori 14.7 percent and Kisii 8 percent. In Bungoma, malaria alone accounts for 40 percent of morbidity. Additional diseases such as upper respiratory tract infections and diarrhoea account for 26 percent of the morbidity in the region; pneumonia and skin diseases account for about 20 percent of morbidity.

Health personnel challenges are also dire in the Region: Homa-Bay County has a doctor- population ratio of 1: 40,000 and nurse-population ratio of 1:1,500; in Kakamega the doctor- population ratio is 1:34,916 and a nurse- population ratio of 1:2,658; in Kisumu the doctor- population ratio is 1:44,634 and the nurse-population ration is 1:2,383.

Further, health facilities are inadequate and those that are available have poor infrastructure that are in urgent need of maintenance and upgrades. The limited capacity of these health facilities pose a greater challenge than the distribution of facilities.

Table 11: Health Statistics in the Lake Basin Region

Indicator[2]	Bungoma	Busia	Homa Bay	Kakamega	Kisii	Kisumu	Migori	Nyamira	Siaya	Vihiga
TB cases in every 100,000 people (2012)	199	255	453	185	202	433	462	145	389	236
HIV Prevalence (percent, 2013)[3]	3.2	6.8	25.7	5.9	8	19.3	14.7	6.4	23.7	3.8
Population per Nurse (2012/13)	17,406	12,609	9,543	13,612	7,386	9,689	N/A	6,346	13,586	13,527
Population per doctor (2012/13)	458,354	247,982	327,265	276,775	162,483	322,970	N/A	179,650	421,752	554,622
Health Facilities[4]										
Total number of facilities	141	80	180	229	140	154	169	114	155	87
Hospitals	11	7	13	16	18	17	13	8	8	8
Health centre	20	15	40	37	31	34	27	39	37	18
Dispensary	79	47	99	96	68	70	93	42	90	26
Medical clinic/ Stand-alone VCT	26	8	23	67	17	21	26	18	15	32
Maternity/ Nursing home	5	3	5	13	6	12	10	7	5	3
Health Financing										
Health budget allocations (approx.) (2013/14)[5]	29%	30%	8%	20%	1%	18%	N/A	6%	5%	10%
National Health Insurance Fund (NHIF) coverage (2012)[6]	13.1	24.1	21.0	2.4	34.5	24.9	15.0	27.7	22.4	18.8

[2] CRA, Kenya County Factsheets, 2013
[3] NACC, Kenya HIV Estimates, 2014
[4] MOH, Kenya Service Availability and Readiness Assessment Mapping Report, 2013
[5] County Health Budget Analysis, Health Policy Project, 2014
[6] Government of Kenya, MOH, County Health Factsheets, 2013

4.2.2 Key Health Challenges Facing the Lake Region

Infrastructure

The number of physical health facilities available is limited. In the country, Bungoma has the lowest facility density of less than 1 facility per 10,000 persons; all the counties in the Lake Region have a facility density of less than 2 facilities per 10,000 persons.

Medicine

There is a chronic lack of adequate levels of essential drugs particularly for mothers and children. The SARAM 2013 Report found that primary healthcare facilities (nationwide) have critically low availability of health commodities.

High disease burden

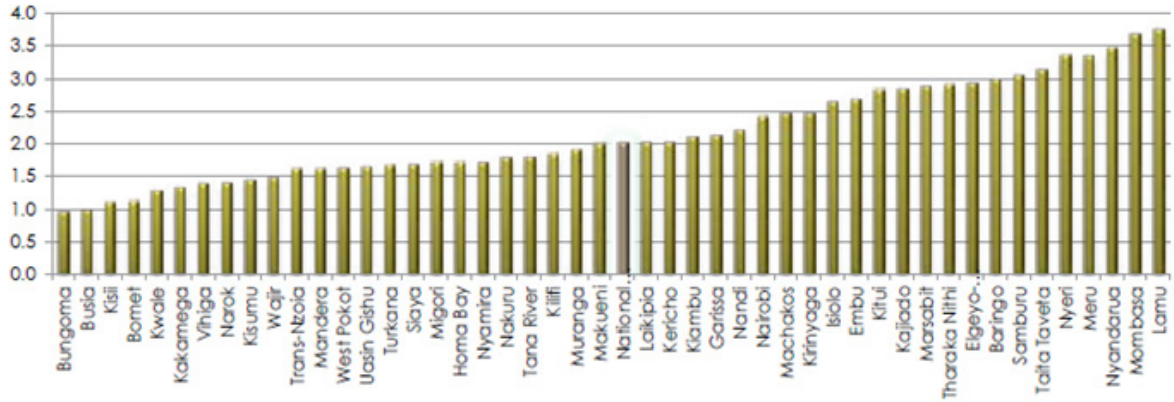
HIV/AIDS prevalence is a particular challenge– Homa-Bay, Kisumu and Migori counties have the highest HIV prevalence rate in the region (SARAM, 2013). Several counties in the region are clustered and have HIV infection rates and contribute 54 percent of new HIV infections in the country; these are Homabay, Kisumu, Siaya, Migori, Busia and Kisii. The prevalence of malaria in the region is also high with the region having a high prevalence rate of 38 percent.

High mortality rates

High rates of infant and child mortality in the area range from 12 to 15per cent. 1 in 9 children born alive in the Lake Region area are at risk of dying before reaching the age of 5 years.

The table below summarizes the health sector situation in the Lake Basin region and opportunities for improving the health sector

Figure 12: County Health Facility density per 10,000 people



4.2.3 Opportunities to expand Quality Health care Services

Since diseases are common the possibility of a regional strategy in health exists. The following are opportunities in the health sector in the Lake Region:

Flagship Project: Specialist Hospital in each county: Build, operate and transfer 10 specialist hospitals each serving a specific clinical area.

Establish a regional National Health Trust: This can be contracted by the regional governments to lead in cutting edge management and expansion of existing health facilities and services, including seeking ways of attracting and retaining health personnel in the region. There are examples from countries such as India and Tunisia that can be referred to in terms of how to develop and manage an effective and affordable health care system

Partnership with Insurance organisations: Done in order ensure that every individual in the county has health insurance and access to health provision. The health insurance organisations will work across the region to enable the affordability at point of access/ use, but to also work towards providing incentives for providers of health services in the region. This might include setting up major health Centers at central points in the county, and leading in air ambulance provision for remote regions of the county.

Community Health: Set up community health dispensaries that are more cost-effective in terms of diagnosis and preventive measures. These community dispensaries will need to be equipped to develop health messages that can lead to prevention, as well as be an easy to reach source of health personnel in cases of emergence and everyday health care.

Infrastructure

- County governments to develop primary care infrastructure terminating at what are currently health centers. Former sub-district hospitals can act as filter and referral centers for specialized clinics.
- A complete emergency care system based on the University of Baltimore's emergency care service to be developed for the entire region with both land, sea and air capabilities.
- A robust communication system based on the regions ICT platform to be implemented

Personnel

- Staff performance management system to be centered around the specialist hospitals.
- Oversight to be provided by these hospitals which will also develop standard care packages that will be used by all
- Staff training to be centered around specialist hospitals. These are to provide continuous professional development to all staff in the region.

Logistic systems

- Automated procurement systems for medical supplies based on a shared ICT infrastructure.
- Reduction in number of players in the supply chain (get KEMSA to be efficient or outsource the services to a KEMSA look alike)

Strategic information

Medicine is evidence based thus a single system to manage all patient records, supplies and administration is required. This system should have clinician decision support capability as well as organizational oversight capacities.

Health Governance

- Move away from current top heavy management structures.
- Lean leadership relying on ICT to provide data for decision support.
- Clinical leadership to be ceded to the Specialized hospitals
- Main function of county medical leadership would be supervision to monitor adherence to policies, standards, emergency response to outbreaks, financial management, logistics management
- Move away from specific disease focus to disease groups.

Clinical systems

These should be benchmarked to the best in the world as follows:

    - Emergency services with Japan, state of Maryland, Israel
    - Preventive care against japan
    - Primary care against France
    - Specialist services against India
- All aspects of clinical services to be accredited
- Community strategy should be linked to targeted services for citizenry

Table 12: Health Status in the Lake Region and Opportunities for Improvement

County	Current Health Status and Activities	Opportunities
Bungoma	• The County has 136 health facilities of which 11 are hospitals, 4 nursing Homes, 16 health centers, 78 dispensaries, 27 clinics and 134 community units. • The five most common diseases in order of prevalence in the County include; malarial fever (40 percent), respiratory tract infection (19 percent), skin diseases (7 percent), diarrhoea (4 percent) and typhoid (3per cent) • Immunization rate of 68.55 percent	• The County should establish and equip a multifaceted referral hospital to handle complex medical cases. • Model level 4 Health Centre per constituency • 20 Nurses per constituency recruited • Health insurance programmes • HIV/AIDS behavior change programmes • Expand and upgrade the existing Health Infrastructure at Ward, Sub County and County levels • Expand and equip Bungoma Hospital • Invest in locally derived natural health products. • Construction of Model Health Centres • Ambulance services
Homabay	• Homa Bay County has 211 health facilities including nine tier 3 hospitals and 4 mission hospitals • These facilities are manned by 941 personnel mostly nurses with a doctor- population ratio still at 1: 40,000 and nurse-population ratio at 1:1,500. • The County has a bed capacity upwards of 2,190 in public facilities and 12 in mission facilities • Malaria is the most common disease in the county • Immunization rate of 68.5 per cent. • Access to family planning services estimated at 54 percent	• Rehabilitation of Rural Health Facilities • Fast-tracking implementation of Community Health Strategy • Construction and Equipping of Model Health facilities • Construction of Wards. • Construction of Minor Theatres, Maternity Wings complete with incinerators • Construction of modern Mortuaries complete with Pathologists and Staff Quarters. • Establishment of the HIV/ AIDS Management and Malaria Control Centre • Establishment of a Cancer Centre
Kisii	• There are 71 level 2, 18 level 3, 8 level 4 and 1 level 5 hospitals in the County which include private and mission hospitals. • The five most common diseases in the County in order of prevalence are malaria, diarrhoea, urinary tract infections, skin diseases, pneumonia and respiratory diseases. • The County has a proximately 15 percent of children with stunted growth due to low nutrition • The immunization coverage rate is over 90 percent • The current acceptance rate for family planning is estimated at 70 percent.	• Upgrade health centres • Construction of maternity wards construction, outpatient, inpatient, lab block, staff houses, Incinerators, X-ray, Surgical theatre, Laboratories, waiting bay, wards and Mortuary. • Electricity installation • Recruitment of medical staff • Upgrading Kisii Level 5 to a Teaching and Referral Hospital • Construction of new health facilities
Kisumu	• The county has 1 provincial hospital, 2 sub-county hospitals, 16 public health centres, 27 public dispensaries, five private hospitals, 4 Nursing homes and 5 dispensaries managed by private sector. • Malaria is the most common cause of sickness in the county with 44.7 percent of the sick population having suffered from malaria • 3.3 percent of children are severely underweight, 17 percent are moderately underweight • Immunization rate of 53.6 percent • Contraceptive prevalence rate of 27percent	• Rehabilitation of rural health facilities • Integrated Management of Childhood Illness county wide • Mobilize resources and promote intersectoral collaboration. • Maintenance of health infrastructure (Buildings, medical and laboratory equipment etc) county wide. • Construction of male and female wards at Ahero Sub-county Hospital

County	Current Health Status and Activities	Opportunities
Siaya	• The County has 7 sub-County hospitals, 32 health centres and 110 dispensaries. • Diseases affecting the county are; malaria/fever (52 percent), respiratory diseases (23 percent), diarrhoea (8 percent), pneumonia (5.25 percent) and diseases of the skin including wounds (4 percent) • 22.79 per cent of the children in the county below 5 years are stunted. • Immunization coverage rate of 86 percent • Contraceptives prevalence rate of 45 percent.	• Rehabilitation of rural health facilities to offer integrated and comprehensive healthcare • Construction/ rehabilitation of facilities at Bar Ndege, Jera, Ligega, Sega, Bar Achuth, Sifuyo, Nyang'u, Ukwala, and Ratuoro • Staff Recruitment programs • Millennium Village Project Water & Ward
Vihiga	• 1 public county referral facility , 3 sub-Sub-county level 4 facilities, 18 health centres, 32 dispensaries and 34 private and mission based facilities • Most prevalent causes of morbidity and mortality are malaria, HIV and AIDS, upper and lower tract infections, diarrhoea and skin diseases • 45.8 percent of the total population of children under the age of five are either underweight stunted or are wasted • Immunization coverage rate of 80.2 percent. • Contraceptive prevalence at 47 per cent	• Establishment of a mental health unit in Mbale. • Renovate & expansion of Vihiga district Hospital in Mbale. • Construction of dispensaries in Sabatia, Wamuluma and Maragoli. • Expansion of dispensaries and hospitals in constituencies and increase staff capacity. • Promote immunization programmes in the county to achieve 100per cent immunization. • Equip hospitals with medical equipment (x-ray machines, anaesthetic machines, suction machines etc)
Busia	• 4 level 4 hospitals, 1 private hospital, 12 health centres and 3 nursing homes. • Five most common diseases in order of prevalence are malaria, Respiratory Tract Infections, Skin diseases, Diarrhoea and Typhoid • Immunization coverage rate of 95 percent • 46.5 per cent of the females aged 18 years have access to family planning services	• Establish and equip a multi-faceted referral Hospital to handle complex medical cases. • Upgrade Busia District Hospital to a teaching and referral Hospital • Upgrade level 3 facilities to level 4 in Nambale, Funyula and Butula • Purchase of ambulances • School WASH programme through construction of latrines with running water in 5 schools
Migori	• 1 Referral Hospital, 10 Sub-county Hospitals, 25 health centres, 112 dispensaries, 8 faith based health facilities, 10 private run hospitals, 9 Nursing homes, and 56 private clinics. • Most common diseases: Malaria 53 percent, respiratory tract infections 16 percent, diseases of the skin, diarrhoea 7 percent, intestinal worms/typhoid 3.2 percent, accidents/fractures, and sexually transmitted infections • 17 percent of children under age five are moderately underweight, 3 percent are classified as severely underweight • Immunization coverage rate of 84.6 percent • 57 percent of the population do not use any family planning method, 36.1 percent use modern methods, 6 percent use traditional methods	• Scale up community health coverage • Fast track construction/expansion of KMTC at Migori County Hospital • Upgrade Migori district hospital to level five • Open closed facilities • Strengthen Health leadership at sub-county and facility with committees and hospital boards in all facilities

County	Current Health Status and Activities	Opportunities
Nyamira	• There are 134 health facilities in the county; eight tier 3public health facilities, 70 tier 2 (Health Centres and Dispensaries) and the rest either private or faith based facilities and clinics. • The top 5 morbidity cases in Nyamira are: Respiratory System, Clinical Malaria, skin diseases, rheumatism and accidents • About 25per centof children under five are stunted • Immunization rate 91percent • The contraceptive prevalence rates are 61 percent	• Improve performance of Community Health Workers • Rehabilitate existing health facilities • Construction of maternity wards, children's wards, OPD, theatre • Community sensitization on HIV/AIDS
Kakamega	• Kakamega County does not have a referral hospital but has Kakamega County General hospital, nine sub-county hospitals, 9 mission/NGO hospitals, 1 private hospital, 8 nursing homes and 27 public health centres • The most prevalent diseases in the county include malaria/Fever, diarrhoea, stomach ache, respiratory diseases and flu; malaria is most prevalent at 36.4 percent • The nutrition status in the county is at 8.6 per cent of the under five children being underweight • About 84.5 per cent of the children in the county get immunized. • The contraceptive prevalence in the county is 27per cent	• Staffing and equipping of all the levels in health referral system; • Establishment of a medical training centre and start medical school in the county. • Decentralization of health services and drugs. • Intersectoral collaboration

The following are interventions that can be done in each county:

Table 13: Interventions to be implemented in all counties

Project	Description	Impact
Specialist Hospitals	Specialist hospitals that are fully equipped and offer specialized care and treatment for specific diseases	Specialist Hospitals in the region providing superior medical attention to patients. Specialist hospitals in the region will lead to lower incidence and prevalence of diseases in the region
m-Health Services	Provision of medical health services supported by mobile devices	The availability of technology-based solutions in the healthcare will enable researchers to capture multiple sources of health data and create a landscape of a health care records management system that will increase quality of patient care, track outcomes and help in research and education.

4.2.4 Socioeconomic impact of the Health Sector

The positive impacts of improved health are as follows (UNAIDS, UNICEF, WHO et al 2011):

- Healthier individuals live longer lives
- Healthier individuals are more productive and contribute to national income, job creation, and economic development and growth.
- Healthier people have fewer and healthier children, invest more time and greater resources in their children's education, and thus secure the future for their societies.
- Healthier people reduce costs of ill health to society and companies and enable resources to be directed to economically productive activities.
- Improving the health of girls and women in particular is likely to have a significant effect on poverty reduction
- Healthier individuals are physically and mentally more energetic and robust which makes them more productive
- One study suggests that one extra year of life expectancy raises steady-state GDP per capita by around 4 percent
- One study estimates that reductions in adult mortality explain 10 percent to 15 percent of the economic growth that occurred from 1960 to 1990
- One study argues that wiping out malaria in Sub-Saharan Africa could increase that continent's per capita growth rate by as much as 2.6 percent a year
- Disease and illness cause the household to spend a great deal of resources on medical care which depletes its assets, and incurs substantial debt. Preventing such a depletion of assets through promoting better health and health care for individuals helps households avoid the poverty trap. It will enable them to use these assets for productive investments or raising additional capital for enterprises
- Healthier people are more employable, make enterprises more profitable which can then generate more taxes. National economies will be more attractive to both domestic and foreign investors.
- Healthier destinations (such as those with low levels of malaria incidence) are likely to be more attractive to tourists.
- Healthy individuals have a higher demand for goods and services, driving investment and production within the economy
- Better health increases people's personal earnings directly and reduces costs to companies from high employee turnover, repeated training costs, and provision of health care
- When communities are healthy, budgets can be shifted away from health to productive investment such as physical and social infrastructure
- An increase in both public and private health care expenditure significantly increase life expectancy at birth by about 1 and 0.5 years

5. Enabling Sectors: Financial Services, ICT and Infrastructure

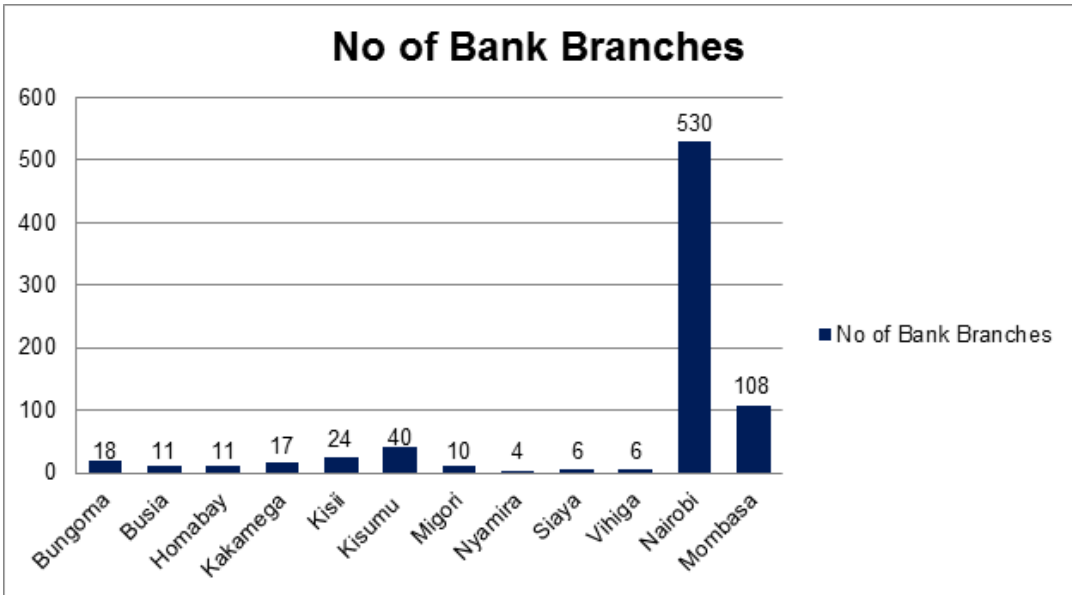
5.1 Financial Services

5.1.1 The State of Financial Services in the Lake Region

Kenya has 52 financial institutions; 44 of these are banking institutions (43 banks and one mortgage financing institution) spread out into four categories based on their asset base, and 8 deposit taking micro-finance institutions (DTMs) with the Central Bank of Kenya as the regulatory authority. Most of these financial institutions have a presence in Western Kenya.

Access to capital and financial services is a key component in building and sustaining businesses. Whereas the Lake Region hosts major banks such as Kenya Commercial Bank, Barclays Bank, and Equity Bank, the extent to which the residents of the region have been able to mobilize their savings and acquire capital for their businesses has been low. Accrued savings are so low that commercial banks are hesitant to extend financial services beyond the productive sectors and the larger industrial concerns in the region. The distribution of banks nationally has also been skewed disproportionately in favour of the highly urbanized cities of Nairobi and Mombasa.

Figure 13: Number of Bank Branches in Kenya



(Source: Bank Supervision Annual Report 2013)

Out of a total 1,342 bank branches in the country, 530 branches, representing 48 percent are based in Nairobi and Mombasa. In comparison, Kisumu, the county in the region with the highest number of bank branches stands at 40 branches (3 percent). Nyamira, Siaya and Vihiga have the lowest number of branches at 4 and 6 respectively. The total number of bank branches in the entire Lake Region is 147 branches or 11per cent of the total number of bank branches in the country. The state of the region's financial services sector is thus characterized by the following:

- Limited access to Capital – there is minimal access to capital as indicated by the low number of financial service providers in the region.
- Limited access to Business Advisory Services – limited access to appropriate business advisory services.
- Poor structure for capitalizing projects: The primary mode of financing large capital intensive projects is structured financing. The dearth of financial service providers not only skews the financing in favour of established enterprises but it also restricts financing to mid to large scale businesses only.

5.1.2 Proposed Flagship Project: Creation of Regional Bank

The key proposed financial services sector flagship project is a Regional Bank that focuses on the economic opportunities in the Lake Region with a focus on supporting the other sectors of the blueprint, namely:

- Agriculture
- Tourism
- Heath
- Education
- Infrastructure
- ICT Sector

There are three options of establishing a Regional Bank:

1. Option 1: Establish a new bank: This option is subject to the regulations of establishing a new bank as legislated by the Central Bank of Kenya.
2. Option 2: Buy a Private Bank: This includes the option of buying an MFI and incrementally graduating it to a bank.
3. Option 3: Buy a Public Bank

The total costs required for setting up the Regional Bank can be outlined in the following three categories of costs:-

- Statutory minimum capital requirements of Kshs 1 billion
- Consultancy and Professional Fees to process the incorporation in consultation with the Central Bank of Kenya.
- Set up costs, covered under the statutory capital

Additionally, efforts can be made to establish more micro-finance institutions in the region to meet the needs of individuals in the region who cannot afford getting loans from banking institutions but require modest capital to jump start their business. These micro finance institutions can offer credit to small scale farmers and jua kali enterprise workers. The micro-finance institutions can also encourage savings of small amounts thus helping the poor become financially independent.

Efforts should also be made to promote table banking. Table banking is a concept that has worked with rural community groups to set up income generation projects in various parts of Kenya. It enables community group members in the region to build their financial base and start small enterprises.

5.1.3 Resource Mobilization Strategy

There are several ways through which the county government can own a regional bank as follows:

- Direct Investment as Beneficiary: This option allows the counties to aggregate their funds in a pool e.g. 200million per county to meet the capital requirements of the CBK. These would be public funds thus being subject to county citizens views. However, given the broad benefits of the regional bank, the probability of an affirmative county assembly vote for such funds is relatively high.
- Creation of Fund Trustees: The County can also nominate trustees who will represent the counties' interests on the bank board.
- Creation of an investment vehicle which will act as the shareholder in the Bank: As is common with large public-private partnerships, the county governments can establish a Special Purpose Vehicle (SPV) to steer the bank's establishment. As in the case of the trustees, the county's interests would be safeguarded through SPV agreements.

- Private Placement or Invitation of the Public to participate in owning the rights; the county governments can invite private placements from their citizenry i.e. 100 investors, each with an initial capital of 1million from each of the 10 counties. This would meet the basic capita requirement of CBK for establishing a bank.
- External funding from donors e.g. Bilateral and Multilateral donors.
- External funding from Private Sector e.g. Private Equity Financing.

5.1.4 Socioeconomic Impact of Financial Services

Current financial markets do not meet the needs of the lower income earning bracket of the population. A Regional Bank set up by local county governments would be the preferred channel through which the Lake region could channel funds by Kenyan Government, donor funds and development agencies in a manner that promotes the quality of life to the citizens of the Lake Region. Establishment of a Regional Bank would result in the following positive impacts:

- Increase access to formal banking services among the economically active of those who require basic and small scale commercial financial services—for both credit and savings.
- Offer financial services to help among others, low income people through offering financing at favourable interest rates to enlarge and diversify their returns from economic activities.
- Credit access will enable individual to utilize the potential micro industries that are yet untapped in the region on all the sectors of the economy of the region.
- Availability of credit helps prevent borrowers in pursuit of funds from having to sell their produce at below market rates to middlemen thus increasing their incomes.
- Decrease the need for children to work to complement income earned by homesteads as lending would develop enterprise.
- Indirect benefits of promoting the quality of life, will be of the citizens accessing the products offered by the bank. Increase in income results in improved nutrition, results in higher aspirations for their children's welfare and enhances ability to access better quality health care.

5.2 Information and Communication Technologies

The ICT sector has grown rapidly in the last few years to be one of the most important sectors in the Kenyan economy and an enabler of economic and social development. One of the economic growth areas that has benefitted tremendously from the ICT sector includes mobile banking, particularly the mobile money transfer. Estimates by the government shows that in 2013, mobile and internet penetration in the country was 76.9 percent and 47.1 percent, respectively. Kenya's 2010 economic update (World Bank, 2010) report illustrates this rapid growth:

- The ICT sector grew at an average of nearly 20 percent per year from 1999-2009 (by contrast, Kenya's largest economic sector – agriculture – shrank by an annual average of nearly 2per cent per year).
- The number of phone subscriptions has grown from the equivalent of one per 1,000 adults in 1999 to the equivalent of nearly one per adult in 2010
- Internet usage rates for 2010 were around four per ten adults.
- Person-to-person mobile money transactions at the end of 2010 were equivalent to around 20per cent of GDP with two of every three Kenyan using mobile money services.

5.2.1 The State of the ICT Sector in the Lake Region

ICT in the Lake Region was previously limited to a few Internet Services Providers and Telcos who give access at a fee. These are mainly Orange, Africa Online, Liquid Telecom, Swift Global, Safaricom and Airtel. With the laying of fibre optic cables, there is an increase in connectivity though most of the connectivity is concentrated in the CBD of the counties. Most of the habitants use Wimax technology, ADSL and FTTX (Fibre ToThe Home/Office). A majority access internet services via their mobile handsets. There are mobile handsets in the market for approximately kshs2000 that can access internet data. Most areas that do not have 3G, at least have EDGE. Bundles for internet access are affordable, though most interviewees complained that the costs should be reduced to allow for wider access by more people. Each of the 10 counties in the LBR has recognized the importance of ICT and has highlighted its role in their Country Integrated Development Plans.

While mobile phones are now wide spread in all the counties, connectivity to internet is still hampered by poor infrastructure, particularly electricity supply.

5.2.2 Economic Opportunities in the ICT Sector

Agriculture

Agricultural activity in the region is dominated by subsistence farming; linkages that connect farmers to markets are limited. Thus most farmers are unable to get market prices and access and this limits their sales to neighbouring communities and markets thereby restricting their agricultural activities to small scale. If an ICT platform were introduced, farmers would be encouraged to market their produce and be guaranteed of better sales and pricing. Such mobile applications already exist and it is necessary for the counties toget their farmers to connect to them.

Tourism

The tourism potential in the Lake Region has not been realised partly because it has not been marketed well partly due to the lack of access that promotes tourism in the region. With the implementation of ICT platforms, tourist experiences can be promoted locally, regionally and internationally and can be linked to tour and travel groups.

Health

Most counties that have health centres that are not properly equipped, lack basic water and consistent electricity and often equipment is faulty especially in the main district health facilities. A number of counties have begun putting up partially equipped centres but more support is required in linking these centres to larger well equipped facilities that can provide accurate diagnostic and reporting services for imaging, lab and pharmaceuticals. Infrastructure and ICT will enable each of these centres to be linked to a regional data centre and allow for research and sharing of important health information where necessary.

Education

ICT initiatives can provide educational institutions access to computers and content for improved information dissemination for students. Further each county can set up ICT Hubs that can be accessed by the communities especially for students and women.

Financial Services

ICT infrastructure in each of the counties can be implemented to allow communities to access financial advisory services as well as other banking services.

Table 14: Summary of ICT Sector in the Lake Region

County	Current ICT Activities	Opportunities
Bungoma	• Key mobile phone operators in the county are Safaricom, Airtel, Orange, Telkom and Yu • There are a few internet cafés in major towns within the county.	• The county needs to invest in constructing and equipping computer laboratories in all public schools to enhance access to quality ICT education for all learners. • Establish e-management systems in each sector. • Create a pool of ICT knowledge workers. • Establish digital centres in each ward and sub- county. • Establish a software academy as a revenue generating activity. • Formulate appropriate PPP arrangements for strategic ICT hubs. • Provide cheap ICT sites to enhance uptake and knowledge dissemination
Homabay	• The county has a mobile phone penetration of 62.7 percent • There are internet cafes within various parts in the town.	• ICT can be used to provide quality, efficient and effective services, access market information and develop competitive advantages in the global market. • Provision of funds for research and encouragement of Public-Private Partnerships in the provision of internet and web-related services. • Sub-county Information and Documentation Centres need to be digitalized and strengthened through access to reading materials and government publications for access by the general public. • Laying of optic cable and communication boosters across the county.
Kisii	• The County approximately 20 cyber cafes providing internet services. • There are five mobile phone providers namely: Telkom, Orange, YU, Safaricom and Airtel	• Set up a library in Kisii Town managed by Kenya National Library Services. • Establishing, Information and Documentation Centres in Masimba and Nyamarambe
Kisumu	• 8,500 landlines • Penetration of Safaricom, Airtel, Orange, and Yu networks is at about 90 per cent	• Establishment of free ICT education in formal education and at community level. • Promotion of software for people of who are visually impaired. • Establishment of digital or internet kiosks in villages.
Siaya	• 1.2 per cent of the households own computers. • A number of cyber cafes offer internet access, typesetting, printing and photocopying services	• Develop digital villages in the Sub Counties to ensure appreciation of technology throughout the County • Expand infrastructure that will improve on the County's economic and social development
Vihiga	• The mobile telephone network coverage stands at 80 per cent.	• Establish digital villages in each constituency. • Connect internet cables to all urban centres in the county
Busia	• The entire County is covered by cellular phone network provided by Safaricom, Airtel, Orange, Telkom, and Yu. • There are over seventy licensed cyber cafes most of which are located in urban centres.	• Link all functional areas at County, Sub-county, and ward levels as well as the national departments and agencies through the establishment of an integrated central ICT delivery unit.
Migori	• Penetration of the mobile telephone currently stands at approximately 75per cent	• Integrate ICT in governance through provision of services the wards, sub counties and polytechnics. • Establish a county radio station • Digital kiosks.

County	Current ICT Activities	Opportunities
Nyamira	• There are 1,713 landline telephone connections in the county.	• Increase network coverage by the telecommunication service providers. • Integration of ICT in the day to day sector specific operations by Strengthen County and Sub-county Information systems
Kakamega	• The mobile network provision is by Safaricom, Bharti Airtel, Orange, Yu are all within the county borders. • 94 cyber cafes • 1,713 telephone landlines	• Integrate ICT into teaching and learning in educational institutions. • Enhance education management information systems

5.2.3 Proposed Projects

Flagship Project: ICT Improving Service Delivery

Networking of County Headquarters

Most of the county headquarters are not completely networked. Some counties have begun the process but most are only partially connected. The first step is to get county offices connected and the second step is creating connectivity of sub-County Offices to the County HQ. Once this has been completed, the region will have a base on which all activities can be supported by ICT.

Data Centres

Set up a minimum of 2 Data Centres in the region. The Data Centres will enable the region to provide hosting of data services for all the sectors identified. The Data Centres should also have a redundancy site for back up purposes.

Free Wi-Fi in Counties

Establish free Wi-Fi in the CBD of each of the counties in the Lake Region in order to provide internet access to communities during business hours. This will allow all sectors of the economy to embrace the use of ICT in their daily lives, for traders, education institutions, farmers, tourists and businesses. Currently, the only available Wi-Fi areas are in offices, hotels and very few educational institutions and businesses.

Revenue Collection System

This is a key project that each one of the counties has expressed interest in. Currently most counties have no digital revenue collection tool and rely on the old council systems to collect revenue. This means that the revenue leakages cannot be identified or eliminated. Establishing a revenue collection system will enable each county to collect more revenue. The system should be linked to the National Government IFMIS system to allow for revenue collection reporting and disbursements of county funds. Some counties have already initiated automation projects for revenue collection and it is proving to be useful. The Blueprint proposes an automated revenue collection system for the region so that the tax payer can pay their regional taxes directly to the collectors through mobile platforms like M-Pesa.

Computers in Schools

If ICT should be the foundation for economic growth in the Lake Region, it is important that schools, colleges and learning institutions are equipped with computers. Currently a limited number of schools have computers; the few that have computers are through donations from private and donor institutions. This should be a priority area as it will ensure that the students in this region have equal access to education material as their counterparts in the Capital and other major cities in the country.

Cloud data services

Setting up cloud computing in the region is key especially given the plans to digitize the region's operations in the health, agriculture, tourism, education, and financial services. All this information needs to be secured and accessed easily.

5.2.4 Resource Mobilization Strategy

- Engage with existing institutions and the county in identifying the gaps for implementation on the ongoing, partially-ongoing and proposed/planned flagship projects for each county and determine how scaling up would impact the region in terms of empowering the communities economically by providing employment and improved livelihoods.
- Engage counties to determine whether budgets have been allocated for their ICT projects and the extent of support required from other financial partners.

5.2.5 Socioeconomic Impact of the ICT sector

Interventions in ICT to strengthen the sector can have the following impact on the region:

- ICT will enable the Lake Region to leapfrog certain technology developments and catch up with the rest of the world (Wangwe, 2007)
- The use of mobile phones has resulted in increased turnover and greater efficiency in business. (Wangwe, 2007)
- The provision of basic social services like health and education is facilitated by ICT development (Wangwe, 2007)
- ICT is an important tool in citizen agency, used by citizens to monitor public authorities and resources (Dobra, 2012)
- ICT increases the coherence of information, since it enables citizens to cross-reference and link pieces of information, making it easier to understand patterns of governmental actions and policies (Dobra, 2012)
- ICT helps reduce the asymmetry of information between elected officials and the electorate, and between bureaucrats and elected officials (Dobra, 2012)
- Increased participation by citizens in web-based forms of interaction results over time in a corresponding growth in a culture of openness and also increases transparency (Dobra, 2012)

5.3 Infrastructure

The capacity of the aforementioned sectors of Agriculture, Tourism, Education, Health, ICT and Financial Services rely on an efficient network of infrastructure in order to operate effectively. A well-networked and functioning infrastructure is essential for inter-county market integration, lowering unit costs of production and transactions, facilitating the flow of materials and information, reducing inequalities and poverty, and enhancing economic capacity of the region.

Nationally, the contribution of the infrastructure sector to GDP was 19.1 percent in 2012. The transport and communications sub-sectors have made the highest contribution to GDP over the last three years compared to the other infrastructure subsectors. The electricity and water supply sub-sector marked the least contribution to GDP at 1.4 per cent in 2012 (KIPPRA, 2013) 2013).

Electricity

In Kenya, power distribution is held by only one institution, Kenya Power Lighting Company. Power generation is done by the Kenya Electricity Generating Company (KENGEN) which provides 90 percent of Installed Capacity. Independent Power Producers (IPPs) contribute 10 percent of Installed Capacity; these include Westmont, Iberafrica, OrPower4 (Kenya) subsidiary of Ormat Technologies, Tsavo Power Company (TPC), Aggreko and Africa Geothermal International (AGIL). The total installed electricity generating capacity increased from 1,606.1 Mega Watts (MW) in 2012 to 1,717.8 MW in 2013. The domestic demand for electricity increased by 8.0 per cent and the number of connections under the Rural Electrification Programme (REP) rose by 18.5 per cent to stand at 453.5 thousand customers (Economic Survey, 2014).

Petroleum

Kenya has one of the largest crude oil refineries in East Africa, the 90,000-barrels-per-day (bbl/d) Mombasa refinery. In 2011, Kenya imported about 33,000 bbl/d of crude oil from the United Arab Emirates alone and another 51,000 bbl/d of refined oil products from other countries (KNBS). Kenya has a product pipeline system that transports petroleum products from Mombasa to inland areas. Most of the imported and/or domestically refined products are sold in Kenya's major cities and the remainder is sent to neighbouring countries via trucks. In 2011, Kenya consumed around 81,000 bbl/d of oil products.

In mid-2012 oil was discovered in Kenya with a confirmation of around 300 million commercially viable barrels worth of reserves. Kenya's deposits may top 10 billion barrels and if the Kenya-Uganda pipeline were connected, 500,000 barrels of oil could be piped per day; Oil could be ready for exportation as early as 2016.

The tables below shows the summary of electricity generation and consumption between year 2010 and 2013.

Table 15: Summary of electricity generation by source 2010 - 2013(Million GWH)

Energy	2010	2011	2012	2013
Hydro	3224.0	3217.2	4015.9	4435.01
Thermal oil	2201.0	2800.5	2200.4	2161.7
Geo thermal	1442.0	1443.7	1515.9	1780.9
Cogeneration	92.0	80.9	104.7	55.6
Wind	16.8	17.6	14.4	14.7
Imports	30.0	33.9	39.1	49.0

Table 16: Summary of electricity consumption, 2010 - 2013(Million KWH)

Consumption source	2010	2011	2012	2013
Domestic and Small commercial	2200.3	2471.4	2568.5	2866.1
Large & Medium (Commercial and Industrial)	3204.9	3440.3	3409.2	3585.3
Off peak	38.2	37.9	36.0	32.7
Street lighting	20.5	17.9	20.6	17.2
Rural electrification	290.8	306.1	380.1	426.8
Total Domestic	5754.7	6273.6	6414.4	6928.1
Export to Uganda	29.6	37.3	32.7	43.7

Transportation

Kenya has an extensive network of paved and unpaved roads. The railway system links the nation's ports and major cities and connects with neighbouring Uganda. According to the Kenya Roads Board, Kenya has 160,886 kilometres (99,970 mi) of roads with 11,189 kilometres (6,953 mi) unpaved. Two routes in the Trans-African Highway network pass through Kenya- Nairobi: the Lagos-Mombasa Highway and the Trans-African Highway which links East Africa and West Africa. However, it is only complete between the Ugandan–DR Congo border and Mombasa.

The total output value from the transport sector expanded by 3.3 per cent in 2013. Cargo throughput handled at the Port of Mombasa increased by 1.8 per cent to 22.3 million tonnes and railway freight tonnage dropped from 1.4 million tonnes in 2012 to 1.2 million tonnes in 2013. Total volume of white petroleum products through the pipeline increased from 4.9 Million cubic metres in 2012 to 5.2 MM in 2013. The table below shows a summary of transport and storage for the year 2010 to 2013.

Table 17: Summary of Transport and Storage 2010 – 2013

Consumption source		2010	2011	2012	2013
Air passengers handled	"000"s	7516	8722	8584	8232
Air freight handled	'000 Tones	247	304	295	262
Pipeline throughout	'000m3	4204	4257	4856	5171
Freight handled by Kenya Railways	'000 Tonnes	1572	1596	1394	1214
Freight handled by Kenya ports	'000 Tones	18977	19953	21920	22307
Ship docking	Number	1579	1684	1763	1786

(Source: Facts and figures 2014)

5.3.1 State of Infrastructure in the Lake Region

Currently, less than 50per cent of roads in the Lake Basin Region are paved. The region generates about 124 Kilowatt hours per capita per year, this is dismal in comparison to the large population in the region that requires power. The region is surrounded by the second largest fresh water lake in the world yet water transport is still underdeveloped. Sanitation coverage in the region is abysmal, 40per cent of the population lack access to safe portable water and 60 percent of the population lack basic sanitation facilities. The table below shows the summary of access to infrastructure per county:

Table 18: Summary of access to infrastructure by County

	Migori	Homabay	Kisumu	Siaya	Kisii	Nyamira	Vihiga	Kakmega	Bugoma	Busia
Improved water (% households 2009)	47.8	38.6	60.1	46.7	67.9	68.6	76.4	76.1	88.9	82.9
Improved sanitation (% households 2009	66.8	61.4	87.4	82.7	99.2	99.4	99.1	122.1	96.6	92.0
Electricity (% households 2009)	5.3	3.3	18.3	4.3	7.8	6.1	7.0	5.6	4.5	6.0
Paved roads (as % of total roads)	4.7	4.8	14.2	6.4	5.2	6.9	16.6	4.9	6.0	4.9
Good/fair roads (as % of total roads)	55.0	42.9	38.0	50.5	48.6	64.9	60.4	54.1	46.7	58.6

(Source: Facts and figures 2014)

Table 19: Summary of the percentage distribution of household by lighting fuel source

	Migori	Homabay	Kisumu	Siaya	Kisii	Nyamira	Vihiga	Kakmega	Bugoma	Busia
Elec.	5.2	3.3	18.3	4.3	8.0	5.8	6.9	5.5	4.4	5.5
Pressure Lamp	0.6	0.5	0.5	0.4	0.4	0.4	0.4	0.5	0.5	0.3
Lantern	25.6	21.2	23.2	20.6	31.7	40.3	28.4	28.2	26.7	21.4
Tin Lamp	66.4	73.0	56.2	73.0	58.0	51.6	62.2	63.9	66.6	71.4
Gas Lamp	0.6	0.5	0.4	0.4	0.6	0.5	0.8	0.8	0.6	0.5
Fuelwood	0.6	0.4	0.2	0.2	0.3	0.2	0.5	0.4	0.6	0.4
Solar	0.8	1.0	1.0	0.9	0.9	1.0	0.6	0.7	0.5	0.4

(Source: Facts and figures 2014)

5.3.2 Challenges in infrastructure in the Lake Region

The challenges to infrastructure in the region are:

- Lack of resources to undertake infrastructure development.
- Lack of reliable data to determine finance and manpower requirements of projects.
- Lack of infrastructure development framework that adequately delineate stage-by-stage project requirements in many Counties of the Region.
- Inadequate planning, mismatch of projects with society needs, and requirements.
- Inadequate supporting institutions at County level
- Competing political interests

5.3.3 Summary of Infrastructure Sector Investment Opportunities per Region

The table provides a summary of infrastructure sector investment opportunities per region:

Table 20: Investment Opportunities in the Infrastructure Sector per County

County	Current Infrastructure Situation/ Activities	Opportunities
Bungoma	• Bungoma County has 67 km of class A roads and 154 km of class C roads. • The County has two underutilized airstrips in Webuye and Bungoma Towns. • Electricity connectivity stands at a 1.5 percent. • The average distance to the nearest water source is 1.5 km in rural areas while in urban areas it is 0.5 km. • The water resources in the County include rivers, streams, dams, pans, wells, springs, roof catchment and scattered boreholes.	• Construction of bridges in Sanga'lo, Chebukaka-Terem • Set up a Hydro Power Station in Teremi and Nabuyole. • Improve market link roads and construct by passes and Expansion and re-designing of key County roads. • Economic Stimulus mobile bus ICT project for schools.
Homabay	• Homa Bay County has one class A1 (Kisii-Kisumu) road which covers about 30 km; one class C20 (Homa Bay – Rongo) road covering about 30 Km; two class C19 (Homa Bay – Mbita and Homa Bay – Kendu Bay) roads covering about 71 Km and one class C18 (Rodi Kopany – Sori) road covering about 32 Km. • The county has five airstrips, namely: Kabunde, Mfangano, Rusinga, Otange and Otaro • Water is a favourable means of transport between Suba, Mbita, Homa Bay Town and Karachuonyo sub-counties of Homa Bay County.	• Develop low cost alternative sources of energy (solar packs, wind energy, geothermal power; solid waste energy etc.) • Increase rural access to electricity; improve access to electricity connection to households, trading centers and islands (Mfangano, Rusinga, Remba, Ringiti and Takawiri) • Expand the road network all class C and D roads to be bituminized. • Installation of Radio Networks on the Islands • Opening up of Otange, Otaro and Kabunde airstrips. • Improve water transport.

County	Current Infrastructure Situation/ Activities	Opportunities
Kisii	• The County has a network of 1,133 km of classified roads and 435km of rural access roads. About 171 kms of the roads are tarmacked. • The County has one airstrip at Suneka in Kisii South sub-County • The electricity coverage in the County is estimated at 45 percent • There are numerous water supply schemes in Kisii County from rivers, protected springs and wells/ boreholes.	• Construction and upgrading of roads in Bobasi, Nyaribari Chache, Kitutu – Chache, Nyaribari- Masaba, Bonchari, South Mugirango and Bomachoge. • Promote use of other forms of energy ie solar, fireless, cookers, and biogas. • Rural Electrification Programme. • Establish ICT centers in all sub-counties. • Rehabilitation and expansion of the Air strip. • Establish of hydroelectric power station(s) at River Gucha
Kisumu	• The total length of tarmac road is 286km with the rest of the link roads being either gravel surface (725.6km) or earth surface (956.6km). • The county has Kisumu International Airport. • The main source of energy for cooking in Kisumu County is firewood which accounts for 60 per cent of all energy sources. • For lighting, paraffin is the most commonly used source of energy in the county accounting for 79.3 per cent of all energy sources followed by electricity at 18.3 per cent. • The water sources in the county are; Lake Victoria, shallow wells, unprotected springs, water pans, dam, boreholes and roof catchment systems	• A Railway network to connect with Kisumu International Airport. • Rehabilitation and expansion of Kisumu International Airport. • Construction and expansion of roads to facilitate transportation of farm produce. • Rural Electrification Programme implemented in markets and schools. • Improve County fire services • Street lighting • Improve waste disposal and treatment.
Siaya	• The County has 332 Km of bitumen road, 708 Km of gravel and 1,130 Km of earth roads • The County has a total of 28 Post Offices and 22 sub-post offices spread across the region. • Three courier services operate in the region they include G4S, Wells Fargo and EMS. • The main sources of lighting in the County include: tin lamps, lantern, electricity, pressure lamps, gas lamps, wood fuel and solar. • The main sources of cooking fuel used in the households include firewood constituting 82.5 per cent, charcoal at 13.6 per cent while 1.3 per cent of the households use paraffin. • Water supply facilities provide water coverage of 42per cent serving about 396,000 people in the County • 5.9 per cent of the households have access to piped water • Latrine coverage is 75.3 percent	• Construction and expansion of roads. • Expand and extend water distribution. • Construction of wells and bore holes. • Rural electrification Programme.

County	Current Infrastructure Situation/ Activities	Opportunities
Vihiga	• The county's total road network in length is 1,058.2 Km. Paved roads make up 16.6 per cent of the total road network. Bitumen surface covers a length of 201.5 Km, gravel surface 373.7 Km and earth surface 483 Km. • Urban household access to electricity is 10.8 per cent whereas the rural household access to electricity is 5.3 per cent. • The main source of cooking fuel is firewood which accounts for 84.8per cent of total cooking fuel whereas the main source of lighting fuel is paraffin accounting for 88.7 per cent of total population • The county has no working airstrip and relies on the neighbouring counties for flight services • Vihiga County is served with 23 post/sub-post offices and four private couriers	• Revive railway transport. • Revive the airstrip in Kaimosi and construction of an air strip at Hamisi and Mufwendete. • Expansion and construction of roads and foot bridges. • Rural electrification programme and promote other forms of energy use like solar like the construction of Bio gas and solar power stations at Izava, South Maragoli, Emuhaya. • Establishment of a community radio. • Establishment of a Hydro power generation plant at Egalogoli and Kaimosi • Construction of bus Parks. in Mbale, Majengo and Chavakali
Busia	• County has a total of 1,441.30KM of roads, of these, 58.6 km are of bitumen, and 377.5 km are gravel surface while earth surface roads cover 1,005.2 km most of which are unclassified. • The county has only 11 km of railway and served by one railway station at Malaba border. • The County has one airstrip located at Busia Town • There are two ports at the Lake Victoria shores, the Sio-Port in Funyula Sub-county and Port Victoria in Budalang'i Sub-county which mainly serve as fish landing ports. • Busia County has a total of 23 post offices and over ten licensed private couriers among them G4S, Wells Fargo, and a number of public service vehicle couriers such as Easy Couch and Crown Bus. • The major water sources in the county include Lake Victoria, over ten rivers, shallow wells and unprotected springs used for domestic and other purposes.	• Introduction of other sources of energy like solar and biogas • Rural electrification programme • Establishment of a dry port depot establishment within the county in Matayos and Teso North Sub counties towns. • Rehabilitation and upgrading of the airstrip. • Improve Water transport connectivity in the region (Budalang'i and Funyula Sub counties)

County	Current Infrastructure Situation/ Activities	Opportunities
Migori	• Migori has 104.6 km of tarmacked road including Road A1 that links Kenya with Tanzania through Isebania. • The county has three airstrips, namely: Migori at Lichota, Macalder and Kehancha. • The number of post offices iin the county are 5. • 77.4 per cent of the households in the county use firewood as the main source of energy for cooking followed by charcoal at 18.8 per cent and paraffin at 2.8 per cent while 94.4 per cent of the households use paraffin as the main source of energy for lighting. • The major water resources in the county is Lake Victoria, rivers, boreholes, shallow wells, springs. The major rivers include Kuja, Migori, Sare, Oyani, Riana, Tebesi and Misadhi. • Less than 3,000 households have access to portable water	• The county has the capacity to produce its own hydro-electric energy based on the available water supply from its rivers as is the case in the Gogo waterfalls. • Expansion, rehabilitation and construction of roads to promote movement of goods and services. • Rural electrification programme. • Promote use of other forms of energy i.e. biogas, solar, energy saving stoves, • Rehabilitation of Airstrips at Kehancha, Migori and Macalder. • Construction of water supply schemes and establish waste water treatment plant.
Nyamira	• A total of 298 km of all roads within the county is earth surface; 200 km are gravel surface, 100km is mixed surface, 80 km are bitumen surface. • The county has 5 post offices (Nyamira, Ikonge, Keroka, Nyansiongo and Kebirigo) and 15 sub post offices. • Firewood is the main source of energy in the county with 50 percent of the population using it. • Lantern and tin lamp are a common source of lighting in the rural areas at 39 percent and 55 percent of the rural households respectively • The county has 1,945 shallow wells, 2,521 protected springs, 694 dams as well as over 3,301 unprotected springs and 7 permanent rivers.	• Connection of electricity especially to institutions, youth polytechnics and market centers. • Rehabilitation and construction of more roads • Construction of foot bridges at Bitundugusi, Nyageita and Rianyamesa.
Kakamega	• The county has a total of 3500 km road network of which 260 km is of bituminous standard while gravel surface covers 1,701.7 km and the earth surface covers 1389.3 km and 149km of the rest • The four major private couriers are Group 4 Security services, G4S , Easy coach parcel services and Wells Fargo courier services. • Mobile telephone in the county has 85 percent coverage. • The main sources of water are the major rivers flowing through the county such as Nzoia, Sasala, Wiratsi, Isiukhu, Yala, Kipkaren and Lusumu Rivers. • Western Water Services Company is the main water company in the county.	• Expansion and rehabilitation of roads to ensure roads are passable and improve rural accessibility. • Construction and rehabilitation of bridges and river crossings in Khwisero, Ikolomani, Butere, Malava, Mumias, Likuyani, Shinyalu, Navakolo, Lurambi and Matungu. • Water points rehabilitation and supply adequate portable water. • Rural electrification programme • Rehabilitation and construction of sewerage and treatment works • Hydroelectric power generation on R.Yala, Nzoia and Lusumu

5.3.4 Key Interventions

Flagship Project: Creation of a Lake Region Ring Road

Infrastructure construction

The development rate of the infrastructure sector in the region will greatly inform the rate of development of the other sectors. Bridges need to be constructed across rivers in Bungoma, Siaya, Budalang'i to facilitate human movement; roads across the region have to be constructed or rehabilitated; electricity to be connected to households, markets, and health and education institutions, and water points need to be rehabilitated and portable water supplied to homes.

Airport and Airstrips Expansion

Kisumu International Airport is in the process of expansion to meet international standards and accommodate larger air crafts and cargo. Other airstrips in the region need to be rehabilitated, reopened and/or constructed especially in Busia County which is an established trading centre. Operational airstrips in the region are important facilitators of imports and exports for local businesses as well as making the region accessible to other parts of the country.

Lake Basin Region Railway and Dry Ports

Opening up the non-operational railway system of the region will create access to larger markets in East Africa. A functioning railway system will ease pressure on road transportation of cargo and human public transport. Additionally, building dry ports in counties bordering the Lake Victoria i.e. Siaya, Kisumu, Homabay and Migori and connecting the dry port termini with the rail system will benefit the economy of the region as it will attract international cargo export and import.

6. Cross Cutting Themes

There are four cross cutting themes aimed at integrating marginalised groups and issues into the Lake Region Economic Blueprint. These are: Women and Girls, Youth, Persons with Disabilities, and the Environment.

6.1 Women and Girls

6.1.1 Women in Agriculture

In Kenya, women command domestic duties as well as the majority of agricultural cultivation. In this region, agriculture accounts for 70 percent of the labour force, where women make up 75 percent of that work force (Freidenberg, 2013). However although women are given ownership of the crops they cultivate, they are not given the title of land owners (Freidenberg, 2013). Without laws to protect the equal rights of women to housing and property, including during marriage and at its dissolution, both at divorce and death of a spouse, women will continue to unreasonably shoulder the burden of poverty in Kenya (FIDA, 2008). Further, women are often prevented from interacting directly with men other than close relatives which limits their participation in agricultural or financial training and their ability to benefit from working with extension agents and veterinarians, most of whom are male and primarily address other men (Fletschner, 2011). It has been estimated that if women farmers had access to the same resources as men, they would be able to increase overall agricultural productivity by as much as 30% (Doss, 2012).

An important gender issue particularly pertinent to the Lake Region is the fish for sex issue. According to research done in 2012, in the region, particularly in the area around Lake Victoria, women fishmongers form relationships with fishermen as part of the jaboya system where women who wish to sell fish in the market secure the rights to purchase the fish caught by the fishermen by having sex with them(Kwena et al, 2012). Due to the nature and context of the sexual intercourse, sex typically occurs in a hurried manner, often without preparation or protection. As a result, women in these fishing communities are at increased risk of HIV. According to IRIN HIV prevalence among fishing communities stands at 30 percent, while an estimated 25 percent of all new infections in Nyanza are attributed to this group. An estimated 27,000 women are involved in the fish trade in Nyanza either directly or indirectly, according to the Ministry of Fisheries (IRIN, 2011). The continued poverty of women means they remain vulnerable to jaboya.

There is clearly a need of the Blueprint to address the unique problems women face in agriculture.

6.1.2 Women and Girls in Tourism

According to a report by the World Bank (2007) tourism is an important sector of the Kenyan economy and a large source of formal and informal employment for women. The majority of jobs held by females are in the sale of handicrafts such as weaving and wooden carvings (Ikiara 2001). The seasonal nature of tourism results in employment instability that reduces the sector's employment benefits for women.

An insidious aspect of tourism that affects women and girls is sex tourism. It has been documented that girls under the age of 18 are prostitutes for older male tourists. Apparently male tourists prefer young girls between the age of 15-20 who they pay as little as USD60 for sex. Other girls are subjected to group sex with several adult male tourists. Because of abject levels of poverty in many areas of tourism, families willingly allow or even encourage their young daughters to become child prostitutes to earn money for the household. Although this specific issue is not yet present in the Lake Region, it is important that steps be taken early to prevent a culture of child sex tourism emerging in the region.

6.1.3 Education Status of Women and Girls

In terms of ECDE, enrolment of boys and girls is growing towards a direction where they are at par. However, at primary level, enrolment rates begin to drop for girl partly due to poverty, limited finances, and a preference for educating boys rather than girls in some cultures, the use of girls in domestic child labour, and negative attitudes associated with girls' education (Norrag, 2003). According to UNESCO, secondary education remains low for girls (48%). Even when girls are enrolled in secondary schools, many do not complete the cycle due to gender insensitive teaching practices, sexual abuse and impregnation by male teachers and head masters, as well as shortage of female teachers as role models. (UNESCO, 2012)

These imbalances serve to limit the extent to which girl's potential can be fully developed as they also cumulatively affect the levels and nature of their participation in the labour market, politics and managerial positions. Thus, the Blueprint must have a focus on boosting girl child education.

6.1.4 Health Status of Women and Girls

Women and girls in the country are disproportionately affected by HIV, in particular widowed and divorced women (with 17-21% HIV infection rate) and those in polygamous unions (11% compared to the overall rate of 7%). The Kenya government has not directly addressed their needs and the root causes for their plight (FIDA, 2008). In addition, the fish for sex culture in the Lake Region makes women and girls particularly vulnerable to HIV infection.

In terms of maternal health, Ida Odinga reminds us that 7,700 women die each year in Kenya from pregnancy related complications (Odinga,2013). While life expectancy for women is higher than men in most countries, many health and social factors contribute to a lower quality of life for women (Odinga,2013). Women are often not able to receive medical services because of lack of funding, transportation, and a lack of awareness of their own rights. Girls are subjected to regressive practices such as female genital mutilation that have direct negative impacts on their health. Therefore the health strategy of the Blueprint will have components specifically targeting women and girls.

6.1.5 Women's Access to Financial Services

Women constitute approximately half of the rural labour force, the Lake Region included, and are economically active in each subsector of the rural economy; yet rural women are more likely to be credit constrained than men of equivalent socio-economic conditions (Fletschner, 2011). Legal regulations and customary rules often restrict women's access to and control over assets that can be accepted as collateral such as land or livestock. Women are much less likely to have land titled under their name and less likely than men to have control over land, even when they do formally own it. Biased inheritance rights often bestow land to male relatives, leaving both widows and daughters at a disadvantage (Fletschner, 2011).

Further, rural women's access to financial resources is also limited by biased lending practices that emerge when financial institutions that consider them smaller, less experienced and therefore less attractive clients (Fletschner, 2011). In Kenya, even though women entrepreneurs make up nearly half of all micro, small and medium enterprise owners and 40 percent of smallholder farm managers, they have less than 10 percent of the available credit and less than 1 percent of agricultural credit (Ellis 2007). And, it is typically the case that loans to women are smaller than those granted to men for similar activities (Fletschner, 2011).Therefore the Lake Region strategy will detail interventions in the Financial Services sector that specifically target and prioritise women.

6.1.6 Women, girls and ICT

There is a gender digital divide in Kenya and the Lake Region seen in the fact that women have lower access to ICT than men. In rural areas in particular, there are cultural structures that marginalize women to domesticity which limits their mobility and exposure to ICT (Wamala, 2012). Gender discrimination is seen in the fact that women and girls suffer more from a lack of confidence, language barrier, low literacy, lack of time and money, restricted mobility due to cultural factors or safety. Further, as girls and women continue to live in greater poverty, with lower education levels, less access to healthcare and other services, less opportunity to work, and lower status in their societies, chances are that their access and use of ICT will not match that of boys and men (Raftree, 20120).

This blueprint will list interventions that will address these constraints and ensure women and girls benefit from the ICT and other pillars of the Blueprint.

6.1.7 Interventions Targeting Women and Girls

The following are interventions designed to ensure women and girls benefit from activities detailed in the blueprint.

Agriculture

- Train women on value-added processing and introduce technologies to scale up value-added processing activities in order to attract higher prices
- Train women on marketing and business skills
- Provide incentives for women entrepreneurs in the sector by developing financial packages tailored to the diverse production and marketing conditions and risk factors. The Regional Bank should develop a variety of guarantee schemes that can underwrite

the risks involved in such packages.

- Target men: As men may pose roadblocks to women earning and controlling higher incomes, projects ought to incorporate men in order to mitigate tensions between men and women as well as produce more sustainable results for women. Projects such as ACDI/VOCA's Kenyan Maize Development Project and TechnoServe's East Africa Coffee Initiative can be referred to. Each incorporated the male partners of female project beneficiaries, educating men on subjects such as the importance of allowing women to attend training sessions and of including women in farm planning.
- On the Fish for Sex issue:
    - Provide women fishmongers with boats they own either through grants or loans
    - Develop behaviour change communications targeting men so that they look at the women as business partners and not sex partners

Tourism

The following interventions should be done to improve the status and benefits women accrue in the tourism sector:

- At national and regional level allocate 40% of all tourism spending in Kenya and the Lake Region to benefit disadvantaged groups, particularly women as is done in South Africa
- Aim for at least 1/3rd representation of women in all levels of position in Community Based Tourism programmes
- Develop Women's Business Association which has a Tourism department that can regularly interact with key stakeholders.

Education

- Continue to promote girl child education initiatives from primary school to tertiary education by working with government, development partners and NGOs
- Implement gender- sensitive training for teachers and school principals especially covering issues of encouraging girls in sciences, mathematics and technology
- Empower school principals, with a focus on females, to assume leadership roles in addressing female teachers' needs and creating linkages with decision-makers and the community
- Empower science, mathematics and technology teachers to attract and ensure effective participation of girls in science, mathematics and technology

Health (WHO)

- Girl Child interventions: Education; nutrition; protection against harmful traditional practices; protection against gender-based violence, child abuse, trafficking and slavery; immunization
- Adolescent girl: Primary and secondary school education; protection against early marriage, exploitation, abuse, sexual violence; establishment of youth centres for girls; adolescent-friendly health care services; encouragement of healthy lifestyles; life-skills and sex education; livelihood skills training; and, if affordable, HPV immunization
- Adult woman in reproductive year: Family planning services; comprehensive abortion care services; pregnancy care including in the reproductive antenatal, delivery and postpartum care, and care for the newborn; screening and treatment years for STIs including HIV; maternity leave protection; protection against domestic violence; female empowerment programmes; cancer screening
- Elder women: Healthy nutrition; cancer prevention services (e.g. cervical and breast cancers); protection against gender-related violence; screening for chronic non-communicable diseases; mental health support

Financial Services

Within the Regional Bank, develop a gender portfolio that delivers financing mechanisms with women and girls in mind. These are (Fletschner, 2011):

- Loans to women to purchase land or houses that require they be registered in women's names
- Loans offered to parents to buy assets for their girls.
- Special loans for businesses that employ women, or for businesses that offer services such as childcare that benefit women
- Allow female clients to choose loan sizes and repayment schedules according to their capacity and requirements
- Offer health insurance to female borrowers including pregnancy and birth-related expenses
- Provide weather insurance to women's agricultural groups
- Improve the availability of information targeted to rural women by supporting efforts to create affordable sources of information and media (a successful example is the Grameen Bank's Village Phone initiative)

ICT

- Identify female role models and leaders in ICT: With a focus of women from the region, the ICT strategy should make a point to profile these women particularly to girls in educational settings
- Engage men and boys: Work with males to make them understand their female relatives and friends. When fathers and male peers are aware, engaged and supportive of girls' development and their rights, they play a very strong role in changing broader norms and perceptions.
- Integrate ICT into education with a focus on girls: Ensure that girls have access to laptops in the class room as well as ICT to build media and digital literacy skills. Special care needs to be taken to ensure that girls have equal access to equipment.

6.2 Youth

6.2.1 Youth and Agriculture

Insights in this section are taken from a report done by VSO (2013). Agriculture has largely remained unattractive to young people, men and women, for a variety of reasons:

- Low returns on time and input investment
- Seasonality of incomes
- Lack of education/knowledge on modern farming and marketing approaches.
- Risks due to unpredictable weather and other natural factors such as pests
- Lack of innovations leading to reliance on traditional labour-based production techniques
- Concentration on a narrow range of agricultural commodities mainly staple crops
- Limited access to land among the youth

Further, school curricula have generally tended to alienate the youth from careers in agriculture, and as a result the negative effects of the youth study-to-work transition have been more pronounced in the agricultural sector than in any other sector. Further to many youth, agriculture is an undertaking of the last resort. Most youth consider agricultural work to be for 'those who have not gone to school'. Moreover, many youths who grew up in the villages have an experience of the long hours that go into traditional agriculture without a commensurate return. They may therefore believe their future lies with a different career that is financially more rewarding and can be found in the urban area. As a result, there is paltry involvement of youth in agriculture. This Blueprint will suggest mechanisms that can be used to change this.

6.2.2 Youth and Tourism

The main interface youth have with tourism in the country is sex tourism. Boys and girls even are often preyed upon by older foreign tourists. As a result, these young people end up being sexually assaulted numerously. It is imperative that the Lake Region does the following:

- Make it impossible for sex tourism to arise as a product that attract sex tourists
- Actively integrate youth into the tourism strategy of the region

6.2.3 Youth and Education

FSD International makes the point that while Kenya implemented universal primary education, the additional costs of uniforms and books prevent many from attending school. Families who are able to pay for these primary school costs (and forgo the opportunity cost of not having their children work) often cannot afford the fees to pay for secondary school. Secondary schooling, which properly equips children for the next level, is extremely expensive and rarely accessible in underserved areas. At the root of the problem is a drastic decline in education funding and social services by the Kenyan government and international donors.

The easily visible result is that a large percentage of Kenyan youth only have a basic level of education, few usable skills, and minimal employment opportunities. The perceived poor education system and subsequent idleness of these adolescents create a dangerous combination that frequently leads to drug abuse, early pregnancy, crime, and other at-risk behaviour. Similar to education, a decline in spending on social services has led to minimal care available to children who have been orphaned, leaving them highly vulnerable to exploitation and disease.

It is therefore crucial that the youth lens be applied to all interventions detailed in this Blueprint.

6.2.4 Youth and Health

A report by USAID, the Ministry of Health, FHI 360 and Progress states that according to the recent Kenya Demographic and Health Survey KDHS (2008-09) and the 2009 Census, Kenya has a broad based (pyramid shaped) population structure with 63% of the population below 25 years. Similarly, 32% of the population is aged between 10-24 years; also 41% of women and 43% of men of reproductive age (15-49) are below 25 years of age. Due to their large population, there is poverty and inadequate access to health care. Many youth do not get the opportunity to acquire life skills and consequently involve themselves in risky behavior that expose them to social, economic and adverse health events such as substance abuse, school dropout, crime, social unrest, unemployment, unintended pregnancy and life threatening sexually transmitted diseases and infections. Many young people are sexually active and are at risk of adverse reproductive health outcomes that subsequently affect achievement of life goals and optimum contribution to national development. Many youth initiate sexual intercourse early, have multiple partners and often do not use protection during sex. In general, young people are unlikely to seek health services, and when they do they are likely to get inadequate services. The health system has been slow to evolve to accommodate the needs of this age group both from program and service delivery perspectives. Further, low budget allocation in the Ministry of Health budget, limited resources for better programming, inadequate physical infrastructure for provision of services, and inadequate reproductive health (RH) information for youth all affect youth health.

There is therefore clearly a need for there to be a youth-focussed element of the health strategy for the Lake Region.

6.2.5 Youth and Financial Services

Currently in Kenya, there is no youth focus in financial services which encourages those under the age of 18 to have accounts. Kenya does not appear to promote financial inclusion and education among youth. However, according to a report by AudienceScapes (2010), youth in Kenya between the ages of 24-29 are likely to be the sole financial decision makers in their household. Although respondents 15-19 may have less responsibility over financial decision making, their need for information regarding financial services is no less diminished. Educating this age group before they become the head of household is crucial to the well-being of their future dependents and to the empowerment of a new generation of entrepreneurs. Among the youth, word-of-mouth on sources of finance tend to be friends and family members rather than financial experts, such as bankers or financial advisors. This raises the question of whether the word- of- mouth information received by most people is accurate and reliable. According to study on youth and financial services, the greatest challenge for expanding access to financial services is prejudice of staff against the youth segment; young people are still considered a high-risk market (Storm, 2010). This is despite the fact youth are already economically active. Most youth contribute to household income through work in the informal sector, in household-based enterprises, or in family-based farming, fishing and petty trading activities (Storm 2010).

Therefore, appropriate and inclusive financial services for young clients can play a critical role in assisting their transition from childhood to adulthood by equipping them with the resources and support needed to become productive and economically active members of their households and communities.

6.2.6 Youth and ICT

According to the UN, access to ICTs such as computers, mobile phones and the Internet, especially broadband, remains a challenge for youth in the developing world. In addition, the cost of ICT access (mobile phones and Internet) is much higher as a proportion of per capita income in these particularly disadvantaged countries (UN). For young people, access to information means better access to capital, markets and training needed to pursue a career or studies; increased participation in political processes, and recognition of youth as responsible citizens in today's society. Youth entrepreneurship, which is facilitated by access to technology, the internet and information, is fast being positioned as a solution for youth employment. While the good news is that they are using ICT, the challenge is to inspire them to use it to change their world in a positive way. The Lake Region can help by recognizing and encouraging the accelerated use of information and communication technologies by youth for employment enhancement and in development strategies and frameworks for the future.

6.2.7 Interventions Targeting the Youth

Agriculture

- Re-brand agriculture: There is a need to address the deep seated belief that agriculture and rural areas are for those who cannot make a livelihood anywhere else. Agriculture needs to be rebranded as the new unexplored frontier for growth in business opportunities.
- Develop innovative financial packages: There is need to incentivize entrepreneurs in agriculture by developing financial packages and guarantee schemes that would underwrite the risks involved in such packages. The funds should also be sufficient for the enterprises of choice
- Encourage youth to use modern technologies both in production and management of agriculture as a business.
- Short Term Training on agriculture for youth
- Affordable loans for youth in agriculture from government
- Provide youth with subsidies on inputs
- Promote enterprises that bring quick money
- Establish more agricultural factories to employ youth

Tourism

- Aim for at least 1/3rd representation of youth in all levels of position in Community Based Tourism programmes
- Develop a robust anti-sex tourism policy

Education

- The county should work with NGOs and others to get support to teach core subjects to primary and secondary school students. Subjects include mathematics, business education, biology, chemistry, physics, English, music, art and design, history and civics, HIV/AIDS education, and geography.
- Provide resources for a care centre for orphaned children (3-4 years of age) that provide nutrition, care, and recreational activities.
- Organize recreational activities for students, such as soccer, netball, basketball, volleyball, music, dance, drama, choir, boy/girl scouts, field trips (to local forests, prisons, and hospitals), farming activities (e.g. gathering crops), and/or horticulture.
- Provide counselling, tutoring, and recreational activities to primary school children who have been orphaned and are at severe risk of dropping out of school.
- Support community youth centre initiatives aimed at providing families with the information and tools they need to avoid and remove themselves from common poverty traps. Initiatives include educational theatre productions, group discussions with peer educators, counselling, and training toward income-generating activities.
- Teach a variety of vocational subjects to children and adolescents, such as carpentry, masonry, tailoring, and basic construction techniques appropriate to the region.

The National Youth Policy makes the following recommendations that can be applied by County governments(Ministry of Youth Affairs, 2006):

- Advocate affordable and accessible quality primary, secondary and university education
- Identify, support and partner efforts of communities, groups, non-profit organizations, places of worship, especially in technical education;
- Promote exchange of information, knowledge and human resources between the public and private institutions;
- Increase bursary provision for needy students;
- Improve existing training facilities for the youth;
- Establish enough special schools and rehabilitation centres to cater for the youth in special circumstances.
- Promote non-formal education and in-service learning.
- Promote and encourage skills development of the youth through vocational training and imparting life skills;
- Enforce the re-admission policy for girls who drop out of school due to pregnancy;
- Strengthen civic education in schools
- Develop links between training institutions and the employment market to ensure such institutions offer relevant skills
- Protect informal sector innovations by patenting them
- Involve the youth in formulating and reviewing of the education and training policy
- Scrutinize the private training institutions to ensure they meet the required academic and technical standards
- Strengthen family life education in schools
- Create linkages between educational institutions and the private sector through research, internship opportunities and financing

- Encourage the private sector to get involved in technical education.

Health
- Develop Health programs directed at youth
- Foster Parental Involvement
- Increase Adolescent/Youth Access to Services
- In Schools: Curriculum-based interventions especially on sexual and reproductive health, led by adults
- Health services: Interventions with service providers that include making changes either to the structure or functioning of the facilities themselves and are linked to interventions in the community to promote the health services to young people.
- Mass media: Interventions with messages delivered through radio
- and other media (e.g. print media); interventions with messages delivered through radio and television and other media (e.g. print media)
- Geographically defined: communities Interventions targeting youths using existing youth- service organizations
- Facility based programs that also have outreach and provide information and services

Financial Services
- Involve youth in market research and product development
- Develop products and services that reflect the diversity of youth
- Ensure that youth have safe and supportive spaces
- Link youth to complementary non-financial services

ICT
- Regional public service content should be available online
- The Lake Region should create an investment climate that allows private companies to serve the growing demand for ICT services
- Integrate ICT into education and training
- Provide wifi access in CBDs of all the major towns in each county
- Make it easier to access the internet: This will increase youth access as well as youth setting up internet cafés
- Teach young people to be safe and responsible users of this new technology, protecting them from some of the risks of unfettered access, such as child pornography, hate groups, stalkers, paedophiles, and cyber bullies
- Catalyse the economic empowerment and job creation for youth through ICT: Youth work in business process outsourcing (BPO) as customer care agents, data entry clerks, transcribers and online researcher; or as cyber café attendants and mobile phone and computer technicians.

6.3 Persons with Disability (PWDS)

Persons living with a disability constitute about 10% of the Kenyan population. 80% of PWDs live under very poor conditions in rural areas, in slums and informal settlements at the edge of towns (Grut, 2006). Disability can be defined as a physical, sensory, mental or other impairments, including any visual, hearing, learning, or physical incapability, which impacts adversely on social, economic or environmental participation of an individual (Ouku). People with disabilities have been denied justice through lack of interpreters in courts of law, access to social amenities (wheelchairs, specially designed bathrooms, hearing aids etc.) buildings, transportation, job and educational opportunities(Chomba, 2014). They have little or no access to education health, employment, and rehabilitation. In addition, this segment of society has been marginalized during distribution of resources because they are seen as more of a liability than asset (Chomba, 2014).

6.3.1 Persons with Disability and Agriculture

According to the Leonard Cheshire Foundation, people with disabilities in Kenya face several challenges when it comes to agriculture:
- Lack of knowledge: Persons with disabilities may have received little or no instruction or support in agricultural activities.
- Environmental barriers: Without adaptations, some impairments may limit ability to undertake some agricultural techniques; however, adaptations can cost time, energy or money that individuals with disabilities or members of their household are unwilling or unable to provide.
- Access to land: Growing space, land tenure and money to cover initial project costs such as tools and seeds, may be limited, and agriculture extension activities or microcredit schemes may be reluctant to include persons with disabilities.
- Social and cultural stigma: Prejudice against persons with disabilities may limit their ability to sell produce or food.

There is a clear need for the Lake Region to consciously incorporate PWDs into the agriculture strategy.

6.3.2 Persons with Disability and Tourism

No information could be found on the status of PWDs in tourism in Kenya.

6.3.3 Persons with Disability and Education

Children with disabilities are less likely to go to school than able bodied children. Grut makes the point that the lack of education for a PWDs is not only a question of being able to afford to go to school, but also of accessibility and suitability of the school itself (Grut, 2007). Most schools have not attempted to make the classrooms accessible for children with physical impairments or on wheelchairs. The transport to and from by public buses or simply by walking along the road is prohibitive. Often children do not go to school because the child is not able to walk that far and there is no possibility for transport. Ordinary schools have huge classes and the teachers are rarely qualified for dealing with the special needs of a disabled child. Supplies of adapted teaching materials or equipment in the ordinary schools are also lacking. If a disabled child needs assistance during the day in a normal school, the other students are the ones that are set to help; if they refuse, the child is left on its own. Further, in the school setting, students with disability are picked on by non-disabled students. Lack of education for poor families and their children with disabilities lead to reduced self-confidence and gives less knowledge of where to go for help. Children with disabilities have no money to buy a radio to listen to informative programmes and fewer opportunities to utilize the help that is actually offered in places such as special schools and special classes.

6.3.4 Persons with Disability and Health

According to a study, the reasons for an impairment leading to a disability may be manifold: Genetic, congenital, complications in pregnancy or during birth, illness later in life, accidents or environmental conditions (Grut, 2007). Since there has been no national survey on disability done in Kenya, and even less knowledge exists about their causes.

In terms of access to health services, PWDs have limited access to health care often due to issues such as the lack of money. Further for PWDs if they manage to get to the hospital they are not guaranteed to see a doctor as they often have to see specialists who are few and far between. Health care facilities often lack sufficient personnel to address the needs of PWDs and children with treatable conditions are not treated because of lack of both knowledge and equipment. Health services for PWDs in the rural areas are often dependent on foreign medical personnel who visit on an irregular basis. Further, there is a thorough lack of assistive devices, particularly in individually adapted devices (Grut, 2007). Families with mentally disabled children do not receive counselling on how to deal with the child's behaviour constructively. For women with disabilities, sexual abuse and harassment is a serious concern as they are easy targets.

It is crucial that the Lake Region ensure there are health services and facilities that speak to the needs of PWDs.

6.3.5 Persons with Disability and Financial Services

Handicap International makes the point that with regards to PWDs and financial services there are two main types of barriers (HI, 2006):

- Internal barriers: Such as lack of business skills, lack of formal education, or lack of self-confidence
- External barriers: Such as inadequate financial product design or attitudinal barriers (stigmas and prejudices). In Kenya micro-finance PWD applicants are told that disabled applicants cannot loans because they are not thought to be unable to pay back.

It is important the Regional Bank has financial products that specifically cater to PWDs.

6.3.6 Persons with Disability and ICT

The Communications Council of Kenya lists the following as challenges related to PWDs and ICT (CCK, 2012):

- Lack of awareness about various disabilities and their special requirements
- Low levels of literacy (Education)
- High Costs of adaptive ICT hardware and software coupled with financial constraints by PWD's
- Lack of ICT training specific to PWD.
- Inadequate research data and information
- Lack of Awareness of Adaptive ICTs among ICT Service Providers and PWD's
- Absence of clear intervention strategies at all levels (Government, Stakeholders)

- Lack of access of ICT infrastructure in rural areas
- Lack of awareness and use of accessibility standards in the design of ICT products, services and information dissemination tools e.g. Websites and other communication products and services.
- Many PWD learners have a linguistic challenge in the use of available adaptive software.

The Lake Region ICT strategy must have interventions in ICT targeted at PWDs.

6.3.7 Interventions targeting People with Disabilities

Agriculture

The following should be implemented in all counties of the Lake Region:

- The inclusion of disabilities in general agricultural policies
- Awareness raising around persons with disabilities' capacity to participate in agricultural activities
- Knowledge of agriculture: Persons with disabilities must be included in programmes available to the general community that provide knowledge and experience of both growing plants and rearing animals, and repairing garden produce for consumption or for the market
- Disability specific adaptations: Low- cost adaptations such as waist high sack gardens and keyhole gardens, often allow persons with disabilities to be more productive.
- Access to resources: Provide access to a range of often low-cost resources including information, seeds and young animals, tools and land. Also of importance is access to micro-credit and business development opportunities

Tourism

- Aim for representation of PWDs in all levels of position in Community Based Tourism programmes
- Make Tourist Sites accessible to PWDs

Education

The following is recommended for the Lake Region with regards to enhanced access to PWDs (Kanyingi, 2012):

- Learning institutions should take into account the special needs of persons with disabilities with respect to the entry requirements, pass marks, curriculum, examinations, auxiliary services, use of school facilities, class schedules, physical education requirements and other similar considerations.
- More special schools and institutions, especially for the deaf, the blind and the mentally retarded, should be established to cater for formal education, skills development and self-reliance.
- Make educational institutions accessible to PWDs, with the provision of transport to and form schools.
- Counties should work together to create an integrated system of special and non-formal education for persons with all forms of disabilities and the establishment where possible of Braille and recorded libraries for persons with visual disabilities.

Health

The Lake Region can learn from work done in South Africa by CBM and implement the following to improve PWD access to health services(CBM):

Awareness

- Identify the number of people with a disability within the community. This information can be gathered, for example, through meeting local people with a disabilities, census data, household surveys and facilities for inclusive education.
- Provide information regarding disability to health professionals to ensure there is up-to-date knowledge on prevalence and impact of disability.
- Use people with a disability in awareness-raising activities.
- Highlight the role played by the health sector in preventing impairment.
- Encourage awareness-raising efforts by disability service providers and Disabled Peoples Organisations (DPOs) with their local health providers.
- Advocate for the inclusion of disability within broader health policies, strategies, programs and monitoring mechanisms.
- Ensure billboards, posters or other health promotion information depicts people with a disability as part of the general population.

Participation

- Build relationships with people with a disability and DPOs to gain their active participation within the program.
- Ensure direct consultation with people with a disability for identification of their health-related barriers.

- Allocate a budget to cover travel and participation expenses along with attendance time for people with a disability and DPOs to actively be involved in consultations.
- Employ someone with a disability within the health service to ensure active participation and representation within the program.
- Promote people with a disability as health care workers to demonstrate their skills and capacity along with improving representation of service recipients.
- Develop strong linkages between health and disability stakeholders. Improve physical access to health services including hospitals, community health services and outreach clinics.
- Build capacity of health care workers in communicating with people with a disability.
- Build capacity of health services in order to meet the basic health requirements of early identification and diagnosis of impairment, with appropriate referrals to specialist medical and disability services.
- Address financial barriers to health services for people with a disability, embedding disability related funding strategies within policies.
- Pay particular attention to women and girls with a disability as they are often severely marginalised, experiencing numerous challenges, including sexual and physical violence.
- Sexual reproductive health programs should be particularly aware and inclusive of the requirements of women with a disability.
- National health plans and strategies, or vertical health programs, may not have considered the specific needs of vulnerable groups. Work towards greater inclusion of a disability perspective in all future plans.
- Address attitudes to improve participation of people with a disability.
- Use people with a disability and engage DPOs for capacity development activities around attitude, access and rights.

Employ a Twin Track Strategy

Mainstream	Disability specific
Promote disability inclusion in health programs.	Support initiatives that strengthen disability and specialist medical services. Facilitate access to all disability and specialist medical services including the cost of assistive devices or medication.
Ensure all data collected during programs can be disaggregated by disability, age and gender.	Work closely with local disability organisations to promote health services through their networks.
Adopt universal design principles for all health services. Ensure health facilities are built with accessible features, including ramps, widened doorways, accessible toilets, appropriate signage and adjustable height beds which will be useful for a range of purposes.	Promote the active engagement of people with a disability and DPOs in advocacy efforts with their local health service providers.
Advocate for the inclusion of disability within broader health policy, programs and monitoring mechanisms.	Map all specialist medical and disability services, including referral processes, and disseminate widely in varied formats.
Support initiatives that build disability inclusion into the health training curricula. Engage people with a disability in training efforts.	Promote the early identification of disability in childhood and establish appropriate referrals to disability services.
Depict people with a disability as members of the general population in health education and health promotion messages.	Support development and dissemination of clinical guidelines for commonly occurring impairment types.

Financial Services

In terms of increasing access to Financial Services to PWDs, Handicap International suggests:

- Inclusion in the Regional Bank through a variety of schemes, including raising awareness among microfinance staff, establishing partnerships for cooperation, adapting methodologies, or simply by supporting people with disabilities to submit their loan applications.
- Provision of financial services by organisations of/for people with disabilities themselves. However, this approach requires strong capacity building to enable organisations of/for people with disabilities to manage complex financial programmes. It also requires long-term donor commitment, since low or non-existent interest fees do not cover operational and financial costs.

ICT

The CCK has a robust programme for strengthening PWD's access to ICTs. The Lake Region should work with CCK to implement the following in each county and enhance PWD access to:

- Communication Services (Mobile and Fixed Line, Internet)
- Information (libraries and tele-care centers)
- Broadcasting services and Equipment
- Postal and Courier Services
- Websites
- ICT education,
- Financial information and services and;
- Role and Importance of research and accessibility standards

6.4 The Environment

6.4.1 The Environment and Agriculture

FSD International makes the point that environmental sustainability is an increasingly important issue in development, as those living below the poverty line directly rely on the water and land resources surrounding their communities. With only 8 percent of arable land and 75 percent of Kenya's workforce engaged in agriculture, Kenyan farmers face growing problems of soil erosion, deforestation, water pollution, and desertification. The drought in 2006—the most severe in independent Kenya's history—devastated the country, leaving 3.5 million people with barely enough food to survive (FSD 2012).

While global warming may be responsible for Kenya's severe droughts, current farming practices are also leading to the growth of environmental problems. Rampant pesticide use contaminates water resources while food production has declined due to soil erosion. Weaning farmers off of unsustainable methods is a difficult task in any circumstance, much less during times of economic desperation. Farming and daily life are also complicated by sharing the land with abundant wildlife. Wildlife is integral to the ecosystem and securing the conservation of native flora and fauna is critical to the region's future on a number of levels (FSD 2012).

6.4.2 The Environment and Tourism

The Lake Region's tourism products are predominantly nature based thereby warranting a need to consider the impact tourism can have on the environment if unmanaged, as has been the case in other tourist sites in Kenya. Indeed research by the Kenya Institute for Public Policy Research and Analysis indicates that environmental degradation and deterioration has negatively affected the quality of tourism products in Kenya (Ikiara, 2002). Whilst there is growing recognition that tourism does have some negative impacts on the environment, there is little empirical evidence on the subject. The researchers found that (Ikiara, 2002):

- Despite the country's policy advocating spatial distribution of tourists in the country, tourism marketing has continued to focus on the traditional attractions, thereby perpetuating concentration
- Impacts are most severe in crowded attractions – beaches have been polluted, coral reefs destroyed, marine species adversely affected and vegetation degraded
- Environmental regulations are either ignored or not effectively implemented
- Mitigation efforts are constrained by weak institutions, corruption, mismanagement, inadequate political and administrative capacity

These issues can easily be repeated in the Lake Region is there is no strategy to ensure the natural resources on which tourism is based are use sustainably.

6.4.3 The Environment and Education

This pertains to educational activities that pertain to the environment. Otieno makes that point that in Kenya, Environmental Education (EE) in its traditional forms is limited in meeting the immense challenges posed by unsustainable patterns of development and unsustainable life-styles (Otieno). New educational approaches are required to motivate people to act upon awareness to achieve the necessary changes of life-styles. The Kenyan population needs to be sensitized on the importance of using available natural resources sustainably to cater t o present and future generations. EE requires policies, legislation and regulations to be enforced to ensure economic production processes based on respect for natural and cultural capital resources.

6.4.4 The Environment and Health

Mbogoh makes the point that a poor state of the environment on the other hand undermines the internal capacity of the human body to fight off disease, and also harbours communicable disease agents and vectors (Mbogoh,). Pollution may actually directly compromise human health through poisoning or tainting the food chain. Poor environmental management on the other hand exacerbates negative health impacts such as disease outbreaks and pollution while natural disasters such as floods and droughts and significantly multiply the cost of healthcare. Degraded environments place heavy strains on the environment's ability to meet medicine, food, safe water, clean air and energy needs which are central to good health. The risks resulting from natural factors such as floods include pollution of drinking water which leads to proliferation of disease vectors and disease outbreaks such as cholera.

Drought causes extreme water scarcity for both rural and urban households with devastating health impacts. Poor disposal of human waster is another factor that contaminates the environment and breeds disease. Further, anthropogenic activities such as outdoor and indoor air pollution, chemical pollution, environmental degradation and marine pollution affect both rural and urban settings.

High population growth and fertility rates, coupled with the fact that the country is rapidly urbanizing exert enormous pressure on natural resources and the urban infrastructure in terms of health services, housing, sanitation, education, water services, transport, and waste management. Consequently serious collateral environmental damage in terms of over-exploitation of resources, pollution, unsustainable consumption and production patterns are lead to waste accumulation and ecosystem degradation.

The Lake Region is affected by environmental-related disease and it is important that interventions are stipulated to address this issue.

6.4.5 Interventions focused on the Environment

Agriculture

The Kenya Government has developed guidelines to integrate environmental concerns into agriculture development projects in relation to management of rangelands, forests, water quality, wildlife and conservation of genetic resource. These are recommendations that the Lake Region should integrate in agricultural policies:

- Establishment of early warning system to monitor the weather conditions and advice farmers appropriately
- Inspection and quality control of farm inputs
- Improved agricultural technology development and transfer system through participatory extension, private sector participation and farmer training
- Ensuring a functional early warning system in all drought prone districts and monitoring to include NGOs and local communities
- Inspection and quality control of farm inputs through improved legislation and empowerment of farmers associations
- Control of crop and livestock pests and diseases

Tourism

Sustainable tourism should be enshrined in the Tourism strategy of the region through the following interventions:

- Providing incentives to encourage industry initiatives aimed at protecting the environment
- Setting up a framework for information exchange and for environmental awareness creation of all stakeholders in the tourism industry
- Marketing of 'green' tourism products
- Promoting activities that create awareness of the need to conserve biodiversity
- Enhancing tourism enterprises that promote sustainable use of biodiversity resources
- Supporting interventions that reduce conflicts between people and biodiversity conservation

Education

The following is an outline of the type of interventions that can be taken by all counties in the Lake Region on Environmental Education (Otieno):

- Raise the level of environmental awareness
- Promote the co-ordination of EE activities
- Recognize the special relationships that local communities have with the environment and ensure that their perspectives are represented in EE initiatives.
- Enhance and support the integration of EE into all learning programmes, projects and initiatives.
- Develop partnerships between stakeholders, including the private sector, to promote and increase the level and quality of EE
- Promote technical cooperation, networking and information sharing
- Provide Lake Region citizens with a framework within which to develop effective EE programmes.

Health

The World Health Organisation (WHO) recommends the following be done to reduce environment-related disease burden (WHO, 2005):

- Conduct a baseline survey on environmental health issues, health status and knowledge of personal and environmental hygiene
- Promote personal and environmental hygiene in schools and communities.
- Promote safe drinking water in homes and schools.
- Support environmental health improvements in targeted schools and communities

7. Key Risks and Mitigation Strategies

There are key risks that have to be addressed in order for coordinated regional development to occur.

Unstable Political Leadership

There is a risk that counties and their leadership structures may not have a shared vision for regional transformation leading to the initiative deteriorating into competition. Further, even within a given county, political players may not all be on the same page, have competing interests or seek to seed failure in Blueprint participation for political gain. Creating consensus within and between counties has to be deliberately cultivated.

Tension with Devolution

While some of the sectors targeted for investment in this Economic Blueprint are largely devolved, some are not. Health has been devolved, but has shown serious gestation challenges as shown by constant threat of strike by health workers. Agriculture and infrastructure have not been fully devolved and therefore their development will depend on the national framework. So, while there great potential for development unleashed by devolution, there is a risk of County and National Development Plan creating conflicting priorities and creating a culture of confusion and unclear visions. It is therefore important that the counties liaise with structure such as the Lake Basin Development Authority. There is a need to either use the LBDA or a similar coordinating body tasked with synchronising various county plans. The Lake Region Economic Vision Secretariat could be such as body housed at Deloitte.

Poor Financial Management

A core component of making the Blueprint work is the pooling of financial resources by the various counties while implementing the Blueprint within a legal and institutional framework. The creation of a Regional Bank is the institution through which the finances will pass and it is therefore crucial that the management of the Bank is competent, corruption-free and transparent. If there is a feeling that certain Counties are hogging the management and direction of the bank this will sour the unity of the Region and the capacity to implement the Blueprint. It is therefore imperative that a clear leadership structure of the Regional Bank be agreed upon by all counties.

Tribal Tensions

Ethnic conflict and tribal tensions are on-going features of the Kenyan socio-political landscape. This initiative brings together different tribal groups, and they do not necessarily have a shared political vision. If a perception of tribal favouritism arises it will render the initiative divisive and impotent. Therefore, there is an urgent need for the constant awareness of regional and tribal dynamics and the management of the same in a manner that is equitable and fair.

8. Conclusion

This Economic Blueprint presents a strategy that can be used to meet the objective of the creation of a regional bloc and leverage economies of scale in the region, including shared resources, in order to improve the livelihoods of the people in the 10 counties of the Lake Region. The Productive Sectors provide a solid foundation on which the economy of the region can be strengthened while the Social Sectors ensure that the human capital of the region is invested in through Education and Health interventions. Including the Enabling Sectors of ICT, Financial Services and Infrastructure identify catalysts for the development of the Region in a specified manner to ensure the focussed application of capital and human resources to the development of the region. The Cross Cutting Themes give voice to traditionally marginalised demographic groups and concerns in a manner that guarantees that their inclusion in the implementation of the Blueprint so as to ensure the improvement in the quality of life for all.

As mentioned, the Lake Region Economic Blueprint aligns with the national development plans of Vision 2030 and its Medium Term Plan II for 2013-2017, as well as the County Integrated Development Plans for each county. The Economic Blueprint will be implemented through ministerial committees led by the counties with a specified county chairing the implementation of a given sector. The counties will also each have committees implementing activities of each of the sectors in their county.

Deloitte will be an on-going source of expertise and support for the Lake Region Economic Blueprint Project by assigning experts in the various sectors to the ministerial committees.

9. Addendum

After the process of doing the field work, research and development of the Blueprint, the counties of Kericho, Bomet and Trans Nozia indicated interest in joining the initiative. They have since agreed to and signed up for inclusion in the Lake Region Economic Blueprint.

Trans Nzoia is part of the food basket of Kenya, while Kericho and Bomet grow Kenya's biggest export crop, tea. The inclusion of these counties will add to the population of the region making it an even bigger trading bloc. The Blueprint will therefore be revised once the three counties are visited to obtain the views from the ground and obtain primary data.

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Contacts

Sammy Onyango
C.E.O, Deloitte East Africa
Tel : +254 20 423 0000
Direct: +254 20 423 0240
Email : sonyango@deloitte.co.ke

Emmanuel Lubembe
Director, Public Sector
Tel : +254 20 423 0000
Direct: +254 20 423 0569
Email : elubembe@deloitte.co.ke

Physical Location
Deloitte Place
Waiyaki Way, Muthangari
P.O BOX 40092
Nairobi – 00100 GPO
Kenya