

Food Security and Environmental Sustainability in Kenya

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Abstract

Food security is a multifaceted sustainable development topic, linked to health through malnutrition, but also to sustainable economic development, environment, and trade. It is noteworthy that small-scale farmers dominate the agricultural sector in Kenya and derive their livelihoods from agriculture which is mainly reliant on rainfall. These farmers, it has been noted, face the challenges of land degradation, poor soil fertility management, and continuous cropping. The agricultural sector in Kenya is highly exposed to climate change and climate variability, as farming activities directly depend on climatic conditions. This has adverse effects on both food security and environmental sustainability in the country. A population that is food insecure and poorly equipped concerning agricultural production is desperate to survive and this is often at the expense of environmental sustainability since they engage in unsustainable agricultural practices. The author herein argues that unless the food insecurity problem is adequately addressed, any efforts to achieve environmental security and sustainability in the country will be futile.

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1. Introduction

Food security is a multifaceted sustainable development topic, linked to health through malnutrition, but also to sustainable economic development, environment, and trade.¹ It is noteworthy that small-scale farmers dominate the agricultural sector in Kenya and derive their livelihoods from agriculture which is mainly reliant on rainfall. These farmers, it has been noted, face the challenges of land degradation, poor soil fertility management, and continuous cropping.² The agricultural sector in Kenya is highly exposed to climate change and climate variability, as farming activities directly depend on climatic conditions.³ This has adverse effects on both food security and environmental sustainability in the country. A population that is food insecure and poorly equipped concerning agriculture production is desperate to survive and this is often at the expense of environmental sustainability since they engage in unsustainable agricultural practices. The author herein argues that unless the food insecurity problem is adequately addressed, any efforts to achieve environmental protection and sustainability in the country will be futile.

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The Author wishes to acknowledge Ngararu Maina, LL.B (Hons) Moi, for research assistance extended in preparation of this paper. [July, 2014]

¹ World Health Organisation, 'Trade, foreign policy, diplomacy and health', *Food Security*, available at <http://www.who.int/trade/glossary/story028/en/> [Accessed on 17/07/2014].

² United Nations Economic Commission for Africa, 'An Assessment of Agricultural Sector Policies and Climate Change in Kenya: Nexus between Climate Change Related Policies, Research and Practice: Final Report' December, 2013. Page 1.

Available at

http://www.climdevafrica.org/sites/default/files/DocumentAttachments/ACPC_KIPPRA_Kenya_Policy_Research_Practice%20%26%20Climate%20Change_12.12.2013_Final.pdf [Accessed on 17/07/2014].

³ Ibid, page 2.

2. Background

Agriculture and fisheries sector make a major contributor to the Kenyan economy, accounting for 26.4% of the Growth Domestic Product (GDP) and providing 18% and 60% of the formal and total employment respectively during the financial year 2013/2014.⁴

It has been observed that food security is a growing concern worldwide, with more than one billion people estimated to lack sufficient dietary energy availability, and at least twice that number suffering micronutrient deficiencies.⁵

In Kenya, food security debate received a boost after the passage of the current Constitution of Kenya 2010, which expressly recognises the right of every person to be free from hunger, and to have adequate food of acceptable quality as well as the right to clean and safe water in adequate quantities.⁶ Further, the Constitution provides that the State shall *inter alia*: ensure sustainable exploitation, utilisation, management and conservation of the environment and natural resources, and ensure the equitable sharing of the accruing benefits; work to achieve and maintain a tree cover of at least ten per cent of the land area of Kenya; protect and enhance intellectual property in, and indigenous knowledge of, biodiversity and the genetic resources of the communities; encourage public participation in the management, protection and conservation of the environment; protect genetic resources and biological diversity; establish systems of environmental impact assessment, environmental audit and monitoring of the environment; eliminate processes and activities that are likely to endanger the environment; and utilise the environment and natural resources for the benefit of the people of Kenya.⁷

One such activity that is likely to endanger the environment is unsustainable agricultural practices as well as unsustainable economic activities such as charcoal burning, timber harvesting or logging.

To facilitate achievement of the foregoing, the Constitution requires that the State should take legislative, policy and other measures, including the setting of standards, to achieve the progressive realisation of the rights guaranteed under Article 43.⁸

In the 2013/2014 financial year, Kenya made substantial allocations towards achievement of food security. Kenya Shillings (K.shs) 2 billion was set aside for Agri-Business Fund, while K.shs 3.6 billion was allocated for the implementation of the first phase of the 1 million acre irrigation and food

⁴ Institute of Economic Affairs, Budget Guide, 'Budget 2013/14: The Onset of the Devolved Government and the Hurdles Ahead', June 2013. page 14. Available at www.ieakenya.or.ke/publications/doc.../277-budget-guide-2013-14. [Accessed on 18/07/2014].

⁵ Christopher B. Barrett, *et al.*, 'Measuring Food Insecurity', *Science*, Vol 327 12 February 2010. Pp. 825-828 at page 825.

⁶ Article 43(1) (c).

⁷ Article 69(1).

⁸ Article 21(2).

security project in Galana.⁹ This project is expected to, among others: Produce adequate food for the country and supplying to the market at affordable price; creating at least 3 million jobs along the agriculture value-chain, including multiplier effects; and transforming the Galana ranch and, by extension the coastal region, into an economic hub for production, agro-processing, packaging, distribution, exporting and tourism.¹⁰ To deal with the perennial challenges of food insecurity and to reduce cost of living associated with high food prices, the Cabinet Secretary for Agriculture stated that they will implement a comprehensive agricultural revitalization program aimed at expanding, enhancing productivity and transforming agriculture into a business venture.¹¹

Although the foregoing are some of the indicators of the Government's commitment towards achieving food security in the country, there is need for Kenya to do a lot more so as to achieve the Millennium Development Goals (MDGs), which aims to halve the proportion of people who go hungry over the period 1990 and 2015 and to halve poverty and unemployment by 2014.¹² A closer look at the MDGs Reports indicate that Kenya scores poorly in achieving these MDGs objectives, although there are indications of government effort towards the same.¹³ To this day, the country is still struggling with increase in numbers of chronically hungry people, skyrocketing food prices due to lower production of staple food which is basically maize and lack of agricultural inputs. This is despite having put in place several legislation and sectoral policies on agriculture some of which are highlighted herein. It is against this background that the author argues that much more still needs to be done to achieve food security and offers the way forward, calling for tailor made solutions to the problem of food insecurity in Kenya.

⁹ Statement Delivered To The Budget And Appropriation Committee Of The National Assembly On 13th June, 2013, By Mr. Henry K. Rotich, Cabinet Secretary For The National Treasury, Republic Of Kenya, When Highlighting The Budget Policy And Revenue Raising Measures For Fiscal Year 2013/2014 1st July, 2013 To 30th June, 2014.

¹⁰ Ibid.

¹¹ Ibid.

¹² United Nations Development Programme, *The Millennium Development Goals: Eight Goals for 2015*, available at <http://www.undp.org/content/undp/en/home/mdgoverview.html> [Accessed on 18/07/2014].

¹³ Government of Kenya, *Millennium Development Goals in Kenya: Needs & Costs*, Government Printer, Nairobi, 2005. Available at <http://planipolis.iiep.unesco.org/upload/Kenya/Kenya%20MDG%20Needs%20Assessment.pdf> [Accessed on 18/07/2014]; See also United Nations Economic Commission for Africa, 'Assessing Progress in Africa toward the Millennium Development Goals', *Food security in Africa: Issues, challenges and lessons*, MDG Report 2013, available at http://www.undp.org/content/dam/undp/library/MDG/english/MDG%20Regional%20Reports/Africa/MDG%20Report2013_ENG_Fin_12June.pdf [Accessed on 18/07/2014].

3. Meaning of Food Security

During the *World Food Summit of 1996*, food security was defined as existing when all people, at all times, have physical and economic access to sufficient, safe and nutritious food to meet their dietary needs and food preferences for an active and healthy life.¹⁴ It has also been defined as the existence of the necessary conditions for human beings to have physical and economic access, in socially acceptable ways, to food that is safe, nutritious and in keeping with their *cultural preferences* (Emphasis ours), so as to meet their dietary needs and live productive and healthy lives.¹⁵

It has been asserted that food security requires ensuring that food grains are physically and economically accessible to households, and economic accessibility depends upon the purchasing power of the people, which is primarily affected by two factors, the price of food grains and the income of the people.¹⁶ This definition is useful in determining the best ways of achieving food security in any society as it brings out the various issues involved and calls for a multi-sectoral approach to the problem. It calls for the participation of all persons in the process and most importantly, requires that the affected communities (at least in the context of Kenya) should be involved so as to achieve the social acceptance and cultural preferences aspects of the same.

Thus, the definition adopted at the World Food Summit 1996 is the most comprehensive and widely used one at the global, regional and national levels to achieve world food security. All the aspects of food security as captured therein must therefore be addressed for a fulfilling solution to the food security problem.

4. Elements of Food Security

It has been argued that a right-to-food approach to food security is not based on vague and replaceable policy goals subject to periodic redefinition, but on existing, comparatively specific and continuously becoming more precise obligations undertaken by governments.¹⁷ The right to food cannot only be regarded as a means to achieve food security, but must be seen as a wider, more encompassing,

¹⁴ The 1996 World Food Summit definition.

¹⁵ Inter-American Institute for Cooperation on Agriculture, *IICA's Definition of Food Security*, March, 2009. Page 1. Available at http://www.iica.int/esp/programas/SeguridadAlimentaria/Documents/SeguridadAlimentarias_Quees_Eng.pdf [Accessed on 17/07/2014].

¹⁶ Ananda, D., - 2012, Chapter - II, 'Food Security: the Concept and the Issue', page 2. Available at http://shodhganga.inflibnet.ac.in/bitstream/10603/4066/8/08_chapter%202.pdf [Accessed on 18/07/2014].

¹⁷ Mechlem, K. (2004), Food Security and the Right to Food in the Discourse of the United Nations. *European Law Journal*, 10: 631–648. doi: 10.1111/j.1468-0386.2004.00235.x/abstract [Accessed on 15/07/2014].

and distinct objective in itself, and realizing the right to food should, be part and parcel of rights-based approaches to development that aim to implement all human rights obligations which States have committed themselves to under human rights law.¹⁸ It is important to note that human rights are interdependent and interrelated and cannot be achieved separately, thus calling for an integrated approach to achieving them.¹⁹

Food security has also been conceptualized as resting on three pillars: availability, access, and utilization.²⁰ These concepts are seen as inherently hierarchical, with availability necessary but not sufficient to ensure access, which is, in turn, necessary but not sufficient for effective utilization. It is said that adequate availability is necessary, but does not ensure universal access to “sufficient, safe and nutritious food,” as access is most closely related to concepts of individual or household well-being such as the range of food choices open to the person(s), given their income, prevailing prices, and formal or informal safety net arrangements through which they can access food.²¹ Aspects such as unemployment, food prices, and economic policies affect food security, thus demonstrating the close relationship with poverty, social, economic, and political issues.²²

Food security, as a concept, is multi-sectoral and therefore requires interplay among many other factors if it is to be fully achieved in the society.

¹⁸ Ibid.

¹⁹ The Universal Declaration of Human Rights, 1948.

²⁰ Christopher B. Barrett, *et al.*, ‘Measuring Food Insecurity’, *op. cit.* page 825.

²¹ Ibid, Barrett argues that utilization reflects concerns about whether individuals and households make good use of the food to which they have access: Do they consume nutritionally essential foods they can afford, or do they choose a nutritionally inferior diet? Are the foods safe and properly prepared, under sanitary conditions, so as to deliver their full nutritional value? Is their health such that they absorb and metabolize essential nutrients? Utilization pays greater attention to dietary quality, especially micronutrient deficiencies associated with inadequate intake of essential minerals and vitamins.

²² See generally Smith, P. J., *Food Security and Political Stability In The Asia-Pacific Region*, Asia-Pacific Center For Security Studies, September 11, 1998 Honolulu, Hawaii.

Available at http://www.apcss.org/Publications/Report_Food_Security_98.html [Accessed on 18/07/2014]; Burns, C., ‘A Review of the Literature Describing the Link between Poverty, Food Insecurity and Obesity with Specific Reference to Australia’, *VicHealth Literature Review*, April 2004.

Available at

http://secure.secondbite.org/sites/default/files/A_review_of_the_literature_describing_the_link_between_poverty_food_insecurity_and_obesity_w.pdf [Accessed on 18/07/2014].

5. Legal and Institutional Framework on Food Security

5.1 International Legal and Institutional Framework

It is noteworthy that in most of the international instruments on human rights, the right to food has been recognized as part of the right to an adequate standard of living, striving to promote freedom from hunger.²³ The *Charter of the United Nations*²⁴ has provisions to the effect that with a view to the creation of conditions of stability and well-being which are necessary for peaceful and friendly relations among nations based on respect for the principle of equal rights and self-determination of peoples, the United Nations shall promote: higher standards of living, full employment, and conditions of economic and social progress and development; solutions of international economic, social, health, and related problems; and international cultural and educational co-operation; and universal respect for, and observance of, human rights and fundamental freedoms for all without distinction as to race, sex, language, or religion.²⁵

The *Universal Declaration of Human Rights* (UDHR)²⁶ states that everyone has the right to a standard of living adequate for the health and well-being of himself and of his family, including food, clothing, housing and medical care and necessary social services, and the right to security in the event of unemployment, sickness, disability, widowhood, old age or other lack of livelihood in circumstances beyond his control.²⁷

The *International Covenant on Economic, Social and Cultural Rights*²⁸ (ICESCR), provides that the States Parties to the Covenant recognize the right of everyone to an adequate standard of living for himself and his family, including adequate food, clothing and housing, and to the continuous improvement of living conditions. Further, the Covenant requires that the States Parties to the Covenant, recognizing the fundamental right of everyone to be free from hunger, shall take, individually and through international cooperation, the measures, including specific programmes, which are needed:²⁹ to improve methods of production, conservation and distribution of food by making full use of technical and scientific knowledge, by disseminating knowledge of the principles of nutrition and by developing or reforming agrarian systems in such a way as to achieve the most efficient development and utilization

²³ See the *Food and Agricultural Organisation* (FAO), 1965 Preamble to the Constitution.

²⁴ United Nations, *Charter of the United Nations*, 24 October 1945, 1 UNTS XVI

²⁵ *Ibid*, Article 1.

²⁶ UN General Assembly, *Universal Declaration of Human Rights*, 10 December 1948, 217 A (III).

²⁷ Article 25.1.

²⁸ UN General Assembly, *International Covenant on Economic, Social and Cultural Rights*, 16 December 1966, United Nations, Treaty Series, vol. 993, p. 3

²⁹ Article 11.2.

of natural resources; and taking into account the problems of both food-importing and food-exporting countries, to ensure an equitable distribution of world food supplies in relation to need. In addition, the Covenant commits the States Parties to the Covenant to undertake to guarantee that the rights enunciated in the present Covenant will be exercised without discrimination of any kind as to race, colour, sex, language, religion, political or other opinion, national or social origin, property, birth or other status.³⁰

The *Rome Declaration and Plan of Action*³¹ declared that everyone should have access to adequate and safe food and be free from hunger, and action must be taken to assist the more than 800 million people without food to meet their basic needs. The Declaration went further to state that human rights, democracy and freedoms of all people are all crucial to supplying the world with enough food to go around, while poverty, environmental degradation, war, terrorism and corruption also cause insecurity in terms of food for all.

They call on individuals and governments to be responsible for promoting food distribution, and the need for all sectors of society to work together and use the UN as a base of support. The *Declaration* and the *Plan of Action* emphasised on the need for mobilizing all types of resources around the world in order to help nations without resources to reach safe and healthy levels of food security. The attendees of the Rome Conference pledged to help create a proper environment, politically, economically and socially, for the implementation of programmes that would ensure food security the world over. All nations are to promote and develop policies that should allocate resources, involve all peoples, help in times of disaster, and improve the quality of life for all so as to ensure that food security for the entire world will be achieved.

The *Sustainable Development Goals*³² are to succeed the Millennium Development Goals in 2015 and these are *inter alia*: end poverty in all its forms everywhere; end hunger, achieve food security and adequate nutrition for all, and promote sustainable agriculture; attain gender equality, empower women and girls everywhere; secure water and sanitation for all for a sustainable world; promote strong, inclusive and sustainable economic growth and decent work for all; promote sustainable industrialization; reduce inequality within and among countries; promote sustainable consumption and production patterns; promote actions at all levels to address climate change; attain conservation and sustainable use of marine resources, oceans and seas; protect and restore terrestrial ecosystems and halt all biodiversity loss; achieve peaceful and inclusive societies, rule of law, effective and capable

³⁰ Article 2.2.

³¹ World Food Summit: The Rome Declaration and Plan of Action' Rome, 13-17 November 1996.

³² United Nations Department of Economic and Social Affairs, Division for Sustainable Development, 'Sustainable development goals', available at <http://sustainabledevelopment.un.org/?menu=1300> [Accessed on 18/07/2014].

institutions; and strengthen and enhance the means of implementation and global partnership for sustainable development.³³

According to the Rio+20 outcome document³⁴, member States agreed that sustainable development goals (SDGs) must *inter alia*: be based on Agenda 21 and the Johannesburg Plan of Implementation; fully respect all the Rio Principles; contribute to the full implementation of the outcomes of all major summits in the economic, social and environmental fields; focus on priority areas for the achievement of sustainable development, being guided by the outcome document; address and incorporate in a balanced way all three dimensions of sustainable development and their inter-linkages; be coherent with and integrated into the United Nations development agenda beyond 2015; not to divert focus or effort from the achievement of the Millennium Development Goals; and include active involvement of all relevant stakeholders, as appropriate, in the process.³⁵

5.2 Regional and Kenya Framework

Africa as a continent has attempted to put in place measures so as to deal with the problem of food security for its people. There exist regional instruments that attempt to bring together the efforts of various countries so as to adequately address the problem of food security for their people.

The *Comprehensive Africa Agriculture Development Programme (CAADP)*³⁶ was established as part of *New Partnership for Africa Development (NEPAD)* in July 2003 with the objective of improving and promoting agriculture across Africa.³⁷ CAADP aims to eliminate hunger and reduce poverty through agriculture so that by the year 2015, the following can be achieved: dynamic agricultural markets within and between countries and regions in Africa; farmers being active in the market economy and the continent becoming a net exporter of agricultural products; a more equitable distribution of wealth for rural populations; Africa as a strategic player in agricultural science and technology; and environmentally sound agricultural production and a culture of sustainable management of natural resources in Africa.

³³ Ibid.

³⁴ The Rio+20 Outcome Document, *The Future We Want* (Resolution 66/288, July 2012).

³⁵ United Nations Department of Economic and Social Affairs, Division for Sustainable Development.

³⁶ Visit <http://www.nepad.org/foodsecurity/agriculture/about> [Accessed on 19/07/2014].

³⁷ Ibid.

The *Protocol to the African Charter on Human and Peoples' Rights on the Rights of Women in Africa*³⁸ guarantees the right of women to food security and requires States Parties to facilitate women's enjoyment of this right to nutritious and adequate food.

The *EAC Climate Change Policy*³⁹ was formulated with the overall aim contributing to sustainable development in the East African Region through harmonized and coordinated regional strategies, programmes and actions to respond to climate change.⁴⁰

The *East African Community Treaty* 1999 which is a multi-sectoral treaty states that the overall objectives of co-operation in the agricultural sector are the achievement of food security and rational agricultural production within the Community.⁴¹

The *East African Community Food Security Action Plan* (2011 – 2015)⁴² was developed to address food insecurity in the East African region and was informed by the overall objective of the EAC Treaty regarding cooperation in agriculture and rural development which is the achievement of food security and rational agricultural production.⁴³

The *EAC Agriculture and Rural Development Policy* (EAC ARDP)⁴⁴ was formulated with the aims of attaining food security through increased agricultural production, processing, storage and marketing. The Policy is an initial step towards the implementation of the provisions of the Treaty. It reflects the commitment of the Partner States to foster their economic co-operation for the benefit of their peoples.⁴⁵

Kenya's *National Environment Policy* 2013⁴⁶ provides for the conservation and sustainable development of forest ecosystems and their associated resources as essential for sustainable poverty reduction and sustainable development.

Kenya's *National Food and Nutrition Security Policy* 2011⁴⁷ was formulated to add value, build synergies and assist with the implementation of existing national and sectoral policies and strategies to effectively address issues of food insecurity and malnutrition in Kenya.

³⁸ African Union, *Protocol to the African Charter on Human and People's Rights on the Rights of Women in Africa*, 11 July 2003.

³⁹ East African Community (EAC) Climate Change Policy, EAC Secretariat, Arusha, Tanzania, April 2011.

⁴⁰ Clause 2.1.

⁴¹ Article 105(1). Chapter Eighteen of the *East African Community Treaty 1999*⁴¹ is dedicated to agriculture and food Security in the region.

⁴² EAC Secretariat, Arusha, Tanzania, February, 2011.

⁴³ *Ibid*, page 6, clause 1.1.

⁴⁴ EAC, Tanzania, November 2006.

⁴⁵ East African community, Agriculture and Livestock, *EAC's agenda for agriculture*, available at http://www.agriculture.eac.int/index.php?option=com_content&view=article&id=73&Itemid=117 [Accessed on 18/07/2014].

⁴⁶ Government Printer, Nairobi.

⁴⁷ Government Printer, Nairobi.

The aim was to understand and build from existing Government and partner initiatives, rather than duplicate such efforts.⁴⁸

The *Vision 2030*⁴⁹ is Kenya's blueprint for development, covering the period between 2008 and 2030, with the aim of transforming Kenya into a newly industrialising, 'middle-income' country by providing a high quality life to all its citizens by the year 2030.

The Ministry of Agriculture, Livestock and Fisheries is mandated with promoting and facilitating production of food and agricultural raw materials for food security and incomes; advancing agro based industries and agricultural exports; and enhance sustainable use of land resources as a basis for agricultural enterprises.

The *National Agricultural Sector Extension Policy 2012 (NASEP)*⁵⁰ provides for effective management and organization of agricultural extension in a pluralistic system where both public and private service providers are active participants. It provides a point of reference for service providers and other stakeholders on standards, ethics and approaches, and guides all players on how to strengthen coordination, partnership and collaboration.⁵¹

The *National Accelerated Agricultural Input Access Program (NAAIAP)* is a pro-poor, food security and poverty alleviation government initiative that is aligned with Vision 2030 and other government policy documents.⁵² It provides targeted agricultural inputs subsidy to smallholder resource poor farmers. The core objective of NAAIAP is to improve farm inputs access and affordability for small-scale farmers to enhance food security at household level and generate incomes from sales of surplus produce. The Program is however said to be facing challenges due to limited information on crop nutrients requirements, characteristics of soils and high level of variation in soil properties that are experienced across many sub counties where the program operates.⁵³

6. Food Security, Peace and Environmental Sustainability

There are environmental trends that threaten to radically alter the planet, that threaten the lives of many species upon it, including the human species.⁵⁴ Forest areas are converted to low-grade farmland

⁴⁸ Ibid, clause 1.5.1.

⁴⁹ Government Printer, 2030.

⁵⁰ Government of Kenya, June 2012, Government Printer, Nairobi.

⁵¹ Ibid, page ii.

⁵² Ministry of Agriculture, <http://www.kilimo.go.ke/> [Accessed on 19/2014].

⁵³ Ibid.

⁵⁴ World Commission on Environment and Development. (1987). *Our common future*. Oxford, Oxford University Press. Paragraph 7.

unable to support the farmers who settle it.⁵⁵ In the Northern parts of Kenya, the negative climate change impact on natural resources, stress existing mechanisms for sharing resources like food and pastures, and there is always potential for tensions which can often escalate into serious clan fights for the available limited resources. The pastoralists graze their cattle on the existing pasture leaving the soil bare. Recently, the Turkana community has turned to agriculture as a way of livelihood. However, considering that there are other communities in the area who are still pastoralists, there is likelihood of tribal clashes over the resources found in the irrigated areas.

There has been an increase in food insecurity in pastoral areas of East Africa due to a combination of climate change, population growth, and the continued underinvestment in and marginalization of pastoral areas.⁵⁶ Further, it has been observed that in recent years, there have also been an increased settlement in pastoral areas – particularly around fixed water points – and this, combined with lack of effective natural resource management institutions to manage livestock and pastures in a sustainable way, has reportedly led to a number of environmental problems, including overgrazing, soil degradation and erosion.⁵⁷ Attempts to secure control of water sources are likely to be divisive and may become politicized along ethnic lines, or even lead to inter-state tensions with neighbouring countries.⁵⁸

Desertification⁵⁹ alongside climate change and the loss of biodiversity were identified as the greatest challenges to sustainable development during the 1992 Rio Earth Summit.⁶⁰ The *United Nations Convention on Combating Desertification* 1994⁶¹ (UNCCD) is a binding international agreement linking environment and development to sustainable land management. The Convention addresses specifically the arid, semi-arid and dry sub-humid areas, known as the dry lands. In the *10-Year Strategy of the UNCCD* (2008-2018) that was adopted in 2007, State Parties to the Convention are "to forge a global

⁵⁵ Ibid.

⁵⁶ Conservation Development Centre, International Institute for Sustainable Development and Safer world, *Climate change and conflict: Lessons from community conservancies in northern Kenya Conservation Development*, November 2009. Available at http://www.iisd.org/sites/default/files/pdf/2009/climate_change_conflict_kenya.pdf [Accessed on 18/07/2014].

⁵⁷ Ibid, page 8.

⁵⁸ Ibid, page 10.

⁵⁹ Article 1 of the United Nations Convention To Combat Desertification defines "desertification" to mean land degradation in arid, semi-arid and dry sub-humid areas resulting from various factors, including climatic variations and human activities.

⁶⁰ United Nations Convention to Combat Desertification, *About the Convention, Treaty Series*, vol. 1954, p. 3 available at <http://www.unccd.int/en/about-the-convention/Pages/About-the-Convention.aspx> [Accessed on 18/07/2014].

⁶¹ *United Nations Convention to Combat Desertification in Those Countries Experiencing Serious Drought and/or Desertification, Particularly In Africa*, A/AC.241/27, 12 September 1994. Kenya signed the Convention on 14 Oct 1994 and ratified it on 24 Jun 1997. As per Article 2.1 thereof the objective of the Convention is to combat desertification and mitigate the effects of drought in countries experiencing serious drought and/or desertification, particularly in Africa, through effective action at all levels, supported by international cooperation and partnership arrangements, in the framework of an integrated approach which is consistent with Agenda 21, with a view to contributing to the achievement of sustainable development in affected areas.

partnership to reverse and prevent desertification/land degradation and to mitigate the effects of drought in affected areas in order to support poverty reduction and environmental sustainability.”⁶²

7. Challenges to Food Security

7.1 Climate Change

The effects of climate change and associated extreme weather events threaten sustainable development and impacts negatively on the sector. Flooding and droughts affect food production, water supply, housing access, livestock production and general livelihoods of the people.⁶³

Northern parts of Kenya popularly referred to as the Arid and Semi Arid Areas (ASALs) have borne the full impact of climate change in Kenya. The results are often food crisis resulting in loss of lives of people, livestock and inter-tribal clashes. It has been asserted that reductions in crop yields and increasingly unpredictable weather patterns may lead to higher prices for food and greater food insecurity, and increase the stakes for control over productive agricultural land.⁶⁴ For instance, it has been predicted that there is going to be a hotter, drier and less predictable climate in the Middle East, a region already considered to be the world's most water-scarce with demand for water already outstripping supply.⁶⁵ Climate change threatens to reduce the availability of scarce water resources, increase food insecurity, hinder economic growth and lead to large-scale population movements and this could reportedly hold serious implications for peace in the region.⁶⁶ The challenge of climate change cannot therefore be successfully handled by one country but calls for international cooperation since it is a worldwide problem.

7.2 Land Tenure

In the face of the ever burgeoning population, agriculture land has continually diminished, forcing people to ‘make maximum use’ of the available land, often at the expense of sound agriculture practices such as agro forestry, or even worse turning to deforestation in attempts to get more land. The

⁶² UNCCD Decision 3/COP.8, *The 10-year strategic plan and framework to enhance the implementation of the Convention*, available at <http://www.unccd.int/Lists/SiteDocumentLibrary/10YearStrategy/Decision%20COP8%20adoption%20of%20The%20Strategy.pdf> [Accessed on 18/07/2014].

⁶³ *Environment Protection, Water and Housing Sector Report* 2012, page 62. Government Printer, Nairobi.

⁶⁴ Brown, O., and Crawford, A., ‘Climate Change and Security in Africa: A Study for the Nordic-African Foreign Ministers Meeting’, March 2009, *International Institute for Sustainable Development*, available at http://www.iisd.org/sites/default/files/pdf/2009/climate_change_security_africa.pdf [Accessed on 18/07/2014].

⁶⁵ Brown, O., and Crawford, A., ‘Rising Temperatures, Rising Tensions: Climate change and the risk of violent conflict in the Middle East’, 2009, *International Institute for Sustainable Development*.

⁶⁶ *Ibid*; See also Brown, O., and Crawford, A., ‘Give Peace (and the climate) a Chance’, November 6, 2009, *International Institute for Sustainable Development*. Available at http://www.iisd.org/sites/default/files/pdf/2009/peace_and_climate_a_chance.pdf

problem of the reduced land size is aggravated by poor and unsustainable agricultural practices such as excessive use of chemicals and cutting down of trees, which ultimately lead to environmental degradation. Indeed, according to the *National Environment Policy, 2013*⁶⁷ environmental degradation in Kenya directly contributes to impacts of climate change, and the expansion of human activities into marginal areas leading to clearance of natural habitats such as forests and wetlands has been a major driving force behind land degradation throughout the country.⁶⁸

Kenya's forest resources are being subjected to overwhelming pressure from competing land uses like agriculture, industry, human settlement and development of infrastructure.⁶⁹ In addition, extraction of forest products, illegal logging, cutting trees for fuel wood and charcoal and grazing of livestock have also contributed to the degradation of forests. These competing land uses have adverse environmental effects on long term sustainability of forest ecosystems. It is arguable that even though land reform has often been advocated for (and rightly so) as a solution to food insecurity in Kenya, the problem is more deeply rooted in patterns of inequality in power and access to human and material resources, necessary for sustainable agriculture. Access to land with no resources to improve it will not be very useful in achieving food security.

Thus, the unsustainable use of land in urban and rural areas, such as unsuitable agricultural land use, poor soil and water management practices, deforestation and overgrazing, remains a major challenge to all Kenyans due to the serious impact on the environment.⁷⁰

7.3 Poverty

Poverty has been defined as lack of access to food, clothing, shelter, education and health care, and it is a cause of hunger; poor people are always chronically hungry.⁷¹

Poverty is a major cause of food insecurity and sustainable progress in poverty eradication is critical to improve access to food through undertaking increased food production, including staple food.⁷² This should happen within the framework of sustainable management of natural resources, elimination of unsustainable patterns of consumption and production, particularly in industrialized countries, and early stabilization of the world population.

⁶⁷ *National Environment Policy, 2013* Government of Kenya, Government Printer, Nairobi, 2013. Clause 2.3. [Accessed on 18/07/2014].

⁶⁸ *Ibid*, Clause 2.3.

⁶⁹ *Ibid*, Clause 4.1.2.

⁷⁰ *Ibid*, Clause 4.6.2.

⁷¹ Ananda, D., - 2012, Chapter II, 'Food Security: the Concept and the Issue', op. cit. page 8.

⁷² *Ibid*.

Arguably, poverty and environment are inter-linked through four main dimensions: livelihoods, resilience to environmental risks, health and economic development.⁷³ Across many communities in Kenya, agriculture has been the single largest source of livelihoods for most people especially the poor. For sustainable and economical agricultural practice, there are resources such as seeds and mechanisation that are required. However, due to poverty, many of the poor lack the finances to facilitate this and also engage in unsustainable agricultural practices. Access to agricultural loans and extension services (which often require collateral) as well as training on economical, sustainable and productive agricultural practices is out of reach for many of the poor rural folk. Unsustainable farming practices in many regions are causing land resources to degrade—threatening future food security as well as the livelihoods of the poor rural people.⁷⁴

Indeed, the UN Committee on Economic, Social and Cultural Rights (CESCR Committee) observed in the General Comment No. 12 that the roots of the problem of hunger and malnutrition are not lack of food but lack of access to available food, *inter alia* because of poverty, by large segments of the world's population.⁷⁵ Arguably, food sustainability is not achievable in the face of poverty. This is supported by the CESCR Committee's assertion that the notion of sustainability is intrinsically linked to the notion of adequate food or food *security*, implying food being accessible for both present and future generations. The poor strive to survive from day to day and therefore food sustainability, which requires long-term availability and accessibility remains a mirage to many. Consequently, with the poor farming methods, insufficient food production and shrinking land parcels of land, environmental conservation becomes least of their concerns. It has been argued that persistent hunger and food insecurity on one hand and economic disparities on the other can only breed resentment and instigate violence, putting the social fabric of the nation at risk.⁷⁶ Poverty eradication is thus important so as to ensure that the country is not only food secure at the national level, but also at the household level.

⁷³ Angela Lusigi, UNDP-UNEP Poverty - Environment Initiative, *Linking Poverty to Environmental Sustainability*, page 1. Available at <http://povertyandconservation.info/sites/default/files/Linking%20Poverty%20to%20Environment%20Sustainability.pdf> [Accessed on 17/07/2014].

⁷⁴ International Water Management Institute, *Breaking the Cycles of Land Degradation: A case study from Ban Lak Sip, Laos*, *Water Policy Briefing Series*, Issue No. 16, December, 2005. Page 1. Available at http://www.iwmi.cgiar.org/Publications/Water_Policy_Briefs/PDF/wp16.pdf [Accessed on 17/07/2014].

⁷⁵ Paragraph 5.

⁷⁶ Ananda, D., - 2012, Chapter II, 'Food Security: the Concept and the Issue', op. cit. page 17.

7.4 Human-wildlife conflict

There are selected areas in the country especially those neighbouring game reserves and national parks that suffer from perennial shortage of food because once they cultivate their lands, the wildlife specifically herbivores leave the parks and destroy their crops. A good example is the elephants of the Mount Kenya region. The conflict arises especially in the densely settled areas and agricultural land which are not compatible with many kinds of wildlife.⁷⁷ Some of the communities living near forests resort to other means of generating income such as charcoal burning and timber sale, both of which in turn affect the environment negatively. Unless the government in consultation with all the relevant stakeholders including the communities adequately addresses such conflicts, food security for the affected communities remains a mirage.

8. Way Forward

It has been agreed that governing food systems to reduce hunger and malnutrition at country level is becoming ever more difficult, as food security increasingly depends on many exogenous factors and major global trends such as energy, climate change, protracted crisis, international investments, biofuels production, trade and finance.⁷⁸ There is need to adopt a National Food Strategy that would incorporate both long term and short term policy dimensions. The long term goal is to increase food security through improved agricultural production and diversified rural economy, while the short term the goal is to provide food security to the most vulnerable section of its population.⁷⁹

⁷⁷ Kenya Wildlife Service, *Human Wildlife Conflict Mitigation Measures*, available at http://www.kws.org/parks/community_wildlife_program/HWC.html [Accessed on 18/07/2014].

⁷⁸ *Workshop Report*, 'Good Food Security Governance: The Crucial Premise to the Twin-Track Approach', Organized by the Agricultural Development Economics Division (ESA) of the Food and Agriculture Organization of the United Nations (FAO), 5-6 December 2011, Rome. Page 1.

Available at

http://www.fao.org/righttofood/project_files/goodFSgovernance/FoodSecurityGovernanceWorkshop_backgroundpaper.pdf [Accessed on 15/07/2014].

⁷⁹ Asefa, S., 'Enhancing food access in Africa: The Botswana experience' *Studies In Comparative International Development*, Volume 26, Issue 3, pp 59-83, Springer-Verlag, Fall 1991.

Available at <http://link.springer.com/article/10.1007%2FBF02687175> [Accessed on 18/07/2014].

Since the issue of food security and environmental sustainability are interlinked with many other issues, it is important for all persons to be included in their debate. The States, stakeholders, private sectors and even communities must combine their efforts if any meaningful results are to be achieved.⁸⁰

8.1 Empowered Small Scale Farmers

It is estimated that there are about half a billion smallholder farms worldwide, with most of these being found in the developing countries where, the overwhelming majority of farms are small and family-run, and they produce most of the food consumed locally.⁸¹ It has rightly been observed that smallholder farmers: need more secure access to land and water, and better access to financial services to pay for seed, tools and fertilizer, better functioning markets that provide incentives to invest in improving production, with less risk; roads and transportation to get their products to market; access to technology for up-to-date and reliable market information; agricultural research and technology to raise productivity and to improve their resilience to natural resource degradation and climate change; and stronger organizations to pool their resources, better manage risk, have greater bargaining power in the marketplace, and influence agricultural policies and public investments.⁸² Food security requires attention to questions of distribution, since hunger often arises from lack of purchasing power rather than lack of available food.⁸³

The *Rome Summit Plan of Action* stated that research in agriculture, fisheries and forestry will be essential in achieving the sustainable food productivity increases upon which the short and long term food security of a growing world population will depend.⁸⁴ The combination of such research, and an enabling environment, can improve food security both at national and household levels. Further, research efforts should clearly focus on poverty eradication and on the creation of more environmentally sustainable agricultural, fisheries, forestry and food production systems. This research should be directed to low, as well as high, potential areas according to their specific research needs. Renewed efforts should be made to involve farmers, fishers, foresters and their organizations in setting research priorities and directions, and to make experimental findings accessible to them.⁸⁵

⁸⁰ See generally Muigua, K., and Musyimi, P.N., *Enhancing Environmental Democracy In Kenya*, available at http://www.kmco.co.ke/attachments/article/81/072_Envntal_Dem_Kenya.pdf [Accessed on 18/09/2014].

⁸¹ International Fund for Agricultural Development, *The future of world food and nutrition security: Investing in smallholder agriculture – an international priority*, May 2012. Page 2.

Available at http://www.ifad.org/hfs/index_full.htm [Accessed on 18/07/2014].

⁸² Ibid, page 2.

⁸³ Report of the World Commission 1987, *Our Common Future, From One Earth to One World*, op. cit. paragraph 47.

⁸⁴ Commitment No. 3.

⁸⁵ Ibid.

8.2 Climate Change Mitigation/Adaptation

It has been pointed out that climate change adaptation is an important step towards achieving both food security and environmental sustainability. Such adaptation, it is argued, is a key factor that will shape the future severity of climate change impacts on food production.⁸⁶ Countries in Sub-Saharan Africa are said to be vulnerable to climate change, given dependence on agricultural production and limited adaptive capacity.⁸⁷

This emphasizes the need for greater investments in rural and agricultural development to support the ability of households to make strategic, long-term decisions that affect their future well-being. Indeed, as recently as 2013, it was reported that Kenyan farmers and agriculture officials need to prepare for a possible geographic shift in maize production as climate change threatens to make some areas of the country much less productive for cultivation while simultaneously making others more maize-friendly.⁸⁸

Kenya has however shown some positive steps towards cushioning farmers and the general agriculture sector in Kenya against the effects of climate change. Indeed, Kenya has been hailed as being among the first non-LDC countries in Africa to develop government plans for responses to climate change across key economic sectors.⁸⁹ For instance, about five years ago, the Ministry of Environment and Mineral Resources, Office of the Prime Minister and Ministry of Development of Northern Kenya and other Arid Lands developed a five-year Natural Resources Management Program (2010–2014)⁹⁰ whose overall objective was to contribute to reduced poverty in the context of “Kenya Vision 2030” so as to safeguard the state of the environment and promote sustainable management of natural resources, including adaptation to climate change.⁹¹

⁸⁶ David B. Lobell, et al., Prioritizing Climate Change Adaptation Needs for Food Security in 2030, *Science*, Vol 319 1, February 2008. 607-610 at Page 607. Available at <http://www.sciencemag.org/content/319/5863/607> [Accessed on 18/07/2014].

⁸⁷ Bryan, E., et al., ‘Adapting agriculture to climate change in Kenya: Household strategies and determinants’ *Journal of Environmental Management*, Volume 114, 15 January 2013, Pp. 26–35. Available at <http://www.sciencedirect.com/science/article/pii/S0301479712005415> [Accessed on 17/09/2014].

⁸⁸ International Food Policy Research Institute (IFPRI), Report: *Climate change to shift Kenya’s breadbaskets* Sep 16, 2013. Available at <http://www.ifpri.org/pressrelease/report-climate-change-shift-kenya-s-breadbaskets> [Accessed on 17/09/2014].

⁸⁹ Maina, I., et. al., M. FAC Working Paper 70. *Agriculture and Climate Change in Kenya: Climate Chaos, Policy Dilemmas*. Future Agricultures Consortium, Brighton, UK (2013) 30 pp. at page 4. Available at http://r4d.dfid.gov.uk/pdf/outputs/Futureagriculture/FAC_Working_Paper_070.pdf [Accessed on 17/09/2014].

⁹⁰ Government Printer, Nairobi.

⁹¹ Waithaka, M., et. al. (eds), Chapter 7, ‘East African Agriculture and Climate Change: A Comprehensive Analysis’, *International Food Policy Research Institute*, Washington, DC, 2013. Page 2. Available at <http://www.ifpri.org/sites/default/files/publications/rr181ch07.pdf> [Accessed on 17/07/2014].

From the best international practices, the following have been identified as potential adaptation and mitigation strategic interventions to address gaps in agricultural production in Kenya: Promotion of the creation of weather based insurance scheme for crop and livestock production; Promotion of conservation agriculture to ensure efficient use of water resources through drip irrigation, water recycling, and reuse, mulching and appropriate land-use techniques, and so on; Promotion of appropriate irrigation technologies suitable for different agro-climatic regions and sensitive to ecological systems; and facilitation of the enhancement of farming systems that encourage crop diversification, including the cultivation of more drought-tolerant food crops such as millet, sorghum and sweet potatoes.⁹² Further, the United Nations Economic Commission for Africa observes that Kenya needs advanced agricultural innovation, including the development of and deployment of next generation transgenic⁹³ to meet the growing challenges of food security and climate change, and advanced crop varieties are needed to meet these challenges by creating improved crops with greater resilience to climate change and climate variability.⁹⁴

The *Climate Change Bill, 2014*⁹⁵ is a Bill which if enacted, seeks to provide for the legal and institutional framework for the mitigation and adaption to the effects of climate change; to facilitate and enhance response to climate change; to provide for the guidance and measures to achieve low carbon climate resilient development and for connected purposes.

The Bill seeks to *inter alia* provide: a framework for mitigating and adapting to the effects of climate change on all sectors of the economy and levels of governance; a mechanism for coordination and governance of matters relating to climate change; coordination mechanism for formulation of programmes and plans to enhance the resilience of human and ecological systems against the impacts of climate change; for mainstreaming of the principle of sustainable development in the planning for and on climate change response strategies and actions; for promotion of social and economic measures in climate change responses to support sustainable human development; and a mechanism for coordination of measuring , verification and reporting of climate interventions.⁹⁶

⁹² United Nations Economic Commission for Africa, 'An Assessment of Agricultural Sector Policies and Climate Change in Kenya: Nexus between Climate Change Related Policies, Research and Practice: Final Report' December, 2013. Op. cit. Pp 3-4.

⁹³ Although Genetically Modified Organisms' food (commonly known as GMOs) have elicited mixed reactions in the country.

⁹⁴ Ibid, page 4.

⁹⁵ The Bill defines "climate change" to mean a change in the climate system which is caused by significant changes in the concentration of greenhouse gases as a consequence of human activities and which is in addition to natural climate change that has been observed during a considerable period (s.2).

⁹⁶ S.3(1).

The Bill establishes a body to be known as the National Climate Change Council⁹⁷ and the functions of the Council shall be to *inter alia*: advise the national and county governments on legislative and other measures necessary for mitigating and adapting to the effects of climate change; provide coordination between and amongst various governmental and non-governmental stakeholders dealing with matters related to climate change; advise the national and county governments on regional and international conventions, treaties and agreements on climate change to which Kenya is a party or should be a party to and follow up the implementation of the conventions, treaties and agreements to which Kenya is a party; coordinate negotiations on climate change related issues at the local, regional and international levels; and coordinate gender-responsive public education and awareness programmes on climate change and facilitate gender-balanced public participation in climate change programmes at the national and county governments.⁹⁸

The Constitution of Kenya (2010) calls for the formulation of adaptation and mitigation legislation, policies and strategies by providing for sustainable development as one of the national values and principles of governance which must bind all State organs, State officers, public officers and all persons whenever any of them: applies or interprets the Constitution; enacts, applies or interprets any law; or makes or implements public policy decisions.⁹⁹

This proposed law will hopefully boost the efforts to reverse the effects of climate change in the country.

8.3 Food Production Diversification

To achieve food availability, there is need for promotion of food production diversification in the country. It has been observed that natural resources need to be protected and research must be done to investigate ways of preserving food resources- promote environmental protection programmes, promote wise rural resource use, invest in research programmes aimed at sustaining food production, find new food source and alternatives, governmental policies for environmental protection and safe usage of resources.¹⁰⁰ Further, the sustainable management of agriculture, fisheries, forestry and rural development in low as well as high potential areas will be importance for food security. The

⁹⁷ S. 4(1).

⁹⁸ S. 5.

⁹⁹ See Articles 10 and 69.

¹⁰⁰ The *Rome World Food Summit Plan of Actions*.

fundamental role of farmers, fishers, foresters, indigenous people and their communities, and all other people involved in the food sector, and of their organizations, supported by effective research and extension, in attaining food security has been acknowledged.¹⁰¹

Food diversification is crucial in cushioning the people against such challenges as climate change and rainfall shortage.

8.4 Increased Reforestation and Afforestation/Agroforestry

It has been noted that although hunting, charcoal production and timber felling have been banned by the Kenya government, informally they remain important sources of food and income.¹⁰² Forests and trees contribute to food and nutrition security in various ways and provide direct support to 90 percent of the world's 1.2 billion poorest people and to nearly half of the 2.8 billion people who live on US\$2 or less per day.¹⁰³ They promote food availability indirectly by increasing the sustainability of agricultural production systems.¹⁰⁴ This arises from the fact that forests and trees maintain land productivity by drawing nutritive elements from deep in the soil into the production system and reducing wind and water erosion.¹⁰⁵ Further, agro-forestry has great potential to reduce vulnerability to climate shocks as permanent tree cover protects and improves the soil while increasing soil carbon stocks, thus contributing to climate change adaptation and reducing the dependency on single staple crops.¹⁰⁶

The conservation and sustainable development of forest ecosystems and their associated resources is essential for sustainable poverty reduction and sustainable development. Forest ecosystems are said to be important in conservation of soil, water and biodiversity as well as in moderation of climate. Further, they are the richest terrestrial habitats for biodiversity and useful for maintaining forest biodiversity which safeguards the economic potential of future opportunities for new non-timber products such as food and medicine as well as social sustainability by offering aesthetic, spiritual and recreational settings for people.¹⁰⁷

¹⁰¹ Ibid.

¹⁰² Gibbon, H., et. al., 'Forest and Woodland Management in East and Central Africa: Emerging models for improvement in livelihoods and natural resource management in Kenya and Zambia', 17th *Commonwealth Forestry Conference 2005*, Colombo Sri Lanka. page 4.

¹⁰³ FAO, Promoting decent employment in forestry for improved nutrition and food security, *Background paper for the International Conference on Forests for Food Security and Nutrition*, FAO, Rome, 13–15 May, 2013. Page 2.

¹⁰⁴ FAO, Promoting decent employment in forestry for improved nutrition and food security, *Op. cit.* Page 7.

¹⁰⁵ Ibid.

¹⁰⁶ Ibid, page 11.

¹⁰⁷ *National Environment Policy 2013*, op. cit. Clause 4.1.1.

The *EAC Climate Change Policy*¹⁰⁸ suggests that some of the mitigation measures for climate change include afforestation, reforestation, forest conservation and access to Carbon Credit facilities.¹⁰⁹ As adaptation measures for climate change, the Policy aims at streamlining *inter alia*: irrigation, crop and livestock production; protection of wildlife and key vulnerable ecosystems such as wetlands, coastal, marine and forestry ecosystems; and improving land use, soil protection, tourism, infrastructure and human settlement.

8.5 Gender roles and empowerment of youth and women

The fundamental contribution to food security by women, particularly in rural areas of developing countries, and the need to ensure equality between men and women has been acknowledged.¹¹⁰ Further, the *Protocol to the African Charter on Human and Peoples' Rights on the Rights of Women in Africa*¹¹¹ recognises the right of women to food security and states that States Parties shall ensure that women have the right to nutritious and adequate food. In this regard, they shall respond appropriately to: provide women with access to clean drinking water, sources of domestic fuel, land, and the means of producing nutritious food; and establish adequate systems of supply and storage to ensure food security.¹¹²

It is noteworthy that women play a critical role in the production, availability, consumption and access to food considering that women head many homes around Kenya. They are also charged with the preparation of such food, a duty that requires fuel which is mostly firewood or charcoal. Thus, any meaningful step towards achieving food security and environmental sustainability in Kenya will substantially depend on ensuring that gender issues are fully integrated into the food security debate. Such women must be empowered through such means as mechanization so as to increase women's farm labour productivity, special training (such as tertiary and vocational education) programs to improve women's capacity to engage in economically productive activities.¹¹³

The youth also need to be empowered to ensure that they are able to take care of themselves and their young families, thus cushioning the country against chronic poverty. Chronic poverty often is

¹⁰⁸ East African Community (EAC) Climate Change Policy, EAC Secretariat, Arusha, Tanzania, April 2011.

¹⁰⁹ Page 28.

¹¹⁰ Rome Declaration on World Food Security, 1996.

¹¹¹ African Union, *Protocol to the African Charter on Human and People's Rights on the Rights of Women in Africa*, 11 July 2003.

¹¹² *Ibid*, Article 16.

¹¹³ See generally, Horenstein, N., R., 'Women and Food Security in Kenya', *PPR Working Paper Series*, Women in Development Division, World Bank, June 1989, WPS 232. Available at http://www-wds.worldbank.org/servlet/WDSContentServer/WDSP/IB/2000/08/23/000009265_3960928010917/Rendered/PDF/multi_page.pdf [Accessed on 18/07/2014].

believed to be a source of food insecurity and should therefore be dealt with head on. The Constitution of Kenya 2010 requires that the State should take measures, including affirmative action programmes, to ensure that the youth: access relevant education and training; have opportunities to associate, be represented and participate in political, social, economic and other spheres of life; access employment; and are protected from harmful cultural practices and exploitation.¹¹⁴

Such empowerment measures especially when extended to the minorities and marginalised groups¹¹⁵ are crucial, if the country is to move from the current state of hopelessness and perpetual reliance on foreign food aid as well as indiscriminate environmental degradation. It has been rightly asserted that although the most severe food insecurity is typically associated with disasters such as drought, floods, war, or earthquakes, most food insecurity is associated not with catastrophes, but rather with chronic poverty.¹¹⁶ It is therefore important that steps are taken to address such chronic poverty as well as any predisposition to the same. To address the food security issues, there is need to move away from the more common feeding programs, and approach the same through putting in place empowerment measures and policies that promote poverty reduction through employment creation and broad based agricultural productivity among the poor, as well as safety nets to safeguard the vulnerable non-poor such as the youth.

It has been posited that enhanced control over productive assets and access to the technologies and markets necessary to sustainably use them to generate a stable livelihood are especially crucial to reducing vulnerability to food insecurity and facilitating the escape from poverty traps.¹¹⁷

The *Rome Declaration on World Food Security* 1996 recognized the need to adopt policies conducive to investment in human resource development, research and infrastructure for achieving food security. It emphasized the need to encourage generation of employment and incomes, and promote equitable access to productive and financial resources. It observed that trade is a key element in achieving food security and the attendees to the Summit agreed to pursue food trade and overall trade policies that will encourage the producers and consumers to utilize available resources in an economically sound and sustainable manner. The Declaration stated that sustainable development policies will promote full participation and empowerment of people, especially women, an equitable distribution of income, access to health care and education, and opportunities for youth.

¹¹⁴ Article 55.

¹¹⁵ Article 56 of the Constitution provides that the State shall put in place affirmative action programmes designed to ensure that minorities and marginalised groups—participate and are represented in governance and other spheres of life; are provided special opportunities in educational and economic fields; are provided special opportunities for access to employment; develop their cultural values, languages and practices; and have reasonable access to water, health services and infrastructure.

¹¹⁶ Christopher B. Barrett, *et al.*, ‘Measuring Food Insecurity’, *op. cit.* page 827.

¹¹⁷ *Ibid*, page 827.

One of the commitments in the *World Food Summit Plan of Action* was to ensure an enabling political, social, and economic environment designed to create the best conditions for the eradication of poverty and for durable peace, based on full and equal participation of women and men, which is most conducive to achieving sustainable food security for all.¹¹⁸

Under the *Plan of Action*, one of the objectives is to ensure gender equality and empowerment of women through requiring that, governments *inter alia*: support and implement commitments made at the Fourth World Conference on Women, Beijing 1995, that a gender perspective is mainstreamed in all policies; Promote women's full and equal participation in the economy, and for this purpose introduce and enforce gender-sensitive legislation providing women with secure and equal access to and control over productive resources including credit, land and water; Provide equal gender opportunities for education and training in food production, processing and marketing; tailor extension and technical services to women producers and increase the number of women advisors and agents; improve the collection, dissemination and use of gender-disaggregated data in agriculture, fisheries, forestry and rural development; focus research efforts on the division of labour and on income access and control within the household; and gather information on women's traditional knowledge and skills in agriculture, fisheries, forestry and natural resources management.¹¹⁹

8.6 Regional cooperation on Agricultural Production and Trade

In order to promote food security and environmental sustainability in Kenya and the region at large, regional cooperation arrangements among various countries can be encouraged through various channels such as bilateral, multilateral, regional or global platforms through which there can be sharing of agricultural research and extension technologies and information on best practices in achieving food security through sustainable agricultural production.

Chapter Eighteen of the *East African Community Treaty 1999*¹²⁰ is dedicated to agriculture and food Security in the region.

¹¹⁸ *World Food Summit Plan of Action*, Commitment One.

¹¹⁹ Commitment One, Objective 1.3.

¹²⁰ The East African Community (EAC) is the intergovernmental organisation of the Republics of Kenya, Uganda, the United Republic of Tanzania, Republic of Rwanda and Republic of Burundi with its headquarters in Arusha, Tanzania. The Treaty for Establishment of the East African Community was signed on 30 November 1999 and entered into force on 7 July 2000 following its ratification by the original three Partner States – Kenya, Uganda and Tanzania. The Republic of Rwanda and the Republic of Burundi acceded to the EAC Treaty on 18 June 2007 and became full Members of the Community with effect from 1 July 2007. [See East African Community , <http://www.mea.gov.in/Portal/ForeignRelation/east-african-community-april-2011.pdf> [Accessed on 18/07/2014].

The *East African Community Treaty* 1999 which is a multi-sectoral treaty states under Article 105 thereof the overall objectives of co-operation in the agricultural sector are the achievement of food security and rational agricultural production within the Community.¹²¹ To achieve this, it states that Partner States undertake to adopt a scheme for the rationalisation of agricultural production with a view to promoting complementarity and specialisation in and the sustainability of national agricultural programmes in order to ensure: a common agricultural policy; food sufficiency within the Community; an increase in the production of crops, livestock, fisheries and forest products for domestic consumption, exports within and outside the Community and as inputs to agro-based industries within the Community; and post harvest preservation and conservation and improved food processing.¹²²

For purposes of achieving the foregoing, the Treaty provides that the Partner States undertake to co-operate in specific fields of agriculture, including: the harmonisation of agricultural policies of the Partner States; the development of food security within the Partner States and the Community as a whole, through the production and supply of foodstuffs; agro-meteorology and climatology to promote the development of early climatological warning systems within the Community; the development and application of agricultural training and research and extension services; the adoption of internationally accepted quality standards for food processing; the establishment of joint programmes for the control of animal and plant diseases and pests; the marketing of food and the co-ordination of the export and import of agricultural commodities; joint actions in combating drought and desertification ; and in such other fields of agriculture as the Council may determine.¹²³

For purposes of seed multiplication and distribution, the treaty provides that the Partner States shall: strengthen co-operation in quality seed development and production through research and plant breeding; support co-operation in the establishment of gene banks; enhance capacity in seed technology; initiate and maintain strategic seed reserves; harmonise quarantine policies, legislation and regulations to ease trade in seeds; and create an enabling environment for private sector seed multiplication and distribution.¹²⁴ Regarding livestock, the Treaty states that The Partner States shall: develop mechanism for co-operation in livestock breeding, including artificial insemination institutions and livestock breeding centres; encourage and facilitate exchange of genetic material to widen the base of livestock development; encourage private sector participation in livestock multiplication and distribution; develop common regulatory framework in livestock multiplication, trade in semen, embryos, breeding stock, drugs and vaccines; and harmonise quarantine regulations in artificial insemination and livestock

¹²¹ Article 105(1).

¹²² Ibid.

¹²³ Article 105(2).

¹²⁴ Article 106.

breeding centres.¹²⁵ The Treaty also provides for harmonisation of policies, legislation and regulations for enforcement of pests and disease control.¹²⁶ Further the Treaty states that the Partner States agree to take concerted effort to expand agricultural land through irrigation and water catchment strategies.¹²⁷

Concerning food security, the Treaty provides that the Partner States shall: establish a mechanism for exchange of information on demand and supply surpluses and deficits, trade, forecasting and state of food nutrition; harmonise quality and standards of inputs and products including food additives; develop modalities to have timely information on market prices; harmonise food supply, nutrition and food security policies and strategies; initiate and maintain strategic food reserves; and develop marine and inland aquaculture and fish farming.¹²⁸

The Treaty also requires that the Partner States, in recognition of the fact that development activities may have negative impacts on the environment leading to the degradation of the environment and depletion of natural resources and that a clean and healthy environment is a prerequisite for sustainable development are to: take concerted measures to foster cooperation in the joint and efficient management and sustainable utilisation of natural resources within the Community; undertake, through environmental management strategy, to co-operate and co-ordinate their policies and actions for the protection and conservation of the natural resources and environment against all forms of degradation and pollution arising from developmental activities; co-operate and adopt common policies for control of trans-boundary movement of toxic and hazardous waste including nuclear materials and any other undesirable materials; provide prior and timely notification and relevant information to each other on natural and human activities that may or are likely to have significant trans-boundary environmental impacts and consult with each other at an early stage; and develop and promote capacity building programmes for sustainable management of natural resources.¹²⁹

The *East African Community Food Security Action Plan (2011 – 2015)*¹³⁰ was developed to address food insecurity in the East African region. The Action Plan was informed by the overall objective of the EAC Treaty regarding cooperation in agriculture and rural development which is the achievement of food security and rational agricultural production.¹³¹ Further, the *EAC Agriculture and*

¹²⁵ Article 107.

¹²⁶ Article 108.

¹²⁷ Article 109. To promote this, the Partner States are to: co-operate in formulating and implementing national and Community irrigation programmes; co-operate in developing and preserving traditional irrigation systems; improve water catchment management, including rainwater harvesting; and adopt and promote the use of environmentally safe methods of land use.

¹²⁸ Article 110.

¹²⁹ Article 111; See generally Chapter 19 of the Treaty.

¹³⁰ EAC Secretariat, Arusha, Tanzania, February, 2011.

¹³¹ *Ibid*, page 6, clause 1.1.

Rural Development Policy (EAC ARDP)¹³² aims at attaining food security through increased agricultural production, processing, storage and marketing.

In this connection EAC Head of States directed that the EAC Food Security Action plan and EAC Climate Change Policy be developed to address food insecurity and adverse effects of climate change in the region.¹³³

These measures and resolutions, if fully, implemented can go a long way in the achievement of food security not only in Kenya but also in the larger East Africa region as well as sustainable environmental management.

8.7 Sustainable Agriculture and Rural Development

It has been noted that the rural areas in developing countries are generally poorly equipped in terms of technical and financial resources and educational infrastructure. Lack of income opportunities, failure to crop and to maintain production systems, inadequate commodity and input and consumer goods distribution networks, limited access to public services and the poor quality of these services are all fundamental aspects that need to be considered with regard to rural food security.¹³⁴

It has been observed that investments in rural infrastructure (such as rural roads, electricity, schools and health facilities) can promote overall rural development and have not just economic value but social value as well, thus promoting market opportunities to raise rural income and improve the food security of the poor.¹³⁵ The *Rome Declaration and Plan of Action 1996*¹³⁶ states that rural development and help for rural peoples will improve the balance of rural to urban peoples and help to provide more diverse food supplies. Since poverty, hunger and malnutrition are some of the principal causes of accelerated migration from rural to urban areas in developing countries, there is need to address these problems in an appropriate and timely fashion, so as to preserve the political, economic and social stability of many countries and regions, and consequently the world peace.¹³⁷

The *Plan of Action* stated that the economic and social development of the rural sector is a key requisite for the achievement of food security for all, with the recognition that rural poverty is a complex phenomenon that varies considerably between and within countries.

¹³² Op. cit.

¹³³ Preamble.

¹³⁴ Clause 31.

¹³⁵ Food and Agriculture Organization of the United Nations Regional Office for Asia and the Pacific, 'A regional rice strategy for sustainable food security in Asia and the Pacific', *RAP Publication 2014/05*, Final edition, 2014. Page xvii.

¹³⁶ Op. cit.

¹³⁷ *World Food Summit Plan of Action*, No. 4.

8.8 Poverty Eradication

Poverty eradication is essential to improve access to food.¹³⁸ The vast majority of those who are undernourished, either cannot produce or cannot afford to buy enough food, and they have inadequate access to means of production such as land, water, inputs, improved seeds and plants, appropriate technologies and farm credit. Although food assistance may be provided to ease their plight, it is not a long term solution to the underlying causes of food insecurity. However, it is important to maintain an adequate capacity in the international community to provide food aid, whenever it is required, in response to emergencies.¹³⁹

The *Rome Plan of Action* under commitment two sought to implement policies aimed at eradicating poverty and inequality and improving physical and economic access by all, at all times, to sufficient, nutritionally adequate and safe food and its effective utilization.¹⁴⁰ Further, it sought to pursue poverty eradication, among both urban and rural poor, and sustainable food security for all as a policy priority and to promote, through sound national policies, secure and gainful employment and equitable and equal access to productive resources such as land, water and credit, so as to maximize the incomes of the poor.¹⁴¹ To achieve this, the *Plan of Action* required that governments, in partnership with all actors of civil society, as appropriate, will: Review and adopt policies to pursue the eradication of hunger and attain sustainable food security at the household and national levels as a top policy priority, and make every effort to eliminate obstacles such as unemployment and lack of access to factors of production that adversely affect the attainment of food security, and implement the relevant commitments they entered into at the *World Summit for Social Development, Copenhagen 1995*¹⁴²; Develop human skills and capacities through basic education and pre- and on-the-job training; adopt policies that create conditions which encourage stable employment, especially in rural areas, including off-farm jobs, so as to provide sufficient earnings to facilitate the purchase of basic necessities, as well as encourage labour intensive technologies where appropriate; Pursue sound economic, agriculture, fisheries, forestry and land reform policies that will permit farmers, fishers, foresters and other food producers, particularly women, to earn a fair return from their labour, capital and management, and encourage conservation and sustainable management of natural resources including in marginal areas;

¹³⁸ *Rome Declaration and Plan of Action 1996*

¹³⁹ Ibid.

¹⁴⁰ Commitment Two.

¹⁴¹ Ibid, Objective 2.1.

¹⁴² World Summit for Social Development, held in March 1995 in Copenhagen, Governments reached a consensus on the need to put people at the centre of development. The Summit pledged to make the conquest of poverty, the goal of full employment and the fostering of social integration overriding objectives of development. [Economic and Social Development at the United Nations, World Summit for Social Development, Copenhagen, 1995, Available at <http://www.un.org/esa/socdev/wssd/text-version/> [Accessed on 18/07/2014].

Improve equal access, by men and women, to land and other natural and productive resources, in particular, where necessary, through the effective implementation of land reform and the promotion of efficient utilization of natural and agricultural resources and resettlement on new lands, where feasible; and promote access, by farmers and farming communities, to genetic resources for food and agriculture.¹⁴³

There is need to use the available resources to alleviate poverty and consequently achieve equitable access to food and food security for all.¹⁴⁴ There is need to facilitate physical and economic access to food through enhancing the purchasing power of people by affording them employment opportunities to help them achieve sustainable livelihoods.

8.9 A Rights-Based Approach to Food and Food Security

The international human rights framework is based on the *Universal Declaration of Human Rights*, 1948, the *International Covenant on Economic, Social and Cultural Rights*¹⁴⁵ (ICESCR) and the *International Covenant on Economic, Social and Cultural Rights*, collectively known as the international Bill of Rights. All these have legal provisions that endeavour to promote a hunger free world through realisation of the right to food and the right to be free from hunger. Article 25 of the *Universal Declaration of Human Rights*, guarantees the right to a minimum standard of living for every person.¹⁴⁶ The *International Covenant on Economic, Social and Cultural Rights* provides for the right to food as an integral part to the overall right to a minimum standard of living that includes right to housing, clothing, health care, and social services.

The *Universal Declaration of Human Rights* 1948 recognises the inherent dignity and the equal and inalienable rights of all members of the human family as the foundation of freedom, justice and peace in the world.¹⁴⁷ Further, the Declaration reaffirmed the faith of the peoples of the United Nations in fundamental human rights, in the dignity and worth of the human person and in the equal rights of men and women and their determined to promote social progress and better standards of life in larger

¹⁴³ Objective 2.1.

¹⁴⁴ See Muigua, K., *Utilizing Africa's Natural Resources to Fight Poverty*, February, 2014, available at <http://www.kmco.co.ke/attachments/article/121/Utilizing%20Africa%27s%20Natural%20Resources%20to%20Fight%20Poverty-26th%20March,2014.pdf>; See also generally United Nations Expert Group Meeting on Natural Resources and Conflict in Africa: Transforming a Peace Liability into a Peace Asset, *Conference Report*, 17-19 June 2006, Cairo, Egypt. Available at http://www.un.org/africa/osaa/reports/Natural%20Resources%20and%20Conflict%20in%20Africa_%20Cairo%20Conference%20ReportwAnnexes%20Nov%2017.pdf [Accessed on 17/07/2014].

¹⁴⁵ Op. cit.

¹⁴⁶ Op. cit.

¹⁴⁷ Preamble, Universal Declaration of Human Rights of 1948.

freedom.¹⁴⁸ Further, Article I thereof declares that all human beings are born free and equal in dignity and rights.

The human right to adequate food is recognized in several instruments under international law although the *International Covenant on Economic, Social and Cultural Rights* deals with it more comprehensively than any other instrument.¹⁴⁹ Pursuant to article 11.1 of the Covenant, States parties recognize “the right of everyone to an adequate standard of living for himself and his family, including adequate food, clothing and housing, and to the continuous improvement of living conditions”, while pursuant to article 11.2 they recognize that more immediate and urgent steps may be needed to ensure “the fundamental right to freedom from hunger and malnutrition”.

The human right to adequate food is of crucial importance for the enjoyment of all rights.¹⁵⁰ The right to adequate food is indivisibly linked to the inherent dignity of the human person and is indispensable for the fulfillment of other human rights enshrined in the International Bill of Human Rights.¹⁵¹ It is also inseparable from social justice, requiring the adoption of appropriate economic, environmental and social policies, at both the national and international levels, oriented to the eradication of poverty and the fulfillment of all human rights for all.¹⁵²

The *United Nations Convention on the Rights of the Child*, 1989¹⁵³ requires under Article 24 that States Parties shall take appropriate measures to *inter alia*: to combat disease and malnutrition, including within the framework of primary health care, through, *inter alia*, the application of readily available technology and through the provision of adequate nutritious foods and clean drinking-water, taking into consideration the dangers and risks of environmental pollution.¹⁵⁴

Alleviation of hunger and poverty is therefore, in the long-run interest of the human development.¹⁵⁵

8.10 Use of traditional knowledge in Sustainable Agricultural Production

Food security depends, *inter alia*, on sustainable management of fish, forests, and wildlife since in many indigenous communities, these resources are the principal sources of protein in the diet.¹⁵⁶ It

¹⁴⁸ Ibid.

¹⁴⁹ UN Committee on Economic, Social and Cultural Rights (CESCR), *General Comment No. 12: The Right to Adequate Food (Art. 11 of the Covenant)*, 12 May 1999, Introduction and basic premises.

¹⁵⁰ UN Committee on Economic, Social and Cultural Rights.

¹⁵¹ Ibid.

¹⁵² *General Comment No. 12: The Right to Adequate Food*, Op. cit.

¹⁵³ UN General Assembly, *Convention on the Rights of the Child*, 20 November 1989, United Nations, Treaty Series, vol. 1577, p. 3.

¹⁵⁴ Article 24.2.

¹⁵⁵ Ananda, D., - 2012, Chapter - II, ‘Food Security: the Concept and the Issue’, op. cit. page 2.

¹⁵⁶ The *Rome World Food Summit* Commitment Three.

also highlights the fact that the traditional knowledge within indigenous communities also plays an important role in the achievement of food security for these communities and others.¹⁵⁷

Further, the Constitution of Kenya 2010 obliges the State to protect and enhance intellectual property in, and indigenous knowledge of, biodiversity and the genetic resources of the communities.¹⁵⁸ One way of protecting and enhancing it is integrating it into the available production methods as this will help achieve food security as contemplated in the Rome Summit definition of food security, that is, food that is produced in socially acceptable ways and in consistent with communities' cultural preferences.

9. Conclusion

There is need for urgency in taking action to fulfill the responsibility to achieve food security for present and future generations. Attaining food security is a complex task for which the primary responsibility rests with individual governments and they need to develop an enabling environment and have policies that ensure peace, as well as social, political and economic stability and equity and gender equality. However, it is necessary for all the relevant stakeholders to support the Government in this task and within the global framework, governments should also cooperate actively with one another and with United Nations organizations, financial institutions, intergovernmental and non-governmental organizations, and public and private sectors, on programmes directed toward the achievement of food security for all.

Clearly, food security and environmental sustainability are linked. It is vital to enhance food security in Kenya within the context of environmental sustainability. Achieving food security in Kenya can indeed lead to environmental security. It is an imperative whose time has come.

¹⁵⁷ Ibid.

¹⁵⁸ Article 69(1) (c).

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