Transforming Agri-food Systems via Inclusive, Rights-based Governance for Food Security and Economic Empowerment in Kenya

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Kariuki Muigua

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Kariuki Muigua*

Abstract

A huge section of Kenyan communities has suffered from chronic food insecurity for the longest time since independence due to various factors that include poverty, land degradation, unsustainable land use practices, erratic weather patterns due to climate change, among others. This paper makes a case for the transformation of food production methods in Kenya through adopting an inclusive, rights-based approach to governance of the agricultural sector as a way of promoting food security, eradicating poverty and guaranteeing the socio-economic rights of all. The paper argues that unless these challenges are effectively addressed, achieving food security for the Kenyan people will remain a dream.

1. Introduction

In 2020, the United Nations Development Programme (UNDP) released a report documenting that 26% of Kenya's GDP comes from the agricultural sector, and 70% of Kenyans living in rural areas depend on it for their livelihood.[1] A negative shock might be harmful to the agriculture industry, which is essential for creating jobs, generating revenue, and ensuring food security.[2]

PhD in Law (Nrb), FCIArb (Chartered Arbitrator), LL. B (Hons) Nrb, LL.M (Environmental Law) Nrb; Dip. In Law (KSL); FCPS (K); Dip. In Arbitration (UK); MKIM; Mediator; Consultant: Lead expert EIA/EA NEMA; BSI ISO/IEC 27001:2005 ISMS Lead Auditor/ Implementer; Advocate of the High Court of Kenya; Prof. at the University of Nairobi, Faculty of Law [May, 2024].

[1] Ochieng, O. (2021) 'Crisis impacts on rural lives and livelihoods in Kenya - Southern Voice', 8 February. Available at: https://southernvoice.org/crisis-impacts-on-rural-lives-and-livelihoods-in-kenya/, http://southernvoice.org/crisis-impacts-on-rural-lives-and-livelihoods-in-kenya/ (Accessed: 4 May 2024).
[2] Ibid.

The Food and Agriculture Organization of the United Nations (FAO) 2023 Report on "*The State of Food Security and Nutrition in the World 2023*" states that as urbanisation rises, the boundaries between rural and urban regions are becoming increasingly hazy and entangled.[3] FAO observes that an rising number of small and medium-sized cities and rural towns are experiencing population expansion, which "bridges" the gap between the rural hinterland and huge metropolises.[4] They thus point out in the 2023 Report that agrifood systems are altering as a result of the shifting demographic agglomeration patterns along this rural-urban continuum.[5] This presents possibilities as well as problems in ensuring that everyone has access to reasonably priced, healthful diets. FAO thus advocates for a thorough grasp of the interactions between the agrifood systems and the rural-urban continuum as necessary to guide actions and policy initiatives that will help overcome the obstacles and take advantage of the possibilities.[6]

Indeed, Kenya has not been spared from shifting changes in land use and urbanisation has greatly affected the available land for farming in favour of housing projects in places such as Kiambu County and the other areas surrounding fast developing towns.[7] The

[3] AO, IFAD, UNICEF, WFP and WHO. 2023. *The State of Food Security and Nutrition in the World 2023. Urbanization, agrifood systems transformation and healthy diets across the rural–urban continuum*. Rome, FAO. Available at: https://doi.org/10.4060/cc3017en (Accessed: 4 May 2024).

[4] Ibid.

[5] Ibid.

[6] Ibid.

[7] Musa, M. and Odera, P. (2015) 'Land Use Land Cover Changes and their Effects on Agricultural Land: A Case Study of Kiambu County -Kenya', *Kabarak Journal of Research and Innovation*, 3, pp. 74–86; see also Museleku, E.K., 2013. *An Investigation into Causes and Effects of Agricultural Land Use Conversions in the Urban Fringes: A Case Study of Nairobi-Kiambu Interface* (Doctoral dissertation, University of Nairobi,); Macharia, C.K., 2018. *Implications for conversion of agricultural land use in peri urban areas of Gitothua Ward, Ruiru Sub County* (Doctoral dissertation, School of Built Environment, University of Nairobi); *Rapid urbanisation in Kiambu has brought about misery* (2020) *Nation*. Available at: https://nation.africa/kenya/blogs-opinion/blogs/dot9/rapid-urbanisation-in-kiambu-has-brought-about-misery--157498 (Accessed: 4 May 2024); Njiru, E.B.K., 2019. Urban expansion and loss of agricultural land: A GIS based study of Kiambu County. *International Journal of Science and Research*, *8*(9), p.915; Simiyu, L.B., 2002. *Effects of urbanization on the use and control of land: A Case of Ngong fringe* (Doctoral dissertation, University of Nairobi); Kioko, V.M.,

data that is currently available from the National Council for Population and Development demonstrates that landholding sizes and cultivated areas in Kenya have been decreasing over time and are inversely correlated with population density.[8] In the most crowded regions, smallholders' landholdings have been declining, and in certain counties, like Kiambu, there's a chance that there won't be any land left for small-scale farming very soon.[9] Furthermore, as a result of Kenya's fast population growth, additional agricultural land is currently being turned into settlements in a number of the country's counties.[10] Land fragmentation, or the division of land among the adult members of a family, is a result of growing populations and larger families, which has caused a continual decrease in farm sizes.[11]

Mwendwa, P.K. and Imteyaz, A., 2022. The effects of urban sprawl on agricultural land use on the rural fringes of Towns; a case of Machakos town, Kenya. *J Afr Interdiscip Stud*, *6*(10), pp.196-212; Bon, B., Simonneau, C., Denis, E. and Delville, P.L., 2023. *Ordinary changes in land use linked to urbanisation in the global South Housing, capitalisation, agricultural changes* (Doctoral dissertation, Comité Technique" Foncier et développement"); Abuya, D.O., 2020. *Management of The Effects of Land Use Changes On Urban Infrastructure Capacity: A Case Study of Ruaka Town, Kiambu County, Kenya* (Doctoral dissertation, University of Nairobi); Njiru, B.E., 2016. Evaluation of urban expansion and its implications on land use in Kiambu County, Kenya. *Kenyatta University*.

[8] The National Council for Population and Development, *Effects of Population Growth and Uncontrolled Land Use On Climate Change in Kenya*, Policy Brief No. 60, June 2018. Available at: https://ncpd.go.ke/wp-content/uploads/2021/02/60-PB-Effects-of-polpulation-Growth-on-climate.pdf (Accessed: 4 May 2024).

[9] Ibid., p. 1; Jayne, T. and Muyanga, M. (2012) 'Land constraints in Kenya's densely populated rural areas: Implications for food policy and institutional reform', *Food Security*, 4. Available at: https://doi.org/10.1007/s12571-012-0174-3.

[10] Ibid., p.1; 'Implications of Agricultural Land Subdivision in Kenya – KIPPRA' (no date). Available at: https://kippra.or.ke/implications-of-agricultural-land-subdivision-in-kenya/ (Accessed: 4 May 2024).

[11] Ibid., p.1; *Land Fragmentation - an overview | ScienceDirect Topics* (no date). Available at: https://www.sciencedirect.com/topics/earth-and-planetary-sciences/land-fragmentation (Accessed: 4 May 2024); Smith, K. and Cubbage, F. (2024) 'Land Fragmentation and Heirs Property: Current Issues and Policy Responses', *Land*, 13(4), p. 459. Available at: https://doi.org/10.3390/land13040459; Niroula, G. and Thapa, G. (2005) 'Impacts and causes of land fragmentation, and lessons learned from land consolidation in South Asia', *Land Use Policy*, 22, pp. 358–372. Available at: https://doi.org/10.1016/j.landusepol.2004.10.001; Alemu, G.T., Berhanie Ayele, Z. and Abelieneh Berhanu, A. (2017) 'Effects of Land Fragmentation on Productivity in Northwestern Ethiopia', *Advances in Agriculture*, 2017, p. e4509605. Available at:

Furthermore, it has been noted that there are detrimental effects on food security, social welfare, and agricultural productivity when farms are too small to be economically viable.[12] These effects result in a lack of investment in land improvement, particularly in Arid and Semi-Arid Areas (ASALs), which causes land degradation and out-migration from Kenya.[13] As a result, growing food crops for the people is getting harder on the already deteriorated agricultural land in the majority of Kenya.[14]

Notably, apart from the population and land tenure challenges in the country, the erratic rainfall patterns in Kenya due to climate change also make a great contribution to the food insecurity in the country.[15] This has not only hampered the realisation of the socio-economic right to food but has also affected the other related rights such as the right to health, education and economic empowerment, among others.[16]

Increasing food and nutrition security, alleviating poverty, particularly in low-income countries (LICs), and achieving climatic and environmental goals for sustainable

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https://doi.org/10.1155/2017/4509605; Macharia, M. (2020) *Effects of Land Fragmentation on Land Use and Food Security Case Study of Nyamira, Laikipia, Nandi, Trans Nzoia, Taita Taveta, Kiambu, Kajiado, Nakuru, Tana River, Makueni, Isiolo, Kisumu and Vihiga.*

[12] The National Council for Population and Development, *Effects of Population Growth and Uncontrolled Land Use On Climate Change in Kenya*, Policy Brief No. 60, June 2018., p.1.

[13] Ibid., p.1.

[14] Ibid., p.1.

[15] *High levels of acute food insecurity prevail following fifth consecutive below-average rainy season | FEWS NET* (no date). Available at: https://fews.net/east-africa/kenya/food-security-outlook-update/december-2022 (Accessed: 4 May 2024); *Food insecurity hits hard in Kenya's urban and rural centres* (2022) *RFI*. Available at: https://www.rfi.fr/en/africa/20220808-food-insecurity-hits-hard-in-kenya-s-urban-and-rural-centres (Accessed: 4 May 2024); *Soberly address food insecurity | Nation* (no date). Available at: https://nation.africa/kenya/blogs-opinion/opinion/-soberly-address-food-insecurity-4202994 (Accessed: 4 May 2024); *The chronic hunger song is exasperating- leaders need to change the hymnbook | Heinrich Böll Stiftung | Nairobi Office Kenya, Uganda, Tanzania* (no date). Available at: https://ke.boell.org/en/2021/12/01/chronic-hunger-song-exasperating-leaders-need-change-hymnbook (Accessed: 4 May 2024).

[16] 'Kenya: Acute Food Insecurity Situation February 2023 and Projection for March – June 2023' (no date). Available at: https://aiap.or.ke/index.php/2023/05/08/kenya-acute-food-insecurity-situation-february-2023-and-projection-for-march-june-2023/ (Accessed: 4 May 2024).

development are all made possible by well-functioning agrifood systems.[17] Given the current state of affairs with growing costs and food insecurity, they are especially crucial.[18]

It is for the foregoing reasons that this paper makes a case for the need to transform agri-food systems through putting in place inclusive, rights-based governance for food security and economic empowerment in Kenya. The paper argues that unless there is a paradigm shift in production and governance approach to agricultural sector, Kenya will not only continue experiencing acute food insecurity but will also report higher cases due to the growing population and other intervening factors, both locally and internationally.

2. Food Security and Sustainable Development Goals

SDG 2 requires countries to end hunger, achieve food security and improved nutrition and promote sustainable agriculture.[19] Countries are expected to ensure that by 2030, they end hunger and ensure access by all people, in particular the poor and people in vulnerable situations, including infants, to safe, nutritious and sufficient food all year round.[20] They are also to ensure that by 2030, they end all forms of malnutrition, including achieving, by 2025, the internationally agreed targets on stunting and wasting in children under 5 years of age, and address the nutritional needs of adolescent girls, pregnant and lactating women and older persons.[21] By 2030, they are also to double the agricultural productivity and incomes of small-scale food producers, in particular women, indigenous peoples, family farmers, pastoralists and fishers, including through secure

[17] *Building inclusive, productive, and sustainable agrifood systems | Independent Evaluation Group* (2022). Available at: https://ieg.worldbankgroup.org/blog/building-inclusive-productive-and-sustainable-agrifood-systems (Accessed: 4 May 2024).
[18] Ibid.
[19] UN General Assembly, *Transforming our world: the 2030 Agenda for Sustainable Development*, A/RES/70/1, 21 October 2015.
[20] SDG 2, Target 2.1.
[21] SDG 2, Target 2.2.

and equal access to land, other productive resources and inputs, knowledge, financial services, markets and opportunities for value addition and non-farm employment.[22]

In addition, by 2030, they are to ensure sustainable food production systems and implement resilient agricultural practices that increase productivity and production, that help maintain ecosystems, that strengthen capacity for adaptation to climate change, extreme weather, drought, flooding and other disasters and that progressively improve land and soil quality.[23]

By 2020, countries are to maintain the genetic diversity of seeds, cultivated plants and farmed and domesticated animals and their related wild species, including through soundly managed and diversified seed and plant banks at the national, regional and international levels, and promote access to and fair and equitable sharing of benefits arising from the utilization of genetic resources and associated traditional knowledge, as internationally agreed.[24]

As a way of achieving SDG 2, countries are also expected to increase investment, including through enhanced international cooperation, in rural infrastructure, agricultural research and extension services, technology development and plant and livestock gene banks in order to enhance agricultural productive capacity in developing countries, in particular least developed countries.[25] They are also to correct and prevent trade restrictions and distortions in world agricultural markets, including through the parallel elimination of all forms of agricultural export subsidies and all export measures with equivalent effect, in accordance with the mandate of the Doha Development Round.[26] Countries are also required to adopt measures to ensure the proper functioning of food commodity markets and their derivatives and facilitate timely access to market

[22] SDG 2, Target 2.3.
[23] SDG 2, Target 2.4.
[24] SDG 2, Target 2.5.
[25] SDG 2, Target 2.a.
[26] SDG 2, Target 2.b.

information, including on food reserves, in order to help limit extreme food price volatility.[27]

SDG 12 requires countries to ensure sustainable consumption and production patterns.[28] Target 12.3 thereof requires countries to ensure that by 2030, they halve per capita global food waste at the retail and consumer levels and reduce food losses along production and supply chains, including post-harvest losses.[29]

The *Sustainable Development Goals Report 2023: Special Edition* records that Since 2015, there has been an increase in the number of people experiencing food insecurity and hunger, which has been made worse by the pandemic, conflicts, climate change, and widening disparities.[30] According to the Report, approximately 735 million individuals, or 9.2% of the global population, suffered from chronic hunger in 2022; this is 122 million more people than in 2019.[31] 2.4 billion people, or 29.6% of the world's population, were thought to be moderately or severely food insecure, which means they lacked access to enough food. This number represents a startling 391 million additional individuals than in 2019.[32]

The Special Report thus proposes that urgent coordinated action and policy solutions are necessary to address systemic injustices, restructure food systems, finance sustainable agricultural practices, and lessen the negative effects of conflict and the pandemic on global nutrition and food security if we are to achieve zero hunger by 2030.[33]

[27] SDG 2, Target 2.c.
[28] SDG 12.
[29] SDG 12, Target 12.3.
[30] United Nations Department of Economic and Social Affairs, 2023. *The Sustainable Development Goals Report 2023: Special Edition*. UN, p. 14.
[31] Ibid., p. 14.
[32] Ibid., p.14.
[33] Ibid., p. 14.

The Report documents that investing in agriculture is essential to reducing poverty and hunger as well as enhancing production, efficiency, and income development.[34] The agricultural orientation index (AOI), which measures the sector's contribution to GDP, decreased from 0.50 in 2015 to 0.45 in 2021, despite record-high nominal state investment on agriculture of $700 billion in 2021 during the pandemic.[35] With the exception of Europe and North America, where governments implemented historically large stimulus packages, this fall was noted around the world.[36]

In reference to the escalating cost of food, the report notes that, while the percentage of nations suffering moderately to excessively high food prices decreased from 48.1% in 2020 to 21.5% in 2021, it remained higher than the average of 15.2% for the years 2015–2019.[37] The prolonged price rises were caused by a number of factors, including growing demand, rising input (fertiliser and energy) and transportation prices, interruptions in the supply chain, and changes in trade policy.[38] In the meanwhile, pricing pressures were exacerbated by internal causes such as unfavourable weather, depreciating currencies, unstable political environments, and production shortages.[39] The least developed nations (LDCs) and sub-Saharan Africa faced extra problems due to macroeconomic issues, deteriorating security situations, and a high degree of reliance on imported food and agricultural inputs.[40]

[34] Ibid., p.14.
[35] Ibid., p.14.
[36] Ibid., p.14.
[37] Ibid., p. 15.
[38] Ibid., p.15.
[39] Ibid., p. 15.
[40] Ibid., p.15.

The *2015 Paris Agreement*[41] recognizes the fundamental priority of safeguarding food security and ending hunger, and the particular vulnerabilities of food production systems to the adverse impacts of climate change.[42] Article 2 thereof states that this Agreement, in enhancing the implementation of the Convention, including its objective, aims to strengthen the global response to the threat of climate change, in the context of sustainable development and efforts to eradicate poverty, including by, *inter alia*: increasing the ability to adapt to the adverse impacts of climate change and foster climate resilience and low greenhouse gas emissions development, in a manner that does not threaten food production.[43]

The SDGs form a firm basis for implementation of policies, laws, programmes and plans aimed at modernizing agricultural production in Kenya and achieving the universal right to food and other related socio-economic rights for all.

3. Agriculture and Food Production Systems in Kenya: Challenges and Prospects

It has been accurately noted that systemic hunger has become the norm in Kenya over the course of more than 50 years. Mzee Jomo Kenyatta, the founder of Kenya, pledged in one of his addresses to combat sickness, famine, and illiteracy.[44] These three basic rights include access to food, healthcare, and education. But even after Kenya gained independence over 60 years ago, these rights are still illusory.[45] Access to and cost of food

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[41] United Nations, *Paris Agreement*, United Nations, Treaty Series, vol. 3156, p.79. Paris Agreement was adopted on 12 December 2015 at the twenty-first session of the Conference of the Parties to the United Nations Framework Convention on Climate Change held in Paris from 30 November to 13 December 2015.

[42] Ibid., preamble.

[43] Ibid., Article 2(1)(b).

[44] *The chronic hunger song is exasperating- leaders need to change the hymnbook | Heinrich Böll Stiftung | Nairobi Office Kenya, Uganda, Tanzania* (no date). Available at: https://ke.boell.org/en/2021/12/01/chronic-hunger-song-exasperating-leaders-need-change-hymnbook (Accessed: 4 May 2024).

[45] Ibid; *Analysis warns of food insecurity for 5.4 million Kenyans* (2023) *AP News*. Available at: https://apnews.com/article/kenya-government-william-ruto-nairobi-climate-and-environment-6e0955fc8c399135bc7c8e566cca522f (Accessed: 4 May 2024); *Officials talk biodiversity as drought stunts Kenya wildlife* (2022) *AP News*. Available at: https://apnews.com/article/united-nations-animals-elephants-kenya-

affects more people than only the impoverished in rural areas, despite popular belief.[46] Due to growing population density and mobility, it has spread throughout suburbs and into cities. In Nairobi, for instance, just one out of every five homes has enough food, and almost half of all households are classified as "food-insecure with both adult and child hunger."[47]

With the reduced agricultural land, climate change, population growth and urbanisation, Kenya has moved more towards relying on food aid as well as importation of food from other countries.[48] This is well demonstrated by the adverse impacts on food security that

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biodiversity-4ac99955ffc7816bfc4513e742bac790 (Accessed: 4 May 2024); week, S. up to date on the editors' picks of the (2023) *Severe food insecurity rate doubles in Kenya, Business Daily*. Available at: https://www.businessdailyafrica.com/bd/economy/severe-food-insecurity-rate-doubles-in-kenya--4405802 (Accessed: 4 May 2024).

[46] *The chronic hunger song is exasperating- leaders need to change the hymnbook | Heinrich Böll Stiftung | Nairobi Office Kenya, Uganda, Tanzania* (no date). Available at: https://ke.boell.org/en/2021/12/01/chronic-hunger-song-exasperating-leaders-need-change-hymnbook (Accessed: 4 May 2024).

[47] Ibid.

[48] 'Kenya aims to reduce its reliance on food imports – Kenya News Agency' (2023), 30 November. Available at: https://www.kenyanews.go.ke/kenya-aims-to-reduce-its-reliance-on-food-imports/ (Accessed: 5 May 2024); Emongor, R.A., 2014. Food price crisis and food insecurity in Kenya. *Kenya Agricultural Research Institute*. Available at: https://elibrary.acbfpact.org/acbf/collect/acbf/index/assoc/HASH01b5/cd96f147/6ca2937f/79e1.dir/Food%20crisis%20and%20food%20insecurity%20in%20Kenya.pdf [Accessed 5 May 2024]; D'Alessandro, S.P., Caballero, J., Lichte, J. and Simpkin, S., 2015. Kenya: Agricultural sector risk assessment; Huho, J.M. and Mugalavai, E.M., 2010. The effects of droughts on food security in Kenya. *The International Journal of Climate Change: Impacts and Responses*, *2*(2), p.61; European Court of Auditors (2020) *EU development aid to Kenya*. LU: Publications Office (Special report No ... (European Court of Auditors. Online)). Available at: https://data.europa.eu/doi/10.2865/843768 (Accessed: 5 May 2024); Lokuruka, M.N.I. (2020) 'Food and Nutrition Security in East Africa (Kenya, Uganda and Tanzania): Status, Challenges and Prospects', in *Food Security in Africa*. IntechOpen. Available at: https://doi.org/10.5772/intechopen.95036; *Agriculture, Food and Water Security | Kenya* (2023) *U.S. Agency for International Development*. Available at: https://www.usaid.gov/kenya/agriculture-food-and-water-security (Accessed: 5 May 2024); Birch, I., 2018. Agricultural productivity in Kenya: barriers and opportunities. *K4D Helpdesk Report. Brighton, UK: Institute of Development Studies*, *19*; Nyaura, J.E., 2014. Urbanization Process in Kenya: The Effects and Consequences in the 21 st Century. *International Journal of Novel Research in Humanity and Social Sciences*, *1*(2), pp.33-42; *How Africa Can Escape Chronic Food Insecurity Amid Climate Change* (2022) *IMF*. Available at: https://www.imf.org/en/Blogs/Articles/2022/09/14/how-africa-can-escape-chronic-food-insecurity-amid-climate-change (Accessed: 5 May 2024); Gutu Sakketa, T. (2023) 'Urbanisation and rural development in

the Ukraine-Russia war had on Kenya.[49] According to the Kenya Institute for Public Policy Research and Analysis (KIPPRA), Russia and Ukraine provide Kenya with wheat, oil, steel, iron, and fertilisers. Wheat imports into East Africa are primarily from Russia and Ukraine.[50] The wheat that is consumed in Kenya comes from three countries: Russia (67%), Ukraine (22%), and the rest of the world (11%).[51] The majority of fertiliser exported by Russia is sent to East Africa, making it the largest fertiliser exporter in the world.[52]

a. The Constitution of Kenya 2010 and Agriculture

Article 43 (1) of the Constitution of Kenya[53] on economic and social rights guarantees that every person has the right, *inter alia*—to the highest attainable standard of health, which includes the right to health care services, including reproductive health care; to be free from hunger, and to have adequate food of acceptable quality; to clean and safe water in adequate quantities; and to social security.

The Fourth Schedule to the Constitution on Distribution of Functions Between the National Government and the County Governments provides for the functions of the National Government as including: protection of the environment and natural resources with a view to establishing a durable and sustainable system of development, including, in particular—fishing, hunting and gathering; protection of animals and wildlife; water

sub-Saharan Africa: A review of pathways and impacts', *Research in Globalization*, 6, p. 100133. Available at: https://doi.org/10.1016/j.resglo.2023.100133.

[49] Ochieng, D.J., Oscar (2023) 'Kenya's Battle with Famine and Food Insecurity - Southern Voice', 8 February. Available at: https://southernvoice.org/kenyas-battle-with-famine-and-food-insecurity/, https://southernvoice.org/kenyas-battle-with-famine-and-food-insecurity/ (Accessed: 4 May 2024); *What Does the Ukraine-Russia War Mean for Kenya? – KIPPRA* (no date). Available at: https://kippra.or.ke/what-does-the-ukraine-russia-war-mean-for-kenya/ (Accessed: 4 May 2024).

[50] *What Does the Ukraine-Russia War Mean for Kenya? – KIPPRA* (no date). Available at: https://kippra.or.ke/what-does-the-ukraine-russia-war-mean-for-kenya/ (Accessed: 4 May 2024).

[51] Ibid.

[52] Ibid.

[53] Republic of Kenya, The Constitution of Kenya, 27 August 2010, Nairobi.

protection, securing sufficient residual water, hydraulic engineering and the safety of dams; and energy policy; and agricultural policy.[54]

The functions and powers of the county are—Agriculture, including—crop and animal husbandry; livestock sale yards; county abattoirs; plant and animal disease control; and fisheries; County planning and development, including—statistics; land survey and mapping; and boundaries and fencing; Implementation of specific national government policies on natural resources and environmental conservation, including—soil and water conservation; and forestry; and Ensuring and coordinating the participation of communities and locations in governance at the local level and assisting communities and locations to develop the administrative capacity for the effective exercise of the functions and powers and participation in governance at the local level.[55]

It is therefore evident that fixing the agricultural sector is a shared responsibility between the two levels of Government, which must work together if any significant progress is to be realised in the sector.[56]

There are a number of laws, policies and plans that hold a promise for Kenya in pursuit of food security, if effectively implemented.

b. Kenya Agricultural and Livestock Research Act, Cap 319

The Kenya Agricultural and Livestock Research Act[57] was enacted to provide for the establishment and functions of the Kenya Agricultural and Livestock Research Organization; to provide for organs of the Organization; to provide for the coordination

[54] Constitution of Kenya, Fourth Schedule, Part One.
[55] Constitution of Kenya, Fourth Schedule, Part Two.
[56] Timamy, M., 2019. Is Agriculture a National or County Governments' Policy Function in Kenya: Interrogating Section 4 of the AFA Act Together with the Fourth Schedule and Article 191 of the Constitution. *Strathmore L. Rev.*, *4*, p.155.
[57] Kenya Agricultural and Livestock Research Act, Cap 319, Laws of Kenya.

of agricultural research activities in Kenya, and for connected purposes.[58] The Kenya Agricultural and Livestock Research Organization is established is to—promote, streamline, co-ordinate and regulate research in crops, livestock, genetic resources and biotechnology in Kenya; promote, streamline, co-ordinate and regulate research in crops and animal diseases; and expedite equitable access to research information, resources and technology and promote the application of research findings and technology in the field of agriculture.[59]

c. Agriculture and Food Authority Act, Cap 317

The Agriculture and Food Authority Act[60] was enacted to provide for the consolidation of the laws on the regulation and promotion of agriculture generally, to provide for the establishment of the Agriculture and Food Authority, to make provision for the respective roles of the national and county governments in agriculture excluding livestock and related matters in furtherance of the relevant provisions of the Fourth Schedule to the Constitution and for connected purposes.[61]

The Agriculture and Food Authority is mandated with, in consultation with the county governments, to perform the following functions—administer the Crops Act (Cap. 318), in accordance with the provisions of these Acts; promote best practices in, and regulate, the production, processing, marketing, grading, storage, collection, transportation and warehousing of agricultural products excluding livestock products as may be provided for under the Crops Act (Cap. 318); collect and collate data, maintain a database on agricultural products excluding livestock products, documents and monitor agriculture through registration of players as provided for in the Crops Act (Cap. 318); be responsible

[58] Ibid., preamble.
[59] Ibid., sec. 5(1).
[60] Agriculture and Food Authority Act, Cap 317, Laws of Kenya.
[61] Ibid., Preamble.

for determining the research priorities in agriculture and to advise generally on research thereof; advise the national government and the county governments on agricultural levies for purposes of planning, enhancing harmony and equity in the sector; carry out such other functions as may be assigned to it by this Act, the Crops Act (Cap. 318), and any written law while respecting the roles of the two levels of governments.[62]

Part iv of the Act provides for Policy Guidelines on Development, Preservation and Utilization of Agricultural Land. Section 21 (1) requires the Cabinet Secretary shall, on the advice of the Authority, and in consultation with the National Land Commission, provide general guidelines, in this Act referred to as land development guidelines, applicable in respect of any category of agricultural land to the owners or the occupiers thereof.[63] These guidelines may require the adoption of such system of management or farming practice or other system in relation to land in question (including the execution of such work and the placing of such things in, on or over the land, from time to time) as may be necessary for the proper development of land for agricultural purposes.[64]

In addition, the Cabinet Secretary is required to, on the advice of the Authority, and in consultation with the National Land Commission, make general rules for the preservation, utilization and development of agricultural land either in Kenya generally or in any particular part thereof.[65] These rules may—prescribe the manner in which owners (whether or not also occupiers) shall manage their land in accordance with rules of good estate management; prescribe the manner in which occupiers shall farm their land in accordance with the rules of good husbandry; advise on the control or prohibition of the cultivation of land or the keeping of stock or any particular kind of stock thereon;

[62] Ibid., sec. 4.
[63] Ibid., sec. 21(1).
[64] Ibid., sec. 21(3).
[65] Ibid., sec. 22(1).

advise on the kinds of crops which may be grown on land; provide for controlling the erection of buildings and other works on agricultural land; and provide for such exemptions or conditional exemptions from the provisions thereof as may be desirable or necessary.[66]

National and county governments are required to execute their respective mandates under the Act as per their roles as provided for under the Fourth Schedule to the Constitution of Kenya.[67]

Notably, section 40(1) provides for participation of farmers where it states that for purposes of ensuring effective participation of farmers in the governance of the agricultural sector in Kenya, there shall be close consultation with all registered stakeholder organisations in the development of policies or regulations and before the making of any major decision that has effect on the agricultural sector.[68]

d. Agricultural Development Corporation Act, Cap 444

The Agricultural Development Corporation Act[69] was enacted to provide for the establishment of the Agricultural Development Corporation and for connected purposes.[70] The functions of the Corporation are— to promote the production of Kenya's essential agricultural inputs as the Corporation may decide from time to time, such as seeds and pedigree and high grade livestock including, hybrid seed maize, cereal seed, potato seed, pasture seed, vegetable seed, pedigree and high grade cattle, sheep, goats, pigs, poultry and bees; to undertake such activities as the Corporation may decide from time to time for the purpose of developing agricultural production in specific areas or

[66] Ibid., sec. 22(2).
[67] Ibid., sec.29.
[68] Ibid., sec. 40(1).
[69] Agricultural Development Corporation Act, Cap 444, Laws of Kenya.
[70] Ibid., preamble.

specific fields of production; and to participate in activities in agricultural production which are related to the primary and secondary functions of the Corporation and which in the view of the Corporation are commercially viable.[71] In the performance of its functions under this Act the Corporation is to have proper regard to the economic and commercial merits of any undertakings it plans to initiate, assist or expand.[72]

The Corporation has power, *inter alia*—to provide credit and finance by means of loans or the subscription of loan or share capital or otherwise for agricultural undertakings in Kenya.[73]

e. Special Economic Zones Act, 2015

The Special Economic Zones Act, 2015[74] was enacted to provide for the establishment of special economic zones; the promotion and facilitation of global and local investors; the development and management of enabling environment for such investments, and for connected purposes.[75] Under the Act, The Cabinet Secretary shall, on the recommendation of the Authority, and in consultation with the Cabinet Secretary responsible for matters relating to finance declare, by notice in the Gazette, any area as a Special Economic Zone as set out in the First Schedule.[76]

An area declared as a special economic zone under this section may be designated as a single sector or multiple sector special economic zone, and may include, but not limited to, *inter alia*- agricultural zones; and livestock zones.[77] Under the Act, "agricultural zone" means a special economic zone declared as such under section 4 to facilitate the

[71] Ibid., sec. 12(1).
[72] Ibid., sec. 12(2).
[73] Ibid., sec. 13(2)(a).
[74] Special Economic Zones Act, No. 16 of 2015, Laws of Kenya.
[75] Ibid., preamble.
[76] Ibid., sec. 4(1).
[77] Ibid., sec. 4(6)(f) & (i).

agricultural sector, its services and associated activities while "livestock zone" means a special economic zone declared as such under section 4, in which the following activities are carried out: livestock marshalling and inspection; livestock feeding or fattening, abattoir and refrigeration; deboning; value addition; manufacture of veterinary products, and other related activities.[78]

In the wake of indiscriminate conversion of agricultural land into commercial land and residential areas around the country, this law can go a long way in designating certain areas as agricultural zone to protect them from the pressures of urbanization.

f. National Spatial Plan 2015-2045

By identifying the key sites of the flagship projects outlined in Kenya Vision 2030 and offering a framework for mitigating their spatial implications, the National Spatial Plan facilitates the implementation of important national projects.[79] It attempts to bridge the long-standing gap between physical and economic planning by offering a coordinating framework for sectoral planning, which has been absent in the nation.[80]

The Plan is crucial at this stage of devolution because it will serve as a roadmap for the counties' development planning as they carry out their mandate to create county and local plans.[81] The county-level plans are supposed to express and disseminate the physical planning policies provided by the National Spatial Plan. Rich agricultural land protection, preservation of designated ecologically sensitive regions, urban confinement, and encouragement of industrial growth are a few of these strategies.[82]

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[78] Ibid., sec. 2.
[79] 'Kenya National Spatial Plan (2015 – 2045) | Kenya Vision 2030' (no date), Government of Kenya, First published in 2016. Available at: https://vision2030.go.ke/publication/kenya-national-spatial-plan-2015-2045/ (Accessed: 4 May 2024).
[80] Ibid.
[81] Ibid.
[82] Ibid.

According to the Plan, the main danger to agricultural land is land fragmentation brought on by rapid population increase and competing land uses like urbanisation. The underutilization of prospective agricultural regions results in a reduction in land production. Rich farmland has also been lost to urban development applications such as real estate development.[83]

According to the Plan, compared to investments in other sectors, agricultural investment reduces poverty five times more effectively. It contributes to the upkeep of rural areas and makes them desirable places to live for a new generation of farmers, fishermen, and small business owners.[84] Almost half of farmers in developing countries are women, who are held back by the unequal access to resources, and rural development may help solve this issue by providing equitable access to resources.[85]

This Plan holds a great potential for revolutionizing agricultural production in Kenya, if fully implemented.

g. Ministry of Agriculture and Livestock Development: Agriculture Strategic Plan 2023 – 2027

The Strategic Plan 2023-2027[86] was developed by the Ministry of Agriculture and Livestock Development and identifies strategic issues as; Inadequate agricultural policy, legal and institutional framework; Low agricultural production and productivity; Limited value addition, market access and trade; Food and nutrition insecurity; Low involvement of youth, women and vulnerable groups in agriculture.[87]

[83] Ibid., p. 94.
[84] Ibid., p. 113.
[85] Ibid., p. 113.
[86] Republic of Kenya, *Ministry of Agriculture and Livestock Development: Agriculture Strategic Plan 2023 – 2027*.
[87] Ibid., p. xi.

The Ministry is attempting to address the issues and challenges raised by concentrating on five major strategic objectives, which are: creating a legal, institutional, and policy framework that is appropriate for sustainable agricultural development; increasing agricultural productivity and production; improving agricultural value addition, market access, and trade; improving food and nutrition security; and increasing the involvement of youth, women, and vulnerable groups in agricultural value chains.[88] The following major outcome areas will be implemented in order to meet the goal: Agricultural value addition, market access, trade, food and nutrition security, agricultural policy, institutional and legal frameworks, productivity, and social inclusion in agriculture.[89]

This Strategic Plan should not be executed by the ministry unilaterally but should instead involve the other stakeholders such as communities in order to not only succeed but also to ensure that their interests and goodwill are secured. This is important considering that the participants in the agriculture sector, the activities these actors carry out, and the broader supportive environment make up agrifood systems.[90] Farmers, agribusiness companies, processors, distributors, and consumers are all represented by the performers. Policies, guidelines, and financial commitments that impact market accessibility and sustainable production are all part of the enabling environment.[91]

[88] Ibid., p. xi-xii.

[89] Ibid.

[90] *Building inclusive, productive, and sustainable agrifood systems | Independent Evaluation Group* (2022). Available at: https://ieg.worldbankgroup.org/blog/building-inclusive-productive-and-sustainable-agrifood-systems (Accessed: 4 May 2024).

[91] Ibid.

h. Ministry of Agriculture and Livestock Development: Livestock Strategic Plan 2023 – 2027

With its ability to secure food and nutrition, supply raw materials for production, generate revenue, create jobs, and generate cash through exports, the livestock industry significantly boosts the economy.[92]

The Livestock Strategic Plan identifies several challenges and corresponding mitigation measures which are being addressed through this Plan's strategic objectives and proposed interventions.[93] Key among them are: inadequate human, physical and financial resources; inadequate capacity within the livestock training institutions, farms, stations and laboratories; lack of structured data and knowledge management systems and bureaucracy on information sharing; livestock diseases and pests that affect productivity, quality of livestock products and trade; inadequate legal framework and weak regulation of the livestock sector; unsecured and encroachment of institutional land; inadequacy of quality livestock feed and inadequate pasture due to recurrent and prolonged droughts; high cost of inputs for livestock production; climate change and diminishing livestock resource base; poor breeding and management of livestock resulting to low producing livestock; sanitary and phytosanitary concerns affecting livestock and livestock trade such as aflatoxin and antibiotic residues; and livestock resources based conflicts, among others.[94]

In order to tackle these obstacles, the State Department has adopted a number of strategic objectives that will be carried out through tactical interventions, strategies, and activities.[95] These include: creating a framework of laws, policies, and institutions that

[92] Republic of Kenya, *Ministry of Agriculture and Livestock Development: Livestock Strategic Plan 2023 – 2027*.
[93] Ibid., p.x.
[94] Ibid., p. x.
[95] Ibid., p.x.

facilitates the development of livestock resources; raising productivity and production levels; improving value addition, market accessibility, and trade for livestock and livestock products by enhancing the safety of food derived from animals; and bolstering resilience for durable livestock development. Last but not least, the Strategic Plan offers an implementation matrix along with a monitoring and assessment system.[96]

i. National Irrigation Policy 2017

The National Irrigation Policy 2017 seeks to accelerate the growth and enhance the performance of the irrigation sector in order to provide food security, wealth and employment creation, and poverty reduction.[97] In more detail, the Policy suggests that in order to fully utilise irrigation potential, 40,000 ha more area should be covered annually; creative technologies such as water harvesting, wastewater treatment, flood control, and sustainable groundwater exploitation should be used to increase the amount of water available for irrigation; and the Government should mobilise resources for investments from a variety of stakeholders in order to increase irrigation funding to at least 2% of the annual national budget.[98]

Some of the other main goals are to conduct research and development on irrigation, develop the technical staff and irrigators' capacity, encourage stakeholder participation in irrigation development and management, adopt an integrated approach to sustainable commercial irrigation farming, and create an institutional, legal, and regulatory framework that is appropriate for the industry.[99]

[96] Ibid., p. x.
[97] Republic of Kenya, 'National Irrigation Policy 2017 – National Irrigation Authority' (no date). Available at: https://irrigation.go.ke/download/national-irrigation-policy-2017/ (Accessed: 4 May 2024).
[98] Ibid.
[99] Ibid.

j. Irrigation Act, 2019

The Irrigation Act, 2019[100] was enacted to provide for the development, management and regulation of irrigation, to support sustainable food security and socioeconomic development in Kenya, and for connected purposes.[101] The provisions of this Act are to apply to matters relating to the development, management, financing, provision of support services and regulation of the entire irrigation sector in Kenya.[102] The Act also establishes the National Irrigation Authority[103] whose functions are to —develop and improve irrigation infrastructure for national or public schemes; provide irrigation support services to private medium and smallholder schemes, in consultation and cooperation with county governments and other stakeholders; provide technical advisory services to irrigation schemes in design, construction supervision, administration, operation and maintenance under appropriate modalities, including agency contracts, as may be elaborated in regulations to this Act.[104]

With the frequent floods experienced in the country, there is a need for the Authority to work closely with the Cabinet Secretary and the water resources management bodies to harvest the water especially in the arid and semi-arid areas in order to use the same during dry and drought periods for both crop and livestock production by the vulnerable communities.[105]

[100] Irrigation Act, No. 14 of 2019, Laws of Kenya.
[101] Ibid., preamble.
[102] Ibid., sec. 3(1).
[103] Ibid., sec. 7.
[104] Ibid., sec. 8.
[105] Nabinejad, S. and Schüttrumpf, H. (2023) 'Flood Risk Management in Arid and Semi-Arid Areas: A Comprehensive Review of Challenges, Needs, and Opportunities', *Water*, 15(17), p. 3113. Available at: https://doi.org/10.3390/w15173113.

k. Physical and Land Use Planning Act, 2019

The Physical and Land Use Planning Act, 2019[106] was enacted to make provision for the planning, use, regulation and development of land and for connected purposes.[107] The objects of this Act are to provide, *inter alia* —the principles, procedures and standards for the preparation and implementation of physical and land use development plans at the national, county, urban, rural and cities level; the administration and management of physical and land use planning in Kenya; the procedures and standards for development control and the regulation of physical planning and land use; a framework for the co-ordination of physical and land use planning by county governments; a framework for equitable and sustainable use, planning and management of land; the functions of and the relationship between planning authorities; a robust, comprehensive and responsive system of physical and land use planning and regulation; and a framework to ensure that investments in property benefit local communities and their economies.[108]

Every person engaged in physical and land use planning and regulation is required to adhere to the principles and norms of physical and land use planning, *inter alia* —physical and land use planning shall promote sustainable use of land and liveable communities which integrates human needs in any locality; physical and land use planning shall take into consideration long-term optimum utilization of land and conservation of scarce land resource including preservation of land with important functions; and physical and land use planning shall be inclusive and must take into consideration the culture and heritage of people concerned.[109]

[106] Physical and Land Use Planning Act, No. 13 of 2019, Laws of Kenya.
[107] Ibid., preamble.
[108] Ibid., sec. 3.
[109] Ibid., sec. 5.

Under section 60(1), within seven days of receiving an application for development permission, the county executive committee member is required to give a copy of the application to the relevant authorities or agencies to review and comment and the relevant authorities or agencies shall comment on all relevant matters including, *inter alia*— agriculture and livestock; and environment and natural resources.[110]

The contents of national, inter-county and county physical and land use development plans should include the situational analysis of *inter alia* Economy- industry, agriculture, commerce, mining and quarrying, fisheries.[111] The contents of local physical and land use development plans should also include *inter alia* Economic analysis focusing on; Agricultural potential of the urban region; and Problems of transforming the agricultural land into urban use.[112]

Before commencing preparation of a local spatial development plan a survey report should be prepared providing details on *inter alia*— problems of transforming the agricultural land into urban use.[113]

In ensuring development control, if any development application requires subdivision or change of user of any agricultural land, the county government shall require the applicant to obtain consent from the relevant Board.[114] Under the Act, planning authorities shall also require applications for major developments to be subjected to environmental and social impact assessment.[115]

[110] Ibid., sec. 60(1) (c) (f).
[111] Ibid., First schedule.
[112] Ibid., second schedule, Part A, para. 5(c).
[113] Ibid., second schedule, Part B, para. 8(i).
[114] Ibid., Third Schedule, para. 3.
[115] Ibid., Third Schedule, para. 4.

The institutions empowered under this law should work closely and curb the indiscriminate conversion of agricultural land into commercial and residential land which has had and continues to adversely affect agricultural production.

4. Transforming Agri-food Systems via Inclusive, Rights-based Governance for Food Security and Economic Empowerment in Kenya

Kenya's food security is founded on human rights, according to Article 43 (1) (c) of the Constitution on Social and Economic Rights, which declares that "every person has a right to be free from hunger, and to have adequate food of acceptable quality."[116] Even if this constitutional clause is seen as a step in the right direction towards the realisation of the right to food, over 12 million people lack access to food.[117] Notwithstanding the assurances given by successive governments, the grim facts show that Kenyans are sleeping with empty bellies.[118]

Temperatures and the ratio of yearly rainfall to potential evaporation are used to split the nation into seven agroclimatic zones.[119] All agroclimatic zones are used for the production of crops and livestock, although the types and amounts of rainfall, soil conditions, other meteorological factors, market demand, production costs, and the availability of technologies to support the chosen enterprises are just a few of the many determining factors.[120] All these factors thus ought to be considered in transforming agri-food systems in the country in order to ensure the highest returns on investments for maximum food production.

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[116] *The chronic hunger song is exasperating- leaders need to change the hymnbook | Heinrich Böll Stiftung | Nairobi Office Kenya, Uganda, Tanzania* (no date). Available at: https://ke.boell.org/en/2021/12/01/chronic-hunger-song-exasperating-leaders-need-change-hymnbook (Accessed: 4 May 2024).
[117] Ibid.
[118] Ibid.
[119] Republic of Kenya, *Kenya National Spatial Plan (2015 – 2045)*, p. 94.
[120] Ibid., p. 94

Kenya's wide and varied agricultural potential is highlighted in the National Spatial Plan 2015–2045.[121] This is because the country is home to several agroclimatic and agroecological zones, as well as natural resources including lakes, rivers, and mountains.[122] Among the capacities are grain basket areas, whose primary purpose is to produce the basic foods of the country, wheat and maize.[123] Both agricultural and livestock production may be done in the transition zones. The places that have the ability to receive irrigation offer a chance to increase agricultural potential, as well as a means of boosting output and yielding high-value products.[124]

The ASALS regions serve as a nation's "meat basket," producing livestock on a vast scale and exporting both live animals and livestock products.[125] Fish farming is supported in the places with promise for aquaculture and marine culture. While regions with ocean and sea fishing potential may sustain the large-scale fishing industry, locations with lake and river fishing potential serve the purpose of producing fish under natural conditions.[126]

a. Promoting Safe and Sustainable Urban-Based Agriculture for Food Security

Kenya is quickly urbanising, which is raising demand for agricultural products since there is a greater need for food supply in the expanding cities and towns.[127] Some urban

[121] Ibid., pp. 123-126.
[122] Ibid., p. 125.
[123] Ibid., p. 125.
[124] Ibid., p. 125.
[125] Ibid., p. 126.
[126] Ibid., p. 126.
[127] Omondi, S.O., Oluoch-Kosura, W. and Jirström, M., 2017. The role of urban-based agriculture on food security: Kenyan case studies. *Geographical research*, *55*(2), pp.231-241.

people are forced to partially adopt livelihood options based on urban agriculture due to high unemployment rates, urban poverty, and food and nutrition insecurity.[128]

Urban agriculture has rightfully gained the right to require recognition as a valid urban land use in order for these operations to be properly planned, regulated, and managed.[129] Additionally, by including provisions for community gardens and other group cultivation activities in open spaces, as well as taking into consideration home cultivation activities within public housing programmes and slum upgrading schemes, urban agriculture should be easier to incorporate into municipal land use and management plans.[130] Norms and standards that support environmentally friendly production techniques and microenterprises connected to the short food supply chain can be created in the event that this land use is recognised.[131] It can be aided in placemaking, urban greening, and urban redevelopment initiatives, and it has the potential to be a very successful community development project.[132]

Nairobi and other rapidly growing cities and towns around the country should consider incorporating urban agricultural practice within their borders to address food security for their most vulnerable population. Past research has shown that when compared to households who do not farm, a greater proportion of those involved in urban farming and urban-based rural agriculture generally have higher food security.[133] Urban food

[128] Ibid.
[129] Steenkamp, J. *et al.* (2021) 'Food for Thought: Addressing Urban Food Security Risks through Urban Agriculture', *Sustainability*, 13(3), p. 1267. Available at: https://doi.org/10.3390/su13031267.
[130] Ibid.
[131] Ibid.
[132] Ibid.
[133] Omondi, S., Kosura, W. and Jirström, M. (2017) 'The role of urban-based agriculture on food security: Kenyan case studies: Urban-based agriculture and food security', *Geographical Research*, 55, pp. 231–241. Available at: https://doi.org/10.1111/1745-5871.12234.

strategies should incorporate urban farming as it has the potential to increase family food security and provide fungible revenue.[134]

b. Diversifying Production and Behavioral Changes Towards Sustainable Practices and Standards

Supporting farmers and agribusiness companies to diversify their production beyond conventional staples to include high-value and more nutritious food products like fruit trees, vegetables, food legumes, fish, poultry, and animals is something the World Bank strongly pushes for.[135] According to them, smallholder farmers and SMEs stand to gain from sustainable diversification since they frequently struggle to expand their agricultural businesses or production to include high-value goods that will boost agricultural productivity and supply nutrient-dense foods that are currently either scarce or prohibitively expensive for low-income consumers.[136]

In order for producers to gain access to competitive, regional, and international markets, it will be necessary to supply them with adequate financing, assist them in adhering to food safety and quality requirements, and support farmers and agribusiness companies as they implement sustainable practices.[137] Climate-smart methods that preserve

[134] Ibid.

[135] *Building inclusive, productive, and sustainable agrifood systems | Independent Evaluation Group* (2022). Available at: https://ieg.worldbankgroup.org/blog/building-inclusive-productive-and-sustainable-agrifood-systems (Accessed: 4 May 2024).

[136] Ibid.

[137] Ibid; see also Faour-Klingbeil, D. and Todd, E.C.D. (2018) 'A Review on the Rising Prevalence of International Standards: Threats or Opportunities for the Agri-Food Produce Sector in Developing Countries, with a Focus on Examples from the MENA Region', *Foods*, 7(3), p. 33. Available at: https://doi.org/10.3390/foods7030033.

biodiversity, consume less water and land, and leave fewer environmental footprints should be promoted to producers and other value-chain participants.[138]

c. Investing in Forest Ecosystem for Enhanced Productivity

The ability of humans to generate enough food and pasture for their animals is impacted by the destruction of forests and its connection to climate change.[139] Forest ecosystems have the potential to significantly improve food security in the following ways: they protect soil and water resources, which improves soil fertility and enrichment; they regulate climate and act as a home for naturally occurring pollinators of food crops; they support a wide variety of edible plants, fungi, and fruits, which increases dietary diversity and availability; they provide a sustainable source of bioenergy, which lessens the strain on conventional energy resources and indirectly supports food production; and finally, forests generate income and employment opportunities, particularly for the communities that are close by, improving economic access to food.[140]

Thus, people's capacity to grow, get, and consume food efficiently is threatened by forest degradation and inadequate forest governance, putting the populace at risk of a food insecurity catastrophe.[141]

Promoting a mixed farming approach where farmers also actively engage in afforestation can potentially have the advantage of achieving food security while also promoting

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[138] Ibid; von Braun, J., Ulimwengu, J.M., Nwafor, A. and Nhlengethwa, S., 1 Empowering African Food Systems for the Future. *Africa's Food Systems for the Future*, p.14; Matteoli, F., Schnetzer, J. and Jacobs, H. (2021) 'Climate-Smart Agriculture (CSA): An Integrated Approach for Climate Change Management in the Agriculture Sector', in J.M. Luetz and D. Ayal (eds) *Handbook of Climate Change Management: Research, Leadership, Transformation*. Cham: Springer International Publishing, pp. 409–437. Available at: https://doi.org/10.1007/978-3-030-57281-5_148.

[139] 'Leveraging Forest Ecosystem to Boost Food Security in Kenya – KIPPRA' (no date). Available at: https://kippra.or.ke/leveraging-forest-ecosystem-to-boost-food-security-in-kenya/ (Accessed: 4 May 2024).

[140] Ibid.

[141] Ibid.

forests conservation to achieve the desired tree cover of at least 10% as per Article 69 of the Constitution of Kenya 2010.

d. Investing in the Bottom-up Economic Transformation Agenda

The agricultural industry is given priority under the government's "Bottom-up Economic Transformation Agenda (BETA)," which focuses on increased agricultural productivity, value addition, and marketing.[142] The value chains for tea, textiles and clothing, rice, dairy, cattle, and leather development are the ones that are given priority. According to the BETA plan, Kenya has enormous potential to improve its agricultural sector based on three agricultural pillars: increasing exports, reducing food imports, and ensuring food security.[143]

Agrifood systems are necessary for human life and for a world free from hunger; without them, no goal—including the end of poverty and hunger—can be accomplished.[144] It is also true that agrifood systems contribute significantly to harmful emissions, are imbalanced, and have the potential to perpetuate inequity.[145] We have to isolate the components of agrifood systems that thrive on inequity and environmental degradation if we are to make them firmly the solution rather than the issue.[146] We have to start at the local community level in order to accomplish this effectively and perfectly.[147]

Combining production and market techniques is necessary, according to the World Bank: For the most part, Low Income Countries (LICs) and nations that are still developing their

[142] Republic of Kenya, *Ministry of Agriculture and Livestock Development: Agriculture Strategic Plan 2023 – 2027*.
[143] Ibid.
[144] *Agrifood systems transformation and the SDGs* (no date). Available at: https://doi.org/10.4060/cc2063en.
[145] Ibid.
[146] Ibid.; *Climate-Smart Agriculture* (no date). Available at: https://www.worldbank.org/en/topic/climate-smart-agriculture (Accessed: 4 May 2024).
[147] Ibid.

agrifood systems have inadequately connected production operations with markets.[148] Reducing poverty and enhancing food security is hampered by the low agricultural production that many LICs face.[149] Due to their restricted access to markets and value chains, low productivity, and vulnerability to different shocks, smallholders and small producers in local economic communities continue to live in poverty.[150] Transitioning from semi-subsistence farming to more commercial agrifood businesses is a challenge for many of them.[151]

If effectively implemented, this approach may not only guarantee food security but would also economically empower communities thus improving their socio-economic status.

5. Conclusion

It is critically important to address the use of food as a political weapon, particularly during election seasons, as well as the absence of genuine political commitment as would be demonstrated by the implementation of existing laws and policies.[152] The existing and legal frameworks in the country, especially the National Spatial Plan 2015-2045 have very viable recommendations on how best to address challenges in all the agro climatic zones in the country. The various institutions established under the laws, policies and plans ought to work together towards modernizing agriculture while addressing the climate change challenges affecting agricultural production in the country. Physical planning

[148] *Building inclusive, productive, and sustainable agrifood systems | Independent Evaluation Group* (2022). Available at: https://ieg.worldbankgroup.org/blog/building-inclusive-productive-and-sustainable-agrifood-systems (Accessed: 4 May 2024).

[149] Ibid.

[150] Ibid.

[151] Ibid.

[152] *The chronic hunger song is exasperating- leaders need to change the hymnbook | Heinrich Böll Stiftung | Nairobi Office Kenya, Uganda, Tanzania* (no date). Available at: https://ke.boell.org/en/2021/12/01/chronic-hunger-song-exasperating-leaders-need-change-hymnbook (Accessed: 4 May 2024).

challenges should be addressed urgently in order to safeguard the viable agricultural land available against encroachment by urbanisation. This is important considering that the backdrop of development in Kenya is heavily impacted by land ownership and usage. As a result, for almost all groups, land has enormous cultural, spiritual, and political value.[153] Most Kenyans rely on smallholder farming for their livelihoods, which is why the industry is dominated by them.[154]

These efforts should be informed by a human rights approach that is geared towards realising the socio-economic rights as guaranteed under article 43 of the Constitution of Kenya, economic empowerment and ensuring that all the players including communities are included in the plans and programmes for them to embrace them and ensure that they succeed.

Unless these challenges are adequately and urgently addressed, food security in Kenya will remain a mirage.

Transforming Agri- food systems via Inclusive Rights-based governance for Food Security and Economic Empowerment in Kenya is an ideal whose time is now.

[153] Komba, E., Odary, K.V. and Letura, A., 2018. Land Reform in The Context of Devolution: Lessons from Kajiado County, Kenya. *African Journal of Land Policy and Geospatial Sciences*, *1*(2), pp.31-40.

[154] Ali, A.H. and Farah, S.A., 2019. Understanding the influence and effects of devolution on agricultural development: A case study of Garissa county, Kenya. *International Journal of Contemporary Research and Review*, *10*(10), pp.110-114.

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