

POSITION PAPER

Seed and food celebrations in culture and practice in Kenya **The Indigenous Seeds and Food Culture Harvest Fair**

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Indigenous seeds are those that have been grown, selected and managed by people in the local area through several generations. These seeds have become naturally adapted through a strong influence from local environmental factors in their growing niches (Joshi, B.K. 2021,). Location factors inducing seed uniqueness include abiotic forces such as weather patterns, (soil types, temperature, pressure, clouds, wind, humidity and rain), biotic pressures such as pests and disease and local human interventions. These seeds possess a high-level of intra species diversity. They are heterogenous and polymorphic (Marone et al., 2021). Communities help variety development every season through seed selection using their seed cultures and traditional knowledge in seed and food production and variety maintenance.

Consequently, although crops like maize, cassava and sweet potato were not native to Eastern Africa and came about 400 years ago from South and Central America, these crop varieties have had many decades to evolve under different climatic conditions and local community breeding practices of seed selection, storage. They are considered indigenous and unique from those maize and cassava varieties from elsewhere in the world. They are part of the genetic heritage belonging to the local communities. Seed is a common heritage that connects the past, present and future generations.

The use of indigenous seeds in the production, distribution and consumption of local food, is closely interwoven into unique cultural expressions. Many cultural expressions are involved in planting, sowing, harvesting, preparing, serving and sharing certain foods and drinks (Hill, C. G. 2017). These practices might appear simple, but they often carry important spiritual, social and cultural significance which are communicated through the peoples' music, dance, art, designs, names, signs and symbols, artistic performances, ceremonies, architectural forms, craftsmanship, narratives, festivals, social practices, oral heritage, and of course, gastronomic traditions. Recipes and dietary practices have always been used to transmit knowledge from one generation to the next, shaping living cultures - people's practices, attitudes, and beliefs as well as the networks and institutions surrounding the production, distribution, and consumption of food.

Kenya with its over 42 ethnic communities have a rich and diverse seed and food culture which is a record and measure of her bountiful inheritance of not only her genetic resources but also a treasure trove of our traditional knowledge and innovations, which reach out to generations now aeons gone and bind us to the emerging peoples and culture. The constitution of Kenya 2010 Article 11 on culture has cursorily been dismissed by many modern non-traditionalists. The tools of global trade and time, have not been kind in reducing the centrality of the linkages between genetic resources and Kenya's cultural heritage. We have had to look toward international legal frameworks such as those espoused in the United Nations CBD (Convention on biological diversity) and UNESCO (The United Nations Educational, Scientific and Cultural Organization) to find a reason and a way to celebrate and protect Kenya's fauna and flora and its associated indigenous traditional seeds and knowledge, scientific innovations and culture. The COK 2010 implores the government and parliament to recognize and protect both the tangible (genetic resources) and the intangible elements of Kenya's culture as a living and lasting legacy for the benefit of her people (present and future). This is yet to be actualized with

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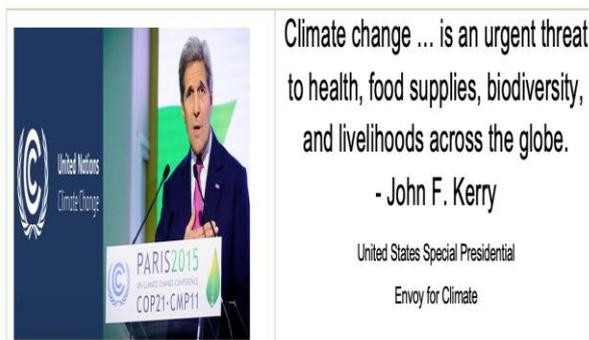
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initial attempts through the Traditional knowledge and cultural expressions act 2016 (rev.2018) which is yet to be operationalized. Yet non-material culture which lack a physical form but are instead expressed through knowledge, skill or ritual are vital for the survival of any people and plays major role in shaping how members of a society behave, interact with each other, and make sense of the world around them (Smith et al 2020).

Investing in agrobiodiversity and Agroecological practices, promoting diverse indigenous seeds and local food systems for a healthier future is of paramount importance (Gliessman, 2020, Pereira, et al 2018). Kenya needs to move from perpetual acute food insecurity and needing food aid to a country that is proud and stands tall under sustainable food sovereignty policies of production and consumption. This can be used using multiple evidence-based food production practices that borrow from indigenous and local knowledge of communities which by nature were as well as science both as two parallel knowledge systems which can operate independently or be integrated on a case-by-case basis. The past and future are merged; the deep roots of societies and traditions need to allow for the latest agrobiodiversity and Agroecological research and innovations which can sustain the development of living cultures. That emerging seed and food cultures needs to extend the principals of justice, equity and fairness and at the same time pay respect to the people's democratic choice of the food they want.

According to the Food and Agricultural Organization (FAO, 2006), since the 1900s, some 75 percent of plant genetic diversity has been lost as farmers worldwide have left their multiple local varieties and landraces for genetically uniform, high-yielding varieties. More than 30 percent of livestock breeds are also at risk of extinction; six breeds are lost each month.



Today, 75 percent of the world's food is generated from only 12 plants and five animal species. Of the 4 percent of the 250 000 to 300 000 known edible plant species, only 150 to 200 are used by humans. Only three - rice, maize and wheat - contribute nearly 60 percent of calories and proteins obtained by humans from plants (FAO, 2006).

Since the 1950s agricultural production has gradually orientated itself to depend on an ever-

smaller number of species and varieties, selected and breeder rights protected as DUS compliant (Distinct, Uniform and Stable). Seeds for industrial agriculture, therefore, have become commodified into the global trade to respond to the needs of the corporate market and to create a demand for all other accompanying inputs which increase the profits of multinational agribusiness corporations. These Technology Seeds are not locally adapted, but can instead be produced in many possible environments, tolerate handling and transport, and have a uniform (usually bland) taste. They are central to industrial Agriculture, often require high inputs of costly hybrid seeds, and fertilizers and have to be supported throughout the season with expensive irrigation, fungicide and pesticide sprays because they are not adapted to local disease pressures.

Today, 90% of the calories in Kenyans' food supply are based on just four crops; maize, wheat, beans, potato. Maize especially grown from hybrid varieties account for about 65% of the staple diet. This is followed by wheat contributing 17% and beans at 9%. Kenya imports most of her wheat and rice (Mohajan, 2014). Their increasing importance to the national food supply is a good indicator that Food Sovereignty needs to be considered as an important policy issue, since the Food import burden further balloons exponentially when rainfall seasons fail. The narrowing of dietary choices can be attributed to a rise in industrial agriculture, eroding memory and planting of traditional indigenous crops, and food poverty. The over-reliance on maize has contributed significantly to malnutrition due to micronutrient deficiencies in Kenya (Khamila et al., 2020). The main forms of micronutrient deficiencies in Kenya include vitamin A, iron, folate, vitamin B12, iodine and zinc deficiencies (KDHS, 2014). A micronutrient survey in the country revealed that the prevalence of Vitamin A deficiency among Pre-

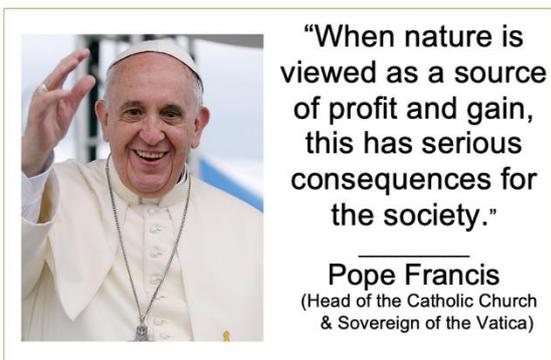
school children was 52.6%; Iron deficiency was at 36.1% among pregnant women and 21.8% among under 5 children; Zinc deficiency was at 83.3% in pregnant women and 82.3% in non-pregnant women; Folate deficiency was at 32.1% in pregnant women and 30.9% in non-pregnant women (MoH, KeMRI and KNBS, 2013).

While Kenya continues to disregard indigenous crops such as Sorghum, the crop is now sold as a non-GMO Nutrient-packed gluten-free superfood in the USA (Pfoutz, 2022). It is praised for addressing water, carbon, soil health, and economic challenges. This 8,000-year-old grain crop originated from the Eastern Africa and is now the fifth most widely grown cereal in the world. It is causing a positive stir in the High Plains of the central United States. Sorghum not only contains an abundance of antioxidants, vitamins, and twice the protein of quinoa, but it also happens to be extremely drought-tolerant, requiring 30% less water than other grains. Sorghum is known in the USA as the “camel of crops”, while in consumer generations in Africa refer to it as the “Poor man’s Crop”. A company in the USA, Nu-Life offers proprietary (legal Intellectual property protection) sorghum seeds to farmers and packages varieties of whole grain flours, brans, meals, popped sorghum, and more direct to the health-conscious consumers (Pfoutz, 2022).

The main purpose of the indigenous seeds and food culture harvest fair is to stimulate debate, understanding, and appreciation of farmer-managed seeds and their contribution to food and nutrition security to all stakeholders and initiate and launch national seed exhibitions at the National Museums of Kenya.

- a) Increase awareness of the local seed diversity conserved by farmers and enhance conservation of the indigenous farmer varieties
- b) Celebrate and appreciate communities’ knowledge and efforts to conserve agrobiodiversity
- c) Expose participants to a diversified traditional diet as a way of enhancing food and nutrition security
- d) To raise awareness on the policies and regulations in support of farmer-managed seeds
- e) To initiate indigenous seed exhibits at the National Museums of Kenya as a way of conserving our heritage

Seed and Resilience of communities to Climate Change



Indigenous breeds of plants and livestock can withstand climate variability because for decades’ farmers have selected them based on their ability to adapt to their local climate disease and pest pressure. Farmers have an intimate knowledge of these varieties that are selected to maximize not DUS but DAR (Diverse, Adaptation & Resilience). Indigenous farming methods, now called Agroecology, includes mixed cropping and the use of both wild and domesticated sources of food. These are the basis for strengthening and transforming the Kenyan food system and landscapes so that they

sustain the country, drive prosperity, and nourish people in the coming climate crisis. This food transformation is a revamped focus on food sovereignty away from profits-first approaches to creating new technologies that would be the bedrock of self-governance at the grassroots and national levels.

The women of the seed harvest/household food security and nutrition

Women play an important role in ensuring household food security and nutrition. They are the carriers of traditional knowledge and transmit it through the generations and across cultures through marriage and interaction.

The relationship between women’s empowerment, household food security, and maternal and child diet diversity. Appreciating the gender dynamics affecting the women’s empowerment-food security and women’s empowerment-nutrition security nexus.

To many indigenous and local communities, the seed has deep cultural and spiritual significance, with



“Women are the most important people in the seed system in our area. They control and store seeds. If a woman doesn’t have her seed, she is powerless. It’s that simple.”
 A male farmer,
 Ukambani

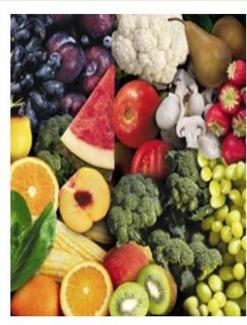
vital importance to the resilience of humanity and the socio-ecological systems of which they are part. Therefore, the cultural and spiritual values of indigenous and local peoples are critical to developing appropriate strategies for climate change adaptation in agriculture. There can be no food sovereignty without seed justice. Elders believe that seed justice is founded on the ancestral value system around seeds, in which seeds are spiritually multiplied, shared, saved, and are living entities as recognised in earth’s jurisprudence but the problem is that they are engendered

There is a need to raise the status of women through awareness creation, literacy, and training. There is a need to implement supply chains and market practices and enterprise development to empower women. There is also a need to champion gender equality through community initiatives and advocacy, as well as to invest in activities that elevate women in the seeds sector where women are the custodians of seeds. Women must be empowered in owning their seeds in the same way seed companies do for their seeds.

FMSS as a seed as a sector has the rationale to empower women. FMSS also recognizes farmers’ core rights to produce, save, share, exchange, and sell to enhance seed and food sovereignty. Women play a very crucial role and hence the focus of FMSS development; to enhance diversity, conservation, and preservation of seed germplasm for resilience and climate change adaptation, and to contribute to ecosystem services (pollination, quality air, soil health improvement). Further, women’s activities are captured.

Medicinal Foods / Food as Medicine

Food has traditionally been used as preventive and curative medicine. The nutritional value of foods and the ability to prevent /manage health conditions/diseases as well as aiding in the recovery of the sick and how to ensure that through food there is food and nutritional security. Prevention of food-



“Let food be thy medicine and medicine be thy food”
Hippocrates
 - the father of medicine.

related ailments and how they can be managed.

Eating and Healing the theme will look at food as Medicine in relation to wild and semi-domesticated foods and their use as medicine in traditional societies including the many neglected food sources still being used around the world today. The theme will tap into the ethnoscience disciplines of ethnobotany, ethnoecology, and ethno-medicine to provide a valuable multidisciplinary resource for education

and instruction in healing and feeding communities.

Seed Governance and Indigenous Technical Knowledge (ITK), Farmer Managed Seed Systems and rights/ Seed and Food Sovereignty

Farmer-led seed enterprises as a strategy for improving smallholder income through private contracting and community seed production of traditional vegetables in Tanzania's



Women indigenous farmers are pivotal to the survival of seed diversity. They are often excluded from important decisions and actions. To be effective in conserving genetic diversity in the field, governments and the UN agencies need to recognize and channel Agriculture support to smallholder and indigenous farmers – not just to policymakers and researchers.

This theme will focus on the policies that relate to seed, food production use and sale. It will especially focus on ways of ensuring the farmer varieties/ land races are recognized alongside the breeder's rights. It also seeks to ensure the continuity of seed saving and exchange cultures among community members as a practice at the local level and how policies can be developed to protect and support these initiatives. Crop genetic resources and farmers' knowledge about them, and it analyzes the nature of the 'common heritage' regime and the need for farmers to accrue benefits from their inputs in seed saving and breeding at the local level under the Farmer Managed Seed Systems (FMSS).

The 1st National Indigenous Seeds and Food Culture Harvest Fair brings into focus the need to recognize that food production is an economic as well as socioecological system that links people with nature. The link biodiversity and ecosystem services especially the provisioning function can result in food-secure futures dedicated to reducing poverty, enhancing food and nutrition security, and improving natural resources and other ecosystem services

Recommendations

- Revitalization of local food production systems traditions at the household level
- Development of laws PROMOTION AND SUPPORT of Farmer managed seed systems FMSS
- Promotion of Agrobiodiversity and agroecological practices Enhance live hoods through food and nutrition security
- Conservation of landscapes and ecosystem s to promote and not adulterate indigenous plant and livestock varieties through indiscriminate release of GMOs into the ecosystems
- Gene banking and cataloguing all indigenous seed varieties for posterity
- Empowerment of farmers through freedom to use buy and sell seeds amongst themselves as in their traditional setting

Empowerment of the small-scale farmers and women at the local level to address food and nutrition security in the face of climate change is the way to ensure food and nutrition security for all. Posterity can only come from what we are able to control and seed and food sovereignty are vital for local and indigenous communities in deciding their destiny.

References

1. FAO (2006). UN Food and Agricultural Organization: Women: users, preservers and managers of agro-biodiversity. Accessed on September 27,2022
<https://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.395.2601&rep=rep1&type=pdf>
2. Gliessman, S. (2020). Investing in agroecology in Africa. *Agroecology and Sustainable Food Systems*, 44(10), 1253-1254
3. Global Alliance for the Future of Food (2016). "The future of food: Seeds of resilience, a compendium of perspectives on agricultural biodiversity from around the world." Global alliance for the future of food. Accessed <https://futureoffood.org/wp-content/uploads/2021/02/Seeds-of-Resilience-Full-Compendium.pdf> September 27, 2022
4. Hill, C. G. (2017). Seeds as ancestors, seeds as archives: Seed sovereignty and the politics of repatriation to native peoples. *American Indian Culture and Research Journal*, 41(3), 93-112.
5. Joshi, B. K. (2021). Indigenous Seeds, Seed Selection and Seed Bank for Sustainable Agriculture. *Grassroots Journal of Natural Resources*, Vol.4 No.4.
6. Khamila, S., Ndaka, D. S., Makokha, A., Kyallo, F., Kinyanjui, P. K., Kanensi, O. J., & Mwai, J. (2019). Status of commercial maize milling industry and flour fortification in Kenya. *African Journal of Food Science*, 13(3), 65-82.
7. KDHS (2014)-Kenya Demographic Health Survey. Kenya Demographic Health Survey.
8. KNBS, KMOH, & KEMRI. (2011). The Kenya National Micronutrient Survey 2011.
9. Marone, D., Russo, M. A., Mores, A., Ficco, D. B., Laidò, G., Mastrangelo, A. M., & Borrelli, G. M. (2021). Importance of landraces in cereal breeding for stress tolerance. *Plants*, 10(7), 1267.
10. Mohajan, H. (2014). Food and nutrition scenario of Kenya.
11. Pereira, L., Wynberg, R., & Reis, Y. (2018). Agroecology: The future of sustainable farming? *Environment: Science and Policy for Sustainable Development*, 60(4), 4-17.
12. Pfoutz A (2022) Sorghum: Ancient grain—timely solution. <https://non-gmoreport.com/articles/sorghum-ancient-grain-timely-solution/> Accessed September 26, 2022, 2022
13. Smith, C., Burke, H., & Ward, G. K. (2020). Globalisation and indigenous peoples: threat or empowerment? In *Indigenous cultures in an interconnected world* (pp. xviii-24). Routledge.

