

# Working Paper

(Abridged Version)



## Africa

## Manifesto and Plan of Action on **Forgotten Foods**

May 2021



"This document has been produced with the financial assistance of the European Union. The views expressed herein can in no way be taken to reflect the official opinion of the European Union."



### Highlight of Africa Manifesto

1. Establish a dedicated and functional **research system** for holistic development of forgotten foods.
2. Incrementally build an appropriate **innovation capacity** (infrastructure, equipment and expertise) at local level to enable African research and education institutions develop solutions for increased productivity, resilience to shocks, value-added production and quality assurance for forgotten foods.
3. Establish **partnerships and strategic alliances** to foster engagement of youth, women for rapid integration of forgotten foods into the national food system and engagement for policy development.
4. Facilitate the engagement of **private sector for investment** into production, processing and marketing of forgotten foods
5. Create a **regional pool of financial resources** to support research and coherent development efforts on forgotten foods. Such funds should be accessible by institutions and governments which have research topics aligned to regional priorities on forgotten foods.

## 1.0 Background

Africa is the world's second-largest and second-most populous continent in the world hosting 16% of the world population on 20% of the world land area (Sayre, 1999, United Nations Department of Economic and Social Affairs, 2019). Agriculture has been the backbone of Africa growth and its food systems for more than 10,000 years since humans shifted from hunting and gathering to cultivating food. Agriculture contributes a significant share of the Sub-Sahara Africa (SSA) economy because majority of the population derives their livelihood from the sector (Gashu *et al*, 2019). The demand for food continues to increase rapidly, as a result of various factors. Recent world population projection indicated that World Population is projected to increase from 7.8 billion in 2020 to 9.9 billion by 2050. Africa's share of global population is projected to grow from 17% in 2020 to 26% in 2050 (PRB, 2020). This projection suggests that the food security warrants paramount attention. Currently, about 7,000 plant species out of about 30,000 identified edible plant species have been used in the history of humanity to meet food needs (FAO 1998). Among these species, just 103 crops species provide 90% of the calories in the human diet, while only four of these (rice, wheat, maize and potato) account for 60% of the human energy supply (Tontisirin and Bhattacharjee, 2010, Padulosi *et. al.*, 2013). This implies that quite a lot of crop species are forgotten (i.e. underutilized, neglected, unimproved) . They are

underutilized in terms of consumption. They are neglected in terms of research, extension, commercialization and conservation. The long-term neglect of these commodities has dramatically changed the global food system and led to a gradual decline in the consumption of the traditional food resources in many communities, as well as the conveyance of knowledge associated with the plants (Vorster *et al.*, 2008; Bvenura and Afolayan, 2015). Based on this fact, there is a strong rationale for diversification of production and consumption in favor of the underutilized crop commodities as this would significantly contribute to improved nutrition and household food security, for xample (Jaenicke and Höschle-Zeledon, 2006)

## **2.0 Role of Forgotten Foods in Achieving Food Security in Africa**

The term forgotten food refers to crop and livestock commodities that are erstwhile sources of food but have been neglected due to the advent of other food commodities. Forgotten foods are also termed as neglected and underutilized species, indigenous food commodities, orphan crops etc. Padulosi *et al.*, (2011, 2013) defined forgotten foods as crops that attract little attention or have been entirely ignored by agricultural researchers, plant breeders and policymakers.

Over millennia, the currently forgotten foods were the main source of food (Demi, 2014). They are resilient and well adapted to the needs of farmers in marginal agricultural environments. The adaptation of most forgotten foods to low input agricultural systems and their nutritional composition have made them a reference point for having the potential to reduce food and nutrition insecurity, particularly for resource poor households in Africa. Furthermore, the adaptability of forgotten foods suggests that their cultivation is less damaging to the environment and addresses cultural needs. They also play an important role in the cultural heritage of local communities (Mabhaudhi *et al.*, 2016). Traditional foods are often a symbol of cultural heritage, they are part of the identities of diverse ethnic groups (Engler-Stringer, 2010; Sharif *et al.*, 2016).

The forgotten foods could have a much higher nutrient content than most globally known species that are commonly produced and consumed. They stand out in commodity selection for nutrition sensitive agriculture due to their great potential for improving nutrition and climate change resilience. The forgotten foods also play an important role in diversifying the food base in order to enhance food and nutrition security due to the varieties of nutrients the crop species are capable of providing. Diversity of diets, based on diverse crops delivers better nutrition and greater health with additional benefits for human productivity and livelihoods. Also, because, the crops serve as alternatives in times of crop failure, they readily fit into different cropping systems or schemes. The crops are regarded as main drive towards mitigating food insecurity (Welch and Graham, 1999). Moreover, the exploration of forgotten commodities has gained precedence with the work of ICRISAT on Sorghum and millet under the “Smart Food” program which explore varietal development, agronomic practices as well as processing, product development and marketing to increase utilization.

In spite of the value that forgotten foods can potentially contribute to Africa food system, they have not attracted sufficient research and development attention. Therefore, to harness these potentials, collective actions are required at the global, regional, national levels. These actions involve creating awareness and communicating the economic, nutritional, environmental and cultural values of these foods to improve their consumption. They also involve the provision of the needed enabling environment for the development of these foods through research; empowering farmers in production; and supporting the private sector in processing, value addition and marketing. The African Orphan Crops

Consortium (AOCC) is spearheading efforts to integrate forgotten food crops into African food systems through research and capacity building interventions aimed at increasing production.

### **3.0 Justification for a Manifesto on Forgotten Foods**

In light of the value and roles served by forgotten foods, it is imperative to galvanize the attention of policy makers and the public on the need to shift towards a more diversified and resilient food system in which forgotten foods are strongly integrated. A primary tool for achieving this goal is a Manifesto that (i) articulates the shortcomings of the current food system and how increased utilization of forgotten foods would contribute to overcoming them; (ii) takes stock of what has been done to advance the production and utilization of forgotten foods; (iii) articulates what needs to be done and by whom to improve the utilization and production of forgotten foods as a means to achievement of CAADP and SDG targets on food and nutrition security and the impact of climate change. The success of the agenda to increase the utilization of forgotten foods depends on sustained demand for these foods. However, demand is a factor of availability of these foods in quantities as well as forms that are convenient and appealing especially to urban lifestyles. This in turn requires significantly more attention to be directed to research, processing, product development, business development and marketing of forgotten foods. Clearly, this entails a holistic approach that involves all actors from production to consumption. The “Smart Foods” presents a case of what needs to be done for a group of related commodities.

The Africa manifesto on forgotten foods will highlight the joint beliefs, status, policies and required action plans to promote the foods for ultimate benefits of the continent. It is vital to understand the current human perceptions of these commodities, the societal level of awareness, the level of current use and benefits (Kansiime *et al.*, 2018). It is imperative to collect and document local knowledge, encompassing all aspects of the forgotten foods from traditional beliefs to utilization and agronomic practices. These information are obtainable from the farmers and local communities. Advocacy and promotion of the use could then follow by highlighting their importance in comprehensive farming and food systems. The manifesto will also highlight the actions required in terms of research, product development and marketing of forgotten foods building on the existing work and information (Pitso and Lebeso 2014; Mbhenyane, 2017).

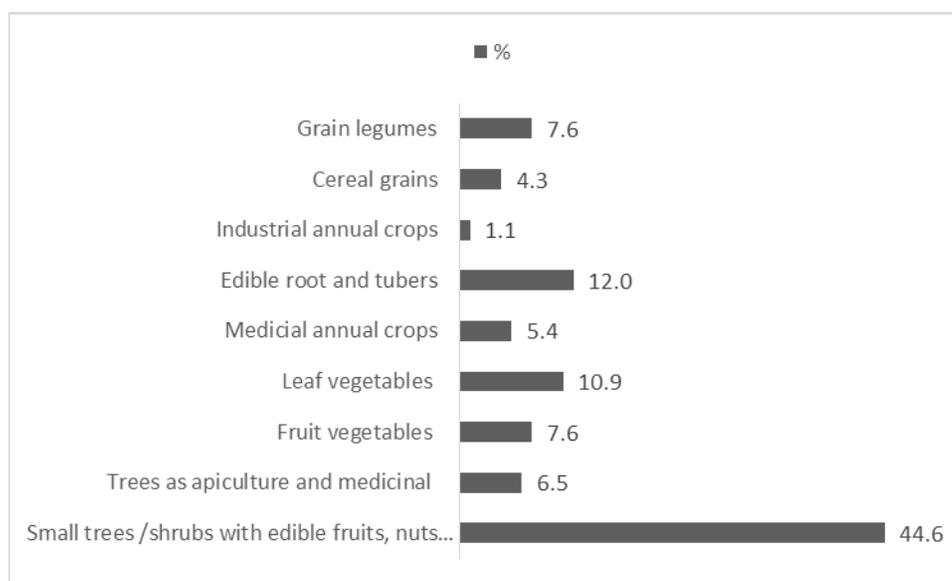
### **4.0 Characterization of Forgotten Foods**

A prime crop commodity in a particular place could be termed as forgotten in another place due to the utilization status of the crop. Thus, the use of multiple factors to characterize forgotten food; factors such as the prominence of the commodity in household food preference, scale of production, market status, agronomy of the crop, nutritional quality, adaptation to agro-ecology etc. Several authors have classified forgotten foods based on their understanding of the crop in their regions, Mabhaudhi *et al* (2017) identified 13 priority forgotten foods in South Africa and categorized them into cereals, legumes, root and tuber crops and leafy vegetables based on drought and heat stress tolerance and nutritional value. Dansi *et al* (2012), in a survey conducted in 50 villages in Republic of Benin, identified 41 neglected and underutilized species forgotten foods based on many factors among which the extent and degree of consumption was paramount. In another study, Chivenge *et al* (2015) identifies and characterizes forgotten foods in SSA with agronomic potential to those that can grow under water-scarce conditions, water requirements and water productivity. The Africa Orphan Crop Consortium (AOCC) produced a compilation of different groupings and proposed that it will be most appropriate to characterize the forgotten food in Africa based on the following:

- i. Period or life cycle : Annual, short lived and long lived perennial

- ii. Consumable, edible parts or purpose of use:
  - a. Fruit vegetable,
  - b. Leaf vegetables
  - c. Shrubs or small trees with edible fruits, nuts and seeds
  - d. Trees with industrial uses (Tianin, dyestuff etc)
  - e. Edible root and tubers
  - f. Cereal grains
  - g. Grain legumes
  - h. Medicinal food crops
  - i. Medicinal tree crops

A review of about 100 compiled forgotten foods found in Africa revealed that about 45% are shrubs or small trees with edible fruits, nuts and seeds, while very few (about 1%) are in the category of industrial annual crops (Figure 1).



**Figure 1:** Characterization of 100 main Forgotten Foods in Africa

## 5.0 Suggested Actions and the Way Forward

In order to mitigate the danger of food shortage and nutritional insecurity orchestrated by various constraints and lately aggravated by climate change, COVID-19, increased desertification, etc. There is the need to invest in life-saving crops that are resilient and well adapted to a wider range of environment and cropping systems. This will require a major modification in the agricultural research and innovation approaches towards identified NUS in each region of Africa. These logical modifications include:

- i. Enhance awareness raising to ensure that the values of Forgotten Foods are recognized by all in society, including researchers and technical agents as well as urban communities and consumers, for their nutritional, cultural and environmental benefits.
- ii. Adoption of new metrics and indicators to show the value of forgotten foods.
- iii. Concerted efforts in participatory plant breeding to improve the adaptation of forgotten foods and forgotten foods to social, economic and ecological conditions, and nutritional value.

- iv. Granting required respect of rights of farmers through allowing them to locally use, save, exchange and sell their Forgotten Foods.
- v. Development of sustainable seed systems, facilitating conservation, access, availability, use and exchange of high-quality seeds of forgotten foods by farmers.
- vi. Introduction of the development of forgotten foods into education programs.
- vii. More advocacy and evidence-based policy change.
- viii. Better access to markets, support to short supply chains and alternative retail structures.
- ix. Enhance capacity development of NARES etc.
- x. Novel research development and networking (e.g. molecular genetics, nutritional profiling, agronomic interventions, digital technologies and applications).

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