

## Harnessing Traditional Foods for Nutrition and Health

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Agricultural diversification and innovation should be defined and suited for each location to achieve sustainable production and food security. From this viewpoint, traditionally important crops and the recipes using these crops are worthy of attention because of their tight linkage with people's livelihoods and culture, and eminent suitability to the agricultural environment.

In many African countries, there are many traditionally important crops such as sorghum, millets, yam, cowpea, banbara groundnuts, banana and plantain etc. They possess various unique characteristics that enable them to become suitable to regional and local environments. The importance of these crops are primarily attributed to their favourable agronomical characteristics which provide stability and resilience to the existing agricultural systems of the region.

Take cowpea [*Vigna unguiculata* (L.) Walp.] as an example; it is a major grain legume widely cultivated especially in a range of agro-ecological zones in West Africa. With its favourable agronomical characteristics, such as tolerance to drought and low soil fertility, nitrogen-fixing ability, and adaptability to different cropping systems, this crop exhibits resilience in agricultural systems under severe and unstable growth environments, particularly in resource-poor areas. For these reasons, farmers have been cultivating cowpea in combination with other crops to maximise the productivity of their limited land and resources. It is a shared axiom that diversity among crops enhances both the health and the function of complex biological systems in agriculture. As an important component crop of the system, cowpea plays a significant role in increasing the stability and resilience of agricultural systems in the region.

On the other hand, with their long cultivation histories, each traditional crop has formed a deep linkage with the peoples' lives and culture in the region. Variation in food species included in the diet has been associated with nutritional adequacy and food security. Cowpea is considered important not just as food, but also as

a key protein source, especially when consumption of animal proteins is precluded from the diet because of inaccessibility, poverty or dietary preferences. With its rich micronutrient and vitamin contents, this crop can supplement the staple crops (cereals and tubers) for more nutritionally balanced diets. Another important role of cowpea in the region is the production of green pods and grains of early maturing varieties; these supply farmers with food and cash income that would enable them to survive the "hungry period" when local food supplies are depleted before the other crops reach maturity.

In West Africa, cowpea is served on a daily basis in various forms, making the dishes appealing and interesting (Fig. 1). Philipps *et al.* (2003) mentioned over 50 different dishes of cowpea in both whole grain and milled forms. Its green leaves and pods are also consumed as vegetable. Strong preferences for grain quality which affect the market value reflecting deep rooted cultural traditions has been reported (Coulibaly and Lowenberg-DeBoer, 2002; Faye *et al.*, 2004). Interestingly, the situation of cowpea contrasts greatly with that of soybean which is relatively new to the region. Although soybean is also rich in protein and is now widely cultivated in the region, there are only a few ways of processing it for direct human consumption.



Fig. 1. Various cowpea dishes in northern Nigeria

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Like cowpea, traditionally important crops play critical roles in peoples' livelihoods attributable to their favorable characteristics and deep linkage with traditions in the region. These crops do not only improve stability and resilience of the agricultural systems in each region, but also provide local solutions to diet-related nutrition and health problems such as nutrient deficiencies and obesity.

However, despite the recognition of the importance of traditional crops and traditional foods in various aspects, a global trend toward simplification of agricultural systems and food composition prompted by increasing reliance on a suite of truly global crop commodities has been observed; this implies a narrowing of diversity of both crops and foods in the region. The changing food demand patterns of urban populations have also had negative effects on the consumption of these traditional crops and foods. With the loss of functions of these crops, the ensuing narrow diversity-based food security has certainly impacted the nutrition and health of the people, mostly the rural poor who have limited options.

How could we effectively utilise the valuable functions of traditional crops and traditional foods to secure the nutrition and health of the people in the region? Considering the recent rapid economic growth in Africa, "quality" of agricultural products could very well be the key to the future of agricultural development of the continent. With regards to traditional foods, their selection and consumption are generally dictated by social reasons that are founded on regional cultures, particularly those that involve customs and prestige. In addition to "quantity" in crop production, more attention should be placed on improving the "quality" of the traditional crops and their products to enhance consumption and promote utilisation. Given adequate motivation of consumers regarding consumption and of farmers to produce traditionally important crops, we

can expect a wide range of traditional foods to become available resulting in diversification of food supply and increase in dietary choices, and consequently to the further improvement of nutrition and health situation in the region.

To drive further innovation for food security in the region, effective utilisation of existing wide genetic diversity of these crops in both crop improvement and utilisation, taking into consideration indigenous preferences and knowledge in the region, is called for. Such would in turn strengthen their role as traditional crops, and eventually will contribute to the improvement of the livelihoods of the people. However, still, there is a large gap existing between the actual potential that these crops hold and the levels of investment they have so far received despite their crucial contribution to achieving household food security and poverty eradication. To fully utilise the great potential of these crops and traditional foods with the aim of bolstering the livelihoods in the region, a multi-level approach is needed, ranging from conservation of genetic diversity, characterisation and utilisation in breeding and processing, and understanding local knowledge and preferences.

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