



**Global
Forum**
on Food Security
and Nutrition

Indigenous methods of food preparation: what is their impact on food security and nutrition?

Summary of discussion no. 89

From 9 to 30 May 2013



Global Forum on Food Security and Nutrition

About the Document

This document summarizes the results of the online discussion "*Indigenous methods of food preparation: what is their impact on food security and nutrition?*" held on the Global Forum on Food Security and Nutrition (<http://www.fao.org/fsnforum>) from 9 to 30 May 2013.

The following summary aims at providing readers with a general overview of the discussion, including the list of all references shared.

For the full text of all contributions and further background information please refer to the discussion page: <http://www.fao.org/fsnforum/forum/discussions/indigenous-methods>

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I. Overview

The discussion Indigenous methods of food preparation: what is their impact on food security and nutrition? was held on the FSN Forum (<http://www.fao.org/fsnforum>) from the 9 to the 30 May 2013.

Edward Mutandwa, graduate research assistant at Mississippi State University's College of Forestry in the USA invited Forum Members to discuss indigenous methods of food preparation, how this knowledge is passed from generation to generation and its possible implications for the socio-economic dynamics of a typical rural household. He set the scene by sharing a case from his native Rwanda, where the traditional *Isombe* is prepared from cassava leaves. This dish, while being very popular, is also very time intensive to prepare. This has several socio-economic implications, mostly for women who are usually responsible for household food preparation.

Over the three weeks of discussion, 41 contributions were shared by participants from 22 countries.

The majority of contributions were received from North America (27%) followed by Europe (24%), Asia (20%), Africa (12%), Latin America (12%) and the Southwest Pacific (5%).

This summary provides an overview of inputs shared by the participants. The names in brackets identify the participants whose comments introduced the mentioned concept.

For the topic introduction, the questions posed and full text of all contributions received please refer to the discussion page and the proceedings:

<http://www.fao.org/fsnforum/forum/discussions/indigenous-methods>

II. What are traditional methods for food preparation?

The question about what constitutes indigenous methods was discussed by participants who highlighted the difficulty of finding a clear cut division between "western" (modern or scientific) and "indigenous" (traditional, local, cultural) knowledge. A definition that was suggested was that while western knowledge is typically centralized and linked with public and private institutions (research institutes and universities), traditional knowledge is dispersed and associated to rural life and can be pictured as an "organic relationship between the knowledge and its community". (*Mutandwa; Williams*)

III. Why are traditional practices valuable?

Participants to the discussion reached a fairly broad consensus that several existing traditional practices can be beneficial to food security, nutrition and livelihoods. Many traditional methods present the communities with accessible means to achieve medium and long term food preservation, a more variable diet and possess a important cultural identification value for communities.

Traditional practices encompass knowledge which may be especially valuable in times of crisis or adaptation to changing conditions. Knowledge of wild foods, famine foods, and of food which grows in semi-arid environments is of enormous importance for the resilience of a community. (*Shepherd*)

As poor rural households usually do not own refrigerators or other instruments to preserve food, they have to rely on alternative preservation methods that have been passed on from generation to generation. A mentioned example for such methods is the preservation of sweet potatoes as chips, which helps provide year-round access to the nutritious crop, thereby helping household food security. Drying of foods such as green leaves, vegetables and fruits is also a very important and common preservation technique employed in some areas as is pickling, particularly in Asia and Europe. *(Mwanda, Shepard)*

Certain indigenous methods of food preparation can also have a positive impact on biodiversity. Research on biodiversity on the farms of wealthier and poorer farmers around Mount Kenya found that poorer farmers grow a much wider range of species than did richer farmers. Richer farmers tended to buy standard seeds from the market and to grow more commercial crops and fewer subsistence varieties. *(Shepherd)*

From a nutrition point of view, traditional methods of food preparation such as soaking and/or sprouting of grains are well documented to help reduce the content of antinutrients, oligosaccharides and enzyme inhibitors, thereby increasing the bioavailability of important elements, such as iron, zinc and calcium and reducing the irritation many grains can have on the intestines. Initial sprouting can also increase the content of important vitamins and reduce the cooking time required. *(Andersen)*

Finally, traditional foods can have a symbolical significance when they are cooked at special times of year and are associated with important religious feasts such as Christmas among Christians and Ramadan among Muslims. *(Shepherd)*

IV. Is the role and value of traditional food preparation techniques over romanticized?

While most participants highlighted the positive contribution that indigenous practises can have to food security and nutrition, the general assumption that indigenous techniques are per se valuable was challenged by some participants.

Participants argued that there is a widespread assumption that 'mother knew best' when it comes to food preparation and that the perception that what was practiced before should continue to be promoted, exists.

Many traditional techniques have evolved out of necessity and might have become obsolete by social or technological developments. Often the biggest value of traditional methods of food preparation lies with the resilience of these earlier systems and are therefore employed mainly by those excluded from modern trends in national socio-development. *(Steele)*

Especially in urban settings the rapid changes in lifestyles introduced by the technological and economic advancements drive people towards embracing new ways of eating and preparing their food. Time is becoming an issue and women, increasingly part of the workforce will not be able to engage in time intensive food preparation as much as before.

Therefore some shared their feeling that indigenous methods of food preparation should be upgraded to faster, better, and cleaner modern methods without prejudice or nostalgia as these can lead to better nutrition and health. *(Igbine)*

Another point that emerged during the discussion was that some methods of indigenous food preparation can have negative effect on the nutritional value of the dishes.

Some techniques involve too much boiling and can reduce the nutritional value of the food. Cabbage, for example, is normally recommended to be consumed raw to ensure the preservation of all its nutritional benefits. However, in most rural homes, this vegetable is boiled causing it to lose much of its nutritional value.

The same is true for a traditional method of cooking cassava. The popular method of grinding the leaves followed by boiling for at least 30 min removes all the cyanogens from the leaves, but unfortunately also removes many of the vitamins and some amino acids from the protein rich leaves. *(Bradbury; Cliff)*

Efforts promoting certain crops, which are based on successful indigenous preparation methods need to be accompanied by development activities that help ensure that growers and consumers are aware of the ways to prepare the plants in a way that maintains their nutritional properties. *(Cavagnaro)*

V. Current challenges to traditional food preparation methods

A generally shared feeling among participants was that modernization is threatening traditional food preparation methods. Many participants highlighted urbanization as having a major impact on the employment and preservation of traditional practices. Some even went as far as saying that microbial strains introduced in food preparation are being threatened by these shifts and that organisms, which have been used by humans for centuries such as yeast might be lost on the long run. *(Heslop-Harrison)*

Interestingly, two opposite observations were made: while most argued that traditional practices and foods are rapidly disappearing in urban settings and are being replaced by "western" and "fast" foods *(Shepherd; Best)*, others saw traditional foods as thriving in the urban areas as more and more people eat away from home and rely on traditional foods prepared by vendors. Among migrant workers these foods can also serve the purpose of cultural identification and are often central to expat communities. *(Calitri; Mugalavai)*

It was suggested that while traditional food can still be available in cities, the preparation methods are likely to change as a result of less time available for cooking and the cash cost attached to cooking fuel.

The challenge is how to transform indigenous food preparation and cooking processes in a way that meets the needs of the urban consumers.

VI. Examples of successful traditional food preparation methods



Sweet potato chips in Zambia

Sweet potatoes are washed and boiled. A pinch of salt may be added to enhance the taste. The cooked sweet potatoes are then sliced to make chips and dried. These dried chips can be eaten even after six months. In Zambia they are normally referred to as "*Shilengwa or Insemwa*". These potato chips are high in caloric nutritional value and their ability to last long is important for food security. Many rural poor communities have caloric deficiencies in Zambia, making food preparation methods that include preservation very important. (Mwanda)



Preserving meat and using bananas leaves in Uganda

In the Teso sub-region people use to preserve meat in a mound made of soda ash. The smoked meat is placed inside the ash and covered. The meat can then stay in the soda ash for as long as six months without spoiling. When a visitor comes and/or when there is scarcity or need to eat meat it will be soaked and then cooked in groundnuts paste.

In Buganda, the leaves of banana plants are used to wrap food to be cooked. Meat is wrapped in banana leaves as are all the other ingredients of the dish, such as the bananas themselves. This package will then be steamed until it cooks well and is served on special occasions like marriages and feasts. (Adotu)



Injera in Ethiopia

Injera is thin fermented bread which is usually made from a cereal named tef (*Eragrostis tef*). The fermentation process is started by using dough saved from previously fermented dough. *Injera* plays an important role for nutrition and food security in Ethiopia, and globally there is interest in it as gluten free and high iron food.

One of the drawbacks of making *injera* is the shelf life as it can only be stored for three to four days at room temperature. It could stay longer if put in refrigerator but these are not affordable by the majority of Ethiopians.

However, recently a study (<http://www.bioline.org.br/request?nd12059>) was published exploring ways to help preserve it longer. (Hailesslassie)



Reviving ancestral Andean skills

The FORSANDINO project sought to revive and disseminate ancestral Andean skills, knowledge and agricultural practices, recognizing their importance for the sustainability of local production systems. The project was limited in duration, so as to facilitate and enhance on-going processes in the community, instead of leading the communities through the process by predefined activities.

The process began by raising awareness in the communities and other indigenous organizations of the province of Chimborazo, Ecuador about the importance of recovering and valuing the Puruway peoples' traditional crops and farming practices. The project's framework called for the selection of community leaders, and these leaders, or *Chakareros*, were selected by the members of the community.

Within the Puruway nation, the *Chakareros* have traditionally served as the wise elders knowledgeable about the agriculture of the region and organized the distribution of food within the community. While the *Chakareros* had continued to be present in their communities, their presence had been weakened over time by structural changes that had happened in the communities over many years. (*Salcedo*)



Traditional vegetable preservation – Nepalese *Gundruk*

In order to preserve vegetables for the lean season, Nepalese farmers used to prepare *Gundruk* through fermenting and drying green leaves of the vegetables. It contributes to nutrition not only by preserving nutrients but also by increasing taste and adding aroma. The product is rich in iron and very useful for reproductive women. The vegetable preservation method was particularly popular and important because farmers had limited or no access to green vegetables during off seasons. However, household importance of the food preservation practice has been declining with increasing production of green vegetable all year round. Nowadays the product carries a special Nepali identity and some restaurants have added it to their menus. (*Dhakal*)



Reviving a forgotten technique – Blood *Charqui*

Surveys carried out in the Peruvian Highlands showed that up to 75% of children under three suffer from anemia. Because of low uptake of government-provided dietary supplements, in part due to cultural factors, Action Against Hunger Spain along with Peru's Ministry of Health identified traditional production and consumption practices with positive implications for the availability of iron in the local diets.

In this context the traditional technique of blood *charqui*, the boiling and drying of animal blood for later consumption, has been rediscovered. Even though preparing blood based dishes is culturally acceptable in the region it has been declining as blood has begun to be treated as waste or as feed for animals.

Blood drying is a simple technique, requiring no special resources or infrastructure, especially as families are accustomed to drying meat. Given that animals are infrequently slaughtered and the cost of meat is prohibitive, blood *charqui* is an iron-rich ingredient that can be stored and fed to toddlers with no additional cost. (*Gillespie*)

VII. Ways forward

Participants voiced their concerns that indigenous techniques for food preparation risk being forgotten due to social-cultural changes taking place in many countries.

This underscores the need to recognize traditional food products, processes and culinary traditions unique to several cultures and communities across the world by inventorying them. Methods and techniques should also be recorded in cheap reference guide-books, with drawing or photos of the relevant plants, the kind of habitat where they may be found, and the method of gathering and preparation.

Governments can help creating awareness on some of the methods highlighting their benefits to society through public media. Institutions that have a good understanding of the methods could also take it up to train extension workers who will also train those who may not know the methods. Increased documentation and efforts for sharing this information will allow to take advantage of this vast knowledge and organizations like FAO should take the lead in these documentation tasks. (*Kuhnlein; Shepherd; Mwanda*)

Urbanization was identified as one of the major threats and studies have shown that traditional techniques are less likely to be employed in urban settings as people quickly replaced their traditional diets with the more globalized food sold in cities.

The growing distance between the urbanising middle class and the traditional and indigenous food preparation techniques necessitates innovative market approaches and interventions for promotion and development.

As the traditional food segment operates largely in the informal sector, it does not provide encouraging remuneration to the small farmers who depend on such activities for their sustenance, nor does it ensure sustained supply of raw materials to businesses and the industry.

To achieve the integration of these traditional techniques into sustainable agricultural systems, active policy support for R&D and market promotion is required. *(Gosh)* For example, indigenous foods can have a strong potential for being successfully branded, especially for the export markets. Jamaican pepper and jerk sauces, for instance, are leading the growth of ethnic foods in the UK thereby creating a demand for raw pepper production in the rural Jamaican communities. Such dynamics can be fostered by coordinated education and marketing campaigns including testimonials such as famous chefs. *(Best; Pereira)*

Participants also suggested, that it would help not to consider science and indigenous knowledge systems as being mutually exclusive, as indigenous ways of food preparation reflect years of empirical, "trial and error" research driven by curiosity and needs, not so different from what drives science. *(Ziegler)*

Indigenous foods will remain important as long as they are adapted to a changing environment characterized by dynamic tastes and preferences. *(Best; Ahmad)*

However it is also important to appreciate that indigenous practises are not universal and that practices considered good in a particular location or time do not necessary have to work in another, different setting. *(Chandra)*



..... Building SME's based on indigenous food preparation methods

The Trinidad and Tobago Agribusiness Association processed tropical roots into frozen, cubed, packaged and branded product aimed at the urban market. They also introduced dried root crops into mixed flour breads (<http://www.ttaba.com/products.htm>). Based on the increased demand of produce generated through these measures, the Agribusiness Association has been able to engage in contract farming models with producers.

Extending traditional food production into small and medium enterprises can be an important way of improving food security in rural and urban households and, through exports, increase the global demand for local products from farming communities.
(Best; Gosh)

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