

FAO-oriGIn Forum on Contributing to SDGs through quality linked to geographical origin

Co-organized session by FAO and oriGIn-France:

“Contribution of geographical indications to sustainable healthy diets”

Online meeting, 18 November 2020 - 9am- 11.30am

Background paper to feed the discussion

1. Context

Food systems play an important role in shaping people’s diets. Global food systems has been changing rapidly due to a wide range of factors such as technological advances, market liberalization, urbanization and climate change (FAO/WHO, 2018). While undoubtedly improving food security and nutrition in many places, modern food systems around the world are, in various degrees, marked by the high presence of ultra-processed foods¹, high rates of food loss and waste, and the lack of affordable and diversified nutritious foods (e.g. fruits and vegetables, legumes, dairy and fish). These food systems are a leading cause of environmental degradation and depletion of natural resources, including abuse of agro-chemicals and antibiotics, and are becoming a source of morbidity and mortality. Usually these food systems are also characterized by inequitable power concentration and imbalance, with some actors profiting greatly while others remain impoverished. Therefore, most of today’s food systems need to be re-aligned from just supplying food to providing, in sustainable manner, high-quality foods that support healthy diets for all (FAO, 2014).

Healthy diet - Consuming a healthy diet throughout the life-course helps prevent malnutrition in all its forms as well as a range of noncommunicable diseases (NCDs) and conditions. But increasing production of processed food, rapid urbanization and changing lifestyles have led to a shift in dietary patterns. People are consuming more foods high in energy, saturated fats, trans fats, free sugars or salt/sodium, and many do not eat enough fruit, vegetables and dietary fibre such as whole grains. According to the World Health Organization, a healthy diet contains fruits and vegetables, whole grains, fibres, nuts and seeds, and with limited free sugars, sugary snacks and beverages, processed meat and salt. In a healthy diet, saturated and industrial trans-fats are replaced with unsaturated fats (WHO, 2018).

In this view, some traditional food systems, diets and products could offer one answer to these many challenges, their important role in people’s nutritional status being also recognized by ICN2’s Framework for Action and Rome Declaration on Nutrition (FAO/WHO, 2014). Increasing the adherence to traditional diets, or at least increasing the consumption of unprocessed and minimally processed foods rich in

¹ The definition and classification of processed foods in this paper is based on NOVA, from Monteiro *et al.*, 2018, 2019

traditional diets, has been proposed as an answer to the global health challenge (CIHEAM/FAO, 2015; Sofi *et al.*, 2008; Willett *et al.*, 2019).

In addition, food systems across the globe are embedded in unique historical, religious, social, cultural and economic contexts, and are thus very diverse. Healthy diets are shaped by the way food is produced, procured, distributed, marketed, chosen, prepared and consumed. The social/cultural aspects and the economic impacts of food and food systems must be taken into account in the dialogue on responses to improve diets (FAO-WHO 2019).

Sustainable Healthy Diets are dietary patterns that promote all dimensions of individuals' health and wellbeing; have low environmental pressure and impact; are accessible, affordable, safe and equitable; and are culturally acceptable (FAO-WHO, 2019)

Since the 1990s, the consumption of processed foods, often energy-dense and high in fat, sugar and/or salt (e.g. sugar-sweetened beverages, processed meat) has increased relative to the consumption of nutritious foods. Opposite to this popularization of ultra-processed foods and the shift in diet (Monteiro *et al.*, 2019), traditional food, including the ones with geographical indication (GI), normally preserve the traditional ways of cultivating plants, raising animals and processing foods, as well as possibly of preparing and consuming food. GI foods have thus great potential in reverting the unhealthy dietary shift, through their own qualities, including nutritional and organoleptic ones, and influence on consumer behaviours.

A forthcoming publication of FAO investigate on this topic by looking at nutritional data from five case studies of registered GI foods: carnalentejana (Portuguese beef), furu (Chinese fermented tofu), Parmigiano Reggiano and Grana Padano (Italian fermented cheese), Rooibos (South African herbal tea), and indigenous rice varieties from Borneo highlands (Malaysia/Indonesia) and other cases² have shown interesting mechanisms towards healthy diets, that would be interesting to discuss to develop a better knowledge and increase GI contribution to healthy diets.

2. Key findings from various case studies

The forthcoming FAO publication highlights important mechanisms of some GI food products to contribute to healthy diets. First there is the crucial influence of biodiversity on the nutritional quality of the raw material and final food product (diversity in composition and profile of nutrients), in terms of race or varieties (e.g. carnalentejana race special feature plus grazing specific place bringing specific feed composition). It is worth noting that local varieties and races have developed along times through the interactions between the local environment and the human practices from the local communities, with the concept of the so-called "terroir".

In the case of fresh fruits and vegetables not only the genetics linked to the local varieties play an important role on nutrition, but also the influence of natural conditions are crucial in the nutritional quality (type of soils and the climatic conditions) together with the human practices (production with no

² Additional cases from other categories of products are also being reviewed (cereals, fruits and vegetables): Carota dell'Altopiano del Fucino PGI & Carota novella di Ispica PGI, Petit Épeautre de Haute-Provence PGI, "Clémentine de Corse" PGI, limone dell Etna PGI.

or low use pesticides, and harvest at maturity). For example, in the case of carrot of Fulcino, the high level of vitamin C is ensured by the time and frequency of harvest as defined in the specifications.

In the case of animal products, it is particularly interesting to see the influence of animal feeding on the final product composition (milk, meat) of the animal. Research shows that botanical composition of fodder ingested by animals, directly impacts nutritional quality of milk either (e.g. presence of caroten, terpenes...) but also indirectly through the production of molecules by the animal (type of fatty acids such as oleic acid, plasmin, casein...). For example the race influences the type of casein molecules in the milk (e.g. Tarine and Abondance dairy races produce milk rich in casein Kappa with B and C variants) (Macheboeuf *et al.* 1993). It is interesting to highlight how the nutrition profile is actually directly linked to the organoleptic quality in terms of flavours and organoleptic qualities in general. For example, in the case of Tushuri guda cheese in Georgia, producers have decided to reduce the salt content to improve the organoleptic quality, and have inserted in the specifications a requirement on maximum percentage of salt, lower than the average found in the cheeses sample during analysis.. Here again, the nutritional quality can be increased thanks to the GI specifications.

Additionally, the traditional methods of processing and conservation have shown particular potential for health, not only for preserving (because of low process or soft processing methods) but also increasing nutritional values (quantity and availability of nutrients and bioactive compounds). In particular the fermentation, a conservation method inherited from ancient generations, is indeed very interesting because it enriches the food with more bioactive compounds and cells which have a positive impact on the microbiota, as shown in the cases of dairy products, fermented soja furu and tea.

Actually, in line with the local culture, the microbial diversity in foods plays a crucial role for nutrition and health protection in relation with the immune system and allergic responses (see research projects with cohort: PASTURE, GABRIELLA, MARTHA, *Nicklaus et. All*, 2018). From this point of view, the raw milk cheeses, which are often GI products especially in South-European countries³ are interesting to analyse as providers of microbial diversity to contribute to human microbiota. Many fermented food are actually common as GI products with a detailed description of the fermentation process in the specifications: dairy products, tea, soja furu, fermented vegetables, etc.

Finally, there would be an important aspect to explore further, as research is rather scarce in this area: the link between traditional food products and preparation/eating practices, as cultural references and reputation of the products may impact the way it is prepared and consumed, including frequency and combination with other types of foods, to contribute to a balanced/diversified diets. It is also worth noting that many GIs are associated with specific diets recognized for their interest in terms of nutrition (e.g. Mediterranean diet). Certain reputed products are thus symbolic of such diversified diet (e.g. olive oil, leguminous, etc.)

In summary, the nutritional and health characteristics in some GI products can be attributed to the unique materials, including varieties/races, and the specific production procedures, which are linked to the geographic origin and most often described in the specifications. This highlights the importance of the GI specifications in preserving nutritional quality – because of the rules mentioned or because the final characteristics mentioned- are compulsory. Strangely though, nutrition is never a consideration as such

³ In France, 76 % of dairy appellation of origin are from raw milk and 70 % of cheese raw milk are PDO cheese.

when producers develop their product specifications (while health in relation with food safety is at core of concerns).

Other elements that can emerge regarding GI products in relation with nutrition and health, are:

- GI products are rather non or low processed food, in opposition to the ultra-processed foods⁴, as defined within the NOVA classification system, which cause excess calorie intake and weight gain as a cause of chronic diseases.
- GI products relate to diversity: diversity of local conditions influencing the diversity and profile of nutrients, varieties of genetics, varieties of active compound in the final product due to the traditional processing methods
- An important part of GI food products are fermented foods, and in the dairy sector, products made from raw milk, which and their interest because of their microbial diversity and the link to microbiome.
- The possible influence of the cultural dimension and reputation of the GI products on the modalities of consumption.

3. First conclusions and recommendations – for discussion

From the emerging literature on the nutritional and health interest of traditional and GI products, and learning from the above mentioned case studies, we can identify three main mechanisms for GI products and processes to (better) contribute to healthy diets:

1. GI as a market tool allow the preservation and market promotion of foods with specific nutritional values due to the **specific local conditions of production** (soil composition, sun and water, endogenous varieties that adapt to such areas ...); very often, without GI protection and adding values, these food may disappear because of low competitiveness and productivity compared to intensive and standard agriculture and food production.
2. **GI specifications**, can be tools to better ensure good levels of nutrients (guarantees of results) and/or enforce appropriate agriculture and processing practices (guarantees of means) that lead to a particular nutrition profile or influence certain health mechanism (e.g. microbiota).
3. GI products can contribute to the **diversification and balance of diets by providing low or non-processed food from different categories and most often food from specific local varieties, with specific** organoleptic characteristics and links to culture.

In addition to their possible contribution to healthy diets, number of studies have highlighted the potential of GI processes to contribute to sustainable food system (FAO, 2018). By adding value on the market and improving value chain coordination and effectiveness, GI processes allow for increased income and better livelihoods. Also many GI process highlight women roles and enhance their entrepreneurship capacities. These are important factors to increase the communities and families to

⁴ The manufacture of ultra-processed include the fractioning of whole foods into substances, chemical modifications of these substances, assembly of unmodified and modified food substances, frequent use of cosmetic additives and sophisticated packaging.

improve their diets. Other elements interesting to highlight is contribution of GI processes in relation with health, to increase and ensure food safety in the case of traditional products and/or small-scale production. First the specifications provide clear rules than have proved to be safe, and if not mentioned in the specifications, additional guidelines for food safety and hygiene are often developed for small-scale producers for them to follow. Certain regulations facilitate this approach by providing the possibility for traditional production methods and small-scale production to follow flexible rules for food safety so to ensure specific methods allowing both specific quality and food safety.

These elements provide some background to feed the discussion with experts and practitioners during online session on GI and healthy diets in the frame of the FAO-oriGI Forum on GI sustainability. The objective of this webinar is to discuss whether and how the promotion of GI food represent a tool to contribute to healthy diet, in a context where data and information are lacking. The final outcome would be to identify the way forward so to encourage producers and other stakeholders to increase the capacities of GI processes to contribute to healthy diets. ***The following recommendations can be suggested – for discussion during the meeting.***

1. Raising awareness of producers

As the specifications is crucial tool to preserve and increase GI nutritional quality and impacts of health, it is important to raise producers awareness on these linkages, as well as the experts that support them in the elaboration of specifications.

Support should be provided to help maintain and improve the nutritional value during production and processing when applicable.

2. Consumer awareness

As for consumer awareness, researches on consumers' willingness to pay for GI foods often do not include nutritional value as an related factor. Such consideration can sometimes be seen in studies on willingness to pay for organic and traditional foods, but finer levels, like the content of micronutrients and other beneficial chemicals, haven't been explored. Evidence suggests that emphasizing on health and nutrition information alone may not be effective enough to stimulate behaviour change, possibly because it is too complicated or abstract for the general population to understand (Guthrie, Mancino and Lin, 2015). Still, the GI narrative in relation with traditional food linked to a certain culture and diet may be a relevant approach to sensitize on diversified and balanced diets. Producers and value chain stakeholders should be encouraged to provide comprehensive information on their products and how they are linked to the origin, to feed the understanding of consumers on what is a food product and how to best prepare and eat them. For both producers and consumers (rural and urban), GI food promotion can be part of a bigger strategy on promotion of traditional foods and diets.

3. Encourage research and publications of data on GI and nutrition profile

Data on nutrition profile of GI products is of interest for consumers, business and policymakers. When such data exist, (especially when research has been made for the qualification of GI product and preparation of the specifications) it is recommended to facilitate the local research to publish the results.

Programme of research could be encouraged to include related topics and capacity building for research institutions on nutritional research and linking with producers practices for such topic: GI or traditional food, traditional practices, traditional material and impacts on nutrition and health; food composition determination including bioactive compounds and microbial profiles of fermented foods, *in vivo* biological activities of food components, or robust clinical trials.; review of specification in relation with their references or impacts on nutritional aspects... The results of specific food composition could inform the international FAO platform of data composition.

4. Regulations on food safety flexibility

Experience of a number of countries (for example, in the European Union, Serbia and Montenegro, Georgia), national legislation on food safety flexibility have been developed to adapt to specific context in relation with small-scale production units and traditional methods and material used in some cases, including GI production. This legislation shows great benefits, not only to preserve a culinary heritage based on traditional methods, and a tissue of small scale production units, while increasing food safety of food which was before their recognition as GI on the informal market. Such approach could also be promoted in countries with similar context.

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