

## 13th GFRAS Annual Meeting



# NUTRITION-SENSITIVE EXTENSION

October 25-27, 2022\*  
Santiago, Chile



## Nutrition-sensitive rural extension and advisory services

### CONCEPT NOTE

#### Context

Food security and nutrition is an important part of the rural development agenda in developing countries. Addressing this issue adequately requires an intersectoral approach, from agriculture, health and education with coherent policies at the national level and with territorial relevance. In this context, extension services can play a critical role in promoting nutrition-sensitive agriculture and interacting with health and education services.

Producing enough food is necessary, but also is ensuring equity and access today and for future generations (Charlton, 2016). Healthy diets were unaffordable for around 3 billion people in the world, particularly the poor, in 2019, given high costs of nutritious food and persistent high levels of income inequality (FAO and GFRAS, 2021). However, not only low incomes, but also poor eating habits, lack of knowledge about good nutrition practices, and limited access to diverse produce add complexity to adequately address this problem (Kachelriess-Matthess et al, 2016).

Concept note v1

#### What is food security?

**Food security** is defined as the state when all people, at all times, have physical and economic access to sufficient, safe and nutritious food that meets their dietary needs and food preferences for an active and healthy life (World Food Summit, 1996). Food security involves six dimensions (HLPE, 2020):

- ▶ **Availability:** having a quantity and quality of food sufficient to satisfy the dietary needs of individuals, free from adverse substances and acceptable within a given culture, supplied through domestic production or imports.
- ▶ **Access** (economic, social and physical): having personal/ household financial means to acquire food for an adequate diet, where satisfaction of other basic needs is not threatened or compromised; adequate food is accessible to everyone, including vulnerable individuals and groups.
- ▶ **Utilization:** having an adequate diet, clean water, sanitation and health care to reach a state of nutritional well-being where all physiological needs are met.
- ▶ **Stability:** having the ability to ensure food security in the event of sudden shocks or cyclical events.
- ▶ **Agency:** individuals/groups having the capacity to act independently to make choices about what they eat, the foods they produce and how it is produced, processed, and distributed, and to engage in policy processes that shape food systems.
- ▶ **Sustainability:** food system practices that contribute to long-term regeneration of natural, social and economic systems, ensuring the food needs of the present generations are met without compromising the food needs of future generations.

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For the above to be possible, we need to rethink the role of extension, going from their main concern in most of the services, that is agricultural production and producer income, to promote nutrition-sensitive agriculture and the improvement of food systems at the territorial level.

Drivers that are external (e.g. conflicts or climate shocks) and internal (e.g. low productivity and inefficient food supply chains) to food systems are pushing up the cost of nutritious foods which, combined with low incomes, are increasing the unaffordability of healthy diets, particularly in countries affected by multiple drivers (FAO, 2021). Nutrition-sensitive agriculture should contribute to improving the nutritional status of a population by maximizing the impact of food and agricultural systems, while minimizing the potential for negative externalities regarding the sector's economic and production-driven goals (Fanzo et al, 2015).

With its structure, rural advisory services provide a unique opportunity for scaling up nutrition interventions (Fanzo et al, 2015). Although acknowledging the impact of extension on rural development, we believe that rural extension alone cannot solve malnutrition at the global level. Still, rural extension can provide a platform from which to contribute to healthy food production and access, as well as consumption by the rural poor, along with other sectors relevant to this issue, such as water, sanitation, health, education and social protection.

### Key concepts

**Malnutrition** is an abnormal physiological condition caused by inadequate, unbalanced, or excessive consumption of macronutrients and/or micronutrients (HLPE, 2020). Malnutrition forms include undernutrition (wasting, stunting, underweight, micronutrient deficiencies and overnutrition (overweight, obesity).

**Extension advisory services**, also known as “rural advisory services” and “rural extension”, aim to assist farmers and other actors across rural settings to improve their livelihoods and well-being (Christoplos, 2010), by providing information and services needed and demanded by them to develop their technical skills and practices (GFRAS, n.d.).

**Nutrition-sensitive agriculture** is an approach ensuring the production of a variety of affordable, nutritious, culturally appropriate and safe foods, in adequate quantity and quality, to meet the dietary requirements of populations in a sustainable manner (FAO, 2017).

**Nutrition-sensitive interventions** are those that are intended to improve the underlying causes of poor nutrition (Burrows and Kuyper, 2018). As such, these types of interventions should address all functions in a food system in an integrated and coherent way in order to address the causes of malnutrition (FAO, 2017).

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## What does food security and nutrition mean and why and for whom is it important?

While the world had come a long way in improving food and nutrition security, the last FAO report (2021) shows a significant setback in recent years, the product of several factors, among the most important the covid-19 pandemic and climate change<sup>1</sup>. This affects millions of people around the world and governments should be the main stakeholders in prioritizing policies to deal with it.

As it has been said, this is a multidimensional problem that is not going to be faced efficiently only from one perspective. The contribution that agriculture can make comes from the production of healthy, nutritious, and diverse food, therefore it matters to farmers, and they should have a mission on this issue.

Consequently, we must think about strengthening food systems that contribute to improving food and nutritional security. In the vision of the Food and Agriculture Organization of the United Nations (FAO), a food system is the sum of the various elements, activities and actors that, through their interrelationships, make possible the production, transformation, distribution and consumption of food. In this sense, recommends six pathways to transform food systems (FAO, 2021); three of those directly relate to food security and nutrition: intervening along the food supply chains to lower the cost of nutritious foods; tackling poverty and structural inequalities, ensuring interventions are pro-poor and inclusive; strengthening food environments and changing consumer behavior to promote dietary patterns with positive impacts on human health and the environment.

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<sup>1</sup> This situation represents a Global Syndemic, where three pandemics (obesity, undernutrition and climate change) affect most people in every country and region of the world. These pandemics co-occur in time and place and interact with each other to produce complex sequelae, and share common underlying societal drivers (Swinburn et al, 2019)

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## Integration of nutrition into EAS

Because it is a global problem and because agriculture has a contribution to help solve it, extension systems must adapt. Small-scale farmers and households, besides having low incomes, are often food insecure and suffer chronic or acute forms of malnutrition (Kachelriess-Matthess et al, 2016). Agriculture plays an essential role in ensuring nutritional wellbeing, but this should be seen not only for rural populations, but also for the whole society (FAO, 2021). In this way, strategies to improve livelihoods and income of the poorest sectors of communities are essential to achieve food security for all (Charlton, 2016).

For effectively integrating nutrition into EAS, FAO (2021) suggest taking actions in four levels:

1. Facilitate provision of nutrition-sensitive EAS
2. Assess nutrition-related capacity of EAS system
3. Strengthen organizational and individual capacity of EAS providers
4. Strengthening the enabling environment

EAS systems are pluralistic, that is, they comprise public extensionists but also civil society, producer organizations, exporting companies, development projects and organizations, agri-input dealers and others (FAO, 2021). Due to this characteristic, EAS can provide a wide range of key services to promote food security and nutrition, including:

- Sustainable and nutrition-sensitive production and supply chains
- Food and nutrition education

## What is a sustainable food system?

A **sustainable food system** ensures food security and nutrition for all in such a way that the economic, social and environmental bases to generate food security and nutrition of future generations are not compromised (FAO, 2018, cited by HLPE, 2020). Sustainable food systems embody qualities that support the six dimensions of food security (HLPE, 2020):

- ▶ **Productive and prosperous** (to ensure the availability of sufficient food)
- ▶ **Equitable and inclusive** (to ensure access for all people to food and to livelihoods within that system)
- ▶ **Respectful and empowering** (to ensure agency for all people and groups to make choices and exercise voice in shaping that system)
- ▶ **Resilient** (to ensure stability in the face of shocks and crises)
- ▶ **Regenerative** (to ensure sustainability in all its dimensions)
- ▶ **Healthy and nutritious** (to ensure nutrient uptake and utilization)

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- Food safety
- Enhancement of incomes and improved market access
- Women empowerment
- Coordination with other actors delivering nutrition specific programs

Fanzo et al (2015) reported that the most common integration of nutrition into rural advisory services so far is through efforts to increase the availability of nutritious food (Fanzo et al, 2015). The same authors found that most of the extension practices and programs fell into four common areas: 1) home gardening (home consumption and increased household income), 2) crop diversification and increased production of nutrient-dense foods (household consumption patterns are determined by crop production patterns), 3) biofortification (improved varieties instead of fortifying or supplementing during the processing phase; targets staple crops. Ex: orange-fleshed sweet potatoes) and 4) reduced postharvest activities to preserve nutritional value (reducing post-harvest losses, appropriate processing and storage – aflatoxin control).

The currently accepted idea suggests adopting a food-system and value-chain approach rather than focusing on production alone. From there, the literature offers numerous ways to incorporate nutrition into the services:

#### Production and on farm activities:

- Increase production of more diverse and nutritious foods
- Safe processing, preservation and storage practices
- Promote sustainable production systems
- Promote clean environments
- Promote urban and peri urban agriculture
- Nutrition education
- Expand markets for nutritious foods and market access for vulnerable foods
- Work across value chains
- Empower women for food production
- Adapt interventions taking into account cultural and agroecological conditions
- Promote farmer to farmer extension methodology

To strengthen organizational capacity of EAS providers, it is suggested:

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- Include nutrition related objective and indicators
- Maximize opportunities through multisectoral coordination
- Capacity building plans for extensionists

In order to strengthening an enabling environment, FAO (2017; 2021) suggests:

- Raise awareness among agricultural stakeholders
- Review current agricultural and sectorial policies an strategies
- Create national and local dialogue and coordination between both levels
- Document good practices and promote nutrition-sensitive agriculture knowledge platforms for EAS.

## Challenges

### 1.- Policy

The ability of EAS to address nutrition is, to a large extent, dependent on how nutrition is prioritized at the national level by the government and also whether it is considered important by EAS as an area for intervention (FAO and GFRAS, 2021).

The organizational mandates are also unclear (Fanzo et al, 2015). This includes whether addressing nutrition is within the mandate of the organization or whether it is a strategic priority; in most cases, promoting nutrition-sensitive agriculture is not even a part of the job description of staff (FAO and GFRAS, 2021).

Positioning food security and nutrition as a central priority to assess the sustainability of food systems will contribute to breaking the vicious circle created by malnutrition and diseases across generations and will help policy-makers translate evidence into action (HLPE, 2017). A nuanced approach, built on the sustainable food system framework, will more effectively reach those who are chronically hungry and will also address all forms of malnutrition, such as overweight, obesity and micronutrient deficiencies (HLPE, 2020). Critical shifts are suggested by the experts, that promote sustainable food systems that in turn

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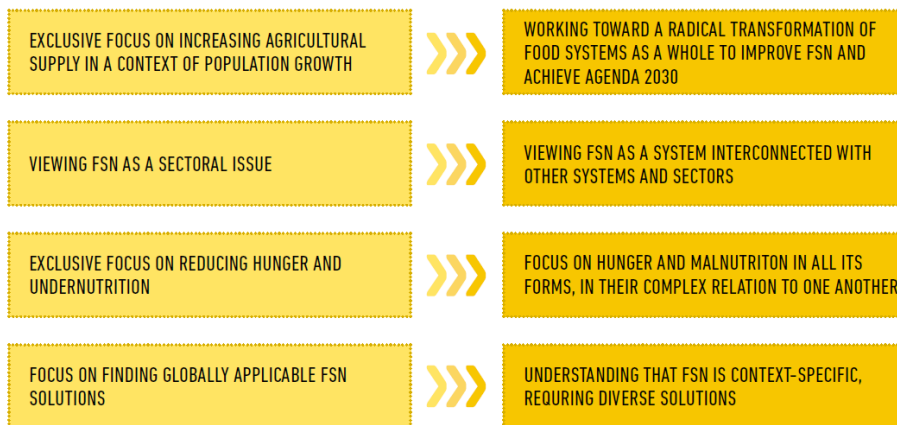
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support food security and its six dimensions (availability, access, utilization, stability, agency and sustainability):

### CRITICAL SHIFTS IN POLICY APPROACHES ADVOCATED BY THE HLPE



Source: Extracted from the HLPE Report 2020

## 2. Capacity

We should think about capacity development at the individual, organizational and enabling-environment level. Capacity-development efforts need to be strengthened among EAS through a systematic approach based on a better understanding of needs, challenges and interactions at and among all institutional levels, from front-line workers to policymakers (FAO and GFRAS, 2021).

Nutrition-sensitive EAS is strongly dependent on the capacities of the national governments to coordinate multi sectoral strategies and resource constraints faced by individual countries (Fanzo et al, 2015). Many organizations lack the capacity to engage in joint/collaborative action with other agencies working in the area of nutrition (FAO and GFRAS, 2021).

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Integration of and scalability for nutrition into EAS will depend on achieving high-level government buy-in and multisectoral coordination (Fanzo et al, 2015). Coherence in the formulation and implementation of policies and investments among food, health, social protection and environmental systems is essential to promote more efficient and effective food systems solutions (FAO, 2021). Evidence from the necessity of this collaborating approach emerged in the case of Chile, when the Global Capacity Needs Assessment methodology was applied to understand learning gaps, needs and obstacles to integrating nutrition-related objectives into agricultural programs and policies (Box 1).



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### Box 1. Case study “Bridging the gap between nutrition and agriculture in Chile: An assessment of capacity within agricultural Extension and Advisory Services” (2021)

In 2019, the study “Capacity Needs Assessment for integrating nutrition objectives into agricultural extension and advisory services programs and policies” was carried out in Chile. Funded by the Food and Agriculture Organization of the United Nations (FAO), managed by the Global Forum for Rural Advisory Services (GFRAS) and implemented by the Latin American Network for Rural Extension Services (RELASER) and four other networks globally, the study concluded that the available offer from nutrition-related programs severely lacks intersectoral coordination and territorial relevance, thus missing the opportunity for collaboration and complementarity between sectors from a comprehensive food system perspective. Authors added that the programs do not have cultural or territorial relevance (rural, urban, geographical), and remain highly centralized and homogeneous. The main recommendation based on the findings was to seize the opportunity presented by one of the programs (“Choose to Live Healthy” system) to move forward with an effective intersectoral approach to healthy eating. Authors indicated that this particular system should lead a coordinated work by monitoring all programs, arranging dialogue, ensuring complementarity, taking a transdisciplinary approach, promoting efficient use of resources, and adding public value.

In addition, equipping agricultural extension and advisory services with nutrition knowledge, competencies and skills is essential to promoting nutrition-sensitive agriculture (FAO and GFRAS, 2021). Extensionists should be able to identify gaps within a community and to understand the potential causes of malnutrition, and their actions should focus on diversification and sustainable intensification of agricultural production, post-harvest handling, storage and processing, nutrition education, and behavior change communication, as well as women’s empowerment and gender equality (Burrows and Kuyper, 2018). However, there remains a considerable gap between the perceived potential of the role of EAS and the commitment to and investment in equipping extensionists with adequate knowledge and skills (Fanzo et al, 2015).

### Box 2. Case Study: Nutrition education competencies of agricultural extension workers in Uganda (2021).

A cross-sectional survey was conducted in four districts with 61 private and 163 public agricultural extension workers in Uganda. Authors identified the following competence domains: basic nutrition; nutrition needs of household members; hygiene and sanitation; post-harvest handling; planning and resource allocation, among others. Extensionists expressed that competence development is needed in most of these competences, in

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particular: 1) understanding nutrition needs of different household members, 2) farming systems that promote nutrition and 3) postharvest handling and food safety. The authors recommended the following priority areas for training: 1) nutrition needs of different household members, 2) farming systems that promote nutrition and 3) postharvest handling and food safety, 4) basic nutrition knowledge, 5) planning and resource allocation for household food and nutrition security, 6) gender and nutrition, 7) boosting family income, 8) hygiene and sanitation and 9) attitude.

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### 3. Role of Food systems

As it has been mentioned above, in order to narrow food and nutrition gaps, we required a strong and specific policy support that mandate institutions to act on this issue. Otherwise, we will maintain the current situation, which is to deliver the solution to the market, which is proven to be impossible to do.

We must move forward to a food system that improves the quality and diversity of the diet and increase the actual intake of nutritious food. In this transition, the following questions arise: what type of agriculture best responds to this challenge?; Is the food chain prepared and/or has it the incentives to contribute to narrow the food and nutrition gaps? Is the consumer open to try and/or demand the products that help to meet this purpose?

The three questions above are inextricably linked. Research and extension are required to prove and promote practices that equip agriculture to become nutrition-sensitive. Even though we see more focus towards agroecology, regenerative agriculture, and others, it is still needed evidence of technical feasibility, scalability and profitability.

Secondly, we need markets that are closer to producers, that ensure nutritional values, reduce seasonality and post-harvest losses. This requires a good understanding of how markets work and what incentives are needed to improve them.

Thirdly, the consumer is an essential part of this equation. In part, the problem of food and nutritional insecurity is given by cultural and educational issues. If there is no demand for healthy and nutritious food, there is no market or agriculture that can prevail. In this sense, policies to be territorially relevant and nutritional education programs for the population become relevant.

### 4. Culture

Nutrition sensitive agriculture and extension actions should focus on diversification and sustainable intensification of agricultural production. However, food choices are influenced by a combination of the physical, socio-cultural, political and economic surroundings and conditions that shape a person's food preferences and choices. Social and cultural backgrounds play an important role in what food a person

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will want to eat or not (desirability) as well as their perceptions about the health benefits of different foods (Burrows and Kuyper, 2018).

EAS must find culturally appropriate ways to improve nutrition. Key opportunities for integration efforts are engaging communities, creating a demand for nutrition, and use of innovative communications (Fanzo et al, 2015). Extension agents are often aware of the local social norms, cultures, and belief systems that accompany and contextualize food. Agents frequently hail from the region where they work and therefore have intimate knowledge and understanding of the local context (Fanzo et al, 2015).

### 5. Gender lens

EAS should use a gender focus. Sometimes, prevalent crops are not conducive to nutrition security, or work burdens (especially of women) result in care deficits that could translate into nutrition issues for children (FAO and GFRAS, 2021).

Evidence from many countries around the world shows that empowered women typically have better nutrition themselves and their children and households tend to be better nourished (Burrows and Kuyper, 2018). However, empowering women through the production and sale of cash crops, dairy products or small livestock at local markets can, for example, increase incomes, but may also contribute to greater burdens on a woman's labor and time (Burrows and Kuyper, 2018). Therefore, understanding gendered roles is critical to targeting efforts and helping everyone involved in rural livelihoods and agriculture benefit from innovations and improved technologies.

**Promoting healthy diets** by facilitating learning activities. These activities should be adapted to local agroecological characteristics and established dietary patterns; focus on diversification of diets (not only staples, but also foods providing other necessary nutrients) and on hygienic practices of food preparation and consumption; and promote the consumption of food crops and animal products that are available at farm level.

**Diversification of production** to improve availability of various foods at the household level. The initiatives focused on diversification should promote the production of food that addresses the dietary deficits of households, aim for the marketability of food products, and consider the opportunity and challenges to grow food products in the off season.

**Off-farm income-generation** for women, along with interventions that reduce costs and workloads and empower women to make decisions on income expenditure.

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### 6. Impact assessment

Fanzo et al (2015) indicated that more understanding is needed of what approaches have the most significant impact on nutrition outcomes through agriculture. Without that understanding and research to assess impact, it is difficult to understand the effectiveness of integration of nutrition into extension (Fanzo et al, 2015). While interventions can increase crop yields, they often have not been able to provide evidence of their contribution to improving people's diets and nutritional status. (Generation Nutrition, 2017).

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