



## **Background document to the FAO e-mail conference on “Exploring the contribution of small farms to achieving food security and improved nutrition”**

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### **1. Introduction**

#### **1.1 The global picture**

In September 2015, world leaders gathered at the UN Sustainable Development Summit where 193 UN Member States adopted the Sustainable Development Goals (SDGs), a set of 17 aspirational objectives with 169 targets that will shape national development plans over the next 15 years to 2030. The SDGs commit countries to taking action to end world poverty and hunger and achieve sustainable development in its three dimensions (economic, social and environmental) in a balanced and integrated manner (UN, 2015).

Issues related to agriculture, food security and nutrition cut across the 17 SDGs. The second goal (SDG2) is to “End hunger, achieve food security and improved nutrition and promote sustainable agriculture”. In his plenary address at the UN Sustainable Development Summit, José Graziano da Silva, the Director-General of the Food and Agriculture Organization of the United Nations (FAO), underlined that SDG2 must be urgently pursued as rapid progress on that front is the key to the other goals (FAO, 2015).

Achieving SDG2 represents a formidable task. Worldwide, it is currently estimated that almost 800 million people are chronically undernourished, over two billion people suffer from micronutrient deficiencies (also known as hidden hunger) while, on the other side, over 1.9 billion adults are overweight, including 600 million who are obese.

Looking to the future, there are considerable challenges ahead which can exacerbate this already difficult situation. The world’s population is projected to increase from 7.3 billion in 2015 to 8.5

billion by 2030 and 9.7 billion in 2050, and nearly all of this increase will occur in developing countries (<https://esa.un.org/unpd/wpp/>). Incomes are also expected to rise in the future in developing countries, resulting in dietary changes where the proportion of grains and other staple crops in diets will decline, while the proportion of vegetables, fruits, edible oil, meat, dairy and fish will increase. With this larger, more urban and, on average, richer population, the demand for food is expected to increase substantially in future years.

Two other major drivers that are partly interrelated need to be taken into consideration. First, the agriculture sector, including forestry and fisheries, is also expected to produce more non-food products, including feed, bioenergy and bio-based materials and chemicals (e.g. European Commission, 2015). Second, the natural resources upon which agriculture depends, such as land, water and soil, are increasingly threatened by environmental degradation and climate change (FAO, 2011; OECD, 2012; EEA 2015).

In consideration of the above, it is imperative that there is a substantial shift towards sustainable food systems that produce more food, of greater nutritional value, and that manage natural resources in a way that maintains ecosystem functions to support current as well as future human needs.

Farms, and the food systems within which they operate, are extremely heterogeneous. FAO (2014) estimates that there are about 570 million farms worldwide and that the vast majority of them are small. Small farms are particularly important for low income and lower-middle income countries, where they occupy most of the farmland and are responsible for most of the food produced.

The importance of smallholders and their farms for food security has been underlined on many occasions in international fora, such as the Committee on World Food Security (CFS) which is the foremost inclusive international and intergovernmental platform for all stakeholders to work together to ensure food security and nutrition for all. The CFS reports to the main governing body of FAO (the 'FAO Conference') as well as to the UN General Assembly through the Economic and Social Council (ECOSOC). Documents and recommendations from the CFS's work on smallholders in recent years can be accessed from [www.fao.org/cfs/cfs-home/activities/smallholders/en/](http://www.fao.org/cfs/cfs-home/activities/smallholders/en/). In its upcoming annual session (17-21 October 2016), the CFS will discuss policy recommendations to address the key challenges and opportunities for improving smallholder access to markets ([www.fao.org/cfs/cfs-home/plenary/cfs43/en/](http://www.fao.org/cfs/cfs-home/plenary/cfs43/en/)).

## **1.2 The e-mail conference**

This FAO e-mail conference aims to take a fresh look at the contribution of small farms to food security and nutrition, allowing stakeholders worldwide to share their experiences and up-to-date knowledge regarding this important topic. FAO is hosting this e-mail conference as one of its contributions to an EU-funded Horizon 2020 research project on "Small Farms, Small Food Businesses and Sustainable Food Security" (SALSA, [www.salsa.uevora.pt/en/](http://www.salsa.uevora.pt/en/)). In the SALSA project, FAO is collaborating with 16 European and African partners to develop a better understanding of the current and potential contribution of small farms and small food businesses to food security and nutrition in an increasingly globalised and uncertain world. The project began in April 2016 and runs for 48 months.

This short Background Document aims to provide information that participants will find useful for this e-mail conference on "Exploring the contribution of small farms to achieving food security and improved nutrition". Section 2 provides a brief overview of the different dimensions of food security; the global situation regarding food security and nutrition; small farms worldwide; and briefly discusses small farms within the context of regional food systems. Section 3 describes the main questions to be addressed in the conference. Section 4 provides guidance for people wishing to post messages to the conference. Section 5 provides references of articles mentioned in the document, abbreviations and acknowledgements.

## **2. Focus and basic understandings**

### **2.1 Food security and its four dimensions**

For FAO, food security exists when all people, at all times, have physical, social and economic access to sufficient, safe and nutritious food that meets their dietary needs and food preferences for an active and healthy life (FAO, 1996, 2008). There are four dimensions of food security, namely the availability of food; access to food; utilisation of food; and food stability. For food security objectives to be realised, all four dimensions must be fulfilled simultaneously (FAO, 2008).

The first dimension covers the availability of good quality and nutritious food from local, regional and international sources. It therefore includes issues such as food production and processing; food imports and exports; availability of food stocks and food aid.

The second dimension covers physical and economic access to food. This includes marketing and transport infrastructure, food distribution systems and markets; socio-cultural conditions enabling or hindering food access; purchasing power or having the money to buy the right food; social programmes to ensure access to nutritious food; and school meals which are nutritious and appealing to children. If food is available but people do not have the money to access it, they are food insecure.

The third dimension covers the safe and healthy utilisation of the food. This includes good health status, since healthy individuals can make proper use of food; having nutritious food choices for all age groups; food safety and quality; and access to clean water and sanitation.

The fourth dimension covers the fact that to be food secure, a population, household or individual should have adequate food at all times and should not face hunger as a consequence of sudden shocks (e.g. an economic or climatic crisis) or cyclical events (FAO, 2008). This dimension has become increasingly important because of economic fluctuations and climate change challenges that face the world, especially in developing countries, and it plays a major role in discussions about the resilience of agricultural systems (Garnett and Godfray, 2012).

Having described the four dimensions of food security, the other side of the coin is food insecurity, a situation that exists when people lack secure access to sufficient amounts of safe and nutritious food for normal growth and development and an active and healthy life. It may be caused by the unavailability of food, insufficient purchasing power, inappropriate storage or distribution, or inadequate use of food at the household level (FAO, IFAD and WFP, 2015; IFAD 2016). Food insecurity may be defined as chronic when it is long-term or persistent; transitory when short-term and temporary; or seasonal when there is recurrent, transitory food insecurity (FAO, 2008).

### **2.2 Global overview of food security and nutrition**

The latest version of the FAO flagship report “The State of Food Insecurity in the World” indicates that some progress has been made in the fight against hunger. However, it nevertheless estimates that a staggering 795 million people (780 million in developing and 15 million in developed countries) are chronically undernourished in 2014-16, meaning that they are currently unable to consume enough calories in their food to give them the energy needed to conduct an active and healthy life (FAO, IFAD and WFP, 2015).

Figures vary considerably between world regions. The highest numbers for chronic undernourishment are in Southern Asia, Sub-Saharan Africa and Eastern Asia respectively. Southern Asia accounts for 281 million (35%) of the 795 million people. In this region, 16% of all people are undernourished. Sub-Saharan Africa accounts for 220 million (28%) of the 795 million and 23% of people in this region are undernourished. Eastern Asia accounts for 145 million of the world’s undernourished (18%) and 10% of people in this region are undernourished (FAO, IFAD and WFP, 2015).

However, even when people have access to sufficient amounts of food for their energy needs, it may not always provide them with all of the essential micronutrients, such as amino acids, minerals and vitamins, they require. For example, they may only have access to basic staple foods such as rice, which is the world's most important source of food but is a poor source of many essential micronutrients. It is estimated that over two billion people are deficient in micronutrients such as vitamin A, iodine, iron and zinc (FAO and WHO, 2014). On the other side of the food consumption spectrum, the incidence of overweight and obesity is increasing in all regions. About 1.9 billion adults are overweight, of whom 600 million are obese (UN, 2016). Overweight and obesity increase the risk of, inter alia, cardiovascular diseases and diabetes.

While concerns about food security have historically focused on total calorie intake, today they encompass the so-called 'triple burden' of malnutrition - undernutrition, micronutrient deficiencies and overweight/obesity. In recent years, the importance of addressing these complex challenges has been increasingly recognized, generating fast-growing political support and commitment. This was highlighted by the FAO Director-General in his statement during the launch of the UN Decade of Action on Nutrition on 20 September 2016:

*"We have seen an explosion of global interest since the onset of the world food crisis in 2008 calling for renewed action on food security and nutrition. Only in November 2014, we jointly organized with WHO at FAO Headquarters in Rome the Second International Conference on Nutrition, 22 years after the first one. This gives an idea how nutrition was neglected by the international community. At that conference, countries committed "to eradicate hunger and prevent all forms of malnutrition worldwide". And to catalyze this process, the UN General Assembly proclaimed last April the Decade of Action on Nutrition for the period 2016-2025. The Decade constitutes a leap forward in galvanizing international attention to this fundamental issue"* ([www.fao.org/about/who-we-are/director-gen/faodg-statements/detail/en/c/434507/](http://www.fao.org/about/who-we-are/director-gen/faodg-statements/detail/en/c/434507/)).

### **2.3 Small farms**

The more specific goal of this e-mail conference is to explore the contribution of small farms to food security and nutrition. First, what do we know about the world's farms? Recent analyses of national agricultural census data from 167 countries and territories, described in detail by FAO (2013) and Lowder *et al.* (2014, 2016) and summarized in FAO (2014), indicate that there are at least 570 million farms spread around the world.

Roughly three-quarters of these farms are in Asia. An estimated 35% are in China, 10% in the rest of East Asia and the Pacific, 24% in India and 6% in the rest of South Asia. An estimated 9% of farms are located in Sub-Saharan Africa; 9% in Europe and Central Asia; 4% in Latin America and the Caribbean; 3% in the Middle East and North Africa; and 0.5% in North America (FAO, 2013).

Analysis of land area data from national agricultural censuses in 111 countries and territories reveals large heterogeneity (FAO, 2013, 2014; Lowder *et al.*, 2014 and 2016). For example, a small proportion of farms are very large; about 1% of farms exceed 50 hectares and they occupy roughly 2/3 of all farmland in the world. Large farms, some of which can exceed 1000 hectares, dominate agricultural production in high income countries and upper-middle income countries and in countries where extensive livestock grazing is important.

The vast majority of the world's farms, however, are small in size. Globally, 72% of farms are less than 1 hectare in size (covering only 8% of farmland); 12% are between 1 and 2 hectares in size (covering 4% of farmland) and 10% are between 2 and 5 hectares in size (covering 7% of farmland). Thus, about 94% of farms worldwide have up to 5 hectares, occupying 19% of farmland (FAO, 2014).

FAO (2014) shows that small farms are particularly important in low and lower-middle income countries. Farms smaller than 5 hectares occupy about 70% of all farmland in low income countries and about 60% in the lower-middle income group and they produce the greater part of national food output in these countries (FAO, 2014). In high income countries, on the other hand, even though the

number of small farms is high (67% of farms are up to 5 hectares), they are responsible for only 4% of the farmland.

Many small farms are associated with production for their own household food needs and with a low degree of market participation. For example, Davidova *et al.* (2013) report that in the European Union there are an estimated 5.8 million semi-subsistence farms (defined as "holdings from which less than 50% of the agricultural output is sold, with the remainder being consumed within the farm household"), accounting for almost half of all farms. About 70% of them have less than 2 hectares. The majority of the semi-subsistence farms are in Romania (61%), followed by Italy (11%), Poland (9%), Hungary (8%) and then Bulgaria, Greece and Lithuania with 3, 2 and 2% each respectively (Davidova *et al.*, 2013).

Trends in farm sizes also vary by country income group. From 1960 to 2000, average farm sizes decreased in most low and lower-middle income countries whereas they increased in some upper-middle income countries and in nearly all high income countries for which information is available (Lowder *et al.*, 2016). The authors indicate that average farm sizes are likely to continue to decrease in many low and lower-middle income countries.

## **2.4 Small farms within regional food systems**

An important aspect of the SALSA research project is that small farms, and food businesses, will be studied within the context of the food system to which they belong. By carrying out in-depth analyses in 30 different geographical regions in Europe and Africa, the project aims to obtain a differentiated understanding of the role of small farms in very different food systems and situations. HLPE (2014) defines a food system as one which "gathers all the elements (environment, people, inputs, processes, infrastructures, institutions, etc.) and activities that relate to the production, processing, distribution, preparation and consumption of food, and the outputs of these activities, including socio-economic and environmental outcomes".

In its actual empirical analysis, SALSA will look at the food system (and its sub-systems) as expressed in each of the 30 regions (with boundaries defined in geographical terms, such as a district or province). As the related resource flows (e.g. of capital, production inputs, knowledge) and the exchanges of food products (raw, semi-processed or fully processed) can extend beyond the borders of the reference regions, it can be conceived that there might be flows into and out of each geographical region. The research approach briefly outlined here for SALSA is close to the more strategic territorial approach to food security and nutrition policy described in OECD, FAO and UNCDF (2016).

Having briefly provided some background in Section 2 regarding food security and nutrition and small farms, the next Section describes the questions that participants should address in this e-mail conference.

## **3. Main questions for discussion**

The e-mail conference allows participants from around the world to share and discuss their experiences, lessons learned and perspectives on the contribution of small farms to food security and nutrition. The specific kinds of questions to be discussed by participants in the conference are described below. When addressing specific questions, it would be good if participants could discuss specific examples from their own work, experience or region as well as any lessons learned.

### **3.1 Questions related to defining small farms**

As noted elsewhere (e.g. Davidova *et al.*, 2013; HLPE, 2013; CFS, 2015), there is no universally accepted definition for a small farm (or a smallholder), although the most common criterion used for this purpose is farmland area. Availability of data for additional relevant criteria (e.g. farm income)

may be a challenge. Furthermore, if wishing to compare results across regions, land is the most easily comparable criterion (HLPE, 2013).

3.1.1 The SALSA research project aims to study the current and potential contribution of small farms (and related small food businesses) to food security and nutrition. A key question will be the definition of the land size threshold to classify farms as small.

- What is the most appropriate threshold to use for such research purposes?
- Should the threshold be adapted to regional and national realities? (As pointed out in HLPE (2013), a farm of 50 hectares would be considered small in some countries, such as Brazil, but big in others, such as India or China).
- In order to capture as many small farms as possible which potentially contribute to food security and nutrition, it might be considered useful to set a low threshold in the research project. If so, what should it be? As for the upper threshold, should the lower threshold be adapted to regional and national realities? In addition, should the project aim to include the contribution of urban gardens and home gardens to food security and nutrition?

If possible, provide specific examples where you or others have applied certain land size thresholds in practice for research on small farms and share any lessons learned from the use of thresholds. In answering these questions, you may also wish to consider the kind of farming involved. For example, FAO (2013) shows that the criteria used by different countries for including holdings in their national census can include, inter alia, the area of cultivated crops, the number of cattle, sheep or other animal species and the size of fish ponds.

3.1.2 Ideally, when carrying out research on small farms in specific regions, additional criteria to land area would be used to determine whether they should be classified as small or not, such as the number of people working part- or full-time on the farm; the number of commodities produced and degree of specialisation; and farm income or sales. For example, farms with a lot of land and capital can be managed extensively and yield limited turnover, while small plots of land can produce high-value commodities, be intensively managed and give high economic returns.

- What are the most important additional criteria that should be used in such a research project? If possible, provide specific examples where you or others have used additional criteria in practice in research on small farms and share any lessons learned from using them.

3.1.3 The criteria used for classifying farms as small may differ for research or policy purposes. When policy-makers wish to make policies focusing on small farms (or smallholders), what criteria should they use to classify farms as small? Again, if possible, provide specific examples where you or others have applied such criteria in practice and share any lessons learned from use of the criteria.

## **3.2 Questions related to small farms within a food system**

As described in Section 2.4, SALSA will analyse the contribution of small farms to food security and nutrition in 30 specific European and African regions using the food systems approach.

3.2.1 Compared to other approaches, what are the advantages and disadvantages of applying this food systems approach to study the contribution of small farms to food security and nutrition?

3.2.2 What is the best way to define the boundaries and characteristics of a regional food system?

3.2.3 In quantitative terms, what methods would you use to assess the contribution of small farms in a particular region to meeting the demand for food within the same region?

## **3.3 Questions related to small farms and their role in food security and nutrition**

3.3.1 How important is the contribution of small farms to food security and nutrition? Why?

3.3.2 As outlined in Section 2.1, there are four dimensions of food security, namely the availability of food; access to food; utilisation of food; and food stability. How exactly do small farms contribute to each of the dimensions of food security? If possible, provide specific examples from your own work, experience or region.

3.3.3 Food security can be studied at different levels/scales, such as the individual, household, local, national and global level. The level at which it is studied will influence the analytical instruments that are used (e.g. analysis of national statistical data or organization of local-level interviews) and the potential relevance of the results. Which is the most appropriate level to use when we wish to study the contribution of small farms to food security and nutrition?

3.3.4 Many small farmers participate in the rural non-farm economy to generate additional income. Does this increase the contribution of small farms to food security and nutrition?

3.3.5 As described in Section 2.2, policy-makers worldwide are seeking to tackle the 'triple burden' of malnutrition - undernutrition, micronutrient deficiencies and overweight/obesity. Do small farms have a particular role to play in meeting the challenges of any specific one or all of these three 'burdens'? If so, how?

3.3.6 The importance of healthy, balanced, diversified diets is increasingly recognised (e.g. FAO and WHO, 2014). In view of this, some small farmers may undertake crop diversification or diversify out of crops into aquaculture and livestock. Developments may vary across different parts of the world. What are your observations? Also, do you think that in small farms the share of staples in the output is higher than in large farms?

3.3.7 As mentioned briefly in Section 1.1, the future presents a number of major challenges for humankind, including population growth, natural resource depletion and climate change. Given these major challenges, do you expect that small farms will make a greater contribution to food security and nutrition in the future than the present? If so, why?

#### **3.4 Questions related to small farms and achieving food security and improved nutrition in a sustainable way**

3.4.1 Driven by the SDGs, sustainability development is now central in the international development agenda. Sustainable development involves three dimensions - environmental, social and economic – and it is in manifold ways connected with food security and nutrition. How can small farms specifically contribute to achieving food security and improved nutrition in a sustainable way?

3.4.2 Of the three sustainability dimensions, to which one do small farms contribute most to sustainable food security and nutrition?

#### **4. Instructions for sending a message**

Before submitting a message to the e-mail conference (to [AIS@fao.org](mailto:AIS@fao.org)), participants are requested to:

- a) Ensure that it addresses one of the questions in Section 3 (ideally, provide the question number).
- b) Limit its length to a maximum of 600 words.
- c) Follow the 'Guidelines for Sending Messages' contained at the end of the Welcome Text that participants receive when they subscribe to the conference. Among other things, the Guidelines note that participants: are assumed to be speaking on their own behalf and not on behalf of their employers (unless they indicate otherwise); should introduce themselves briefly in their first posting to the conference, providing also their full work address at the end of the message; and may not post libellous, insulting or defamatory messages or materials, or links to such materials and should exercise tolerance and respect toward other participants whose views may differ from their own.

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**ABBREVIATIONS:** CFS = Committee on World Food Security; EEA = European Environment Agency; FAO = Food and Agriculture Organization of the United Nations; HLPE = High Level Panel of Experts (advises the CFS); ICN2 = Second International Conference on Nutrition; IFAD = International Fund for Agricultural Development; OECD = Organisation for Economic Cooperation and Development; SALSA = Small Farms, Small Food Businesses and Sustainable Food Security (a Horizon 2020 research project); SDGs = Sustainable Development Goals; UNCDF = United Nations Capital Development Fund; WFP = World Food Programme; WHO = World Health Organization.

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