

Background document to the FAO e-mail conference on "Ensuring the full participation of family farmers in agricultural innovation systems: Key issues and case studies"

1. Introduction

In December 2011, the UN General Assembly in New York declared 2014 to be the International Year of Family Farming and invited the UN Food and Agriculture Organization (FAO) to facilitate implementation of the International Year, in collaboration with Governments, the United Nations Development Programme (UNDP), the International Fund for Agricultural Development (IFAD), the Consultative Group on International Agricultural Research (CGIAR) and other relevant organizations of the UN system, as well as relevant non-governmental organizations (UN, 2012). Among its initiatives for the International Year, FAO is planning to publish a major study on family farming and agricultural innovation systems (AIS) in 2014 as part of its State of Food and Agriculture (SOFA) series.

SOFA is FAO's premier, award-winning, flagship publication and is the oldest 'global' report in the UN system, produced since 1947. Every year, SOFA carries a special report on a major theme in world agriculture, from the perspective of reducing food insecurity and poverty. Recent reports have covered investing in agriculture for food security (2012 - being finalized); women in agriculture (2010-11); livestock (2009); bioenergy (2008); environmental services (2007); food aid (2006); agricultural trade and poverty (2005); and agricultural biotechnology (2003-04). The report is published in 6 languages, is covered extensively by the international media and has helped to shape the global debate on some of these important issues in world agriculture.

As part of its initial preparations for this major study, FAO has organized three initiatives. The first was an Expert Consultation on AIS and family farming that took place at FAO Headquarters on 19-21 March 2012 (FAO, 2012a). About 40 people from 14 countries participated, consisting of invited experts and FAO staff from Headquarters and its regional offices. They provided guidance and inputs on developing the study, specifically covering areas such as the state of agricultural innovation and key issues and gaps in knowledge on agricultural innovation. A highly participatory approach was used throughout the three-day meeting to encourage full engagement of participants in discussions (FAO, 2012a).

The second initiative is this e-mail conference on "Ensuring the full participation of family farmers in agricultural innovation systems: Key issues and case studies", which will build on the results of the Expert Consultation and allow a discussion with a wider and more global audience. It will focus on the issues that determine whether family farmers can fully participate in and benefit from AIS. It will cover the key opportunities and hurdles for family farmers to engage in and benefit from AIS, as well as the policy options available to policy-makers to increase the potential opportunities and remove the potential hurdles. During the e-mail conference, participants will be able to discuss these issues, as well as to share case studies and lessons learned from practical experiences in the crop, livestock, forestry, fishery/aquaculture and agro-industry sectors.

The third initiative will be a series of short sessions dedicated to AIS that FAO plans to hold during regional meetings in the second part of 2012. The aims of the sessions will be to learn about the experiences in agricultural innovation, as well as the challenges, in the different regions. Further details on these upcoming sessions will be provided at <http://www.fao.org/oek/research-extension-systems/ais-ff/en/>.

This Background Document aims to provide information that participants will find useful for the e-mail conference. In Section 2, definitions are provided for some key terms that are likely to be used throughout the conference. Section 3 presents some of the key issues that were identified at the Expert Consultation as having a major impact on whether family farmers can benefit from AIS. Section 4 provides specific guidance to participants about the questions that they should address in the

conference. Section 5 contains references of articles mentioned in the document, abbreviations and acknowledgements.

2. Defining some key terms

The planned FAO study, as well as this e-mail conference, is about family farming and AIS and it is important to provide definitions of some key terms. There is rarely global agreement regarding the wording of many definitions. However, the aim here is not to provide the conclusive definitions but, instead, to provide working definitions that explain the general concepts and that will be useful for participants in the e-mail conference, particularly those who are not experts in the field. Although not the primary aim of the e-mail conference, some of the discussion in the conference may also be dedicated to these definitions.

FAO (2012b) defines the term '**family farming**' to "include crop, livestock, forestry, fishery and aquaculture production by producers who, despite their great heterogeneity among countries and within countries, have the following key characteristics:

- Limited access to land and capital resources;
- Predominantly family labour is used with the head of the household participating directly in the production process; therefore, even when there is some division of labour, the head of the household does not just perform management responsibilities but is also a worker in the family unit;
- Agricultural/forestry/aquaculture/fishery activity is the main source of income for the family nucleus, which may be complemented with other non-farming activities undertaken inside or outside the family unit (services related to rural tourism, environmental benefits, small-scale production, small agribusinesses, casual jobs, etc.)". Several countries have defined family farming in a more quantitative way.

The term '**innovation**' is generally differentiated from '**invention**' (e.g. Anandajayasekeram, 2011; Ekboir, 2009; Woodhill *et al.*, 2011). Invention refers to new concepts, products, processes or forms of organization that are derived from individuals, scientific research, other forms of research or a novel combination of existing knowledge. Innovation, on the other hand, refers to the actual use of the invention. Thus, inventions only become innovations when private companies, individual farmers or other parties use them to improve what they are doing. In the words of Woodhill *et al.* (2011), "before a new variety, a new cropping system, a new idea about microfinance or a new technology for tracking products can be considered an innovation, it has to be effectively adopted". Note that although a concept, product or process may be already known or used by others elsewhere, it will still be an innovation for any group, organization or country that adopts it for the first time.

The term '**agricultural innovation**' covers innovation in the crop, livestock, forestry, fishery/aquaculture and agro-industry sectors.

The term '**agricultural innovation system**' refers to the individuals, organizations and enterprises that bring new products, processes and forms of organization into use to achieve food security, economic development and sustainable natural resource management. Like any 'system', it encompasses the different stakeholders or actors as well as the linkages between them. It also includes the so-called '**enabling environment**' which, as the name suggests, includes the factors making it all possible, such as political commitment and vision; policy, legal and economic frameworks; budget allocations and processes; governance and power structures; incentives and social norms.

The term '**value chain**' refers to the inter-linked enterprises, services and activities required to produce and supply products to "downstream" buyers including final consumers. They are referred to as value chains because value is added at each stage of production, transformation and distribution. The term was originally applied to processes within firms, and still can be, but is now commonly used to refer to the series of activities and services linking value chain actor (people or enterprises including farms) to chain actor.

Originally, a linear model of generating and transferring agricultural knowledge was used which, simply put, envisaged that knowledge would be generated by research organizations, disseminated by extension services and then used by farmers. Agricultural systems are, however, much more complex, dynamic and non-linear than this and, over time, the model has evolved to try to deal with these complexities. In the last decade, the AIS model (or approach, concept or framework) has received increasing attention (for recent overviews, see e.g. UNCTAD, 2010; World Bank, 2011). It has been endorsed and applied by governmental and non-governmental organizations as well as national governments; and is increasingly being used for projects and programmes by researchers, development practitioners and donor agencies (e.g. Ugbe, 2010).

AIS use knowledge within the full network of organizations, institutions, policies and individuals involved in the production of goods and services to identify knowledge gaps, understand how a country's agricultural sector can make better use of new knowledge, and design alternative interventions that go beyond investments in the research system. They give greater emphasis to production systems and value chains approaches than to individual components. Note, however, that AIS are not restricted to innovations in commodity value chains, but also include those related to sustainable natural resource management, such as innovations in water management practices. AIS also recognize the necessity of connecting and learning from the knowledge of farmers, input suppliers, processors, marketers and their institutions to successfully introduce new and useful products, processes and ways of working (FAO, 2011).

One of the key recommendations from the Expert Consultation (FAO, 2012a) was that the planned FAO study should focus on the policy level and policy-making, considering also the entry points in AIS where policy-makers can make a difference. As it is also one of the main areas of interest of this conference, a definition of the term '**policy**' may be useful. Following Maetz and Balié (2008), policy is "a plan of action to guide decisions and actions based on a set of preferences and choices. The term may apply to the work of government, private sector groups and individuals. A policy is comprised of two main elements i) a policy objective and ii) one or more policy instruments used to serve the objective and produce specific, related outcomes". Various policy instruments or options exist, including laws, regulations, rules, standards as well as creation of new organizations, funding instruments and programmes. Once a particular policy instrument has been used, its effects can be monitored and eventual changes then made if emerging information indicates potential problems or opportunities.

3. Key issues that can influence family farmers benefiting from the AIS approach

At the Expert Consultation, a number of key issues that can influence whether the AIS approach will benefit family farmers were identified and discussed (FAO, 2012a). These include;

3.1 Farmer organization

The importance of family farmers organizing themselves and the crucial role of these organizations in AIS was emphasized throughout the Expert Consultation. It was argued that if farmers are not organized, it is difficult for them to benefit from AIS. By being organized, on the other hand, farmers can be empowered as it gives them a stronger common voice to influence the rural development agenda and facilitates their access to farm inputs, credit, technologies and markets and it enables them to interact with, and learn from, other groups. In discussions, however, it was also pointed out that organization of farmers has sometimes proven to be difficult in practice and that many mistakes had been made in the past. It was suggested that farmer organizations are likely to be sustainable if the push for organization is needs-based and comes from the grassroots level rather than coming from the top (FAO, 2012a).

A recent analysis of 21 case studies of agricultural innovation in sub-Saharan Africa aimed to identify reasons for success and learn lessons that could be used in other development initiatives (Adekunle *et al.*, 2012). They found that creation of strong farmer organizations was one of the key elements

enabling innovation, concluding: “strong farmer organisations at all levels have a critical role to play in increasing smallholder productivity and livelihoods, improving competitiveness and increasing bargaining power for markets, services and enhancing the policy environment. It is essential that farmer organisations are able to speak with an informed and unified voice and are able to engage with other stakeholders. At the same time they must be representative and able to communicate with members and other farmers”.

Farmer organizations are not, however, a panacea. World Bank (2011, Module 1) suggests that the creation of new organizations for small-scale farmers, especially cooperatives, has yielded mixed results, in some cases providing little benefit to the intended beneficiaries, due e.g. to inappropriate leadership or because the organizations respond to the objectives of external donors. From their analysis, they concluded that the most innovative farmer organizations have a federated structure (i.e. composed of small, linked farmer groups) and that new organizations tended to benefit their stakeholders most when the organizations could adapt their objectives and operating routines in response to unforeseen needs and opportunities, especially unexpected market and social developments; could participate actively in networks of specialized actors; and could try several institutional arrangements and routines until they found a configuration that enabled them to fulfill their mission (World Bank, 2011). Regarding market access, drawing on case studies from a special issue of the journal *Food Policy* dedicated to "Collective action for smallholder market access" and on other literature, Markelova *et al.* (2009) concluded that collective action in the form of farmer organizations can play a critical role for smallholders to get a better price for their products and to adapt to the changing global supply chains, cautioning however that "if the incentives and enabling conditions for farmer groups to form and operate successfully are missing, collective marketing will not be profitable or sustainable".

3.2 Characterization of actors in AIS

In order for smallholders or family farmers to benefit from the AIS approach, participants in the Expert Consultation argued that characterization is important on two different levels. First, the family farmers need to be characterized, i.e. to broadly identify who and where they are, and what they do (e.g. which livestock/crop species they produce, what proportion of income comes from non-farming activities). However, in many countries, this basic information is often lacking (FAO, 2012a).

Second, the key actors or stakeholders in AIS need to be identified as well as their incentives. In the Expert Consultation, participants noted that there are a multitude of potential actors in AIS, including the media, faith-based organizations, telecommunication companies, schools, the private sector (exporters, middlemen, traders, transportation, processing, banks and finance, pension funds, microfinance, supermarkets, insurance companies), producer organizations, research organizations, extension and advisory services, universities, tertiary and vocational education, policy think tanks, individuals (farmers, women, youth, farm labourers, politicians), co-ordinating bodies, foundations, non-governmental organizations, governments and civil society organizations. They also noted that some of them are often forgotten (e.g. media, faith-based organizations) and that for AIS to be successful, actors need to understand the incentives of others (FAO, 2012a).

3.3 Research systems

The Expert Consultation emphasized the importance of ensuring that research focuses on the needs, demands and opportunities of family farmers. There was consensus on the need for evidence-based, forward-looking strategic priority setting for research for development, with the participation of rural households and considering the full value chain. Participants also argued that it is important to strengthen linkages between research and the various actors in AIS; that incentives are needed to encourage improved collaboration between multiple actors; and that research in AIS takes place in a highly interlinked space and research systems need to be reformed to adapt to this reality (FAO, 2012a).

3.4 Extension and advisory services

Participants in the Expert Consultation underlined that weak institutions (e.g. research systems or extension services) make it difficult for family farmers to benefit from AIS. Participants said it was important to ensure that extension and advisory services are demand-driven and accountable to family farmers, provide access to appropriate and useful knowledge, and that communication is two-way, i.e. both to and from the farmers (FAO, 2012a).

3.5 Linking to markets

Participants noted that access of small farmers to markets is an important aspect to realize the full potential of agricultural innovation in family farming. In discussions, it was suggested that organization of farmers facilitates the process and that information and communication technologies (ICTs) can, if accessible and affordable, open new possibilities for family farmers, e.g. using mobile phones to access market information or to sell products (FAO, 2012a).

3.6 Private sector

The importance of engaging the private sector in AIS and of public-private partnerships (PPPs) was raised repeatedly throughout the Expert Consultation. The Government was seen to have a key role in creating an enabling environment to make this happen (FAO, 2012a).

From their analysis of 21 sub-Saharan African case studies, Adekunle *et al.* (2012) concluded that a key factor for success was “involving the private sector and ensuring market-driven approaches”. They summarized: “Market constraints are successfully dealt with through better understanding and information about demand and supply, market price and its determinants, and in particular market linkages. As such the private agribusiness sector needs to be involved not only in the supply of inputs and purchasing outputs but also in developing market opportunity and capacity-building initiatives. Understanding the positive role the private agribusiness sector can play in facilitating change at local and national levels is important when considering changes to the enabling environment. The private sector also needs to be well organized and able to speak with an informed and unified voice in engaging with the public sector”. From its analysis of agricultural innovation in Africa, UNCTAD (2010) concluded, however, that the private sector was conspicuous largely by its absence.

3.7 Funding and investment

In order to ensure that funding and investment strategies are adopted that benefit family farmers in AIS, participants argued that long-term funding of public-good issues is required as well as more flexible funding for short-term issues; and that diverse sources of funding should be used (to avoid putting “all the eggs in one basket”). They also emphasized the importance of family farmers having access to rural credit, as well as the promise of new funding mechanisms, including “push-pull” mechanisms and competitive grant schemes. The over-riding importance of government policies to create an appropriate enabling environment for investments was highlighted (FAO, 2012a).

The World Bank has recently published a comprehensive 7-module ‘sourcebook’ on the topic of investments in AIS (World Bank, 2011). Modules 1 to 4 discuss the main investments related to innovation capacity (respectively covering coordination and collective action for agricultural innovation; agricultural education and training to support AIS; investment in extension and advisory services as part of AIS; and agricultural research within AIS). Module 5 deals with the incentives and resources needed for innovative partnerships and business development, while Module 6 describes complementary investments that create a supportive environment for innovation. Module 7 provides information on assessing, prioritizing, monitoring and evaluating AIS.

3.8 Measuring impact

As mentioned earlier, the AIS concept has gained increasing acceptance over the past decade and is increasingly being used. For programmes or projects that have been established using the AIS concept to benefit family farmers, participants in the Expert Consultation agreed that, even though it might be difficult, impacts should be measured, so that it will be possible to learn from the experiences as well as provide accountability for investments. They urged that the evaluation process be as participatory as possible, involving stakeholders at all the stages. Potential difficulties that participants mentioned regarding measuring impacts in AIS include dealing with the flexible and dynamic nature of AIS (where, for example, the desired outcomes might evolve over time); the complexity of AIS (with many potentially interlinked components, each of which can influence, directly or indirectly, the success and efficiency of the AIS); the need for an “evidence-based baseline”, against which impacts can be measured; as well as the long time intervals that are generally required for research etc. (FAO, 2012a).

4. Topics to be discussed in this e-mail conference

In this e-mail conference on AIS and family farming, the specific questions that participants should address are given below:

4.1 What are the key issues that determine whether family farmers can fully participate in AIS?

4.2 For issues described in Section 3, what policy options should policy-makers consider?

In Section 3 of this document, a number of key issues, identified at the Expert Consultation, that can influence whether family farmers will benefit from the AIS approach were briefly presented. For each of these issues, what policy options should policy-makers consider in order to ensure fuller participation of family farmers in AIS? If possible, share any case studies (with positive or negative results) from real-life application of these options as well as any lessons learned from the experience.

4.3 For other issues, not described in Section 3, what policy options should policy-makers consider?

For other key issues that can influence whether family farmers fully participate in AIS, not described in Section 3, what policy options should policy-makers consider in order to ensure fuller participation of family farmers in AIS? If possible, share any case studies (with positive or negative results) from real-life application of these options as well as any lessons learned from the experience.

4.4 What should policy-makers prioritize?

To ensure that family farmers can fully participate in AIS, what should be the first priority for policy-makers, i.e. where should they begin?

Instructions for contributing:

Before submitting a message to the e-mail conference, participants are requested to:

- a) ensure that it addresses the issues mentioned in Section 4
- b) limit its length to a maximum of 1,000 words
- c) read the Guidelines for Sending Messages contained in 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); and that participants should introduce themselves briefly in their first posting to the conference, providing also their full work address at the end of the message.

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ABBREVIATIONS: AIS = Agricultural innovation systems; FAO = UN Food and Agriculture Organization; PPPs = Public-private partnerships; SOFA = State of Food and Agriculture.

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