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Extension and Advisory Services - Terminology and Glossary

"Rural advisory services, also called **extension**, are all the different activities that provide the information and services needed and demanded by farmers and other actors in rural settings to assist them in developing their own technical, organisational, and management skills and practices so as to improve their livelihoods and well-being." (Christoplos, 2010)

Agricultural Extension was once known as the application of scientific research, knowledge, and technologies to improve agricultural practices through farmer education. The field of extension now encompasses a wider range of communication and learning theories and activities (organized for the benefit of rural people) by professionals from different disciplines. There is no generally accepted definition of agricultural extension, but the one provided above is widely used and is the one promoted by the Global Forum for Rural Advisory Services, GFRAS. There are different schools of thought about how agricultural extension systems should be organized and function.

Agricultural extension uses a number of different terms to describe specific concepts and approaches, a selection of which are described in this glossary.

Agricultural Innovation System "is a network of organisations, enterprises, and individuals focused on bringing new products, processes, and new forms of organisations into social or economic use, together with the institutions and policies that affect their behaviour and performance." (GFRAS 2012). Important actors within such a system are innovative farmers who successfully determine, through trial and error, which crops/products, as well as the necessary technologies, are most profitable in supplying different and emerging markets.

Animation Rurale is an approach developed originally by the French Institut de Recherches et d'Application des Méthodes de Développement as a counter point to the authoritarian and often repressive nature of intervention before independence in francophone countries such as Senegal and Ivory Coast (De Wilde, 1967; Swanson, Bentz, & Sofranko, 1997). Key to this approach is that an indigenous change agent (an "animator") works closely in rural communities to spur collective action for community improvement using methods similar to those pioneered by Paolo Freire.

Advisory Service(s) is a term commonly used as an alternate for "extension services". These systems involve a broad spectrum of market and non-market entities, and agents are expected to provide useful technical information about new technologies that can improve the income and welfare of farmers and other rural people. Apart from their conventional function of providing knowledge and technology to improve agricultural productivity, agricultural advisory services are also expected to fulfill a variety of new functions, such as linking smallholder farmers to high-value and export markets, promoting environmentally sustainable production techniques, adapting to climate change, and coping with the effects of HIV/AIDS and other health challenges that affect rural people**.**

Climate smart agriculture is an approach developed by FAO in 2010 to developing the technical, policy and investment conditions to achieve sustainable agricultural development for food security under climate change. The approach is composed of three pillars: sustainably increasing agricultural productivity

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INGENAES Integrating Gender and Nutrition within Agricultural Extension Services

and incomes; adapting and building resilience to climate change; and reducing and/or removing greenhouse gases emissions, where possible (FAO 2013).

Commodity-Based Advisory Services: Commodity-based advisory services are similar to value-chain extension systems (defined later in this glossary), in which an economically important crop or product, generally for export (e.g., cotton, coffee, other high-value crops or products), requires that producers use specified genetic materials or varieties and follow strict quality-control standards in producing and harvesting the crop or product.

Cooperative Extension Service: This organizational and funding model for extension is unique to the United States of America. It is a joint effort of national, state, and county governments within each specific state to advance the practical application of knowledge through a wide variety of extension and outreach activities. The main program areas are: youth development (especially through 4-H), agricultural and rural development, natural resource management, family and consumer sciences, and community and economic development (i.e., helping local governments investigate and create viable economic options for community development). This extension system has traditionally focused on a wide range aspects of rural development at the household and community levels and is not limited to agricultural extension and advisory services.

Coverage: Extension coverage pertains to the degree that extension services are present and available across geographic areas and demographic groups. Coverage does imply that all farmers receive services but rather that extension services are active and could potentially be accessed.

Decentralized Extension: This concept is based on three major elements: (1) transferring specific decision-making functions to local levels, starting with simple managerial functions, then setting priorities and allocating funds and providing other administrative functions, including accountability and financing/co-financing; (2) encouraging public participation, reflecting the degree of authority that is formally transferred to rural people, starting in an advisory capacity for program planning and implementation, and eventually assuming control over selected financial planning and accountability functions; and (3) expanding local involvement in organizing and delivering extension services, be it through local government actors, private firms or non-governmental organizations.

Demand-Driven Extension is viewed differently by economists and other social scientists. As Birner and Anderson (2007) point out, "demand-driven refers to the economic concepts of supply and demand" (p. 4). However, most people view technology systems as being "supply-driven" by research institutions; therefore, extension scholars relate "demand-driven" to the technology system itself and are aware that research and development (R&D) is seldom farmer-led. Demand-driven extension is a concept in which the farm household is the central focus of a farmer-led or participatory extension system. As Wennink, Heemskerk, and Nederlof (2006) indicate, "Farmer-oriented knowledge services are a prerequisite for innovation" (p. 1).

Diffusion of Innovation is the process by which new ideas and technologies spread through different farming systems, countries, and cultures. Everett Roger's innovation theory (2003) states that innovation diffusion is a process that occurs over time through five stages: knowledge, persuasion, decision, implementation, and confirmation. Accordingly, the innovation–decision process is the process through which an individual or other decision-making unit passes through the stages of (1) having awareness and knowledge of an innovation, (2) forming an attitude toward the innovation, (3) making a decision to adopt (or reject) the innovation, (4) implementing the new innovation, and (5) confirming the decision.

Extension Education: During the past century, extension education developed into a discipline or field of study with its own philosophy, objectives, methods, and techniques that should be understood and used by most extension workers if they are to be effective in serving the needs of all farmers, especially small-scale and women farmers. The basic principles, methods, and techniques of extension education are applicable to all fields within agricultural and rural development, including crop, livestock, fisheries, and other rural enterprises, as well as rural youth programs and home economics, including family health, hygiene, and nutrition. Extension education primarily focuses on the teaching-learning methods

needed to train and provide small-scale and women farmers with the necessary skills, knowledge and information they will need to increase their farm income and, thereby, improve the livelihoods of these rural families.

Extension is a term first used to describe adult education programs in England during the second half of the 19th century. These programs helped extend the work of universities beyond the campus and into neighboring communities. In the early 20th century this extension function was transferred to the Ministry of Agriculture and renamed as "advisory services". The term "extension" was adopted in the United States during the late 19th century and integrated into the Land Grant Universities as a central function of these institutions and in their role as partners in the cooperative extension system.

Farmer Field School is a group-based experiential learning approach which seeks to empower farmers to learn, understand and make informed decisions. In a farmer field school, groups of farmers meet regularly in the field with a facilitator to observe, talk, ask questions and learn together. Farmer field schools, were first conceived by FAO in the late 1980s as a way of training farmers on integrated pest management (IPM). The approach is now used for a wide range of technical and social topics such as water and sanitation, household livelihood security, marketing, child labor, to name a few.

Farmer-to-farmer extension is the provision of training by farmers to farmers, often through the creation of a structure of farmer-trainers. Different organizations use different terms for the farmers they engage to be trainers, (e.g., lead farmer, farmer-promoter, community knowledge worker) and the different names often imply different roles. There is also much variation in the way farmer trainers are selected, how they are trained and supervised and how, if at all, they are compensated for their time and expenses.

Farmer-to-Officer Ratio is a commonly used measure designed to illustrate the number of clientele each officer/extensionist is expected to serve. The ratio is calculated by determining the total potential clients within a geographic area (district, region, nation) and dividing this figure by the total number of extensionists responsible for this area, scaled to a denominator of one. While high ratios suggest understaffing and perhaps a high degree of unserved potential extension clients, recommendations for an ideal ratio are mixed and depend largely on the context and services provided (Swanson, Bentz, and Sofranko, 1997).

Gender equality means ensuring that both women and men have equal access to the opportunities, rights, resources and voice that allow people to pursue a life of their own choosing and to avoid extreme deprivations in outcomes. (World Bank, 2009)

4-H Clubs are youth organizations with the mission of "engaging youth to reach their fullest potential while advancing the field of youth development." The 4 H's stand for "head, heart, hands, and health". These clubs serve over 6.5 million members in the United States, and 4-H clubs or similar organizations now exist in many other countries. The goal of 4-H is to develop citizenship, leadership, and life skills of youth, primarily through experiential learning programs. Though typically thought of as an agriculturally focused organization, 4-H today encourages both rural and urban members to learn about many topics, such as youth leadership, youth–adult partnership, working together to achieve common objectives, practice parliamentary procedures, public speaking, and entrepreneurship.

Fee-for-Service Extension: Under fee-for-service extension programs (FSE), the provider may be a public entity, a non-governmental organization, a private-sector firm, or even a consultant. In developing or newly developed countries, FSEs normally require considerable public funding on a long-term basis even if the provider is private (as in Chile). Under such an arrangement (e.g., using government-funded vouchers), groups of farmers typically contract for specific extension services to address their needs. When it is the intension of government to shift most extension costs to commercial farmers, such as in Europe, the results are mixed. Generally, shifting the cost of extension services directly to commercial farmers must be done incrementally over a number of years (as in Ireland).

Human Resource Development is a term commonly used in formal organizations and is generally associated with improving the skills and knowledge of employees so that they can become more effective on the job and can advance within the organization.

In agricultural extension it is also used frequently to non-formal, adult education on a broad range of skills and knowledge beyond agricultural production, such as managerial, organizational, problem solving abilities, and even literacy and numeracy skills.

Information and Communication Technologies refers to the integration of telecommunications and computer networks with communication methods. The range of technologies used by and for extension includes but is not limited to websites and online information portals, radio, television, cell/mobile phone applications (person to person calls, interactive voice response, text, images, video, apps, internet). Some applications utilize geographic information systems, provide access to market information or weather information. Communication can be one way, i.e., from sender to receiver, or interactive (through user interfaces) and even participatory (e.g., participatory radio campaigns).

Innovation can be defined as a new way of doing something, ranging from changes in the way people think about something to the way new products are made or use new processes or procedures. It also includes institutional innovations that change the way an organization carries out new or different functions. For example, shifting toward a bottom-up, rather than a top-down extension system; or moving toward a more market-driven, rather than a technology-driven, extension system. Innovative farmers are frequently the source of new production technologies and marketing approaches for market-driven innovations. Innovation is a major driver to economic change, especially in the agricultural sector.

Input Supply Advisory Services are one-on-one advisory services provided by private-sector input supply firms (and input-supply cooperatives) to farmers who purchase production inputs from these firms. This is the dominant model in most industrially developed countries because it has become a "win–win" arrangement. Farmers get sound technical advice from certified crop advisors, and the input supply firms are able to recover the cost of advisory services through profits generated from the sale of inputs, especially to commercial farmers.

Integrated Rural Development is "an ongoing process involving outside intervention and local aspirations; aiming to attain the betterment of groups of people living in rural areas and to sustain and improve rural values; through the redistribution of central resources, reducing comparative disadvantages for competition and finding new ways to reinforce and utilize rural resources" (Nemes 2005, p. 23).

Market-Driven Extension: is a relatively new concept in which the focus of formerly technology transfer-driven agricultural extension shifts from production to profitability and market orientation, and this focus tends to be more prevalent for high-value crops, livestock, fisheries, or valuate added products. This change in focus is consistent with the concept of a market-driven agricultural innovation system, because market opportunities and access depend in part on the location of each farm (or groups of farmers), farm size (to produce specific products), and many other factors, such as agro-ecological conditions, transportation infrastructure, available labor, and, possibly, access to other production resources, such as irrigation, greenhouses, etc. Therefore, the decision by groups of farmers to supply specific markets with different high-value crops or products will depend in large part on the relative size of accessible markets for particular products and the strategic advantage of producer groups to supply these markets with high-value crops or products.

Nutrition sensitive agriculture is an approach that seeks to maximize agriculture's contribution to nutrition. This approach emphasizes the multiple benefits derived from enjoying a variety of foods, recognizing the nutritional value of food for good nutrition, health and productivity, and the social significance of the food and agricultural sector for supporting rural livelihoods. Nutrition-sensitive agriculture also entails targeting poor households, promoting gender equity, and providing nutrition education so that household resources are used to improve household members' nutrition, especially that of women and young children. The approach also calls for linking agriculture to sectors that address other causes of malnutrition, namely education, health and social protection. (FAO 2014)

Participatory Extension is essentially a combination of technology transfer, advisory services, and human resources development and involves two key elements. The first element addresses how extension systems are organized and emphasizes the fact that

all types of farmers, especially small-scale and women farmers, must play an important role in setting extension priorities and shaping extension programs. By so doing, farmers will take more "ownership" over these ongoing extension programs and operations. The second key element of the participatory extension approach generally encompasses more participatory extension methods, such as experiential learning and farmer-to-farmer exchanges. It emphasizes that knowledge is gained through interactive processes that include extension field staff, private-sector firms, non-governmental organizations, and/or innovative and progressive farmers within local or nearby communities. Participants are expected to make their own decisions, especially about how they will intensify and/or diversify their farming systems.

Participatory Farm Management is an extension approach that uses simple methods to enable farmers, working on their own or with a facilitator, to quantify and analyze their use of farm or household resources in order to assess the potential impact of different decisions on farm income. The methods can be used to assess the resource implications of modifying the current farming system by diversifying into one or more new enterprises and comparing the impact of these potential new enterprises, in comparison with current enterprises, on both farm resources and incomes.

Participatory Rural Appraisal is a label given to a range of participatory methods that emphasize local knowledge and enable local people to conduct their own appraisals and analyses, and make plans for themselves. The key tenets of a PRA are participation, teamwork, flexibility, and triangulation to ensure that information is valid and reliable. For more information on PRA, see The World Bank Participation Sourcebook (World Bank 1996).

Pluralistic Extension systems encompass a range of service providers, approaches, funding streams, and sources of information available to farmers and clients. This model can allow farmers the opportunity to choose the most appropriate extension services and providers for their needs. Collaborating extension service providers could include governments/public systems, private companies, international or domestic non-governmental organizations, non-affiliated community extension workers, or other actors (World Bank, 2012). Governments or public extension systems often serve as facilitators and help coordinate extension actors to deliver services that utilize the relative strengths of each entity. When pluralistic systems work well, they are well equipped to deal with the diversity of conditions, needs, audiences, and farming systems that make up the agricultural landscape by providing an equally diverse array of services and service providers (Feder, Willett and Zijp, 1999).

Pre-Service Training of agricultural extension workers has been given limited attention and resources in most developing countries since the 1990s. In most countries, field extension workers obtain a two- or three-year diploma from a school of agriculture, which is normally a terminal educational qualification. These diploma-level programs typically teach a cross-section of agricultural courses, including crop and livestock production, plus basic skills in extension methods using the "diffusion of innovations" framework, which primarily focuses on technology transfer to larger, commercially oriented farmers. In most cases, the educational content of both agricultural and extension courses is grossly out of date if these agricultural extension systems are expected to become more decentralized, participatory (farmer-led), and market-driven in improving rural livelihoods. To improve pre-service training, the skills and knowledge of faculty and staff at schools of agriculture and agricultural universities will need to be updated in course content and teaching methods, as well as being provided with up-to-date, relevant teaching materials (see Zinnah, Steele, and Mattocks 1998).

Private Advisory Services: Under a system of private advisory services (PAS), a private for-profit sector advisor or advisory firm (or non-governmental organization) is contracted by a government entity, donor, or a farmer organization to provide specified types of advisory services to farmers. Private advisors often use the same basic tools and methods as public extension staff, but the management of a private firm has more flexibility in hiring or laying off employees and to provide incentives based on performance, as well as to more adequately allocate program and operating funds. Therefore, the short-term performance of PASs can be efficient and effective. However, this approach appears less sustainable over

the long-term, because policy changes (e.g., when a different political party takes over government leadership) may directly affect the availability of government funding for these PAS. Also, donor funding is generally not long-term, and donor priorities may change, as evidenced by World Bank investments in Training & Visit extension. For a general review of privatized extension services, see Rivera and Alex 2004a and 2004b.

Producer Organizations is an overarching term for a range of organizations, such as farmer cooperatives, farmer interest groups, producer groups, farmer associations or self-help groups. Being organized as a group has the potential to strengthen the bargaining power of farmers in the marketplace (for procuring inputs as well as services, and in supplying markets). In addition, when farmers are organized into groups, supplying needed extension and advisory services can be done more effectively and efficiently Specifically, group formation can facilitate the dissemination of agricultural technologies, help transform farming systems among different farm households, and encouraging farmers to use environmentally friendly farming practices. Well organized farmers can influence government policies to be more favorable to increasing farm income improving rural livelihoods.

Social Capital Development essentially concerns people organizing themselves and then mobilizing their resources to solve problems of common interest. The effectiveness of these groups and/or networks depends on the extent to which the group can facilitate collective decision-making, help disseminate information, and reduce opportunistic behavior. These factors depend on different aspects, including organizational structure, membership, and the way these groups function.

Strategic Research and Extension Plan: Formulating a strategic research and extension plan (SREP) involves identifying the farming systems and the resource base of farmers within a target area, as well as identifying the successes and failures of innovative farmers. It also involves the identification of problems and needs of farmers by using PRA techniques and then analyzing all of this information using a SWOT (strengths, weaknesses, opportunities and threats) analysis. In addition to farmer information, the SWOT analysis examines other important types of agricultural information, including (1) the different agro-ecological zones within a region (e.g., soil type/conditions; rainfall patterns; irrigation water, including availability and cost), (2) transportation infrastructure, and (3) available markets for all types of staple and high-value food crops/products. The analysis must consider all of this information in determining the most feasible economic opportunities for different categories of farm households within each agro-ecological zone of a region. The output of the SWOT analysis will be a preliminary SREP that is reviewed, modified, and eventually approved by a cross-section of agricultural community representatives, consisting of all types of farmers (including women farmers), rural banks, input supply firms, and agricultural product buyers.

Technology Transfer: Technology transfer is the process of disseminating new technologies and practices that largely result from research and development efforts in different fields of agriculture. In general, these technologies include (1) genetic improvement in the form of improved crop varieties/hybrids and livestock breeds; (2) improved production practices, including soil fertility and animal nutrition; (3) improved plant protection and animal health practices; (4) mechanical technologies that will improve labor efficiency and other management practices; and (5) sustainable natural resource management practices, such as drip irrigation, water harvesting, integrated pest management, and so forth—in other words, technologies that all types of agricultural producers will need in order to increase agricultural productivity and farm incomes. In recent years, the term has fallen out of favor among some development practitioners because the word “transfer” implies a one-way, linear path from research to extension to farmers, and because it appears to preclude feedback mechanisms and the modification of technology by users.

Training and Visit Extension is based on the principles that (1) extension agents should have primary responsibility for carrying out extension functions, (2) extension should be closely linked with research, (3) training should be carried out on a regular and continuous timetable, (4) work should be time-bound, and (5) a field and farmer orientation should be maintained. This technology-driven approach was initially successful during the late 1970s and 1980s in disseminating the production

management practices associated with growing Green Revolution wheat and rice varieties. However, in rain-fed and other production areas where these new technologies were not a good fit, the training and visit approach had limited success because here the extension agents did not have economically useful messages to disseminate to these farmers. The agents had not been trained nor equipped to assess the needs of farmers and then identify alternative technologies or production systems that might better address the needs of farmers in these areas.

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