

Status of Agricultural Extension and Rural Advisory Services Worldwide

Summary Report



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Introduction

Extension and advisory services are a critical component of rural development, and have been shown to contribute to the reduction of hunger and poverty, increase adoption of improved technologies, and increase productivity and capacity of clientele. In the past 20 years, extension has changed from technology-focused, public services-dominated, transfer of technology approaches to a much broader scope with many different actors from the private and civil society sectors (Sulaiman and Davis 2012).

Since these major changes occurred in advisory services, no global assessment has been done of the status of programmes, staffing, capacities, and financing. The last (and only) time these data were collected was in 1988 under the Food and Agricultural Organization (FAO) of the United Nations (Swanson, Farner, and Bahal 1990).

The International Food Policy Research Institute (IFPRI), working in collaboration with the University of Illinois (UIUC), FAO, and the Global Forum for Rural Advisory Services (GFRAS), developed the Worldwide Extension Study database as part of the assessment of the status of agricultural extension and advisory services worldwide between 2009-2013. Also collaborating were the Inter-American Institute for Cooperation on Agriculture (IICA), the Danish Agricultural Advisory Services (DAAS), and the French Agricultural Research Centre for International Development (CIRAD). The United States Agency for International Development (USAID) supported the work. This report briefly outlines the status of public extension in these countries by region and sub-region. Much more detailed information, data, web links, and secondary documents on most countries can be found at <http://www.g-fras.org/en/world-wide-extension-study.html>.

Methods

The data were collected using a close-ended questionnaire (sample short and long English versions are available from <http://www.g-fras.org/en/world-wide-extension-study.html>). The survey was modified from the original survey used by FAO in 1988 (Swanson, Farner, & Bahal 1990). Hard and soft copies were sent to extension actors around the globe, using personal contacts of the different organisations, existing directories of extension providers, and internet searches. The questionnaire was available in English, French, and Spanish. The survey was accompanied by an explanatory cover letter from the researcher, FAO, and GFRAS.

The data were summarised and placed online, first at <http://www.worldwide-extension.org> and then at <http://www.g-fras.org/en/world-wide-extension-study.html> when it was decided that GFRAS would be the institutional repository for the data. In addition to the quantitative data, country and Country profiles include an introduction and history of extension in the country; the

enabling environment; major providers of extension from all sectors; information on training for extension; ICTs for extension; and resources and references. Available data, secondary resources, and links to relevant sites are also included on the country pages. Regional summaries also exist. This report comprises an overall picture of the background and key findings of the research.

Due to the pluralistic and decentralised nature of extension systems today, as well as the fact that the researchers were not working directly in-country, there were a lot of problems with lack of response or only partially filled questionnaires. In addition, some of the managers complained about the length of the questionnaire which filling in is time consuming for them. Thus there are large gaps in the knowledge, and the figures change constantly. Thus GFRAS has made it possible for registered users to update and change the data. However, this is user-led since there are no resources to constantly update the database.

Finally, an online directory of extension providers was produced from the responses. This provides names of organisations providing extension service providers, contact information, and a short description of the organisation. The directory and the entire collection of information gathered through the study is searchable can be updated by users, as it goes out of date so quickly.

The rest of the report summarises the findings at regional and country level.

Status of Asian Countries: <http://www.worldwide-extension.org/asia>

Countries in Asia, particularly Eastern, South-eastern, and Southern Asia have the largest extension systems in the world. For example, China has more than 610,000 extension workers, India has more than 90,000 extension workers, and Indonesia has nearly 54,000 extension workers. However, smaller countries such as Pakistan and Thailand still have similar ratios of extension workers, given the number of farmers in each country.

The **East Asian** sub-region covers the People's Republic of China, Japan, North Korea (DPRK, Democratic People's Republic of Korea), South Korea (Republic of Korea), Mongolia, and Taiwan. The agricultural extension arrangements in East Asian countries differ significantly. Well-established extension infrastructure exists in Japan, South Korea, and China. A diversity of agricultural extension and advisory services in East Asia is seen in China (with a public-private partnership), Japan, and the pluralistic extension systems in South Korea and Taiwan.

Asia's **South-eastern** sub-region covers eleven countries, including Brunei Darussalam, Cambodia, Indonesia, the Lao People's Democratic Republic, Malaysia, Myanmar, Philippines, Singapore, Thailand, Timor-Leste, and Vietnam. The South-eastern Asian sub-region, along with East and South Asia, now accounts for the major share of world economic outputs and

economic growth. South-eastern Asia's eleven countries are generally divided into "mainland" and "island" zones. The mainland countries (Myanmar, Thailand, Laos, Cambodia, and Vietnam) are actually an extension of the Asian continent. Island or maritime Southeast Asia countries include Malaysia, Singapore, Indonesia, the Philippines, Brunei, and the new nation of Timor Leste (formerly part of Indonesia).

The **South Asia** sub-region covers nine countries, including: Afghanistan, Bangladesh, Bhutan, India, Iran, Maldives, Nepal, Pakistan, and Sri Lanka. However, these South Asian countries are in flux. Extension in these countries is still largely run by the public sector ministries. However, Bangladesh and India have developed a highly pluralistic extension system, and India also has a decentralized, collaborative arrangement between the national government and the state governments regarding public extension services. See:

<http://www.g-fras.org/en/world-wide-extension-study/asia/southern-asia>.

At the same time, there are numerous non-governmental organizations (NGOs) and private entities providing advisory services to farmers in India via various means, including ICTs. Iran appears to be in the midst of moving toward a privatized extension arrangement. Pakistan, while primarily public sector oriented, includes private sector companies that provide specialised commodity extension delivery services. The private sector in Sri Lanka also appears to be developing extension activities, but there is still a public extension system (e.g. there are 263 public extension workers in the north-western province). With the influx of NGOs and private companies, countries in South Asia are gradually moving toward pluralistic extension systems.

The **Central Asia** sub-region covers Kazakhstan, Kyrgyzstan, Tajikistan, Turkmenistan, and Uzbekistan. Since independence from the Soviet Union, the countries in Central Asia have undergone major transitions from being centrally planned economies to more market-oriented systems. The agricultural extension systems in Central Asia are a mix, including a public-private partnership in Turkmenistan, a public-private parastatal arrangement in Kazakhstan, and more pluralistic arrangements in Kyrgyzstan and Tajikistan. Donor- and state-driven initiatives have helped to vitalize these agricultural extension systems, but there are informal linkages with NGOs, as well as organisations providing elements of extension services despite major gaps in infrastructure, institutional arrangements, and availability of extension materials. See: <http://www.g-fras.org/en/world-wide-extension-study/asia/central-asia>.

West Asia comprises 18 countries: Armenia, Azerbaijan, Bahrain, Cyprus, Georgia, Iraq, Israel, Jordan, Kuwait, Lebanon, Oman, Palestine, Qatar, Saudi Arabia, Syrian Arab Republic, Turkey, United Arab Emirates, and Yemen. Due to conflicts in the West Asia sub-region, there is little or no information on these extension and advisory services in some countries. The public section is still the dominant provider of agricultural extension and rural advisory services in nearly half of these countries in the West Asia sub-region; otherwise there exists a mix of trends in providing

agricultural and rural advisory services. See: <http://www.g-fras.org/en/world-wide-extension-study/asia/western-asia>.

Azerbaijan's arrangement appears to depend primarily on two major NGOs, while Georgia and Jordan have more pluralistic extension arrangements, with Georgia's public sector providing extension through various ministries and several semi-governmental organizations. Israel's agricultural sector is based almost entirely on research and development, with about 150 extension specialists cooperating between farmers and researchers. Jordan's agricultural extension activity is being carried out under the auspices of the Ministry of Agriculture through a public institution (NCARE), but it only has about 84 extension staff. This is supplemented by the private sector, input supply dealers, NGOs, and farmer organisations. At present, due of civil strife, Bahrain, Iraq, and Syria lack detailed information on their agricultural extension activities.

Status of African Countries: <http://www.worldwide-extension.org/africa>

Eastern Africa is a vast and complex area, variably defined by geography or geopolitics. In the UN scheme of geographic regions, 19 countries constitute Eastern Africa (see <http://www.g-fras.org/en/world-wide-extension-study/africa/eastern-africa>):

- Tanzania, Kenya, Uganda, Rwanda, and Burundi. Kenya has the largest extension system within the East African Community followed by Rwanda. Not much information is available about the number of staff in Tanzania (one report shows 74 extension workers at the Temeke Municipal Center), Burundi, and Uganda.
- Djibouti, Eritrea, Ethiopia, and Somalia (which includes *Somaliland*) are collectively known as the Horn of Africa. Ethiopia has the largest extension system in Africa, with around 50,000 development assistants at farmer training centers at the *kebele* (lowest administrative) level (Davis et al. 2010).
- Mozambique and Madagascar are often considered part of Southern Africa. However, Madagascar has close cultural ties to Southeast Asia and the islands of the Indian Ocean.
- Malawi, Zambia, and Zimbabwe are often included in Southern Africa, and formerly the Central African Federation. In Malawi, there are numerous NGOs that use public extension staff at the local level, providing some funds, but public extension takes little or no credit for these services.
- Comoros, Mauritius, and Seychelles are small island nations in the Indian Ocean, but no information is available about the number of their extension workers.
- Réunion and Mayotte are French overseas territories also in the Indian Ocean and no information is available about their number of extension workers.

While different strategies exist to transform national agricultural extension and advisory systems (Swanson & Rajalahti 2010), one issue is the lack of clear and legal policies adopted by nation

states toward extension system development and reform. In the East Africa sub-region, various efforts to reform extension have been tried, including a variety of privatization reforms; yet full disclosure as to government policies is often lacking. Indeed, a nagging problem throughout the study is that of incomplete or spotty data.

Central African sub-regional countries appear to have developed or be moving toward pluralistic agricultural extension systems. These countries include: Cameroon, Central African Republic, Chad, Democratic Republic of Congo, Equatorial Guinea, Gabon, Republic of Congo, and Sao Tome and Principe. The strength of the linkages between the various actors, as well as their approaches for extension services varies by country. A notable trend is the increased provision of extension services through more commercialized farmer organizations. Most central African countries have employed the farmer field school (FFS) model in advancing a “demand-driven” agricultural extension system. See <http://www.g-fras.org/en/world-wide-extension-study/africa/central-africa>.

Southern Africa comprises 5 key countries (Botswana, Lesotho, Namibia, South Africa, and Swaziland). The sub-region is experimenting with various extension models and approaches. For example, the public extension model that was started by colonial governments moved into commodity extension, Training and Visit (T&V) extension, and the Farmer Field School (FFS) approach. In Botswana, Lesotho, and South Africa, the dominant supplier of extension information and training is a government ministry, but there is a move toward a more pluralistic approach for extension services. In Lesotho, one of the government’s key strategies in developing agriculture is to strengthen and decentralize extension and advisory services, targeting both commercial and small-holder farmers. Based on similar extension initiatives in Zambia and Malawi, as well as in pilot areas within Lesotho, it is expected that farmer associations will effectively support resource-poor farmers. Namibia’s system is a ministry-based pluralistic system, but includes FFS programs. See <http://www.g-fras.org/en/world-wide-extension-study/africa/southern-africa>.

In **West Africa**, as well as in other parts of Sub-Saharan Africa, agriculture is divided between commercial and resource poor farmers. The corporate private sector works almost entirely with commercial farmers, while farmer organizations, NGOs and FFS programmes tend to target the small, resource poor farmers. In the ministry-led systems, participatory extension is gradually being developed and in some cases becoming demand-led through the use of new market information systems. The *Réseau des Organisations Paysannes et de Producteurs de l’Afrique de l’Ouest (ROPPA)*, created in 2000, brings together 12 farmer organizations from 12 of the 16 countries in the West Africa sub-region. ROPPA aims to strengthen the capacity of national farmer organizations in preparing their national policies and in implementing their agricultural programs (SFOAP 2012). <http://www.g-fras.org/en/world-wide-extension-study/africa/western-africa>.

West Africa has several regional Integrated Production Pest Management (IPPM) programs including an on-going three-country IPPM program in Senegal, Mali and Burkina Faso since 2001, with expanded activities to include Cape Verde and Benin. An Integrated Crop Pest Management (ICPM)-FFS program is also present in Ivory Coast, Ghana, Nigeria, Sierra Leone and Cameroon. A regional project for cowpea technology transfer utilizes extension staff in Benin, Burkina Faso, Ghana, Mali, Niger, Nigeria, and Senegal, with a second phase targeting fewer countries (Benin, Burkina Faso, Mali, Niger, and Nigeria). Liberia had about 134 extension workers in 2011, but only 20 were deployed outside of Monrovia.

FAO was assisted by the former Danish Agricultural Advisory Services and CIRAD in collecting some of the data between 2009 and 2011. In French-speaking West Africa, a total of 781 organizations were identified as potentially involved in extension and agricultural support services providers. Fifty-three percent (essentially those that had functional mail addresses) of such organizations received the questionnaire. Fifty-one organizations (15% of those approached) completed the questionnaire. The questionnaire was sent as many as four times to non-responding organizations. There was a high variation in response rates between countries. The highest response rates were observed in the countries where CIRAD had well-established connections with networks of local partners.

The public sector is the dominant provider of rural advisory services in the **North African** sub-region, including Western Sahara, Morocco, Algeria, Tunisia, Libya, Egypt, and the Republic of the Sudan. Agricultural extension is often carried out by one or more public sector ministries. Except in cases of major mono-cropping development, the majority of farmers tend to be small subsistence farmers. Women farmers are primarily responsible for food crops. Pluralism is at a minimum except for export companies that handle cash crops. Private companies play an important role in the high potential areas producing fruit and vegetables, as well as other cash crops, such as cotton. Research and educational institutions generally support extension, but there are few, if any, indications as to linkages among these institutions and extension activities. Several countries situated in the North African sub-region are experiencing various degrees of political unrest at the time of this writing, including major revolutions in Tunisia, Libya, and Egypt; significant protests in Algeria and Morocco; and minor protests in Western Sahara. See <http://www.g-fras.org/en/world-wide-extension-study/africa/northern-africa>.

Status of Central and South American Countries and the Caribbean:
<http://www.worldwide-extension.org/the-americas>

With respect to the Latin American and Caribbean countries, IICA is an excellent source of background information. One of IICA's objectives is to improve research, innovation, and technology transfer/extension for competitive and sustainable agriculture (IICA 2010a). IICA also has a Distance Education Center (CECADI) that provides services to build 'learning webs' in its member countries. These services include videoconferencing; development of multimedia



products for education, training, and information; and online courses through the Interactive Virtual Environment for Agriculture ([e-VIDA](#)) online platform (IICA 2012a). The e-VIDA platform includes courses on Best Agricultural Practices, Knowledge Management, and Information Strategies for Agriculture.

At the Meeting of Ministers of Agriculture of the Americas in 2011 in San José, Costa Rica, it was agreed that training and extension services are a key component of agricultural innovation; this resulted in a commitment to 'promote direct and sustained investment in the generation of new knowledge and strengthening of the extension systems to assure the transmission of these through innovative methodologies' (Junta Interamericana de Agricultura – JIA 2011:2, 5). Agricultural extension, hence, resurfaces in Latin America with what Alarcón (2009) referred to as 'multiple vision'—a vision framed in the concept of innovation.

The small islands in the **Caribbean** have maintained their extension workers, but the numbers of extension workers are still very small. The Caribbean islands include thirteen countries: Antigua and Barbuda, Bahamas, Barbados, Cuba, Dominica, Dominican Republic, Grenada, Haiti, Jamaica, Saint Kitts and Nevis, Saint Lucia, Saint Vincent and the Grenadines, and Trinidad and Tobago.

Extension in the Caribbean remains dominated by the public sector, although commercial companies operate in the islands with commercial agriculture and fisheries. Public extension systems in the Caribbean nations have yet to pursue the range of different extension models, as seen elsewhere globally. Institutional reforms are lacking, such as enhanced client orientation and participation; decentralization of service delivery; outsourcing of service delivery; and co-financing of services by direct beneficiaries. There are, nonetheless, hints of reform and development in a few of the Caribbean countries. See <http://www.g-fras.org/en/world-wide-extension-study/central-america-and-the-caribbean/caribbean>. The newly-established Caribbean Agricultural Extension Providers Network (CAEPNet) was launched at the 2013 Caribbean Week of Agriculture and promises to bring more attention to these vital services.

The Central and South American countries largely got out of public extension in the early 1990s. However, a number are now resuming public extension, including Brazil, Argentina, Chile, and Uruguay.

Agricultural extension systems in **Central America** are in a process of change. At present, Central America is a mix of pluralistic extension systems, with El Salvador, Guatemala, and Honduras being somewhat pluralistic. Public-private partnership arrangements exist in Belize, Costa Rica (see <http://www.mag.go.cr/>), and Mexico. The public sector is dominant in Nicaragua and Panama. Swanson (2008) suggests that agricultural technology will increasingly be developed and run by private-sector companies; and, as a result, the process of technology

transfer will be increasingly privatised and handled by private-sector firms. Despite the continued dominance of public sector extension provision in some Central American countries, the present summary tends to confirm this move, albeit gradually, toward public-private and pluralistic rural advisory services. See <http://www.g-fras.org/en/world-wide-extension-study/central-america-and-the-caribbean/central-america>.

The **South American** sub-region includes 13 countries: Argentina, Bolivia, Brazil, Chile, Colombia, Ecuador, French Guiana, Guyana, Paraguay, Peru, Suriname, Uruguay, and Venezuela. South America is characterized by its extensive heterogeneity at the regional level and eco-regional level, both between and within the countries. Its temperate and tropical zones provide an increased capacity for the production of traditional and diversified foods and products but, at the same time, demand differentiated strategies and programs (Alarcón and Ruz 2011). The following summary provides a description of the agricultural extension stakeholders in each of the South American countries, as well as a summary of the emerging trends for the sub-region: <http://www.g-fras.org/en/world-wide-extension-study/south-america/south-america/>.

Stakeholders in the agricultural extension systems of South America include various transnational initiatives and organizations. Countries in the Southern Cone—Argentina, Bolivia, Brazil, Chile, Paraguay, and Uruguay—are part of the Cooperative Program for the Development of Agricultural Technology in the Southern Cone ([PROCISUR](http://www.procisur.org)), which promotes collaboration between the national agricultural research institutes of each country, with the Inter-American Institute for Cooperation on Agriculture (IICA; see: <http://www.iica.int/Eng/Pages/default.aspx>) and other science, technology, and innovation actors at the international level.

In 2011, there were about 183 field extension agents in Uruguay and about 118 extension workers in Venezuela. This collaboration includes the transfer of institutional and technological capacities to promote the integration and the sustainable development of family agriculture (IICA 2010a).

Status of the European Countries: <http://www.worldwide-extension.org/europe>

The **Eastern Europe** sub-region comprises 10 countries: Belarus, Bulgaria, Czech Republic, Hungary, Moldova, Poland, Romania, Russian Federation, Slovakia, and Ukraine. A lack of information precludes complete review of the agricultural advisory and extension services in Eastern Europe. Pluralistic agricultural advisory systems appear to be in progress, but the dominant provider of extension services in most of the Eastern European countries remains public sector ministry departments and centres. Belarus, Moldova, Poland, Romania, and Ukraine show trends toward pluralistic extension systems. See <http://www.g-fras.org/en/world-wide-extension-study/europe/eastern-europe>.

Poland is a leading agricultural nation in Eastern Europe, and has access to many sources—public and private—of knowledge, information, and advice. NGOs and farmer organizations operate in Belarus and Moldova. A private company in Ukraine supplements government services through a farmer-to-farmer program. Otherwise, in the majority of Eastern European countries agricultural advisory services are provided by public institutions. Throughout this review of the Eastern Europe sub-region there was little mention of ICT; however, Poland and the Czech Republic referenced the internet as providing access to information.

The **Northern Europe** sub-region comprises of 8 countries, including Denmark, Estonia, Finland, Iceland, Latvia, Lithuania, Norway, and Sweden. See <http://www.g-fras.org/en/world-wide-extension-study/europe/northern-europe>.

The **Southern Europe** sub-region comprises 12 countries: Albania, Bosnia and Herzegovina, Croatia, Cyprus, Greece, Macedonia, Malta, Montenegro, Portugal, Serbia, Slovenia, and Spain. Not many extension workers were reported for Southern Europe. For more information see <http://www.g-fras.org/en/world-wide-extension-study/europe/southern-europe>.

The **Western European** sub-region comprises 10 countries: Austria, France, Germany, Ireland, Italy, Liechtenstein, Luxembourg, Netherlands, Switzerland, and the United Kingdom (UK). The Netherlands and the UK have no public extension staff. For more information see <http://www.g-fras.org/en/world-wide-extension-study/europe/western-europe>.

Status of North American Countries: <http://www.g-fras.org/en/world-wide-extension-study/120-world-wide-extension-study/north-america/>

North America comprises Canada and the United States. Extension in Canada is focused on youth development, and the country has a 4-H Council that seeks to train rural youth and young farmers about how to successfully manage farms, including the development of value-chains. See more information on the Agriculture and Agri-Food Canada website: http://www.agr.gc.ca/index_e.php.

In the United States, extension concentrates on youth development through 4-H, agriculture, leadership development, natural resources, family and consumer sciences, and economic development. However, in terms of agriculture, there is a great expansion in (often university-based) internet information. Most farmers, while purchasing from input supply dealers, get very accurate, detailed information from the internet.

Status of the Oceania Countries: <http://www.worldwide-extension.org/oceania>

There are two major countries in Oceania (Australia and New Zealand), plus 13 other small countries, including the Cook Islands, Fiji, Kiribati, the Marshall Islands, Micronesia, Nauru Niue,

Republic of Palau, Papua New Guinea, Samoa, Solomon Islands, Tonga, Tuvalu, and Vanuatu. In most of these countries, there is no information about the number of public extension officers and workers who are operating in these countries. For more information see: <http://www.apen.org.au/> and <http://www.spc.int/lrd/pien>.

Number of reported extension agents by country between 2009 and 2012 (public unless otherwise stated)

Country	Number
Afghanistan	600
Algeria	798
Argentina	1,500
Austria	402
Bahamas	10
Bangladesh	13,905
Barbados	6
Belize	40
Bhutan	500
Brazil	24,000
Bulgaria	141
Cambodia	1,302
Cameroon	192
Chile	215
Colombia	1,082
Costa Rica	500
Denmark	3,198
Dominican Republic	913
DR Congo	472
Ecuador	958
Egypt	7,421
Estonia	144
Ethiopia	45,812
Ghana	1,244
Greece (Directorate of Agricultural Extension (not including regional staff))	17
Guyana	80
Honduras	25
India	90,000
Indonesia	53,944
Iran	6,497
Israel	150
Jamaica	231
Japan	7,172
Jordan	84
Kazakhstan	55
Kenya	5,470
Laos 752 or 962	752
Latvia	300
Lebanon	67
Liberia	134
Lithuania	307

Country	Number
Macedonia	130
Malawi	2,175
Malaysia	1,355
Mexico	5,836
Moldova	900
Mongolia	1,100
Mozambique	748
Myanmar (10,947)	4,554
Nepal	2,606
Nigeria	449
Norway	267
Pakistan	19,000
Paraguay (permanent & contracted)	677
People's Republic of China	617,706
Philippines	25,000
Poland	3,800
Republic of the Sudan	656
Romania Russian Federation	860
Rwanda	1,244
Saint Kitts and Nevis	24
Saint Lucia	54
Saint Vincent and the Grenadines	24
Sierra Leone	708
South Africa	2,210
South Korea (Republic of Korea)	4,584
Sri Lanka	583
Switzerland	104
Syria	12,000
Tajikistan (at the <i>Jamoat</i> level)	420
Thailand	16,986
Timor Leste	452
Trinidad and Tobago	100
Tunisia	854
Turkey (public & private)	14,644
United Kingdom (private sector advisors)	19
United States	2,900
Uruguay	183
Venezuela	118
Vietnam	34,747
Yemen	1,210
Zambia	742
Zimbabwe	6,159
Total	1,059,528

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