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## The New Extensionist: Roles and Capabilities to Strengthen Extension and Advisory Services

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### Abstract

Extension and advisory services (EAS) perform an important role in agricultural development and help reduce hunger and poverty. Development efforts are increasingly complicated because of challenges such as natural resource depletion and climate change. Agricultural development frameworks have moved from a linear to a more complex systems perspective. Many scholars today use the agricultural innovation systems (AIS) framework as a conceptual model. This framework has three basic elements: all of the actors in the system that brings about agricultural innovation, their interactions, and the institutions and policies governing their interactions. Taking this approach while dealing with the challenges of development today implies new roles and capacities for extension. The authors discuss these new roles and capacities based on an action inquiry process of global dialog and consensus building, to present a vision for EAS within AIS, called the new extensionist (Sulaiman & Davis, 2012). The authors explore individual roles and capacities, and also those at the organizational and system level (Sulaiman & Davis, 2012). The authors discuss the importance of agricultural education in developing these roles and capacities, and bringing more knowledge to bear on the issue.

### Keywords

Agricultural Innovation System, Capacity-building, Curriculum, Development

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## **The New Extensionist: Roles and Capacities to Strengthen Extension and Advisory Services**

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### **Abstract**

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**Keywords:** Agricultural Innovation System, Capacity-building, Curriculum, Development

## Introduction

Extension and advisory services (EAS) perform an important role in agricultural development and help to reduce hunger and poverty (Davis, 2008; Sulaiman & Holt, 2002). These services need new capacities to address current agricultural challenges and to better contribute to innovation (Sulaiman & Davis, 2012). Their role in doing so within the larger agricultural innovation system needs to be understood better.

Agricultural development frameworks have moved from a linear to a systems perspective. Many extension scholars today are using the agricultural innovation systems (AIS) framework as a conceptual model (Davis & Heemskerk, 2012; Klerkx, Hall, & Leeuwis, 2009). This framework considers all of the actors in the system, their interactions, and the institutions and policies governing their interactions in the process of innovation development (Spielman, 2005).

Other authors described important changes in extension related to these broader development frameworks. Swanson and Rajalahti (2010) described the different paradigms in extension from technology transfer to facilitation extension. Swanson (2010) and Rivera (2009) described the roles and changes resulting from pluralistic (multi-provider) and market-oriented extension reforms.

Taking these changes in development thinking and extension approaches into account implies new capacities and roles for extension. This is because extension has the potential to perform critical brokering, intermediation, and facilitation roles within the system: between different service providers and between farmers, researchers, policymakers, and market actors.

The authors present the process conducted at a global level in response to demands from regional extension networks to articulate a new view of EAS within AIS, the *new extensionist*. The authors discuss the content of the *new extensionist*

and make recommendations to agricultural extension and education on how to use this vision to improve EAS globally. They recommend adaptations at the national and local level to sustain and up-scale the *new extensionist* approach and accompanying capacity strengthening activities.

The Global Forum for Rural Advisory Services (GFRAS) initiated the *new extensionist* concept to clarify and promote the importance of EAS within rural development, keeping in view the new challenges faced by farmers and the fresh insights from applying innovation systems concepts in agricultural development. GFRAS did so as part of the Global Conference on Agricultural Research for Development (GCARD). The GCARD produced a roadmap that emphasized “actions to enhance capacities to generate, share, and make use of agricultural knowledge for development” among all actors involved in agricultural innovation” (FAO, 2011, p. 5).

The *new extensionist* concept is a global view of EAS that “reinvents and clearly articulates the role of EAS in the rapidly-changing rural and agricultural context” (Davis & Sulaiman, 2013, p. 2). It argues for an expanded role of EAS within AIS and the development of new capacities at different levels to play this role. The *new extensionist* defines EAS as all the different activities that provide the information and services needed and demanded by farmers and other actors in rural settings to “assist them to develop their own technical, organizational, and management skills and practices” so as to improve their livelihoods and well-being (Christoplos, 2010, p. 3). EAS includes actors from the public, private, and civil society sectors.

While the *new extensionist* concept is not necessarily new with regard to the competencies that individuals need, the expanded role of EAS in the AIS is novel, as is the focus on organizational and system-level capacities (Davis & Sulaiman, 2013). The *new extensionist*

vision implies changes in EAS organizations and systems, as well as the reskilling of individuals to contribute better to “increasing the productivity and effectiveness of agricultural systems to improve the livelihoods of smallholder farmers” (Davis & Sulaiman, 2013, p. 2). According to Sulaiman and Davis (2012, p. 16), when new capacity strengthening approaches are introduced, “sustainability issues should be considered early” on, and “project design should be founded on a realistic assessment” of resources to sustain them. Sustainability is also “dependent on institutional, cultural, and motivational factors” (Sulaiman & Davis, 2012, p. 16).

### **Conceptual Framework**

As mentioned, the *new extensionist* paper was developed by the Global Forum for Rural Advisory Services based on the AIS framework. It also uses the capacity development framework of the Food and Agriculture Organization (FAO).

Development scholars and practitioners increasingly recognize the AIS concept as a useful framework to design projects and other interventions to promote agricultural innovation and equitable growth (World Bank, 2012). Key actors in the AIS include agricultural research, extension, and education (see Figure 1). However, their role varies according to physical and socio-economic contexts. The AIS approach also considers farmers, the private sector, policy-making institutions, and other actors that contribute to innovation. Applying the innovation systems framework in different settings provides insights on innovation processes and helps to explore potential roles for extension in the AIS (Davis & Heemskerk, 2012; Rivera & Sulaiman, 2009; Sulaiman & Hall, 2002). The added value of the AIS framework for extension is that it helps users to see the role and organization of extension in relation to the “actors, processes, institutions, and

policies that are critical for innovation” (Sulaiman & Davis, 2012, p. 4).

Research insights from the application of AIS show that “EAS can better contribute to the process of innovation if they could play new roles, undertake new functions, devise appropriate strategies, and build new capacities” (Sulaiman & Davis, 2012, p. 4). Research also shows that, the traditional task of communicating new knowledge and information just by public extension is not enough to stimulate innovation (Leeuwis & van den Ban 2004; Spielman, 2005; Sulaiman, Hall, Kalaivani, Dorai, & Reddy, 2012). Actors in the AIS have to perform many other supportive roles to enable innovation.

The FAO has a corporate strategy on capacity development that guides thinking about capacity development in EAS (see Figure 2). The strategy shows capacity development as functional and technical requirements across three levels: individual, organizational, and an enabling environment (or system) level.

The individual level “relates to knowledge, skills (technical and managerial), and attitudes that can be addressed through facilitation, training, and competency development” (FAO, 2010, p. 4).

The organizational level “relates to public, private, and civil society organizations and networks of organizations in terms of a) strategic management functions, structures, and relationships; b) operational capacity (relationships, processes, systems, procedures, sanctions, incentives, and values); c) human and financial resources (policies, deployment, and performance); d) knowledge and information resources; and e) infrastructure” (FAO, 2010, p. 4).

The enabling environment (system) level “relates to political commitment and vision; policy, legal, and regulatory and economic frameworks; national public sector budget allocations and processes; governance and power structures;

infrastructure; incentives; and social norms” (FAO, 2010, p. 4).

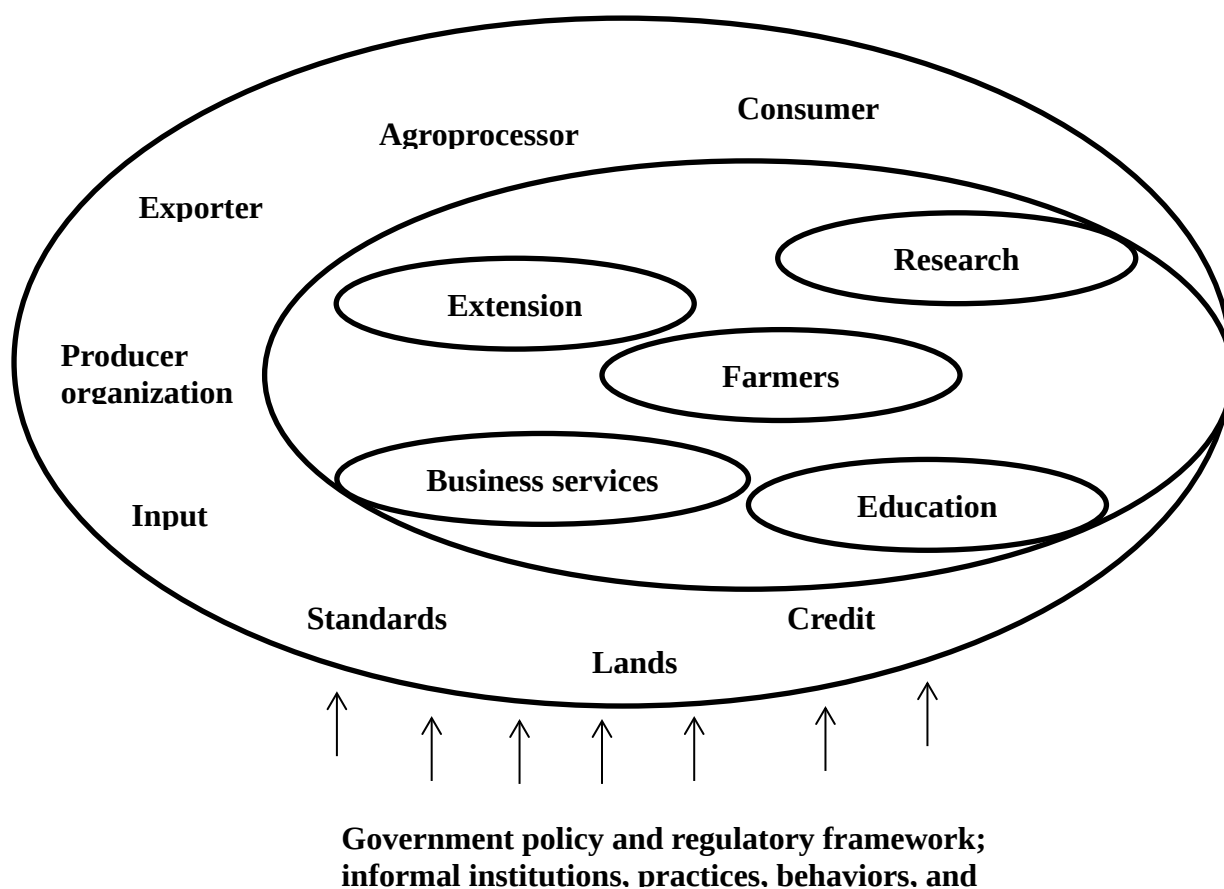


Figure 1. A stylized agricultural innovation system. Adapted from R., Birner, K. Davis, J. Pender, E. Nkonya, P. Anandajayasekerem, Ekboir, J., . . . Cohen, M., 2006, Development Strategy and Governance Division Discussion Paper 37, p. 22.

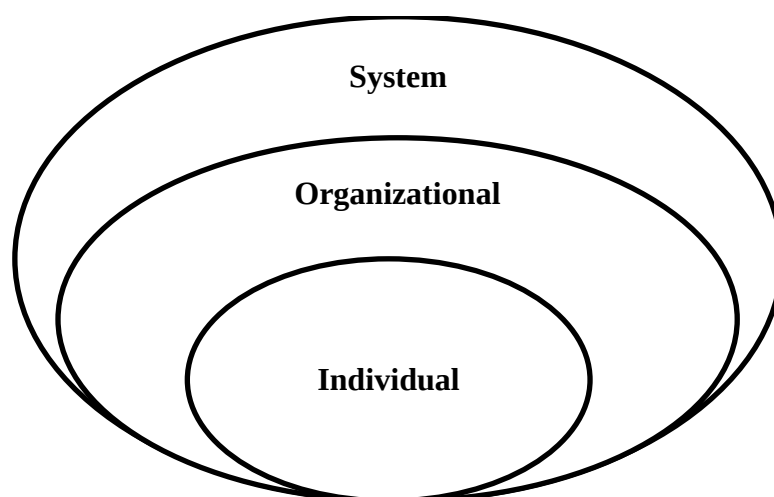


Figure 2. Capacity levels (FAO, 2010).

EAS also need capacities at these different levels if they are to play new and

more effective roles within the AIS. Research by Swanson (2006) shows the

importance of adjusting national strategies due to the changing role of extension today. Specifically, Swanson suggests a change of focus from food security to income and employment, organizing farmers into groups to better reach them, and decentralizing extension for better accountability (Swanson, 2006, p. 6). These strategies all require capacity at all these levels.

### **Development of the *New Extensionist* Concept**

#### **Design**

The research design was based on a form of action inquiry using contemporary dialog and survey methodology to find consensus on the *new extensionist* concept. Action inquiry, which involves iterative reflection by practitioners and scholars, is based on the work of Lewis (1946) and has been used in educational research (McKernan, 1991). According to Spielman, (2005), “action research has been a fundamental tool in identifying agricultural innovation systems approaches in developing countries and establishing ‘proof of concept’” (p. 35). Similarly, action inquiry was used to find consensus

and establish proof of concept for the *new extensionist*.

#### **Position Paper**

Based on a literature review, a position paper (Sulaiman & Davis, 2012) was developed in 2012 (see Figure 3) detailing the role of advisory services; the need for enhanced capacities for EAS at individual, organizational, and system levels; existing capacity constraints at national, regional, and global levels; and recommendations to strengthen the capacities and role of EAS.

The position paper stated that EAS collectively performs wide range of roles, including developing networks, organizing producers, facilitating access to credit, input and output services, convening innovation platforms, facilitating knowledge management, promoting gender equality, supporting adaptation to climate change, and disseminating new knowledge through training and demonstrations (Sulaiman & Davis, 2012).

Regarding capacities, the paper stated that at the individual level, EAS need staff with an understanding of technical knowledge plus skills to manage social processes. Table 1 details the capacities required for individuals staffing EAS.

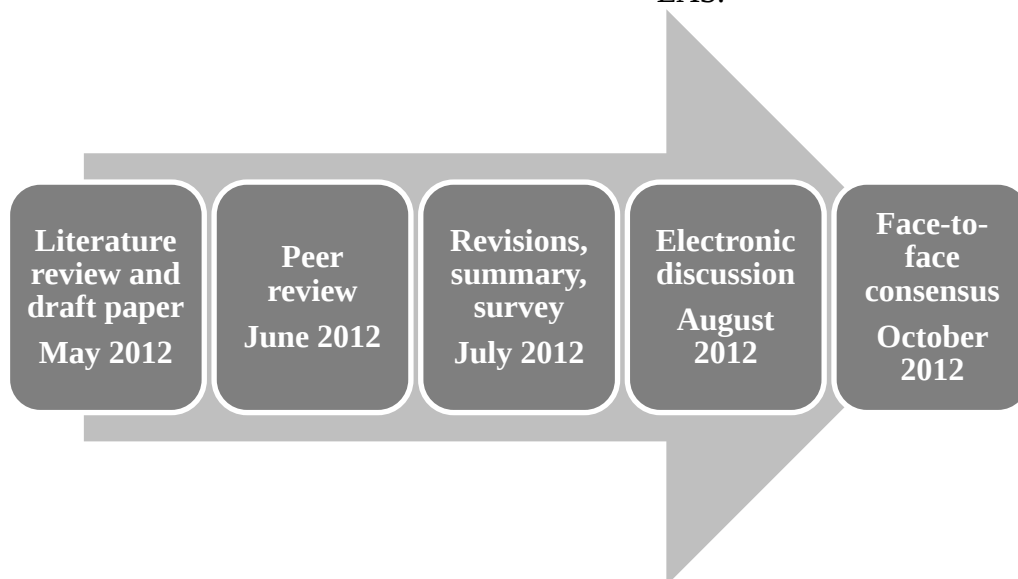


Figure 3. Timeline of the development of the “new extensionist” concept.

Table 1

*Capacities Required at the Individual Level in EAS*

| Technical                                                                                                                                                                                                                                                                                                                                                                                                                                         | Functional                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Good understanding of appropriate/relevant/new technologies/practices/ standards/regulations/ policies in agriculture and natural resource management<br>Technical options to support climate change adaptation; agribusiness; value addition and value chain development; improving resource use efficiency; application of biotechnology; intellectual property and farmer rights; use of new information and communication technologies (ICTs) | Community mobilization (organizing producers and rural women into different types of interest/activity groups)<br>Farmer organization development (organizing, sustaining, and federating farmer organizations to take up new extension and advisory service tasks in agriculture and linking them to new source of knowledge and services)<br>Facilitation (facilitating discussions, enabling consensus building and joint action, accompanying multi-stakeholder processes)<br>Coaching (guided self-reflection and expert advice for improvement)<br>Reflective learning (organizing experience-sharing workshops and facilitating learning)<br>Mediating in conflicts (by improving dialogue and helping to reach agreement)<br>Negotiating (helping to reach a satisfactory compromise or agreement between individuals or groups and developing negotiating capacity among other stakeholders)<br>Brokering (creating multi-directional relationships among the wide range of actors)<br>Networking and partnership development<br>Advocating for changes in policies and institutions<br>Leadership (capacity to inspire and motivate)<br>Managing resources (human and financial)<br>Critical thinking<br>Problem solving<br>Self-reflection and learning from mistakes<br>Service mindedness<br>Accountability<br>Responsibility<br>Dedication/commitment<br>Working in multi-organizational and multi-sectorial teams<br>Working with rural women and using gender sensitive extension approaches |

**Note.** Adapted from R. V. Sulaiman and K. Davis, 2012, *The new extensionist: Roles, strategies, and capacities to strengthen extension and advisory services*, p. 8. Adapted with permission.

At the organizational level, EAS need capacities manage human and financial resources, facilitate partnerships and

learning, and mechanisms to deal with institutional, legal, and regulatory issues (Sulaiman & Davis, 2012) (see Table 2).

Table 2

*Capacities Required at the Organizational Level in EAS*

| Broad areas                        | Specific areas to support capacity strengthening                                                                                                                                                                                                                                                                                   |
|------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Strategic management functions     | Leadership (inspiration and motivation), vision building, change management, capacity to respond to emergencies, policy relations, advocacy                                                                                                                                                                                        |
| Structures                         | Ability to structure the organization as different units in the organizational hierarchy and ensure the different units relate and are flexible                                                                                                                                                                                    |
| Relationships                      | Clearly defining authority, roles, and responsibilities and resources among different units within an organization and across organizations within the AIS; building trust; creating time and space for learning from each other                                                                                                   |
| Processes, systems, and procedures | Planning, organizing, leading, and controlling methods used in internal communication, performance assessment, human resource development, financial management, learning, monitoring and evaluation, ensuring accountability to different stakeholders and the range of approaches used to deliver extension and advisory support |
| Values, incentives/rewards         | Integrity, science-based knowledge, inclusion, partnership, learning, mechanisms to reward and incentivize good performance, acceptable standards which govern behavior of individuals in an organization, opportunities for feedback and reflection, reputation                                                                   |
| Human resources                    | Ability to provide adequate number of staff and access to experts in other organizations to complement and supplement its expertise; clear job descriptions, well-defined roles and tasks, career development and incentives, access to new knowledge, mechanisms to mobilize, nurture, and retain human resources                 |

|                                     |                                                                                                                                                                                                                                     |
|-------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Financial resources                 | Ability to provide adequate budget for staff salaries, operational expenses, and investments, and to develop and implement programs benefiting smallholders; or a sustainable business model that keep the organization in business |
| Knowledge and information resources | Knowledge management including relationship management to access skills and knowledge to deal with new challenges and opportunities                                                                                                 |
| Infrastructure                      | Ability to support EAS in terms of mobility, telecommunication, ICT, buildings and training facilities, roads, market infrastructure                                                                                                |

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*Note.* Adapted from *The new extensionist: Roles, strategies, and capacities to strengthen extension and advisory services*, p. 11, by R. V. Sulaiman & K. Davis, Lindau: Global Forum for Rural Advisory Services. 2012. Adapted with permission.

At the system level, capacities for interaction, learning, and adaptation are important. The enabling environment could be influenced by building the capacities detailed in Table 3.

Table 3

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*Capacities at the Enabling Environment Level in EAS*

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Capacity of policy-making bodies to adapt policies based on lessons learned from policy implementation, for reflective learning and adaptive change management

Initiating joint activities and collaboration between organizations in the AIS and the actors of the agricultural sector

Supporting organization of workshops, seminars, joint research, commissioned studies, and joint evaluation that would bring out major areas that need policy attention

Organizing sector coordination mechanisms and multi-stakeholder working groups to develop and manage relationships among multiple actors and collectively develop strategic directions and policies for the sector

Generating adequate data that are required for evidence-based policy advocacy and decision making

Sharing information on the activities of the EAS with farmers and their organizations, researchers, policymakers, and policy-makers (use of websites, policy briefs, social networking sites)

Managing relationships with the media (communication and media management)

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*Note.* Adapted from *The new extensionist: Roles, strategies, and capacities to strengthen extension and advisory services*, p. 11, by R. V. Sulaiman & K. Davis, Lindau: Global Forum for Rural Advisory Services. 2012. Adapted with permission.

A panel of experts from different sectors peer-reviewed the position paper in mid-2012. Following revision, the authors created and sent a two-page summary of

the paper to international agricultural listservs with an invitation to an online survey. The survey consisted of seven questions with Likert-type and yes/no

responses, with the option of providing open-ended responses. More than 200 global respondents took part in the survey in mid-2012, and many joined an ensuing in-depth electronic discussion, which enabled dialogue and consensus on the concepts and recommendations. Finally, the authors presented and affirmed the position paper contents in a face-to-face meeting at the GCARD in October 2012, a global gathering of stakeholders from the entire agricultural sector, including extension.

Following the global conference, GFRAS again revised the paper and thereafter convened a small group of global extension experts in early 2013 to prioritize the *new extensionist* recommendations for different regions. As a result of this meeting, a consortium on extension education and training under GFRAS formed at this meeting, with the purpose of championing, refining, and disseminating the *new extensionist* concept (GFRAS, 2013). The consortium began to exchange and examine extension curricula worldwide, develop a guide on how to identify capacity gaps, and to support the Association for International Agricultural and Extension Education's professional development core group regarding the *new extensionist* concept (AIAEE, 2013).

Survey respondents who reviewed the position paper came predominantly from development agencies, research, education, and public advisory services. Even though they came from all over the world, areas such as Australia and the Caribbean were under-represented. Overall, the response to the position paper was positive and the respondents affirmed the concept and recommendations. Respondents supported the core roles suggested in the paper, except for the suggested role of mediating conflicts. Respondents also considered most of the capacities suggested to fulfill these roles to be essential and in need of further development. Respondents agreed that the paper was useful for raising awareness of

the importance of EAS. On the whole agreement was reached that the recommendations at the three different levels (national, regional, global) were actionable and clear.

Following up on comments from the survey respondents and experts, an electronic discussion debated further on the need to focus on gender issues, the role of private and civil society EAS, and the use of information and communication technologies (ICTs).

In the GCARD meeting at the end of 2012, agricultural development stakeholders met in a session to discuss and affirm the paper's contents. Four main outcomes emerged from that meeting:

1. Participants endorsed the *new extensionist* recommendations for essential capacities to strengthen advisory services;
2. GFRAS regional networks will use the revised *new extensionist* concept to advocate for strengthening knowledge and advisory services;
3. GFRAS will catalyze dialog to prioritize and implement the recommendations to strengthen knowledge and advisory systems; and
4. Key elements included reaching grassroots, women and youth, and adapting ICTs.

Thereafter, global extension experts met in early 2013 to define a plan of priority activities for the next two years that would best contribute to enhancing the capacity of EAS to effectively play their part in AIS as aligned with the GCARD agenda. Participants at the meeting put major focus on education and training as well as other recommended actions (see Table 4). The experts called for research on extension and the promotion of extension science. The group formed a consortium of education and training institutions to conduct research on and curricula reform of extension. Finally, the

participants stated the need to contextualize the recommendations to various regions of the world.

The *new extensionist* concept continues to be taken forward by educators and practitioners. The summary was translated into Arabic and French and used

as a starting point for discussions on how to strengthen extension in some regions of the world. The consortium continues to collect and document curricula and to identify core competencies needed by extension professionals, as well as methodologies to identify capacity gaps.

Table 4

*Priority Actions to Strengthen EAS by Different Regions of the World*

| Action                                                                                                    | Region                                                           |
|-----------------------------------------------------------------------------------------------------------|------------------------------------------------------------------|
| Survey EAS providers, analyze EAS models, conduct research                                                | Africa, Latin America, Pacific, South Asia                       |
| Support establishment of regional networks and synergize their activities                                 | Asia, Caribbean, Latin America, Pacific                          |
| Develop curricula for vocational and continuing education and skill upgrading; regular curricula revision | Africa, Asia, Caribbean, Latin America, North Africa, South Asia |
| Develop policy briefs and position papers to influence policy processes                                   | Asia, Caribbean, Latin America, Pacific                          |

### Recommendations and Conclusions

Much global interest exists surrounding the role of EAS and how to strengthen these institutions to contribute to innovation and reducing hunger and poverty. The use of the AIS framework and the FAO strategy for capacity development help to frame the roles EAS can play and the capacities needed to perform at the individual, organizational, and system levels (see Figure 2). The position paper by GFRAS made 12 recommendations for national-level capacity strengthening, five for the regional level, and seven for the global level. These recommendations also detailed which actors should take lead. Agricultural education and training have a major role, as well as extension scholars and researchers. Five major recommendations relevant for agricultural education and training emerged from the paper:

1. The agricultural education and extension community should

revisit the competencies of individual extension personnel as well as the organizations and systems. We need reformed agricultural education curricula to further strengthen the roles and capacities of extension to better contribute to agricultural development. We must share and examine curricula to see if they are suitable for extension today. We need methodology on how to identify capacity gaps at the individual, organizational, and system level.

2. Along with revised curricula, the international agricultural extension community should develop delivery mechanisms to support the expanded role of EAS. This includes developing improved and targeted curricula (pre- and in-service) for extension and rural advisory services and creating demand-driven courses by local or

regional entities with strong support from international and regional networks and partners. We should create and promote a certification model, in consultation with regional employers and educators, which links modules and curricula to skills required for employment.

3. Extension scholars and research institutes should conduct research on extension and its role within the AIS. We need research on many fronts, but specific recommendations from this paper are to better understand the contribution of extension to agricultural innovation and on the capacities needed for effective performance of extension as a system. We must promote extension science that is recognized as a valid and evolving discipline.
4. Regional and national extension and education institutions should prioritize and adapt the *new extensionist* recommendations to their specific realities, that is, be contextualized, before being up-scaled and out-scaled. The *new extensionist* position paper is rather generic, and although it makes recommendations for national and regional levels, these recommendations must be examined and implemented for the specific needs of different regions and countries.
5. Finally, extension educators and professionals around the world need to advocate the *new extensionist* principles within their regions and with the wider development community, to promote the important role that EAS play in rural development.

EAS have a critical role to play in development today. Much work is needed

to retool the community to adequately address the new and evolving challenges. Interested professionals from extension education are welcome to engage with the GFRAS consortium on extension education and training to conduct research on extension education, reform curricula, and share knowledge with one another. GFRAS is also keen to work with the regional EAS networks and country chapters; national governments, and donors to support changes at the organizational and enabling environment levels as recommended in this paper. Without fundamental changes in the conceptual and operational dimensions of EAS, its ability to address the new and evolving challenges in promoting agricultural innovation will be compromised. The *new extensionist* offers an opportunity for EAS to reform itself and remain relevant in the days to come.

## References

- Association for International Agricultural and Extension Education. (2013). *AIAEE professional development core group*. Retrieved from <https://www.aiaee.org/professional-development.html>
- Birner, R., Davis, K., Pender, J., Nkonya, E., Anandajayasekerem, P., Ekboir, J., . . . Cohen, M. (2006). From “best practice” to “best fit”: A framework for analyzing pluralistic extension services worldwide. Development Strategy and Governance Division Discussion Paper 37. Washington, DC: International Food Policy Research Institute.
- Christoplos, I. (2010) *Mobilizing the potential of rural and agricultural extension*. Rome, Italy: Food and Agriculture Organization of the United Nations and the Global Forum for Rural Advisory Services.

- Davis, K. (2008). Extension in sub-Saharan Africa: Overview and assessment of past and current models and future prospects. *Journal of International Agricultural and Extension Education* 15(3), 15-28. doi: 10.5191/jiaee.2008.15302
- Davis, K., & Heemskerk, W. (2012). *Investment in extension and advisory services as part of agricultural innovation systems*. Module 3 of Agricultural Innovation Systems: An Investment Sourcebook. Washington, DC: The World Bank. Retrieved from [http://siteresources.worldbank.org/INTARD/Resources/335807-1330620492317/9780821386842\\_ch3.pdf](http://siteresources.worldbank.org/INTARD/Resources/335807-1330620492317/9780821386842_ch3.pdf)
- Food and Agriculture Organization. (2010). *Corporate strategy on capacity development*. Rome, Italy: Author.
- Food and Agriculture Organization. (2011). *The GCARD road map: Transforming agricultural research for development (AR4D) systems for global impact*. Rome, Italy: Author.
- Global Forum for Rural Advisory Services. (2013). *Introduction: Consortium on extension and advisory services*. Pretoria, South Africa: Author.
- Hall, A., Sulaiman R.V., Clark, N., & Yoganand, B. (2003). From measuring impact to learning institutional lessons: An innovation systems perspective on improving the management of international agricultural research. *Agricultural Systems*, 78(2), 213–241.
- Klerkx, L., Hall, A., & Leeuwis, C. (2009). Strengthening agricultural innovation capacity: Are innovation brokers the answer? *International Journal of Agricultural Resources, Governance and Ecology*, 8(5/6), 409–438.
- Leeuwis, C., & van den Ban, A.W. (2004). *Communication for rural innovation: Rethinking agricultural extension* (3rd ed.). Chichester, UK: Wiley.
- McKernan, J. (1991). Action inquiry: Studied enactment. In E. Short (Ed.), *Forms of curriculum inquiry*. (2nd ed., pp. 309-326). Albany, New York: State University of New York Press.
- Rivera, W. R. (2009). The market-link imperative: Refocusing public sector extension. *Journal of International Agricultural and Extension Education*, 16(2), 47-59. doi: 10.5191/jiaee.2009.16204
- Rivera, W., Alex, G., Hanson, J., & Birner, R. (2006). Enabling agriculture: The evolution and promise of agricultural knowledge frameworks. Paper presented at the conference of the Association for International Agricultural and Extension Education (AIAEE), Clearwater Beach, Florida.
- Rivera, W., & Sulaiman, R.V. (2009). Extension: Object of reform, engine for innovation. *Outlook on Agriculture*, 38(3), 267–273.
- Spielman, D. J. (2005). *Innovation systems perspectives on developing-country agriculture: A critical review*. International Service for National Agricultural Research (ISNAR) Division Discussion Paper 2. Washington, DC: International Food Policy Research Institute.
- Sulaiman, R.V., & Davis, K. (2012). *The new extensionist: Roles, strategies, and capacities to strengthen extension and advisory services*. Global Forum for Rural Advisory Services (GFRAS) Position Paper. Lindau: GFRAS.
- Sulaiman, R.V., & Davis, K. (2013). *The “New Extensionist”: Roles, strategies, and capacities to*

- strengthen extension and advisory services. Summary and Recommendations.* Global Forum for Rural Advisory Services (GFRAS) Position Paper. Lindau: GFRAS.
- Sulaiman, R.V., & Hall, A. J. (2002). An innovation system perspective on the restructuring of agricultural extension: Evidence from India. *Outlook on Agriculture*, 30(4), 235–343.
- Sulaiman, R.V, Hall, A., Kalaivani, N.J., Dorai, K., & Reddy, T.S.V. (2012). Necessary, but not sufficient: Critiquing the role of information and communication technology in putting knowledge into use. *Journal of Agricultural Education and Extension*, 18(4), 331-346. doi:10.1080/1389224X.2012.691782
- Sulaiman, R.V., & Holt, G. (2002). *Extension, poverty and vulnerability in India. Country study for the Neuchatel Initiative.* Working Paper 154. London, UK: Overseas Development Institute.
- Swanson, B. (2006). The changing role of agricultural extension in a global economy. *Journal of International Agricultural and Extension Education*, 13(3), 5-17. doi: 10.5191/jiaee.2006.13301
- Swanson, B. (2010). *Roles and changes within pluralistic extension systems in different regions and countries.* Presentation for the Modernizing Extension and Advisory Services (MEAS) and United States Agency for International Development (USAID). University of Illinois at Urbana-Champaign, Illinois: MEAS.
- Swanson, B., & Rajalahti, R. (2010). *Strengthening agricultural extension and advisory systems: Procedures for assessing, transforming, and evaluating extension systems.* Agriculture and Rural Development Discussion Paper 44. Washington, DC: The World Bank.
- World Bank. (2012). *Agricultural innovation systems: An investment sourcebook.* Washington, DC: International Bank for Reconstruction and Development/International Development Association or The World Bank.