

COMMISSION ON SCIENCE AND TECHNOLOGY FOR DEVELOPMENT (CTSD)

Sixteenth Session

Geneva, 3 to 7 June 2013

**Submissions from entities in the United Nations system and elsewhere on their efforts in
2012 to implement the outcome of the WSIS**

Submission by

Food and Agriculture Organization of the United Nations

This submission was prepared as an input to the report of the UN Secretary-General on “Progress made in the implementation of and follow-up to the outcomes of the World Summit on the Information Society at the regional and international levels” (to the 16th session of the CSTD), in response to the request by the Economic and Social Council, in its resolution 2006/46, to the UN Secretary-General to inform the Commission on Science and Technology for Development on the implementation of the outcomes of the WSIS as part of his annual reporting to the Commission.

DISCLAIMER: The views presented here are the contributors' and do not necessarily reflect the views and position of the United Nations or the United Nations Conference on Trade and Development.

ACTION IN 2012 TO IMPLEMENT WSIS ACTION LINE C7: E-AGRICULTURE

Submission from FAO, Office of Knowledge Exchange, Research and Extension
December 2012

SUMMARY

Actions related to WSIS Action Line C7: e-agriculture are underpinned by the global e-Agriculture Community. This community of practice was conceived in 2006 and launched in 2007 by a multi-stakeholder group¹ of organizations that believe in the critical role of information and communication technologies (ICT) in agricultural development and food security. Facilitated by the Knowledge and Capacity for Development branch of FAO, the e-Agriculture Community (the Community) today has grown to more than 9,000 registered members from over 170 countries.

In 2012 the Community continued to examine the critical role ICT can play in communicating knowledge and information that is essential to agricultural development and food security. The role of mobile technology, which has the fastest growth rate of any ICT in the developing world, and its ability to reach people in rural areas, remains at the forefront of the Community's interest. Content, its availability and accessibility, and policy matters are also important considerations.

Highlights of the year include discussions around the World Bank's *ICT in Agriculture* sourcebook, and inputs to Rio+20 and GCARD2; improving developing country's access to agricultural research information through AGORA and the CIARD initiative; and regional policy issues identified in an expert workshop.

Digital communication activities allow the e-Agriculture Community to reach tens of thousands of individuals annually, a level of participation that would not otherwise be achieved. Partnerships with international, regional and national institutions are critical to the continuing success of the e-Agriculture Community. Organizations and individuals offer their time and knowledge to support the Community because of the value that results.

THE IMPLEMENTATION OF E-AGRICULTURE

The e-Agriculture Community is a global initiative to facilitate the exchange of knowledge related to "e-agriculture" (the role of ICT in agricultural development and food security), and to ensure that the knowledge created is effectively shared and used worldwide. It provides an international framework to facilitate the processes of capturing, managing, and disseminating the lessons learned through national and regional activities, as well as the results and implications of multilateral processes related to the use of ICT in agriculture and rural development. The e-Agriculture Community also provides the basis for the international community to monitor development and validation of conceptual models and methodologies, and to package and disseminate them once tested.

At the end of 2012, the e-Agriculture Community had grown to over 9,300 registered individuals. This membership encompasses development practitioners, policymakers, representatives of farmer organizations, researchers, and information and communication specialists involved in agriculture and rural development, from more than 170 countries.

¹ Information on the "Founding Partner" is available at <http://www.e-agriculture.org/founding-partners>

The Community activities comprise three components: facilitated online interaction, focused on a multilingual², neutral domain (www.e-agriculture.org) and social media; face-to-face events; and in-country interventions lead by Community members and their institutions. The Community's use of social media expands the knowledge sharing opportunities and allows for targeted communication with groups such as young people and professionals. Key topics identified by the Community become the focus of virtual discussions, face-to-face events, information collections, and policy briefs. The interplay between different formats and mediums is important.

FAO³ provides secretariat services and serves as the Facilitator of the community, coordinating activities and programmes based on commutation and collaboration with the Community at large. FAO also coordinates and facilitates the development, content creation/packaging, and maintenance of the web-based platform, as well as coordinating face-to-face events and drafting of policy documents.

The highlight of the Community's interaction and collaboration is embodied in the online discussion forums. By sharing experiences, new tools, challenges and solutions, novel content is created, which in turn contributes towards the development of policies and identification of good practices. All e-Agriculture forums follow a process based on experience gained over the past five years.

To develop relevant capacity, Community members are invited to participate in the expanding free e-learning resources available, which are providing training and professional development opportunities for ICT practitioners in developing countries. The Information Management Resource Kit (IMARK)⁴ curriculum now offers several modules in multiple languages. The Community features information on each new module as they arrive.

INNOVATIVE POLICIES, PROGRAMMES AND PROJECTS

The success of the Community depends to a great extent on the active engagement of a wide range of stakeholders, all with a common interest. The Community relies on volunteer efforts to lead discussions and assist in providing content, which contributes towards the development of policies and good practices. Over this past year, participation from both the private sector and non-UN organizations was secured with subject matter experts volunteering their time. Subject matter experts in this year's forums and panels came from AgriNet Uganda Ltd., CABI, Catholic Relief Services, CGIAR, CIRAD, Esoko, FAO, Frontline SMS, GFAR, GFRAS, Grameen Foundation, KIVA Agro Supplies Ltd., Swedish University of Agricultural Sciences, Syngenta Foundation, Univ. of the Philippines Open University, World Bank, Zerion Software, and other organizations.

The Community continues to collect resources and good practices focused on specifically identified "Key Topics" that arise from the Community members' main areas of interest. These now include:

- ICT and agricultural value chains
- ICT, agriculture and gender issues
- "ICT in Agriculture" Sourcebook (published by the World Bank)
- Mobile telephony in rural areas
- Public-private Partnerships for Rural ICT

² The Platform is available in English, French and Spanish.

³ The e-Agriculture Community of Practice benefits from FAO's experience on its successful implementation of the Bridging the Rural Digital Divide Programme and its related web-based platform (see <http://www.fao.org/rdd>).

⁴ <http://www.imarkgroup.org/>

- Rural digital divide
- WSIS follow-up

“ICT in Agriculture” Practices

The World Bank and the e-Agriculture Community collaborate in online forums that raise awareness of, and expand on resources in, the *ICT in Agriculture* sourcebook⁵. These discussion forums respond to the growing demand for knowledge on how to use ICT to improve agricultural productivity and raise smallholder incomes in the development community. They are also means to inform the World Bank of other programmes that Community members are executing and that complement the World Bank’s work.

In 2012, these discussions focus on:

- ICT and agriculture in the context of “green growth” (climate-smart agriculture)
- ICT for Data Collection, Monitoring and Evaluation
- Using ICT to Enable Agricultural Innovation Systems for Smallholders
- ICT and Producer Organizations

The outputs of the forum on ICT and climate-smart agriculture were presented in a Rio+20 side event, while the importance of using ICT to enable agricultural innovation systems for smallholders was discussed at the Global Conference on Agricultural Research for Development 2012 (GCARD2).

More information on these virtual events, including the discussion forums, resource materials and summary policy briefs can be found at <http://www.e-agriculture.org/forums/forum-archive>.

ICT improving access to agricultural research information

An international group of partners are supporting agricultural science and technology by disseminating the outputs of agricultural research through interlinked digital institutional repositories that are part of national networks. In Africa, the Kenya Agricultural Information Network (KAINet), and the Ghana Agricultural Information Network System (GAINS) have adopted open technical standards and public domain ICT tools for interoperability of agricultural information systems ensuring they conform the recommendations by CIARD (Coherence in Information for Agricultural Research for Development)⁶. CIARD is a global movement working to make agricultural research information publicly available and accessible to all.

Access to Global Online Research in Agriculture (AGORA)⁷ is a program to provide free or low cost access to major scientific journals in agriculture and related biological, environmental and social sciences to public institutions in developing countries. Led by FAO and a group of major publishers, AGORA provides access to more than 3000 journals from the world's leading academic publishers through leading edge ICT systems.

Mobile telephony for food security, agriculture and rural development

⁵ <http://www.ictinagriculture.org>

⁶ <http://www.ciard.net/home>

⁷ <http://www.aginternetwork.org/en/>

A regional workshop⁸ in April 2012, brought together senior officials from the Ministries of Agriculture and allied ministries to share examples of the use of mobile technologies used in their countries, in both public and private sectors, for agricultural information services.

Cases were developed and presented in the workshop to achieve a common understanding of the state of the art in these Asian countries, taking account of the tremendous increase in the adoption of mobile phones for delivering agricultural information services. From analysis at the workshop, the following insights and recommendations⁹ developed:

- **Mobile-based information delivery** holds great promise and is either being considered or is in use as a major channel for agricultural advisory services.
- **Clear policies** need to be formulated by governments and the public sector that define the principles for their involvement in the development of MAIS, that also take account of national communication policy or information and communications technology (ICT) policy. Of necessity, this will require collaboration between the agricultural and telecommunications sectors of government.
- **Partnership with the private sector** has proven to be an essential mechanism for the public sector to develop MAIS sustainably. The roles and responsibilities for the private and public sectors have to be clearly defined in each particular case, preferably through a formal written agreement; the most frequent split of roles is that the content is provided by one and the delivery mechanism is handled by the other.
- **Trustworthiness and reliability** of the public sector information and advice delivered through MAIS is of paramount importance to the people whose livelihoods depend on actions influenced by what they receive. In this context, clear policy guidelines should be formulated to ensure the validity and accuracy of the technical information and advice provided. Appropriate processes need to be put in place to ensure the reliability of the information and advice provided by the public sector through MAIS, potentially including quality control by government-approved experts.
- **Accountability** for the quality (correctness and accuracy) of technical information and advice delivered through MAIS should be formally recognized by the respective public and private sector actors involved. This accountability should be defined in any partnership agreement between the actors in MAIS.
- **Lessons learned and good practices** have to be regularly captured and disseminated across Asia through various mediums, such as brochures, television and radio, so that provinces/countries can benefit from the experience of others.
- Ideally, agricultural information services should be **platform-independent**, given that technology-specific services impose requirements on potential audiences and can greatly limit accessibility. All newer models of mobile phones support short message, or SMS-based, services in non-Latin character sets, which is very important in countries in Asia.
- Given the region's **low literacy** rate, voice-based advisory services are more widely preferred by smallholders than SMS-based services, even if they are automated. However, some services, such as weather forecasts, can be effective when delivered through SMS.

FUTURE ACTIONS/INITIATIVES TO BE TAKEN

The e-Agriculture Community will focus on expanding its mechanisms for knowledge sharing around lessons learned through in-country interventions, in particular as relates to the identified Key Topics. These lessons will be drawn from the activities of e-Agriculture Community

⁸ Jointly organized by the FAO Regional Office for Asia and the Pacific (RAP) and the National Electronics and Computer Technology Center (NECTEC).

⁹ <http://www.e-agriculture.org/content/mobile-technologies-food-security-agriculture-and-rural-development-role-public-sector>

members, encompassing national and regional level interventions on information exchange and communication, from which successful elements will be expanded and scaled up. The mechanisms will foster the capturing and sharing of lessons through the e-Agriculture Community's online platform, and through other major participating institutions in support of capacity development. The Community will also begin to specifically look at the post 2015 scenario through various channels.