

October 2004

ICT NEEDS FOR IMPROVED AGRICULTURE IN ROMANIA

Published by the FAO Regional Office for Europe

Summary

An FAO commissioned 'Needs Assessment for Information and Communication Capacity Building for Improved Agriculture in three East European Countries: Romania, Croatia and T.F.Y.R. of Macedonia' - conducted by G.C. Holt, University of Reading, UK - assessed ICT infrastructure and application for agricultural research in the following six Romanian agricultural organizations and their partners:

The Ministry of Agriculture, Forests, Waters and Environment (MAFWE) now called **Ministry of Agriculture, Forests and Rural Development (MAFRD)**, provides subsidies, training and information to farmers.

The National Consulting Agency (ANCA), under the supervision of the MAFRD, is the national extension service responsible for transmitting research information to farmers and receiving their feedback.

The Romanian Academy of Agriculture and Forestry Sciences (AAFS), coordinates all agricultural research activity and has most agricultural research institutes as members, including the Research Institute for Soil Science, Agro-chemistry and Environment Protection and the Institute for Agro-Economy and Rural Development.

The University of Agricultural Sciences, partly government, partly research income funded, is largely focused on education with little or no involvement in extension and research.

Liga Asociatilor Producatorilor din Romania (LIPAR), a professional organization which represents farmer's interests to the Ministry of Agriculture and Food and other government departments.

The National Federation of Ecological Agriculture (ARAD), is a non-profit, private company founded in 2002 to provide central representation and organization for all organic agriculture organizations.

Background

Some of the background against which agricultural information and communication systems have to be developed are the land reform and consequent large numbers of small farms, the ownership and geographic distribution of farms, the lack of infrastructure and access to markets, but also the lack of education, access to knowledge, understanding new market and production requirements and a relatively large, rapidly ageing rural population with a high degree of poverty. On the positive side there are strong, if under-funded, research and education institutions which are adapting to the new research needs, and a restructured extension service which can work through a large number of MAFRD county and community offices.

The country's efforts in preparing for accession to the EU and the various support programmes can facilitate some of the necessary measures and investments, but require a high degree of coordination to be efficient and effective. The MAFRD's "Agricultural and Rural Development Strategy for Accession to the European Union"

recognizes the need to improve the national agricultural knowledge and information system (AKIS), including the information and communication systems for agricultural research, extension and education which are the focus of this report.

After a general description of the agriculture situation in Romania and of the interviewed/surveyed institutions, the full report describes the ICT related details. Only these latter will be very briefly summarized here.

Agricultural Information and Communication Systems

The National Agricultural Research System (NARS) has been restructured since the fall of the communist regime in 1989, and the Academy of Agriculture and Forestry Science (AAFS) is now coordinating all agricultural research. The Universities are focusing on education with little to no involvement in research or extension, though efforts are on-going to create private consulting services. The national extension service has been reorganized recently under the National Consulting Agency, ANCA, created in 1998. A graphic illustration of the Romanian Agriculture Knowledge and Information System (AKIS) is shown in Fig.1.

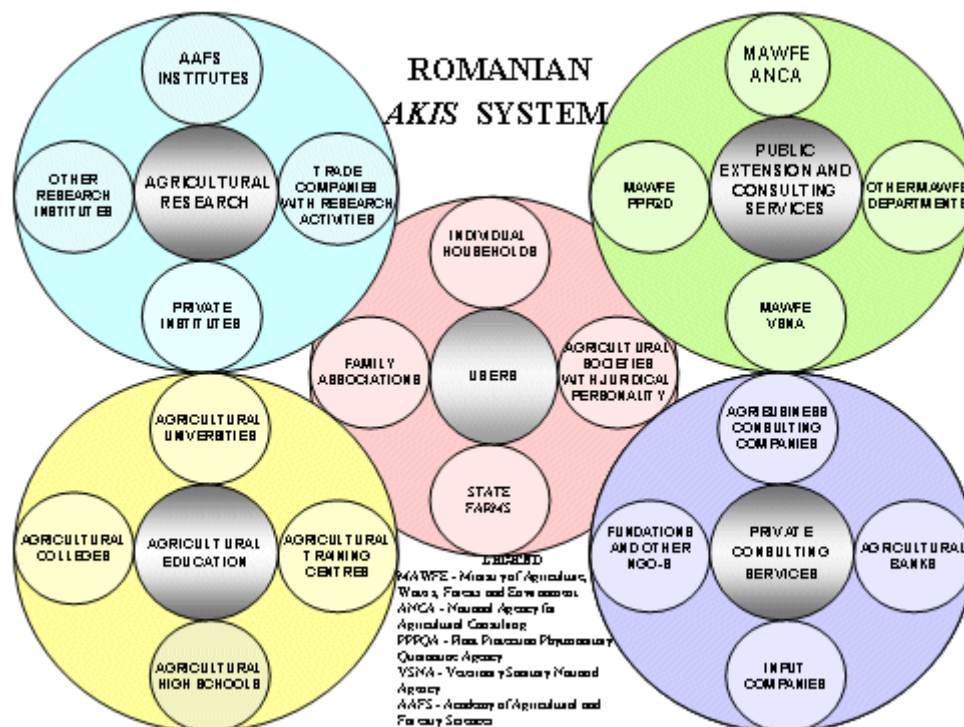
AAFS is well organized and has a clear strategy for promoting relevant, farmer led research. However, there is a shortage of laboratory and field equipment. Almost all Academy (AAFS) institutes are working with outdated equipment, most of it 12-15 years old. In addition, limited computer availability at the Academy (AAFS) and its member institutions means that not all researchers have access to the Internet, and where there are terminals they are often shared between two or three people. Addressing this situation is a major priority for all institutes and experimental stations. Training and maintenance of equipment costs are high but computerisation is seen as a cost-effective strategy when the benefits are accounted for. Computer skills are relatively high amongst young graduates but there is a need for IT training of junior management and administrative staff.

The University of Agricultural Sciences is keen to develop information systems for the education system, e.g. long-distance education. It is also piloting the set up of private technical consulting services. ARAD promotes its activities through a website but there is no electronic network for communication between staff except through the University system. Most interviewed institutions have good international relations to partner institutions.

The collection of reference books and the international exchange of academic journals and books in the Academy library is adequate, but the library has been transferring files to electronic databases only since 2002. Every institute publishes an annual report containing details of all research activities and outputs during the year. Research results are also published in newspapers and agronomy journals. All publications are free of charge to end-users. ANCA funds the publication of review magazines disseminated to producers and hopes to publish a newsletter or bulletin for distribution to farmers.

Less frequently used resources for information transfer include newspapers, radio and TV shows. A certain hesitation was expressed in the use of public media in part due to undesirable experiences like misrepresentations and the tendency to report problems rather than solutions.

Fig. 1: A graphic representation of the Romanian AKIS, provided by AAFFS in 2003



Despite good telecommunication connections throughout the country, there are considerable IT problems in Romania. There are a high number of small farmers who are geographically dispersed across the country and who do not belong to any organized association or co-operative, making them very difficult to reach. The lack of electronic means of communication to these farmers does not permit the full benefit from the use of modern communication technologies for information flow from MAFRD/ANCA county offices to the farmers or even between county offices. Even ANCA, the main agency responsible for the transmission of information to farmers, has several hundred local offices without computers, and has many consultants who have no access to a computer at all. The MAFRD's vision to have consultancy centres in each village (about 3000) requires an enormous investment. Ninety nine (99) percent of rural schools do not yet have access to computers yet.

There is no Market information system, resulting in the majority of produce (70 percent) being taken to market without the farmers having any information on seasonal and geographical price differences.

The present ICT policies

Following the changes in 1989, organizations and scientists continued to function in isolation from each other and there was little flow of information or communication. Some organizations now have good systems of electronic communication but there is very little networking between institutions, public and private sector: there is also no funding available for improvement of this situation. ICT infrastructure at village level is virtually absent but there are many useful printed, technical publications from ANCA accessible to farmers.

A mid/long-term Information Strategy has been prepared by the Ministry in consideration of its own objectives and the requirements for accession to the EU. During 2003, the MFA was equipped with computer terminals and internet access through donor support (World Bank). ANCA had developed a communication plan, but no concrete policies were identified for the university system, although such interest was expressed. AAFS has a more clear idea of needs and recognition of benefits, but is lacking financial and trained human resources.

Main Conclusions

The problems and some of the needs of improved Information and Communication Systems have been recognized, and individual attempts are made to solve part of the problems. Collaboration and a comprehensive and more detailed policy and action plan could speed up the process and attract effective support and greatly advance the major concern of the government: to have appropriate communication and information systems in place for accession to the EU in 2007.

Non-electronic information (informal and print) still plays the most important role, and both electronic and non-electronic communication need to be improved through policy and specific investments. Non-governmental organizations face similar relatively costly investments to improve internal communications, while external communication still lacks sufficient user/client capacity.

ANCA's IT capacity needs to be vastly improved at a local level, with all regional/county and smaller offices (more than 900 in 2003) needing computer facilities; to allow the effective vertical transmission of information from the Ministry, as well as horizontal communication between the offices.

At a local level, rural farmers are widely dispersed with little or no access to computers, and with very limited hardware and IT skills. This situation could be improved if farmers joined specific associations or co-operatives where information from the Ministry and on markets and research could be made accessible.

An FAO sponsored workshop on "[Information and Communication Systems for Agricultural Research and Rural Development](#)", organized in 2004 by AAFS in follow up to the above summarized study with all stakeholders participating, identified and further specified some of the key elements for future action:

1. Raising awareness of policy-makers to allocate adequate resources/funding for the improvement of information and communication systems in agriculture.
2. Formulation of a coherent national information and communication strategy with the identification and involvement of all actors from the Romanian AKIS.
3. Development of an efficient and systematic feedback mechanism from farmers and their representatives to knowledge and information providers.
4. Ensuring a functional communication infrastructure plus a dynamic system of data collection and dissemination.
5. Improving information technology and internet skills of agricultural extension agents and local advisers.

The Romanian national strategy for European integration was seen as an opportunity to strengthen the IC system in agriculture (e.g. through the SAPARD programme)

Recommendations

The conclusions of the workshop are expressed in very general terms, more specifically it could be added that:

- One of the first contributions and least costly approaches to improve the existing ICT situation would be an identification of specific information needs by each identified user group. Internal institutional surveys and an on-the-ground evaluation with farmers would be a first step. A jointly agreed strategy can then be developed to most effectively invest available resources.
- A regular dialogue between stakeholders with informal commitments and timelines could help develop the necessary baseline data for action at a programme level. Input from non-institutional sources needs to be carefully fostered to build a system responsive to actual needs on the fields.
- Market information system development, also for small scale farmers, should be given a priority independent of the development of overall ICT.