The development of electronic extension service in Ukraine on the international platform

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Abstract. Extension System constantly changes to meet the shifting needs and priorities of the people they serve. By becoming a more relevant, dynamic, and flexible organization, the Extension System can make a greater impact on problems and is taking greater advantage of opportunities brought about by changes in the global economy, the environment, demographics, community and family structures, values, and resources. These have required providing e-Extension service with distance learning, and market opportunities to extension workers and their partners. This paper identified the perspective of the development of e-Extension service in Ukraine on the international platform. Many forms of extension programs in the world, different levels of extension education and its funding possibilities need to provide e-Extension including the knowledge generators, content developers, network providers, learning centers, resource generators, and management experts. E-extension is the basis for evolving worldwide new technologies for effective development of E-extension system in Ukraine.

Key words: extension system, e-extension, international platform.

INTRODUCTION

The new Century with its globalization, consolidation, integration and other worldwide challenges are changing the extension system, making it become a more focused, client-driven, and flexible organization.

The mission of Extension is continually changing to adjust to the new conditions for agriculture and the rural economy. The global, national, and local economies, the natural resources environment, demographics, and community and family structures, values and available resources are all factors in these changes. Extension Services also differ more locally than in the past, depending upon the level of infrastructure and the availability of competitive sources of knowledge, the economy, priorities for development, and developments of within complex of knowledge generation and delivery systems. It is important to know that fully private extension is not feasible, even for commercial agriculture [1, 2].

The changing priorities for agriculture and rural development have in turn changed the “centre of gravity” for Extension, which is coming to be more focused on people and institutions and where partnerships and engagement are more important characteristics of its operations. One factor that has changes is the availability of information, now much more universal than in the past, and from many organizations that serve agriculture and rural development.

Extension education worldwide are also facing numerous challenges including increasingly limited resource, keeping up with advances in information and other technologies, remaining aware of and responsive to clientele, and outreach programs [3, 4]. Although the scale of the problems and the local conditions vary across and among regions, there are remarkable similarities in the fundamental nature of these challenges. The realization that these are shared challenges, combined with a political and economic climate that lends itself to the lowering of national barriers, conducive to global networking and cooperation in extension [5].

Over time, Agricultural Extension Systems have tended to develop strategies that involve various forms of co-payment for services. Charging fees for service is an important source of revenue in many public Extension Services. Farmers and other clients pay a portion of the cost for strategy but more based on refined concepts of public and private goods and services.

Government organizations also may provide resources on a contract basis or through grants and contracts. Many countries (The Netherlands, Germany, Britain, New Zealand and the United States) began a cost-recovery/fees approach by the end of the twentieth century. In some cases, this process has led to the emergence of fully private Extension Services – private consulting firms, agencies, and
institutions that provide their services to farmers for a fee. The so-called privatization of Extension Services has shown success when multiple actors such as government agencies, universities, nongovernmental organizations, international agencies and donors, as well as producers, workers, consumers, and private business work together.

The Extension Services also tend to have a wider range of programs, such as: agricultural and natural resources; business and industry; rural communities; families and household orientated services; 4-H youth development; continuing education and communication services. This broadening of the Service results in more and different kinds of partners, and in fact a completely different way of thinking about the organization of the Extension service [6].

The Internet has become the largest library of the world. There are millions of people in the world using the Internet now. Well-designed educational approaches that apply technology appropriately will stimulate active learning, critical thinking and problem solving [7]. The challenge for extension is to be successful in using on-line technology transfer and just-in-time learning. Extension must act quickly to form strategic alliances within and outside the university system to partner effectively in hardware, software, and skilled personnel and to supply in-service training for professional personnel.

The e-Extension is capable of achieving effective linkages by connecting geographically dispersed people and develop communication, managing large volumes of data, and rapidly collecting, processing and dispersing information in a variety of forms. It consists of two fully-integrated and interdependent components: the human and the technological [8]. The human component consists of a network of policy-makers, research and extension workers, academics, NGOs and farmers, committed to collaboration, communication and supporting agricultural producers. The technological component includes the tool which allows members of the network to communicate and develop, share, store, retrieve and disseminate information. It relies on the network of people to contribute, update and create knowledge and information.

**MATERIALS AND METHODS**

The purpose of the study was to describe e-Extension as programs, new technologies transfer, and education system in the world to provide accurate, up-to-date information for use anytime, anywhere. The study addressed the following objectives:

1) To describe the extension system in Ukraine.
2) To work out a conceptual model of e-Extension in Ukraine.
3) To show the perspective of development of e-Extension.

Ukraine is now an independent country in Eastern Europe and is one of the largest of the European countries. Ukraine has “black soil”, of the richest type in the world. About 40 % of the world’s black-earth soils are concentrated there. Grains, sugar, sunflower seeds, and livestock products play a significant role in Ukrainian trade [9].

In new democratic Ukraine, the role of the Extension Service has become clear and more important. Agricultural Extension is being increasingly recognized as an organization that can help people and communities solve problems and improve their lives by improving agricultural productivity; creating new products; protecting animal and plant health; promoting human health and nutrition; strengthening children, youth, and families; revitalizing rural life; and maximizing the effectiveness of the use of limited resources [10, 11].

Extension services in Ukraine have recently began to develop more on a regional level. The first support for the development of Extension services came from joint projects with donor agencies and grant founders. International Extension Projects started from Western Ukraine where the first Regional Extension Centres were created. These regional centres focused on local agricultural and rural development problems and opportunities and worked with the local organizations as partners [1].

Extension Services or so called Agricultural Advisory Services have been created in all regions of Ukraine. There are 69 certificated Advisory Centres at the districts of Ukraine (Figure 1).

Figure 1 illustrates the model of Agricultural Extension System in Ukraine. As the model shows, agricultural extension in Ukraine has three levels: national, regional and local level. The Government of Ukraine provides a funding for social advisory service programs. The advisory service has an Extension Coordination Department under Ministry of Agricultural Policy and Food of Ukraine and National Association of Agricultural Advisory Services of Ukraine, and develops its service through Advisory Services with different organizational and legal structures.

There are there level organizations that are in the creation process now: National Centre of Ukraine Agricultural Extension, Regional Agricultural Extension Services and District Departments. A new Law of Ukraine “About Agricultural Advisory Services” that was adopted on June 17, 2004, and stipulates that Agricultural Extension will encompass a number of actions and methods, directed to the satisfaction of households plots and farmers needs, needs of household partnerships and other agricultural enterprises of all forms of ownership and management, and also peasant population needs in improvement of knowledge level and practical skills in keeping profitable housing.

Extension Service needs qualified specialists-advisers who are professionals in consulting activity. In 2001, the first Department of Extension Education in Ukraine was created at the National University of Life and Environmental Sciences of Ukraine (NUBiPU). The result has been the creation of educational programs for all of the agricultural Universities of Ukraine in such courses as: “The Bases of Agricultural Extension”, “Consulting Management”, “The Organization of Extension Service”.

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**Note:** This text represents a natural language understanding of the document. Some technical terms and acronyms may not have perfect translations or equivalents in English. The content is editorially processed for clarity and coherence.
Fig. 1. The Model of Agricultural Extension System in Ukraine

Fig. 2. The Model of e-Extension in Ukraine

* Community of Practices by interests (forestry, planting, horses its.)
In 2012 the Department NAUU opened a new specialization – “Extension Services in Agriculture” for Master Students. For this aim new courses such as “The Organization of Education in Extension”, “Public Relations”, “PR in Extension”, “The Planning of Extension Practices Programs in Rural Area”, “Modern Methods of Research” and etc. have been organized and are being taught [12, 13].

The Department also organizes professional preparation of advisers and expert-advisers to certification for Extension activity through the development of distance education and worked out some of Business schools for current questions of our days such as “Agricultural Green Tourism”, “The Basic of Organic Production System”, “To Use a New Technologies in Planting”, “Land Consolidations” and others. This shows the demand for Extension Services that are broader than agriculture [14, 15, 16].

Ukraine’s strategy today is to create electronic Extension (e-Extension) System. The best model for this e-Extension System is a dynamic model designed to function in a market economy, with public, private, donor and state sources of funding and interactive approach to make decision in extension [17, 18].

Figure 2 illustrates the model of e-Extension in Ukraine. E-Extension expects to establish Communities of Practice (COP), experts and specialists who will consult and teach by interests (forestry, planting, horses its.). The main team of each COP includes representatives from extension services, governmental structures, business, international organizations, grants and programs, educational centres and public organizations, research institutions. COPs deal with: educational programs, curricula, syllabi, and methods for training and retraining experts, advisers, farmers, and other individuals; development of communication services and continuing education; database and data knowledge, innovations; distance education; constant and efficient cooperation with programs, projects, organizations, and universities from different countries.

E-Extension is based at NUBiP of Ukraine where International e-Extension Centre is organized. Technical platform of e-Extension has been worked out by Education and Research Institute of Information and Telecommunication Support of Agricultural and Environmental Branches of Economy of NUBiP of Ukraine.

E-Extension becomes a national Internet-based information and education network that provides accurate, up-to-date information for use anytime, anywhere. It will use technology and new organizational processes, enhance accessibility, quality, breadth and depth of information and foster collaboration within the COPs, reduce duplication [19].

E-Extension will cooperate with e- Extension USA [19] and International Extension Associations. Users of e- Extension will be farmers and agricultural producers, cooperatives, the rural population, associations, public and private organizations teachers and others. To support viable COPs an Interactivity consulting system CONKA was worked out [20].

CONCLUSIONS

The development of a market economy system in Ukraine moves forward in increase in the number of farmers and the appearance of new forms of agricultural business entities. All of this has been accompanied by increasing problems and opportunities in the social, cultural and educational development of the rural population.

Ukraine’s strategy in this environment is to create its own Extension System. The main role in this will be played by electronic Extension service that with collaboration across the globe is being challenged to consider their impact, relevance, and effectiveness. The most important factor for e-Extension development in the future is the people involved in the decision-making process. Equally important is a clear understanding of what e-Extension is. All people, not just a few, must be able to think for a living, adapt to changing environments, and to understand the world around them.

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