

Distance Education through Television for Farmers in Developing Countries: The Case of Turkey

Kursat Demiryürek¹ and Tecer Atsan²

¹ Ondokuz Mayıs University, Faculty of Agriculture, Department of Agricultural Economics,
55139, Samsun, Turkey

² Atatürk University, Faculty of Agriculture, Department of Agricultural Economics, 25240,
Erzurum, Turkey

E-mail: ¹<kursatd@omu.edu.tr>, ²<tatsan@atauni.edu.tr>

KEYWORDS Educational Television. Rural Education. Turkey. YAYÇEP

ABSTRACT Due to lack of infrastructure, staff and finance, rural people in developing countries generally have limited formal education and especially limited access to rural education services. However, agricultural innovations are constantly changing and rural people should be informed of these developments. Thus, distance education can be one of the ideal solutions to reach rural areas. This paper discusses the importance and limitations of distance education through television in developing countries and presents the Turkish experience. The experiences of rural distance education projects in developing countries revealed that use of multiple agricultural extension methods together such as television programs, printed materials, group discussions and field demonstrations is more effective in changing rural people's attitudes towards agricultural innovations. Motivational factors such as prizes and giving certificates are also effective. After the projects, further agricultural television programs and manuals can also be used to support the project.

INTRODUCTION

Distance education is an important educational tool used especially in developing countries. It is an alternative method in delivering information. The use of distance education goes back to the beginning of 20th century. Later, distance education was used in both formal and informal education such as teacher training, adult education, continuing education, open learning, higher education and so on (Bozkurt et al. 2015). Rural education is one of the commonly used areas of distance education.

These are problems in formal education and in the management of extension services in rural areas in developing countries. To avoid these problems, distance education methods have been introduced in many developing countries and most of them have long and successful experiences (McLean et al. 2002).

As compared to other fields, the use of distance education is more widespread in rural areas. This is due to certain structural characteris-

tics of rural areas in developing countries. For example, rural people cannot use education and training services easily and extensively, due to lack of infrastructure, investments and organization. Geographical and social constraints, limited number of staff, and structural and budgetary insufficiencies are the other constraints. Thus, open and distance education systems are preferred to supplement educational purposes and facilitate learning to decrease educational costs and to reach more rural people.

This paper initially presents the concepts of distance education and then discusses the debate on the potentials and limits of distance education for rural people especially in developing countries. As a case study, a specific example, "The Project of Extensive Farmer Education through Television" (YAYÇEP) applied in Turkey is presented and the results of some empirical researches about the project are discussed. Finally, some suggestions and implications based on the experiences of this specific case are developed for similar distance education projects in developing countries.

Rural Distance Education

The study was carried out to discuss the benefits and insufficiencies of "The Project of Extensive Farmer Education through Television"

Address for correspondence:

Dr. Tecer Atsan

Associate Professor

Ataturk University, Faculty of Agriculture

Department of Agricultural Economics,

25240, Erzurum, Turkey

Phone: +90 5332559690

E-mail: tatsan@atauni.edu.tr

(YAYÇEP) applied in Turkey and distance education as a whole. The main objective was to better understand the distance learning practices in Turkey and to be a sample case for other developing countries.

Distance education was defined comprehensively by Perraton (2000) as, “an organized educational activity, based on the use of teaching materials, in which constraints on study are minimized either in terms of access, or time, and place, pace, methods of study or any combination of these”. The learner is separated from the teacher in terms of time and/or place in distance education. It is a non-formal education, but can be institutionally accredited by some institutions. In addition, various and multiple mass media tools (that is, electronic and printed) can be used at the same time. Successful distance education programs require regular two-way communications, but not necessarily always face-to-face, as it can occasionally be learner to learner and/or teacher to learner type of communication. Hence, distance education offers a number of advantages both to learners and instructors. However, problems such as lack of interactivity in learning and weakness in skill teaching could be overcome by supporting them with regular advisory services.

Previously radio, television, video and recently Internet are some major and suitable electronic media used in distance education. With the improvements in the diffusion of technology, information can be transmitted more easily by the aid of television other than mass media, due to its practicality and lower costs. Although the computer-based media have been recently developed and used in many developed countries, they are not widespread in developing countries due to limited infrastructure and access. In addition, the lack of computer skills and limited literacy are some of the critical barriers even for urban people. Thus, Internet activities for rural development need to be approached with caution (Gelb and Offer 2005; Koutsouris 2006; Md. Sallah and Hayrol Azril 2009; Khan et al. 2010; Butcher et al. 2011).

On the other hand, television is still more popular and relatively more accessible in many developing countries with large populations, such as China, India, Malaysia and Turkey. In addition, the television does not need high literacy level to operate and follow, and thus it is widely used in most African countries. Further-

more, the functions of a television have become apparent and widespread due to its popularity, entertaining characteristics and capacity of audio-visual information transmittance (Swanson and Rajalahti 2010; Butcher et al. 2011).

Distance education is suitable for conducting agricultural extension and rural development activities because rural people are often isolated geographically and socially, work for long hours, often alone and it is impractical for them to attend long-term formal courses, generally cannot be trained alone and need motivation of extension staff and progressive farmers (Cook 1998). It has also become indispensable in rural people's training especially in developing countries due to excessive population, inadequacy in investments and qualified extension staff (Anonymous 2011; Grunfeld and Lee Hoon Ng 2013).

In many developing countries, distance education has been used and it has positive impacts in information transfer to rural people (Rumble 1989; Perraton 2000). However, mass media used in distance education cannot fulfill all the tasks like recommendations and supports of extension staff. One-way communication provided by mass media and the passive statuses of the procedures are some disadvantages of the system (Irfan et al. 2006). Case studies from Africa suggest that finance and firm political support are the most critical factors for the effectiveness of distance education (Jenkins 1989). On the other hand, Van Den Ban and Hawkins (1996) mention positive impacts of distance education in rural development and stress that the effects of audio-visual media are higher when supported with printed materials and advisory services (that is, multimedia approach). Motivation factors like prize and certificate giving are also important and have positive contributions on the results of distance education. In addition, distance education (especially with audio-visual media) relatively attracts more people's attention, supports learning and decision-making while reaching large audiences at a lower cost (Leeuwis and Van den Ban 2004). Distance education with video and television can support and increase the effectiveness of applications of agricultural extension activities and information transfer process (Swanson and Rajalahti 2010). Mass media have relatively high motivating functions towards behavioral change (McQuail 1994). The efficiency of mass media (or mass communication media) is very high in introducing innovations. However,

the efficiency of these media in other stages like decision-making and adoption were not satisfactory (Rogers 2003).

THE CASE OF TURKEY: YAYÇEP PROJECT

Turkey has one of the largest established programs on distance education compared to other developing countries. The Open Education (called Anadolu University) in Turkey has been the leading distance education institution currently with about 1.4 million registered students and 2.2 million graduates working professionally since 1982 (Anonymous 2015).

Although agricultural and rural radio and television programs have been broadcasted for more than fifty years, the Project of Extensive Farmer Education through Television (YAYÇEP) was the first primary and widespread application of distance education for rural people in Turkey. The main idea was to increase the number of farmers benefiting from agricultural extension activities and to support the traditional extension methods. The project has been mainly implemented by Ministry of Food, Agriculture and Livestock (MFAL) with the cooperation of State Radio and Television Institution (TRT), Anadolu (Open) University and Ministry of Finance. It is based on the distance education system and an important application of agricultural extension combining agricultural television programs, manuals, advisory services at village level as well as exams, certificates and awarding systems. Television was chosen as the basic medium due to its basic function as being a mean of entertainment media, and it offers the opportunity of reaching large numbers of people at a lower cost.

The first phase of the project (YAYÇEP-I) was initially applied between the years 1991 and 1997 and covers about 23 different agricultural and rural subjects (338 television programs in total, each of them lasts about half an hour) on animal husbandry and breeding, crop production, plant protection, agricultural mechanization, and farmers' organization. The television programs were enriched with supplementary materials like agricultural manuals and 800,000 books were printed and distributed to the participants. During the first phase of the project a total of 113,123 farmers were registered for the project and the participants were tested by the Anadolu University. The successful participants were awarded for

encouraging their participation to the project. Among all participants, 33,205 successful farmers were qualified to obtain certificates and 2,005 of them were rewarded with various prizes. Another crucial aspect of the project was that continuous advisory services and the local Agricultural Directorates were responsible for this. The total cost of the project (YAYÇEP-I) is about USD 5 million and USD 44 per farmer. The first phase ended with success and hence MFAL decided to continue the project with additional topics. In the second phase of the project (YAYÇEP-II), between 1999 and 2009, the previous programs were updated and broadcasted with some supplementary topics (253 television programs). 413,400 farmers were registered for the second phase and 488,952 new manuals related to these programs were distributed (Anonymous 2010, Anonymous 2015a). Some of the programs can be watched on the Internet as well. Agricultural TV (Anonymous 2015b) of MFAL has been broadcasting some of the YAYÇEP programs. However, some important elements of rural distance education programs such as exams, certification and prizes were not used in the second phase (Anonymous 2010).

FINDINGS OF RESEARCH ON YAYÇEP

YAYÇEP was very successful in widening the context of the extension work and reaching more rural people especially in making them aware of various agricultural innovations, social, cultural and health subjects. However, some issues like lack of monitoring and evaluation at every stage, to spot these insufficiencies and the failure to do necessary adjustments emerged as critical weaknesses of this project.

Previous research done on distance education in the world and limited empirical research on YAYÇEP (Demiryürek 1993; Gültekin 1995; Öner et al. 1998; Kızılarıslan and Gürlü 1998) show that the television programs are very effective in increasing the awareness of agricultural techniques. Unfortunately, the adoption of new agricultural techniques and application to the field did not reach the expected level. This was mainly due to the insufficiencies in advisory services and lack of demonstrations at the field level to support television programs.

Specifically, a research on the evaluation of the first programs (animal husbandry and breeding) of the project conducted by Demiryürek

(1993) showed that among the farmers who participated in the project and applied one of the agricultural techniques suggested by the programs had the following distinctive characteristics. They were relatively older, with a higher level of formal education and had higher income levels compared to the non-adopters. Those farmers also asserted that they were regularly watching the television programs within the scope of the project and reading the printed materials and derived benefit from them. They had more frequent contacts with the extension staff on the project materials, and consulted with each other. These findings support the generalization of Rogers (2003) that there are positive relations between adoption and some variables such as more favorable socio-economic characteristics and communication behaviors.

Some research indicated similar findings that the television broadcasts fail to reflect the conditions of the farmers. In addition, the timing of the broadcasts is not in concordance with the time usage of farmers. It is also mentioned that the formal monotonous style of the programs and the age limit set between 18 and 41 for the trainees would negatively decrease the level of contribution. Another important fact, which influenced the evaluation studies negatively, was the low participation to the exams made to measure the benefit rates of the farmers. A major reason observed was that the exams were not done in places close to the farmers' regions. In addition, this was also related with the farmers getting certificates and did not have priority in getting support (Demiryürek 1993; Gültekin 1995; Öner et al. 1998).

LESSONS LEARNED FROM YAYÇEP

YAYÇEP was one of the most extensive agricultural distance education projects applied in developing countries. It was one of the successful agricultural extension projects applied in Turkey and presented in the World Summit on Sustainable Development (Anonymous 2002) in terms of alleviating poverty and diffusion of innovations (Anonymous 2010).

The project has been broadcast since 1991 and had distinctions compared to other applications on farmers' education and extension programs in Turkey. Extensive population of people, both registered farmers and perhaps more unregistered audience not only rural but also

urban who are interested in rural and agricultural programs, were informed about agricultural innovations by this project. The printed agricultural materials distributed and electronically issued through internet were found to be simple and clear to understand by most of the farmers and are still being used as guidebooks. The television programs of the project were also recorded in video cassette format and distributed to the Agricultural Directorates to be used for farmers' training and extension activities throughout Turkey.

Based on the experience of YAYÇEP, new similar distance education programs targeting rural people in developing countries, can be made in the future. Beside these positive aspects, the project has some crucial problems.

Initially, the preparation of programs should be made with the active participation of farmers who reflect the conditions of average farms rather than on state farms and research stations. In addition, the broadcasting time and schedule of the programs should be planned according to the free time of the rural people. Coordination among the actors in the distance education system such as rural people, policymakers, researchers, extension staff, the representatives of non-governmental organizations (NGOs), private companies, and so on should be structured taking the continuous feedback into consideration. Pilot trials, monitoring and evaluation activities have to be conducted in order to manage and measure the impacts of the programs. Distance education programs should supported by audiovisual media, printed materials, and help of advisory services to facilitate learning. Advisory work and field demonstrations should be conducted giving more importance to feedback of the participants and teaching skills. Printed materials related to television programs should be prepared and distributed to learners to answer their questions and provide self-study conditions. Regular exams should be answered to control the impact of distance education programs and successful participants should be encouraged with prizes and certification and priority should be given to them in various supports. The programs should not only cover agricultural and technical subjects but also other rural issues such as environmental conservation, health, poverty alleviation, food safety, market orientation and knowledge management. It should also be gender-balanced. In other words, the roles of wom-

en in agriculture and rural development should be more prominent.

CONCLUSION

Recently, major changes have been recorded on information and communication technologies in the world. In the globalized world these changes force most governments to pay more attention to rural education and to make investments on human resource development. Although education is considerably developed and has become widespread for more than a century in the world, many developing countries and rural societies are still struggling with limited access to and benefit from education. These are mainly rooted in the lack of finance and investments, limited extension staff and increasing rural population.

Developments in information technologies both create opportunities and cause challenges for education. They present easy access to information in developed countries while people (especially rural) who need more education in developing countries have less access to education. This increases the gap between developed and developing countries. This dilemma may be decreased with the use of distance education, which reaches more people with easy access and flexibility in training. In addition, distance education reaches more people, usually in a more cost-effective way.

It is clear that distance education will be a substantial alternative for future education systems for governments not only in developed countries, but also in developing countries. The emergence of new information dissemination technologies especially the usage of the internet has significant socio-economic implications for developed countries. These technologies have been also used in distance education. New forms of rural distance education based on these recent communication technologies seem to be more suitable for people in developed countries due to their available infrastructure and human resources. On the other hand, developing countries still lack investments and face infrastructure problems and the rural people have less access to them due to computer literacy and skills.

Thus, the television seems to be a suitable and substantial tool for distance education in rural areas of developing countries. It is more accessible and reaches more people usually in a

cost-effective way. In addition, it is still popular due to its entertainment characteristics and audio-visual capacity. Also, people who have a low educational degree prefer to watch television instead of reading printed materials.

RECOMMENDATIONS

The experience of various distance education projects for rural people all over the world shows that the multiple media approach, which is the combination of television, printed materials and group discussion is more effective in changing rural people's attitudes towards modern technology and development. In particular, the effectiveness of rural distance education projects can be increased with the support of regular extension services and field demonstrations. These projects should also include motivational factors like prizes and certificates.

Rural distance education projects for developing countries have to be integrated with suitable television programs, simple manuals, and an effective advisory work of the extension organizations in order to be successful.

REFERENCES

- Anonymous 2002. Report of the World Summit on Sustainable Development. From <http://www.un.org/jsummit/html/documents/summit_docs/131302_wssd_report_reissued.pdf> (Retrieved on 10 May 2015).
- Anonymous 2010. *The Project of Extensive Farmer Education through Television Programs (YAYÇEP)* (in Turkish Report). TEDGEM, Turkish Ministry of Agriculture and Rural Affairs (MARA), Turkey.
- Anonymous 2011. *E-sourcebook: ICT in Agriculture: Connecting Smallholders to Knowledge, Networks, and Institutions*. Washington, DC: World Bank.
- Anonymous 2015. Anadolu University Open Learning Faculty System (in Turkish). From <<http://aof.anadolu.edu.tr/content/acikogretim-sistemi>> (Retrieved on 15 May 2015).
- Anonymous 2015a. YAYÇEP Projesi (in Turkish). From <<http://www.tarim.gov.tr/EYYDB/Menu/14/Yaycep>> (Retrieved on 10 June 2015).
- Anonymous 2015b. *Agricultural TV* (in Turkish). From <<http://www.tarimtv.gov.tr/>> (Retrieved on 8 June 2015).
- Bozkurt A, Akgun Ozbek E, Yilmazel S, Erdogdu E, Ucar H, Guler E, Sezgin S, Karadeniz A, Sen Ersoy N, Goksel Canbek N, Dincer GD, Ari S, Aydin CH 2015. Trends in Distance Education Research: A Content Analysis of Journals 2009-2013. The International Review of Research in Open and Distributed Learning, 16(1). From <<http://www.irrod.org/index.php/irrod/article/view/1953>> (Retrieved on 12 May 2015).

- Butcher N, Latchem C, Mawoyo M, Levey L 2011. Distance education for empowerment and development in Africa. *Distance Education*, 32(2): 149-158.
- Cook FJ 1998. Distance Education for Agriculture and Rural Development: The Third Wave. Agricultural Extension and Rural Development Department (AER-DD), The University of Reading, UK. From <<http://www.rdg.ac.uk/AcaDepts/ea/distance/third.pdf>> (Retrieved on 1 May 2015).
- Demiryürek K 1993. *A Research on the Farmers' Participation of YAYÇEP in Gölbapi District of Ankara, Turkey* (in Turkish with English abstract). MSc Thesis, Unpublished. Institute of Natural and Applied Sciences. Ankara, Turkey: Ankara University.
- Gelb E, Offer A 2005. ICT in Agriculture: Perspectives of Technological Innovation. From <<http://departments.agri.huji.ac.il/economics/gelb-main.html>> (Retrieved on 19 May 2015).
- Grunfeld H, Lee Hoon Ng M 2013. A multimedia approach to ODL for agricultural training in Cambodia. *The International Review of Research in Open and Distributed Learning*, 14(1): 222-238.
- Gültekin GG 1995. *Farmers' Expectations and Comments on YAYÇEP in Turkey* (in Turkish with English abstract). MSc Thesis, Unpublished. Institute of Social Sciences. Ankara, Turkey: Ankara University.
- Irfan M, Sher M, Ghanzafar AK, Asif M 2006. Role of mass media in disseminating agriculture technologies among farmers. *International Journal of Agriculture and Biology*, 8(3): 417-419.
- Jenkins J 1989. Some trends in distance education in Africa: An examination of the past and future role of distance education as a tool for national development. *Distance Education*, 10(1): 41-63.
- Khan GA, Muhammad S, Chaudry KM, Khan MA, 2010. Present status and future preference of electronic media as agricultural information sources by the farmers. *Pakistan Journal of Agricultural Science*, 47(2): 166-172.
- Kızılarıslan N, Gürler AZ 1998. *Tarimsal Yayım Çalışmalarından Biri Olan YAYÇEP'in Tokat İlindeki Etkinliği Üzerine Bir Arastırma*. No: 26. Turkey: Gazi-osmanpasa Üniversitesi Yayınları.
- Koutsouris A 2006. ICTs and rural development: Beyond the hype. *Journal of Extension Systems*, 22(1): 46-62.
- Leeuwis, C, Van den Ban A 2004. *Communication for Rural Innovation: Rethinking Agricultural Extension*. 3rd Edition. Oxford, UK: Blackwell Science.
- McLean S, Gasperini L, Rudgard S 2002. Distance learning for food security and rural development: A perspective from the United Nations food and agriculture organization. *The International Review of Research in Open and Distributed Learning*, 3(1): 1-19.
- McQuail D 1994. *Mass Communication Theory: An Introduction*. 3rd Edition. London: Sage Publications.
- Md Sallah H, Hayrol Azril MS 2009. Internet usage among agro-based entrepreneurs: Can it affects productivity? *Journal of Agriculture and Social Sciences*, 5(3): 61-66.
- Öner E, Uguz U, Özat HE 1998. *A Report on Farmers' Opinion and Suggestions on YAYÇEP in Turkey* (in Turkish). Ankara, Turkey: Ministry of Agriculture and Rural Affairs.
- Perraton H 2000. Rethinking the research agenda. *The International Review of Research in Open and Distributed Learning*, 1(1):1-11.
- Rogers EM 2003. *Diffusion of Innovations*. 5th Edition. New York: Free Press.
- Rumble G 1989. The role of distance education in national and international development: An overview. *Distance Education*, 10(1): 83-107.
- Swanson BE, Rajalahti R 2010. Strengthening Agricultural Extension and Advisory Systems: Procedures for Assessing, Transforming, and Evaluating Extension Systems. *Agriculture and Rural Development Discussion Paper 45*. Washington, DC: World Bank.
- Van Den Ban AW, Hawkins HS 1996. *Agricultural Extension*. 2nd Edition. Oxford, UK: Blackwell Science.