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Rural ICT interactive planning in Ardabil province: Sardabeh case study

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Abstract

Rapid and meaningful development in ICT has entered in all aspects of human life. The extension of ICT, as a result, has provided a lot of potentialities for achieving the suitable governmental aims in developing countries. Iran has also started the development of rural ICT in different parts of the country. In this study we tried to investigate this fact as the onset of new advancements in rural development in Iran. We have tried, with the cooperation of the people in Sardabeh village, to investigate the issues related to rural ICT. The results of the study indicated that ICT development in Ardabil city and especially in Sardabeh village is not possible without the help and cooperation of people and government.

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1. Introduction

Information and Communication Technology (ICT) is increasingly being used by the governments to deliver their services in locations convenient to the citizens. The rural ICT applications attempt to offer the services of central agencies (like district administration, cooperative union, and state and central government departments) to the citizens at their village door steps [1]. These applications utilize the ICT in offering better and more suitable services. Several governments have attempted to adopt these technologies to improve the reach, enhance the base, minimize the processing costs, increase transparency, and reduce the cycle times. ICT is generally used as an instrument for confronting with poverty, enabling poor people especially women, enhancing the social services, increasing the level of information for supporting food security, increasing knowledge of combining the local knowledge with innovative strategies in agricultural fields, providing equal opportunities for all of the people in the village to have access to needed information and many other advantages alongside many other social, cultural , and political issues in village societies.

Internet, with the help of new technologies, has facilitated the distribution of information and brought about the cooperation of people in interactive processes. Thus, most of the countries around the world tend to use ICT for the reduction of the poverty and empowerment of the villages.

In 2009, near 256 rural ICT offices were opened and in 2010, near 320 rural ICT offices are supposed to be

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inaugurated. Overall, the number of rural ICT offices will reach 576. As it is indicated in Table 1, Sardabeh region involves 25 villages with a population of 20579 [2]. While some of these villages have access to ICT, other villages are going to gain access to ICT soon. In this region most of the people are either farmer or dairy farmer and they speak Turkish. They have a lot of potentialities for development and using the new technologies.

Table 1. Population Situation in Sardabeh villages

Sardabeh villages	Family	Population			Villages	Rural ICT
		Whole	Man	Woman		
Sardabeh	4567	20579	10495	10084	25 Village	ICT in a number of villages

Developing the abandoned and desolated areas is one of the issues that Iran is interested to follow. Streamlined and effective use of ICT can provide a lot of help in villages. Nevertheless, issues like investment, training the villagers and designing a good system for using and having access to ICT is not negligible. Related rural development organizations like Ministry of IT and Communication that try to develop rural ICT in different parts of the country should develop a special program with villagers' cooperation. Such a program is essential for villages that are using ICT as well as for those that will benefit ICT in future. In this study, using interactive programming, we have tried to look at ICT development in Ardabil city and Sardabeh village.

Considering the potentiality of this region, ICT development seems to be essential. We have tried, with corporation and involvement of the villagers in villages that have access to ICT and those that have not, to make a plan for ICT development.

2. ICT in Iran

Computers have become more powerful, user -friendly and less expensive. The PC revolution has brought them closer to the users to the extent that in a number of cases users have designed and developed their own applications. However, until recently, it has not been easy to create local content and regional language interfaces to facilitate their use in villages [3].

ICT development has had both positive and negative effects from the social, political, and economical point of view in different villages. One of the effective ways for programming rural development in Iran is ICT development in villages. ICT is one of the most important criteria for development and advancement in every country. ICT development in villages brings about the dissemination and circulation of information over villages. ICT is also an effective way for facilitating development and it has a lot of potentialities in helping poor villagers, increasing job opportunities and offering governmental services.

With increasing the villages that use ICT in Iran the role and importance of IT and communication is undeniable in rural planning. For this reason developing good strategies for ICT development is an important issue for those who work in the area of ICT development.

The most tangible advantage of ICT in developing countries is approaching giant sources for education and training without any cost or a very little cost [4].One of the areas that ICT, for example, has been able to assist is the field of language learning [5]. The popularity of ICT over the past decade has brought about the innovative use of Internet in second language learning and teaching setting [6]. Web tools such as email, World-wide web, and Chat room have been integrated in ESL and EFL settings [7]. The primary motivation for integrating ICT in education is the belief that it supports students in their own constructive thinking, allows them to transcend their cognitive limitations, and engages them in cognitive operations that they may not have been capable of otherwise [8]. Lim's study showed that the use of ICT strengthened the teacher's repertoire of skills and opened up a wider array of learning resources for students to access. This provided a greater degree of independent learning, encouraging more able students to expand their horizons beyond the standard curriculum. He believes that the rich, interactive capability of ICT-mediated learning resources motivated and engaged weaker students, and allowed them to learn at an appropriate pace [8].

Rapid development of rural ICT with the snappy slogan "better village, better life with ICTs" has been one of the priorities of IT Company in Iran. Since the inauguration of the first rural ICT office in 2005, near 2000 rural ICT offices have been opened per year [9]. With boosting the Internet usage around the world, Iran, not very eager at the first stages, has tried to use this technology. Iran has a population of 69 million and near 23 million of them is living in the villages. Near 6 million are using Internet in Iran and nearly all of them are those who live in cities. Until 2003, only three villages, i.e. Shahkuh, Meymak, and Gharnabd, had access to Internet. Thus, most of the people who were living in villages did not have access to Internet [10]. Now, over 9950 villages utilize ICT and near 9912 rural ICT centers will be inaugurated soon [9].

Based on the Iranian development fourth program, executing ICT and providing various services with the aim of increasing villagers' skills and providing job opportunities have been emphasized. In this program 9800 rural ICT offices were established throughout the country and ministry of IT and communication has decided, based on the fifth program, to establish near 6800 offices. If this part of the program is implemented, all of the villages that accommodate more than 350 people will have rural ICT offices. The budget of these offices includes current budget and financial budget. In the fourth program the financial budget of every office was 200000 dollars and the current budget of every office was 5000 dollars per year [11]. Based on a law passed in Iran's legislation, the government is obliged, for promoting the rural development criteria in Iran, to prepare a comprehensive rural development program and apply and implement it in rural areas.

3. Methodology

The method we have used in this study is both qualitative (interview and observation) and interactive planning. Interactive planning is based on the view that for understanding every problem we should look at it from a general point of view.

Interactive planning process can be divided into five stages: 1) ordering the disorders: opportunity and threatening system; 2) purpose planning: emphasizing the aims that should be accomplished; 3) instruments planning: choosing or creating the tools needed for achieving the goals; 4) sources planning: determining the necessary sources; 5) implementing and controlling the plan: determining the type, time and place of activity and the howness of implementation and its consequences, i.e., its keeping in the right place [12].

For implementing interactive planning in Sardabeh village the first step was to investigate the positive and negative points of ICT in order to find the possible problems. In the next step of interactive planning, we conducted structured and semi-structured interviews [13]. For obtaining more information, the researchers also conducted group discussions. For analyzing the data, after writing the oral speeches of villagers and coding the data, interactive planning procedures were conducted.

4. Research Findings

One of the main factors in making and continuing cooperation among villagers is sharing the advantages and making a decision in the process of planning .Considering the interactive planning approach, we chose fifty villagers from Sardabed village. The participants of the study, after being informed by the leaders of the village about the research purpose, participated in the structured and semi-structured interviews. All of the participants were randomly chosen for the study. Most of the questions were around the following issues: familiarity with ICT and its usage, necessity of planning and cooperation of people during the preparation and implementation of the program, involvement of ICT development agencies, ICT development problems in region, and educational planning preparation according to social and cultural specification of the region. The interactive planning was implemented after analyzing the interviews and coding the data. It is worth mentioning that the interviews were in line with the interactive planning.

Considering the importance of ICT planning, we can refer to the statements of the participants. Most of the participants of the study shared the belief that people can improve their life through ICT planning. One of the participants, for example, stated that he sometimes needs to obtain some information about the new technologies in the area of agriculture and if he had access to Internet he could browse the websites and find the needed information. Regarding the importance of people's cooperation, most of the participants believed that they are ready to cooperate in ICT planning projects. One of the participants of the study, for example, stated:

"We are even ready to buy some land for ICT offices and supply it with the needed apparatus".

Among the probable problems that people have with ICT we can refer to low speed Internet, Internet disconnection, unfamiliarity with English language and lack of instruction in this field. One of the participants of the study stated that he had problems with Internet connection when he was going to register his daughter in university. People also believed that they cannot ignore the importance of English when they are working with Internet.

People are very eager to see ICT offices develop in their region. They are ready to cooperate in establishing new offices. They believe that ICT can provide a lot of opportunities for their children to continue their education better. One of the participants, for example, stated

"Our children's future is very important for us and we want them to be familiar with new technologies".

Here we describe the different stages of interactive planning:

First stage) ordering the disorders; opportunity and threatening system: investigating the positive and negative points regarding the Sardabeh case is as follows:

A. Environmental issues

Positive points: reduction of the number of travels for job purposes or for buying some services; environmental pollution reduction; improvement of villagers' information about their environment; and provision of the latest news regarding the information services about prices and weather condition.

Negative points: No negative point was discovered regarding the environmental issues.

B. Cultural and social issues

Positive points: saving time and energy among villagers; e-learning; usefulness of ICT in education; English-language learning awareness; and tackling problems regarding the relationship among villagers.

Negative points: unfamiliarity of villagers with rural ICT; cultural problems like spending lots of hours using Internet; cybercrime; wasting time on surfing in Internet; and unfamiliarity of the old generation with ICT.

C. Economical issues

Positive points: increasing the number of villagers in decision making; using technologies like fax and electronic services; reduction of the distance between villagers and researchers; e-buying; and reduction of the cost of trading.

Negative points: No negative point was discovered regarding the economical issues.

Second stage) Purpose planning; emphasizing the aims that should be accomplished

- Ideal plan: rural ICT development that is planned and developed cooperatively.

- Long term aims: increasing the cultural level of rural societies; decreasing the common boundaries between rural and urban regions and reducing the gap between them; flourishing the village economy through marketing and

selling the products; providing the opportunity for having access to electronic training; and providing public services via ICT.

- Short term aims: providing job opportunities related to rural ICT; developing and establishing rural ICT training centers; developing the necessary social and technical foundations; and providing English language courses for interacting with tourists.

Third stage) Instruments planning; choosing or creating the tools needed for achieving the goals

Among the instruments that is necessary for achieving the goals we can mention to the existence of data centers and centers for providing Internet services in Ardabil city and increasing the telephone and mobile lines.

Fourth stage) Sources planning; determining the necessary sources

Sardabeh region enjoys a rich natural, historical and valuable cultural heritage; sufficient facilities for tourism industry; and potential financial and economical sources.

Fifth stage) Implementing and controlling the plan; determining the type, time and place of activity for everyone

Most of the responsibility in relation to rural ICT development planning is on the shoulder of organizations like ministry of IT and communication, ministry of housing, tourism and cultural heritage organization, and organizations related to ICT development. These organizations with the corporation of the villagers prepare and provide the needed plans and sites for villagers.

5. Conclusion

Internet is now doing something incredible; it is a great and magnificent source for development.ICT development, however, may have negative consequences if the villages and rural areas are ignored. The negative effects include confrontation of villages and cities, increasing emigration, and destroying the industries and local knowledge. These are very important factors that cannot be ignored. Therefore, preparing a good plan for villages that are using ICT at the present time and the villages that benefit from it in the future is essential.

Improvement of communication is an important tool for rural development. When the modern communication technologies are applicable in villages and ICT is transferred into villages, we can see the development of villages in different aspects like increasing cooperation, and spreading the latest information among villagers. The villagers have a variety of needs and ICT should be able to respond to these needs. Internet, for example, as the newest technology in this century, can help villagers in different aspects of their life.

Most of the villages for using Internet need to have other technologies like electricity and some instruments like modem and computer. If the villagers do not have personal computers, there should be some places that can offer this service to them. For ICT development in Sardabeh, we need to have three criteria: a) active local investment; b) investment on local sources; and c) active local control.

Although most of the participants have positive points of view toward ICT development, some of them are disappointed about its development without pre-planning. Nonetheless, most of the people are ready for tourism development programs, in case they can benefit from its advantages.

The results of the study show that ICT should be based on local organization and local control and it should be related to local characteristics and specifications, otherwise the negative aspects of the ICT will overthrow its positive aspects. Therefore, we, with the aim of interactive planning, should try to influence the ICT development and change its direction toward all levels of rural society from rich to poor.

Most of the Sardabeh villagers have problems with using modern communication technologies. The results of the study revealed that the villagers themselves have some ideas about ICT development and this need to be considered when such plans are supposed to be implemented.

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