

The Challenges of ICT Development in Rural Area Case study: Village Aleni, Meshkin Shahr in Ardebil Province

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Abstract: There are so many problems changing a traditional society into a modern one. Even using one type of a new technology can shake up a small rural society. Technology development in rural area and villages can bring up problems and challenges, some of which come from the village itself and some are from outside the region. Basically, new technologies stay in urban areas and rural areas, on the other hand, villages get less of the new technologies and welfares. In this study, village Alleni from East Meshkin division of Meshkin Shahr in Ardebil Province has been investigated. Based on the 2006 Census, Alleni Village has about 500 households. Although this village has some basic ICT facility centers right now, however, adding development to ICT centers in this village is very challenging. In this study, these challenges and limitations have been studied. The results show that in spite of having basic informatics technologies, being close to the city, and having the potential for advanced technology, Alleni village has so many inner problems and challenges toward informatics improvements, mainly because of the economic problems (such as high internet expenses and not using internet to improve the economy), and also, because of the social- cultural problems. Besides, we need to remember that lack of governmental investments and supports cause external setback for not developing ICT Centers in this village. This research is done based on the analysis and descriptions on literature reviews, interviews, and survey questionnaires.

Key words: Alleni village, ICT, Challenge, the environmental input,

INTRODUCTION

In recent decades, despite of all the economical, social, and cultural developments in developing countries, there are still millions of people in these countries mainly in villages who suffer from poverty and deprivation and don't have even the basic facilities in their lives (Agricultural Research Center, 1996). For years economists have studied and researched a lot to find the main reasons of this deprivation in villages' economies to find the best solution for this crisis. They figured out that the best and the most practical solution is ICT improvement in villages. Experiences in other countries show that in order to decrease the level of poverty, we need to improve economy and increase the money investments at the same time. Today is the era of communication and information technology and all human activities are going to be based on the internet and web (Arbabian, March 2004). Despite all benefits which have advanced ICT Centers in villages, there are many problems toward changing a traditional rural community to a modern society. A new technology can bring changes to a rural society and if people in that society don't find the technology to be beneficial or if they think that the new technology may harm or change their cultural and international identities or their religious believes, they will stand against it. There are many problems and challenges toward developing the information and communication technology in a rural area. One of the most important inner challenges is how to introduce the technology and give the information to the villagers and convince them to accept the new technology. There are also lots of outer challenges introduced in this article. Most of the time, the new technologies don't go further than the city borders and rural areas get the minimum share of technology improvement. Lack of governmental investments in communication and information technology improvements in the rural areas and villages as one of the main human resources in a country, and also lack of suitable communication and information system to broadcast the information through villages, are the main outer challenges in technology improvement in villages. In this paper the results of these problems, drawbacks, and obstacles toward ICT improvements as "inner and outer challenges" in a society in general and specifically in a village have been studied.

The result of this study shows that the most important challenges in ICT improvements in a village are from the inside.

The Importance of Information and Communication Technology:

There are different theories about why some countries are developed and some are not. Natural resources, colonialisms, and even having better geopolitical situations can't be the reasons for development because there are many developed countries without these supremacies. The only reason for the western countries to be developed in the last centuries is their improvement in advanced technology and science (Haj Fathaliha.1993). Information and communication technology (ICT), is one of the signs of technology. Today, ICT is one of the main technological and industrial improvement and progression signs. These days, we cannot ignore ICT since it has such a deep influence on political, social, cultural, and economical aspects of our lives. The influence of informatics technology is quite worthy to be studied both because it brings more opportunities to a society and more challenges into companies. It is obvious that the globalization of economy, culture, and many other modernization changes is not possible without information technology. The importance of information and its availability has changed the developed industrial societies into informatics societies. It also has changed their industrial economies into economies based on information and science (Lovden, 2003, p.6).

Definition of Information Communication Technology:

Information communication technology includes a vast variety of technology equipments and resources to create, spread, save, and manage data and information. Modern ICT includes computer invention, internet, wireless communication technology, powerful softwares to process and unite text, sound, and picture in electronically broadcasting. In other words, information communication technology is the convergence point of electronically data processing, information and communication technology, and long-distance communication (Tayyeb, Alireza, 2000, p. 13015). Machines, technical science, methods, and using skills are in our hands to produce, exchange, process, reuse, and transfer the information from the basic to the advanced level of informatics (Lovden, 2003, p.1).

Basic Theory:

There were some important events happened at the beginning of the third Millennium that changed the future of human lives both in cities and villages. For example, the revolution in technology which was based on the Information and Communication Technologies (ICT), was so fast and worldwide in all aspects of human lives- such as political, social, cultural, and economical aspects, that its influences on individuals and communities cannot be neglected (Fazelnia and Kiani, 2003.p. 19). In this regard, villages have also been influenced by the ICT development. Without any doubt it is impossible to study the evolution in villages and planning for their future regardless of the role and importance of information and communication technology development. Therefore, the compilation and development of ICT policies and strategies have become the important issue for many countries, especially developing countries. But the important point is that the ICT development has both positive and negative effects on the society and utilization of its benefits depends on the capabilities of its users (Noori, 2003, p.9).

Because of its abilities and potential, Information and communication technology has brought us better and more appropriate conditions toward mechanizations in all aspects of human life, especially in economics. Information and communication technology (ICT) is one of the aspects of technology. Rural areas and villages are among those areas that need information technology development. Right now, 40% of the total population of the world lives in rural areas (Jalali et. al. 2003, p. 9). Information technology can have an important role in promoting the prosperity in economics, social, cultural, and political aspects of rural areas.

Comprehensive training in agriculture, livestock and natural resources through promotion of ICT for rural residents and optimizing their decision making, and above all of these their participation in developing programs seems essential (Naghavi, 2002, p.331).

Of course ICT in rural areas is the solution for gradual elimination of traditional barriers for development by increasing access to information, expanding their markets, increasing job opportunities and better access to the governmental services.

Location:

The study area on this research is Alleni Village, from East Meshkin division of Meshkin Shahr in Ardebil Province. Based on statistical census in the year 2006, the village located 5 kilometers away from Meshkin Shahr, has 500 households. This village is expanding right now and is about changing into a town. This factor has led to settlements of some IT and communication centers in this village.

Positive Impacts of ICT Improvements and Propagation:

ICT and Social Development:

Potential role of ICT in social development is observed in both individuals and groups. Education can have a major role in social development. There is a clear interaction between ICT and education. Perhaps the most tangible benefits of ICT for developing countries, is having access to great resources for higher education with a

minimum or no costs at all. However, long distance learning has been successful especially for deprived rural areas in which geographical distance and lack of money are the main hindlers. Therefore ICT development has the potential to create social development for the rural poor and vulnerable people, especially women and children, by providing long distance education.

The results of the research.

Gender	Male	Female	Total		
Number	34	4	38		
Marital Status	single	Married			
Number	14	24			
Education	Below High School	High School Diploma	College Degree	Bachelor	Masters and Above
	9	11	8	9	1
Age	20-25	25-45	45-65	Above 65	
Numbers	9	20	5	4	

Reference: statistical studies

ICT and Increasing the Ability of Decision- Making for Rural Residents:

Information is essential for the right decision- making. A right decision and short- term or long- term planning in economical, political, cultural, and social aspects in an organization, at local level, a village, national and international, depends on correct and proper information. Lack of access to the proper information can cause irreversible damage to the economy. ICT has an important role in increasing the speed of decision making. In other words, using ICT to find problems and opportunities, which are the foundation of decision making and strategic planning, is done faster and more accurate. It also increases the quality of decisions in a shorter required time. So, increasing the use of ICT in rural areas and providing useful information for the villagers, one can hope that their ability of decision making will significantly increase.

Develop and Promote ICT in Rural Areas:

Communication technologies have created opportunities to promote effective and timely response for the users. In fact, internet communication services are some tools for the personnel to promote dissemination the new technologies. Using internet can also shortens the distance between researchers and the villagers and creates such a mechanism which makes bottom-up dialogue possible and broadcast local knowledge. In fact, ICT propagation increases the interaction between villagers and the promoters. It increases the use of application of scientific principles in agriculture as well as the attention to the needs and demands of the rural population in scientific researches.

ICT and Expansion of Rural Markets:

Electronic commerce is one of the advantages of IC formation .Electronic commerce means a wide use of information technology in commercial processes using electronic tools to achieve business objectives. Electronic commerce helps producers to follow the price and demands for their products and find the best market. Governments can also distribute the products in the best way possible. Moreover, telecommunications media, can help in money Transfers and provide other financial services, services which for a long time have been available for urban centers in developed countries; but due to the geographical constraints and financial considerations the business managers of rural areas couldn't have.

ICT and Reduction of the Effects of Natural Disasters and Plant Pathology:

Information and communication technology can be used in order to prevent damages caused by natural disasters. ICT can reduce the damages of natural disasters and pests by informing the farmers in time. Of course it is necessary to train farmers the inexpensive and rapid methods of damage reduction at the same time.

ICT and Environmental Preservation:

With the establishment of information and communication technology centers we can reduce the costs and numbers of business, training, and shopping excursion trips significantly; which can reduce the concentrations of air pollution factors such as SO₂, HC, CO₂, and pollution from vehicles. Besides, comparing to other types of technologies, ICT needs less energy and materials, which is environmentally friendly.

ICT and Increasing the Quality of Life:

ICT can increase the quality of human life by creating more facilities. For example, these days, people in Singapore have more free time because they reduce and simplify the daily work by using ICT. In this country, almost all the governmental transactions are done through computers and telecommunication networks. School admissions and registrations, tax payments, receiving applications and agreements, paying bills, and etc. are all

carried out electronically. Shoppers can select video images of clubs on computer screens and compare different products with one another and purchase their favorite products with credit cards.

ICT and Empowerment Rural Life:

Empowerment is the process of sharing power with the group members, in other words, empowerment means giving the decision granting authority to the subordinates. The most important role of ICT in empowerment is providing the accurate and timely information with appropriate quality and cost. In addition, the ICT is able to provide new tools that enhance creativity, productivity of individuals, and the quality of their work.

ICT and the Increase of Possibility of Long- Distance Job:

According to the European Commission, Telework is defined as "the use of computers and telecommunications to change the work locations and job duties." In many countries, ICT have eliminated the workshop and send employees home. ICT makes it possible for the employees to work everywhere at any time. In fact, the principle of "Mobility of labor " has made it possible for employees to work from 9 am to 5 pm any places in the world (Noori, 2003. P.11-14).

The Negative Effects of ICT Development:

ICT and Disparate Distribution:

Castles claims that, information technology will enhance rapid heterogeneous development in a modern capitalist system. At the macro level, information technology and communications provide more benefits mainly for developed countries and this happens through the raids opening new markets in developing countries. Thus ICT can deepen the gap between developed and undeveloped countries, and with increasing inequality income distribution, makes the poor's lives worse than before. This situation can be also seen locally in rural areas, as urban areas with having ICT are benefited more than the villages. In fact, expansion of ICT can develop cities' economical and competitive powers against rural areas, which leads to more unequal income and service distribution.

ICT and the Increase of Poverty:

Inability to achieve, Poverty is defined as inability to achieve a socially acceptable standard of living which is measured in terms of basic consumption needs or required income. Some researchers believe that the spread of ICT increases poverty due to the unequal distribution of facilities and increasing the centralization in urban areas. But there are some who believe that ICT can be effective in reducing poverty. However, it is predicted that in the process of globalization and the spread of modern information and communication technologies, the poverty or better to say "the feeling of poverty" will be more severe in future.

ICT and the Increase of Competition:

ICT can improve customer services and changes the customers' relationships. It can draw back new competitors from entering the market or dissuade them from entering the market, and at the same time, improve communication with suppliers. In other words, ICT can be used both as a strategic and/or defensive weapon, and this is in detriment of small workshops in rural areas because many of them are weak competitors due to lack of assets and skilled human resources, which leads to low quality productions. Besides, they are usually away from markets and having poor communication infrastructure capabilities.

ICT and Creating New Job Opportunities for People with High Skills:

Although the information technology growth reduces the need of manpower in many sectors of manufacturing and services but it has also created many related new jobs. However, it is necessary to mention that most of these new jobs are professional and require high level of skills, expertise and education. So, the employment generated by ICT are available for those young people with higher level of education and skills, while the most active rural young people have lower levels of education and knowledge.

ICT and the Increase of Unemployment:

Some of the recent studies show the negative impacts of ICT on employments and labors. Some of these studies indicate that the spread of information technology and automation, which have provided long-distance on line jobs, eliminated many simple jobs. Based on the studies, more improvements and spread of ICT and mechanization will increase the rate of unemployment among both unprofessional and professional workers (Noori, 2003. P. 14-15).

Limitations and Challenges of Internet Development in this Case Study, Alleni Village (Internal Challenges):

If we accept that ICT facilities in rural areas provide new capabilities for rural developments, it is necessary to know the existed limitations too, so that we can fix problems. The most important limitations of Internet development in rural areas can be summarized as follow (Barani. 2003, p.5):

Lack of Suitable Telecommunications Infrastructure:

Currently, in rural areas there is no telecommunication infrastructure for ICT developments. Villages and rural areas don't have internet service centers and people need to connect to the internet through internet service centers in cities. This type of internet connection has two disadvantages: due to the long distance between villages and towns, this communication is costly. Because communication and information transmission lines in rural areas are analog, information transmissions is very slow and with lots of disturbances. For examples, rural areas don't have ADSL services and most of the time they have only low-speed internet.

Table 1: shows the government's fiscal investment and support for ICT development in Alleni village (based on field studies):

Indicator	The efficacy			
	Very low	Low	Medium	High
The Government's investment in ICT infrastructure in rural area	2.63	21.34	26.31	34.21
The government's financial support, credit and fund for computer and internet access in rural areas and villages	5.26	23.68	10.52	5.23

The above table shows that the role of public investment as an exogenous factor and facilitator in the process of shaping infrastructure, telecommunications, and financial support for the villagers in connection with information technology and communication in the village is very poor; based on the field studies, public infrastructure investment for the village was below the average. Financial support for easy access to computers and the internet for the village is also below the average.

Lack of Personal Computers at Homes and High Cost of Internet Use in Rural Areas:

Despite the growing imports of computers and computer sales centers, there are still a small part of rural households that own personal computers at homes. Thus, it is possible that ICT is going to be only in the hand of wealthy people in rural areas and villages.

Table 2: shows the average income of the household based on field studies:

Description	Bellow 3000 US \$ /year	Between 3 to 6 thousands US \$/ Year	Others
Amplitude	20	11	7
Percentage	52.63	28.94	18.42

Table 3: the cost of using ICT based on field studies:

Description	Very low	Low	Medium	High
Amplitude	3	4	11	20
Percentage	7.89	10.52	28.94	52.63

One of the major challenges for the villagers to access to IT is poverty. For most villagers taking care of the basic needs is in priority. On the other hand, because of their agriculture-based economy and their conservatism life style it is hard for them to think about changes and evolutions in economical activities to increase their income and pull themselves out from the isolated rural life style. Therefore, access to information technology in rural communities is possible only for wealthy families and sometimes educated people. According to researches, in Alleni Village, more than 52 percents of statistical chosen households are having annual income less than 3 thousand US Dollars. Low income is the main reason for not being willing to use information technology. More than 52 percents of the households mentioned that the reason for not using IT is its high cost.

Lack of Familiarities of Villagers with Computer:

One of the main problems in rural areas is their lack of higher education. If we consider the ability of using computers as the basic skills needed for using ICT, we need to accept that the use of the technology more or less confined to the younger generation.

Table 4: shows the computer and internet skills among people based on field studies.

Description	Very low	Low	Medium	High
Amplitude	1	7	24	6
Percent	2.63	18.42	63.15	15.78

The information gained from field studies shows that in Alleni Village about 15% of people mostly young have sufficient computer and internet skills, while about 63% of people have enough education and abilities to work with internet. While 63 percent of the households have the optimum knowledge of using computers and

internet (for watching movies, computer games,...), about 19 percent of the household have low knowledge of computer skills, and for about 2% of the households the skill level is very low. Generally, about 83% of the households have average and below average of computer and internet skills and knowledge.

Fears of Possible Cultural Damage from Accepting or Rejecting Technology (in Family and Society):

Due to scattered rural settlements, lack of proper communication path, and the predominant system of settlements in the past, villagers have had little contact with the outside world, and this has led to the formation of specific cultural values associated with rural settlements and mixed with the believes, superstitions, values, etc. Because of this belief structure, any new approaches of a new culture and attitude will face up to the stiff resistance, especially from traditional people (mostly because of lack of knowledge and education and self confidence). Although, it should be noted that in recent decades, with changes made in the rural settlements, new approaches to the replacement of traditional culture has been facilitated, however, the rural community's moving speed toward civility is very slow. In fact, at present, people can be divided into two groups in reaction against innovation in rural settlements:

A: The traditional conservatives who are opposed to any kind of changes

B: Mostly young and educated people who are interested in innovation and moving out of historical isolation.

This classification shows that one of the main challenges toward any kind of innovations (including ICT), is inside the rural settlements. To overcome this challenge and unify the rural residents to accept innovation in technology, we need to build up the culture over time.

Table 5: Effectiveness of various factors in education, and acceptance of information technology in rural areas (based on field studies).

Factor	Effectiveness (%)			
	Very low	Low	Medium	High
Do you have Reliance on information obtained from ICT?	28.94	36.84	7.89	23.68
Does the use of ICT cause ethical problems among the youth and families?	7.98	34.21	34.21	21.05

Field study in Alleni Village shows that the households' reliance on the information obtained from ICT is moderate to low (68.41%?). In fact, although this village in terms of basic facilities and infrastructure technologies such as Post Banks, café nets, telephones, and etc. is in a better situation than its neighbors, yet, the residents haven't had enough trust in ICT for having better and easier life. This is because of lack of knowledge of using informatics technology. On the other hand, because of the resent ICT educations and the impact of being in proximity to the city and the effect of urban culture, the majority of the households (89.47%) don't believe in ICT's role in creating ethical and social abnormalities.

Villagers Need to Understand the Feeling of Having Information and Communication Technology:

Technology development in rural villages must be done based on residents' basic identified needs and in the easiest way. For example, in agriculture section, available information can be implemented in a comprehensive database. Because most rural residents don't have high level of education, using audio and video training in this database is more effective. Creating these databases is also necessary in other sectors such as health, education, and governmental electronic services (Caspary, 2003). It should be noted that in order to expand the use of innovative information technology and innovation in a rural society, it is important that villagers desire and would want that kind of change; they need to know the importance of innovation and transformation, so that they will be unified and move toward using IT in their lives. After understanding the need of using IT, which should be educated by local leaders, local administrations, educated and literates, training should be simplified for uneducated and illiterates. Simplification has an effective role in encouraging villagers to take advantage of information technology.

In order to study the mentioned challenges, based on data gathered from field studies (Table 1 and Table 6) the following results were obtained:

1. In developing the ICT centers in Alleni Village, the residents' needs were not considered very much. Graph 1, shows that 50% of the households believe that very little attention was paid to their needs in local information technology expansion, while 31.57% of them believe that their needs were not considered at all. Only 18.42% of the residents believe that the information technology expansion is aligned with their needs, most of which were educated or has a job in communication and information fields (resources: field studies).

2. Rural residents feel little need to use information technology and communication for awareness of the situation of markets to find the best sales price of the products and eliminate the intermediary sales, although it is one of the most important uses of ICT for farmers. Study shows that less than 44.73% of people in rural areas are aware of this benefit. In general, 68.93% of the rural residents don't feel the need of using technology in their lives. Lack of information system among the relevant organizations such as Agriculture Organization, to use information technology in connection with economic activities, especially agricultural activities in this villages is one of the reasons for this low percentage of awareness.

Table 6 shows the influence of various factors to create a sense of need for ICT in rural households in Alleni Village (Resource: field studies).

Factors	The Rate of Influence (%)			
	Very Low	Low	Medium	High
Do you need ICT to get the information about markets place	44.73	15.78	8.42	15.78
Have you got enough information about ICT from Agriculture Organization?	10.52	13.15	46.36	36.84
Due to proximity to the markets of agricultural products I do not use ICT	2.63	28.94	39.47	23.68
Because we sell rural products to intermediaries we don't need to have information technology	18.41	26.31	34.21	18.41

Besides of all these, Alleni Village has easy access to the farmers markets because it is located close to a city (Meshkin Shahr), it also have several small farmers markets inside the village due to the expansion of the village during the last few years (According to the Census in 2005, the village had 500 households, and it is going to change into a town). All these reasons fade the needs of technology access. As it is shown in the table, 39.47% of the households believe that proximity to the city resulted moderate needs of IT to find a market place for farmers products, while 63.15% of the households believe that there is a little need for IT to find a market place for rural products. The residents believe that the presence and influence of intermediaries has a big influence on farmers for not feeling the need of using technology to find a market place for their products. They think that the rate of influence of this item is about 34.21% in medium range, and about 52.62% for medium and above. In fact, the belief of using IT to end the influence of intermediaries in the village has not been grown enough yet to stop this domination. There is a long way ahead to connect farmers and producers directly to the market places and using information technology is one of the best way to make this dream come true.

Lack of Enough Human Resources:

In order to ensure greater participation in rural development and make this opportunity that more people take advantage of ICT, comprehensive training and capacity building should be part of all projects. In fact, one of the best ways to confront and control challenges in rural development is developing human resources through knowledge and information sharing. ICT operators should be trained and educated first. Most of the ICT operators have insufficient training to get the full benefits of new technologies (Richardson and Rajasunderam, 1999, pp.12-13). Therefore, it is essential that we invest in education and counseling services.

One of the main reasons of the failure to extend the use of ICT in rural areas is the shortage of skilled specialists to educate local residents in rural areas, including Alleni Village. ICT training in Alleni Village training centers is very low; 55.26% of the households believe that the training is in a very low level, 26.31% of the households believe that the training level is low, and 18.42% believe it is moderate. Generally, the households believe that the trainers' efforts for training the villagers in order to get benefit from information technology and communication has been low (graph 2). It's been noted that based on the field studies the reason for low IT education level in Alleni village is because the trainers and those in charge, don't have enough ICT knowledge.

Hopes and Expectations of Information Technology in Rural Development:

It seems that to achieve a sustainable developed village and national food security, agricultural production and rural stability should be valued more than anything else. It requires producers to improve their ability and creativity which are required in their profession. This ability is the most important cultural infrastructure for development. Experts believe that changing our personalities is the key to the development (Sariolghalam, 2003. P.12-21). Based on this theory, the following items can be considered as a rural ICT development goals and expectations:

- A. Strengthen cultural identity through consolidation and transcendental values
- B. Strengthen the spirit of creativity, initiative and intellectual independence instead of having passivity
- C. Strengthen the spirit of having financial independence and foster a spirit of productive way of thinking
- D. Facilitate farmers' participation in making decisions and planning by raising the possible ways of giving their comments, criticisms and suggestions to the governmental agencies
- E. Secure rural community needs, ranging from basic needs (such as a culture of excellence) to secondary needs (such as hobbies)

Based on the above results, in order to examine how to achieve ICT development in the village, some objectives were raised; and residents' ideas and/or comments were questioned (graph...). Based on the study, education program has been successful about 62.78%, while decreasing the social gap about 21.05%, using agricultural machines and equipments were successful about 7.89%, and finally, the lowest level of success was for ICT developments in the studied village, about 5.26%. In fact the residents' livelihood is as the same as it was before. One of the weaknesses of the actions taken place for the urban development was the agents pay

attention to social – cultural changes such as revolution in social- cultural services and building basic service foundation rather than paying attention to the level of life style. The services mostly is just giving the information and not the aspects of sustainable development such as social, economical, cultural, and political aspects in rural areas(resource: field study).

External Challenges:

The Impact of Micromanagements (Parliament and Government) in ICT Development in the Rural Areas:

The most important role of the micromanagement in ICT development is explained below:

Creating A Suitable Environment for ICT:

Creating the situation in which ICT innovation is affordable, depends on the social and economic policies. The socio-economic policies such as exchange rates, foreign trade and economic efficiency of the government monetary and fiscal policies affect on the development and creation of ICT.

Determining A Strategy for Development:

The importance and priority of a technology such as ICT depends on how it helps to fulfill its goals and how it implements to develop the strategies. Electronically government system will not be achievable in a short time unless the specialists have a proximate program for developing the fundamental technologies in the rural areas.

Formulation of Objectives and Priorities for Technology Development:

In a nationwide management, the objectives and priorities of developing the country should be fully compatible with the technology development strategy. There will be successful executive programs and the objectives will be available in case of having logical connection between objectives and strategies in developing program.

Allocate Adequate Resources for ICT Development:

Nationwide macro management can manage to boost the transition process and technology development through the strengthening the research activities. Rural managers are the agents in charge of ICT application and development. So in the next level of management, the rural managers should play an important role in ICT developments in rural areas. The information and communication technology transferring and its development should be achieved using the infrastructure and trained manpower (Ashrafi and Karbasi, 2003, p.8-9). Table 1, shows that governmental money investments as an external element and a facilitator in the process of shaping the infrastructure of telecommunications and financial support in connection with ICT, was very weak.

Conclusion:

For any type of developments in human settlements, either urban or rural areas, some necessary fundamental elements should be available or should be created to make any developing action possible. Since rural areas have more problems in their structures and related functions than urban, in order to create a special performance in rural areas, economic, social and cultural structures should be made; otherwise, talking about rural development is nothing but a generalization. ICT development is not an exception. To develop ICT, it is necessary to study different aspects of needed substrates. Some of these aspects are from the village itself and some are external aspects. ICT development can solve some of the problems of rural residents but not all. ICT development increases access to information, markets, job opportunities, and governmental financial options.

The overall conclusion of studying Alleni Village shows that although this village is located close to a city and has basic informational and technological foundations, using this technology has not been really successful mostly because of the inner problems such as: high costs of internet access and lack of using technology in economical improvements and people's level of live style, and the social- cultural problems such as lack of specialized trainers, education, illiteracy, and traditional conservative objection against innovations. ICT development has been successful in the village only in some of the social- cultural objectives (mostly spread the concept of using technology, facilitating the daily affairs of certain public and private services) but not in economical aspects such as increasing income, job creation, marketing, and electrical trade. It should be mentioned that lack of investment and financial support from the public sector as an important external challenge, has a very important role on the failure of ICT development in Alleni Village.

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