PERCEPTION OF RURAL PEOPLE TOWARDS INFORMATION AND COMMUNICATION TECHNOLOGY (ICT) AS INFLUENCED BY INCOME LEVELS IN DISTRICT LODHRAN - PAKISTAN

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Abstract- Current studies were carried in district Lodhran, Pakistan using purposive sampling method. . Data were analysed through statistical analyses by using Statistical Package for Social Sciences (SPSS). The purposeof study to find out awareness of rural people about benefits of ICT, willing ness to learn and obtain ICT and future expectations.It has been found that income is basic factor that determine attitude of rural people towards ICT. High income people were aware of potential benefits of ICT and more willing to obtain communication technologies such as mobile, computer and internet as compared to medium and low income groups. However medium income people were more interested to learn ICT compared to other groups. English literacy also play important role in ICT adoption. These results provides basis to the researchers to assist the policy making bodies, extension department and Non-Governmental Organizations(NGO,s) to make extension policies targeting the rural people.

Keywords- Attitude, ICT, Income, Lodhran

I. INTRODUCTION:

The agriculture sector is an essential part of Pakistan's economy. It contributes 21 percent to GDP. Agriculture creat productive employment opportunities for 45 percent ofcountry's labour forceand 60 percent of the rural population dependsonagriculturesector for their livelihood. It has aimportant role in ensuring food security, enhancingthe economic growth, decreasing poverty and the transform to industrialization.(MoF2012)

Agriculture is equally important for industrial development. Out of about 5000 industrial establishments in Pakistan, about 60 percent are agriculture related. (Pakistan Bureau of Statistics Islamabad, 2011)

Pakistan has a total population of about 165.8 million and consists of four provinces viz., Punjab, Khayber Pakhtunkhawa (KPK), Balochistan and Sindh. These Province are subdivided into Divisions and Districts. Every district has a main proportion of rural area.(Sattar 2007) District lodhran is located in south of Punjab, and a fertile irrigated area and major crops grown in district are wheat and cotton while sugarcane, fodders and oil seed crops also grown in Lodhran, While main fruits are citrus, mango, guava. Modern information and communications tools (ICT) offer a fundamental role in improving the availability of market information and agriculture development in developing countries (InfoDev2009). ICT includes facilities like: Radio, T.V, telephone, Mobile internet, software and computer (Abdullah 2008;Kramer et al. 2007). ICT use usually passes through four stages, but mostly focus on the first and second stages (mental/ motivational and material access) in advanced countries while other two are digital skills, and final usage access.(Guti´errez & Gamboa 2010). ICT has strengthened livelihoods, has particularly ensured food security and has enhanced income opportunities for local communities and ICT has been regarded as a livelihood intervention and community development tool.(Moghaddam & Khatoon-Abadi 2013).

ICTs are mainly used to improve existing trading relations, help to maintain new commercial contacts, mobile phones are delivering clear benefits, reduce price variations wider set of customers, reduce journeys, reduce information asymmetries.(Bhavnani 2008)

Information about weather, seeds, trusted pesticide and fertilizer suppliers, pesticide sprays, crop diseases and their solutions, soil and water analysis, specific land treatments, comparative pricing of crops and inputs, balanced fertilizers, marketing techniques, food storage to minimising post-harvest losses and agriculture economics was cited as most needed by the farmers.(Siraj 2011)

In Pakistan the most (66.42%) of the farmers get information from farm visits of extension agents followed by 59.64% and 54.28% of farmers who obtained information from demonstrations

and personal visits of extension agent, respectively whereas, telephone calls were used by 41.78% of the farmers for obtaining information regarding agricultural technologies (Khatam et al. 2013)

A project launched by cooperation of Khyber Pakhtunhwa (KP) government, United State Agency for International Development (USAID) and Telenormobile network Pakistan for Peach and potato farmers in Swat. Telenor to send farmers SMS messages and voice recordings that provide information on crop prices, market access and disease prevention. The project will form trading centres to assist farmers increase sales by improving the way they market their goods.(Zaraimedia 2013). The Punjab government has a separate Directorate for Agriculture information that is using ICT tools to spread agriculture information. According to Siraj (2011)

Government of Pakistan paying attention for proliferation of ICT. Currently under Prime minister's national ICT scholarship programme 2013 offered 3800 scholarships for undergraduate students, 2500 teachers training in modern pedagogical techniques and about 36000 students imparted foundation training. (Ministry of IT 2013)

Study Problem

Availability of ICT for rural people is difficult to have it due to low income for farmers and their families that hurdle their livelihood in (has aspect agriculture, social and economic etc.). Thus it is important to evaluate the difference in rural population in terms of their income that affect them to obtain ICT or the perception towards having ICT and perception towards avoiding ICT.

II. OBJECTIVES OF STUDY

1. To measure the impact of income over access of rural people towards ICT
2. Level of awareness of having ICT remote and rural areas
3. Farmer's perception towards ICT according to level of income of rural population which can help to direct other studies and policies to improve livelihood of rural population.

III. LITERATURE REVIEW

Due to its critical importance, United Nations (U.N.) declared that Internet access is one of the basic human rights in the society (The United Nations2009).Recent studies proved that ICT implementation depends on countries' economic performance especially on productivity and human development.(Cortés & Navarro 2011). ICT is oneof driving forces of globalization, offernew opportunities, immediacy and ICTs also promote faster, more efficient, and betterDecision-making. Less education, low language skills, or lack of resources could prevent poor segments of the populationto access ICTs, ultimately widening information gaps and increasing income inequality between and within countries. (Torero and Braun 2005). Technology provides opportunities for cost reduction, education and the reduction of the effects of distance. (Weber and Kauffman 2011).

ICT removes the hurdles oftimeand distance, alternate for expansive travel and solve problem of geographic isolation. (Kramer et al. 2007). Information and communication technologies (ICT) can be definedas a network of institutions that provide a more effective alternate to a conventional extension system in agriculture (Philippine e-Extension portal 2012)

Fu and Akter, (2012) reported that ICTs enable extension workers to obtain, store, retreive and spread a wide range of information required by small farmers such as information on improved farming practices, new harvesting technologies to reduce postharvest losses, getting better prices for inputs and outputs, better transportation links, establishing improved storage facilities, better negotiations with buyers and getting timely weather forecast.Information and communication technologies such as computer, internet, mobile phone, smart phones are important tool of agriculture extension for timely transfer of critical informations such as market rates, weather information etc.

The development and adoption of electronically communicated information has accelerated social and economic change in all areas of human activity globally—and it still continues but use of information and communication technologies (ICTs) remains centred mainly in the developed world, ICT adoption is beginning to reach developing countries , including poor rural areas.(Torero and Braun2005).

Agro firms use numerous ways to search for information for various purposes such as input prices, output prices, jobs, potential sellers and buyers, fertilizer suppliers, natural disasters and new technologies. (Aker & Mbiti 2010).Information about weather, seeds, and, reliable pesticide,water and soil analysis, diseases of crops and solutions, soil treatments,

crops and inputs comparative pricing , balanced fertilizers,food storage to minimising post-harvest losses, marketing techniques, and agriculture economics was cited as most requiredcountry's labour by the farmers.(Siraj 2011). The farmers aware of ICT as an important source of information on agriculture and related area for all with their own perception and priorities. (Dhaka and Chayal2010).

Smith et al. (2011) have categorized these functioning's of mobile into three networking dimensions:

i. Enable or strengthen social networks. This is, especially in the rural and poor contexts, extremely important for well-being, survival, security purposes.
ii. Enable or strengthen economic networks (e.g., connecting people and financial institutions, expanding market boundaries.
iii. Enable or strengthen governance networks (e.g., increased access to government services, early warning systems, crisis management, etc.).

IV. METHODOLOGY

The study was conducted in August 2012 in District Lodhran Pakistan. The questionnaire was arranged in the very simple and straight language avoiding technical and scientific terms. It was reviewed in Department of Agriculture Extension and Rural Society, King Saud University Saudi Arabia byAgriculture Extension Experts. Data were collected from the 100 respondents by employing Purposive sampling technique. Information was collected on the socioeconomicand demographic characteristics and on the attitudes of respondents towards Information Communication Technology (ICT). Face-to face interviews conducted against the pre-tested and well-structured questionnaire. For this purpose 5 point Likert scale like: 1 = strongly disagree, 2 = disagree, 3 = Undecided, 4 = Agree and 5 = Strongly Agree was employed. Data collected were tabulated and statistically analysed by using Statistical Package for Social Sciences (SPSS 2011).

V. RESULTS AND DISCUSSION

Table 1: Demographic Characteristics of the Respondents

Area	**Frequency**	**Percent**	**Valid Percent**	**Cumulative Percent**
Small Town	6	6	6	6
Rural Area	94	94	94	100
Total	100	100	100	
Education				
Education	**Frequency**	**Percent**	**Valid Percent**	**Cumulative Percent**
Illiterate	21	21	21	21
Below High School	65	65	65	86
Above High School	14	14	14	100
Total	100	100	100	
Income				
Less than 8000	48	48	48	48
less than 15000	30	30	30	78
More than 15000	22	22	22	100
Total	100	100	100	

Occupation				
Occupation	**Frequenc y**	**Percen t**	**Valid Percent**	**Cumulative Percent**
Governmental Offices	1	1	1	1
Private workers	7	7	7	8
Businessmen	6	6	6	14
Farmers	86	86	86	100
Total	100	100	100	

Table 2 Communication technologies enhance the personal accessibility of rural residents

Category	**Less than 8000**	**less than 15000**	**More than 15000**	F- Value = 2.19 The mean difference is significant at the .05 level.
Less than 8000		- 0.325	-0.4	
less than 15000	0.325		-0.73	
More than 15000	0.4	0.73		

The study revealed that communication technologies enable the rural people to have greater access to the information. However, the response of various income groups (Less than 8000, less than 15000, More than 15000) against the statement "Do the communication technologies increase accessibility of the rural people to have the information they required, revealed that mean difference between different income groups is not significant with F value 2.19 (Table- 2). It may be due to the fact that most of people from various income groups believe that communication technologies increase accessibility to the information. The ability of a society to compete in current knowledge economy depends, in part, on the extent of uptake of information and communication technologies (ICTs). (McKeown, 2007)

Table 3People willing to learn use of the communication technologies such as computer and internet etc

Category	**Less than 8000**	**Less than 15000**	**More than 15000**	F- Value = 4.27 X The mean difference is significant at the .05 level.
Less than 8000		-0.59*	-0.415	
less than 15000	0.59*		0.173	
More than 15000	0.415		-0.173	

As indicated in Table-3, significant effect of income on the attitudes towards ICT was observed. Rural People are willing to learn the communication technologies such as computer and internet etc. The results of the study indicate that respondents in middle class are more willing to learn communication technologies which may be due to the reason that middle class is more interested to improve their skills and education. The mean difference of less than 8000 rupees to less than 15000 rupees is significant but negative, shows that less than 15000 people are more willing to learn communication technologies. The mean difference of less than 8000 rupees to more than 15000 rupees is negative but not significant, shows that more than 15000 rupees people may be more willing to learn communication technologies as compared to less than 15000 rupees.

Table 3Farmers obtain accessibility such as internet and mobile SMS etc. even by paying price.

Category	Less than 8000	less than 15000	More than 15000	F= 0.28 The mean difference is significant at the .05 level
Less than 8000		-0.137	-0.165	
less than 15000	0.137		-0.027	
More than 15000	0.165	0.027		

As indicated in Table - 4, in order to have access to ICT, the mean difference between different income groups is not significant with F value 0.28. This may be due to the fact that 86% respondents in district lodhran have education below high school and are unfamiliar to English language.

Basic problem for adoption of ICT is the low incom and ICT resources. It is estimated, there are some 3,000 to 4,000 languages in the world, but there are 80 per cent of all web sites provide content in English only. (UN 2003)

However mean difference of less than 8000 to less than 15000 and more than 15000 is negative which shows that high income people are more willing to obtain communication technologies such as internet and mobile SMS even by paying price. According to Internet Consumption Model, an individual cannot buy the Internet when this choice is above his/her budget line and thus, it is argue that the developed countries have elevated rates of the Internet adoption compared to developing countries, especially when the prices of the Internet are comparatively high.(Zhang 2013)

Table 4Perception of rural people that there is increasing accessibility over time as influenced by levels of income

Category	Less than 8000	less than 15000	More than 15000	F= 5.09 The mean difference is significant at the .05 level
Less than 8000	-	-0.083	-1.04*	
less than 15000	0.083	-	-0.95*	
More than 15000	1.04*	0.95*	-	

Commonly it is assumed that as time passes, there would be increase access to ICT. However, when the respondents were asked about "Accessibility to ICT increases with time", the mean difference between different groups (as shown in Table - 5) was significant with F value 5.09. The mean difference of more than 15000 to less than 15000 and less than 8000 is significant while the mean difference of less than 8000 to less than 15000 is not significant. This may be due to the reason that high income group people can easily obtain communication technologies while low income groups are unable to do so whether ICT facilities increasing or not. Low income groups argue that communication technologies are not increasing with passage of time and significantly differs from high income group.

CONCLUSION

Level of income has fundamental role in ICT adoption. High income group has awareness and eagerness for ICTadoption, than other groups. But medium income group has high interest to learn ICT. This might be reason that they want to improve their income by improving their skills. Low income group is most subjected from this situation. This group also has low literacy that makes situation more verse. Our 86% respondents have education below high school. English literacy also play vital role in ICT adoption. Unable to access ICT facilities and little or no command on English in using information communication technologies are the basiccausesof negative attitudes (Grazziand Vergara 2012). About 80% of population of Lodhranlives in rural areas and its population is about 1.45 million. It is 32nd district in development out of 34 districts of Punjab. Currently Government of Pakistan has launched 3G and 4G technologies in Pakistan. It is expected that this situation will improve ICT adoption. This study will act as baseline in policy development for Extension department, Government and Non-Governmental organizations

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