

IMPACT OF SATELLITE TELEVISION ON AGRICULTURAL DEVELOPMENT IN PAKISTAN

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ABSTRACT

Issues concerning the application and use of information and communication technologies, especially in agricultural-related sectors have been discussed and debated rather extensively. Most of the discussions concerning the use of ICT to obtain disseminate or retrieve data and information, including information related to agriculture seems to focus on the problems and implications of the use of ICT. The trend seems to be that the literature on ICT usage and application in the agricultural sector seems to highlight problems on accessibility, commitment of the government especially in terms of the allocation of funds, and the level of acceptance among the general public to fully use

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ICT for economic and other related activities. The main objective of the study is to analyse the impact of satellite television on agricultural development among the general public. The primary data for the study was collected via the use of a survey questionnaire. The questionnaire was administered to a total of 200 respondents, comprising male farmers from the Sindh province in Pakistan. The study revealed a number of important findings. The findings include, that which shows the majority of the respondents preferring to watch agricultural-related television programmes compared to other kinds of programmes on television. Apart from this, the findings of the study also revealed that most of the respondents own their own television sets and that they also felt that television is the best medium for disseminating agricultural-related programmes to the general public. Finally, the study highlights a number of recommendations that can be considered by the government and policy makers in Pakistan.

Keywords: satellite television, agriculture, agricultural-related programmes, Sindh, Pakistan

INTRODUCTION

The media has been denoted as a medium for “sharing information, ideas and thoughts which has far reaching effects on people” (Encyclopaedia Britannica, 1980). Defleur and Ball-Rokeach (1975) regard media communication as a machine which helps to transmit messages among groups of heterogeneous people often all at the same time. Information and communication technology nowadays plays a very important role in spreading and disseminating information to different work sectors such as that of education, health, agriculture and rural development.

It has been observed that television is more popular among an audience because of the program’s contents (Asnafi, 2008). And there is no doubt that it is very easy to access and get information regarding a range of different issues from television. Thompson and Bryant (2002) mentioned that measuring and investigating the effect of knowledge disseminated by television to an audience is very important. Nowadays, the media also plays a very crucial role in the enhancement of knowledge and information. Earlier on, it

was perceived wrongly that the media brought about negative effects and these issues of mass media effects have actually become one of dominant social relevance. Media effects, therefore, is an important, relevant and fascinating research domain.

Currently, information and communication technology has allowed for the use of new approaches and strategies for disseminating information to rural farmers in order to increase agricultural productivity. Generally, such information can be used for applying to increase their productivity and income while at same time showing new and enhanced methods of cultivation and soil conservation, techniques of planting, harvesting and storage of crops (Abubakar, Ango & Buhari, 2009). Media communication is also very essential and plays an important role in disseminating information to rural and far flung areas, many miles away from areas where decisions regarding farming activities are made. This is especially true in underdeveloped countries (Lwoga, 2010). Knowledge seems to be the key for success in managing and processing of the different agriculture activities. It has been noted that the media is significant in developing agriculture industries.

Oladimeji (2006) explained that currently knowledge is transformed and disseminated very quickly through different communication devices. These communication technologies provide important information to the community, within seconds, and can even alert the community from upcoming events. Media communication is important for rural community information dissemination, transforming knowledge and information about agriculture for agricultural development, agricultural production, and for improving the marketing and distribution of agricultural products.

REVIEW OF THE LITERATURE

Television in Pakistan

Pakistan Television Corporation limited (PTV) is a public limited company. The government of Pakistan owns PTV. The decision to establish a general purpose television service under the general supervision of the government of Pakistan was taken in October 1963. Subsequently, the government of Pakistan signed an agreement with Nippon Electronic Company of Japan, allowing it to operate two pilot stations in Pakistan. The first of these stations went on air in Lahore on 26th November 1964. Upon the completion of the experimental phase, television centres were established in Karachi, Rawalpindi and in Islamabad in 1967 and in Peshawar and Quetta in 1974 (Shrivastava, 2005).

Pakistan television (PTV) began in 1963 as a joint venture between the government and a foreign corporation, the Japanese NEC Nippon electronic corporation. This partnership expanded slowly from 1960 to 1970, and in 1989 the democratically- installed Benazir Bhutto government licensed Shalimar television network as the second channel. This was initially beamed to only ten cities. PTV later began a second channel for educational programmes utilising the Asia sat 1 satellite. In 1992, a third channel was allowed to operate. This was for overseas transmission, mainly to Pakistanis residing abroad. such as in the Middle East and Europe (Thomas, 2006).

In Pakistan, both radio and television have played a significant role in bringing awareness and technological change to the rural masses through the introduction of special programs. Radio can be considered as one of the most valuable tools in reaching masses for many reasons. Radio programs are very immediate, as radio programs can be changed quickly according to new and evolving conditions. Besides, in Pakistan, radio

transmission reaches large numbers of people. It provides the warmth of the human voice and does overcome the literacy barrier that faces the print media. Radio is also most effective at the awareness and interest stages of the adoption process (Behrens and Evans, 1984). Radio and television in Pakistan are most popular mediums of media entertainment and as mediums for acquiring information. The majority of the population in Pakistan are illiterate, so the print medium is not as good a choice for reaching the majority of farmers. In Pakistan, too, people who cannot afford to buy a television or do not have electricity, do have radio sets, which can and does provide them with immediate information (Ayaz, 1993). Radio ranks at the top in the awareness and interest stages of learning. Radio communication is one of the fastest, most powerful and in some cases the only way of communicating with rural people in Pakistan.

Television Programmes in Pakistan

The survey conducted by Ahmad, Akram, Rauf, Khan, & Pervez (2007) indicated that 74% of the respondents watched television and obtained latest information about different agriculture programs from this medium. Concerning the farmer's interest in television programs, 50% of the respondents reported that they were interested in weather updates and another 37% of the respondents were interested in getting information regarding daily prices of agriculture products. Furthermore, the results also indicated that 83 % of the respondents had their own television sets and watched the agriculture related programs and got the benefits from the programs. Another study was conducted by Muhammad, Butt, & Ashraf (2004), and the study indicated that 50% of respondents have knowledge about different agriculture programs which was telecast on Pakistan television. Meanwhile, another 50% of the respondents were unaware about these programmes. A study by Abbas, Sheikh, Muhammad, & Ashfaq, (2003) revealed that

62% of the farmers in the district of Faisalabad, Punjab, Pakistan listened to agricultural programs on radio and watched television. The majority of farmers (84%) were aware about sowing, insect control, fertilizer application, and weed control and irrigation methods through television. However, most of the farmers indicated that the current viewing time for agricultural programs on television was not appropriate. Among the respondents 34% recommended that 8.00pm was a more suitable time for the telecast of agriculture-related programs. It was reported by 25% of the farmers that they watched the “Kisan Time” and Sona Chandi agricultural programs on television. Khan, Muhammad, Chaudhry, & Khan (2010) reported in their study that the farmers were aware about agriculture programs which were telecasted on television and the results showed that 14% of the respondents watched “Kisan time, 12% of the respondents watched Haryali, 9% of the respondent’s watched Khait Punjab day and 7% of the respondent’s watched Apna kisan apni zarait.

Statement of the Research Problem

The use and application of Information and Communication Technology in Pakistan has been discussed rather extensively in the past (see, for example, Muhammad Irfan, Sher Muhammad, Ghazanfar Ali Khan & Muhammad Asif, 2006; Khalid Mahmood, 2005; Mazher Abbas, A.D Sheikh, Sher Muhammad & Muhammad Ashfaq, 2003). Although ICT by definition includes the Internet, computers, television, radio, newspapers and others (Mohd Nizam Osman 2010), for the purpose of this study, only television is examined to analyze its impact in providing agriculture-related programmes to the farmers in Sindh, Pakistan.

Although it is apparent that the extensive usage of television for rural development, especially in the agricultural sectors of Sindh, Pakistan can help in enhancing the region's economic development, there are some implications and barriers with regards to accessing and understanding the content of television programmes among farmers for agricultural development in Sindh, Pakistan. Among the barriers and challenges are accessibility, literacy, role of government in facilitating the production and broadcasting of television programmes for agricultural development and the level of acceptance of agricultural-related television programmes among farmers.

According to Mansoor Ahmad, Muhammad Akram, Robina Rauf, Imtiaz Ali Khan and Urooba Pervez (2007), farmers today are facing big challenges and problems in terms of accessibility to new technology. This may be due to factors such as inadequate infrastructure development, poor transmission of information using new technology and not having the knowledge to access and use new technology. Television and radio are some of the communication media which can be a good medium of communication in disseminating information to farmers about agriculture in rural areas. However due to the non-availability and inaccessibility of technology in the rural areas, many rural farmers, especially those residing in deep rural areas do not have proper knowledge about accessing new technologies necessary for obtaining agricultural-related information.

Dutton, William, Gillett, McKnight and Peltu. (2004) suggested that ICT tools such as television can enhance the opportunities for poor people but there is need for the accessibility of information about markets, health, agriculture and education. At the same time, ICT can also be used as a form of empowerment, where the less economically stable communities can use ICT to obtain information about government services, which

include information about government financial aid, distribution of grains (crops), distribution of fertilizers and other important information concerning assistance provided by the government for agricultural-related activities.

Some of the main problems about using ICT for agricultural development in Pakistan are:

1. Accessibility
2. Government commitment and encouragement for the use of ICT for agricultural development in Pakistan
3. The acceptance levels of ICT usage among farmers in Pakistan

Accessibility

In terms of accessibility, there is evidence from the literature which indicates poor accessibility among farmers in the rural areas of Pakistan for using and accessing television for improved agricultural development. For example, as highlighted in the statement of the research problem presented earlier, studies conducted by past researchers like Mansoor Ahmad et al. (2007), Dutton et al. (2004) have discussed all the problems and challenges faced by rural communities, especially rural farmers in accessing new technologies to obtain important information about government-related aid and assistance which the government provides to the general public. This also includes studies by Chapman and Slamaker (2002) which revealed that the lack of proper access and knowledge to information and communication technologies may affect the lives and livelihoods of rural farming communities.

Knowledge

According to Muhammad Irfan, Sher Muhammad, Ghazanfar Ali Khan and Muhammad Asif (2006), information and communication technologies, especially television are an important medium of communication to communicate agricultural-related information to farmers in the rural areas of a country. In their study, the authors ascertained that if farmers adopt and access technologies which are given on television, the enhancement of agricultural-related production could be improved significantly.

The findings of the study conducted by Muhammad Irfan et. al. (2006) clearly revealed that television is rarely watched among farmers; a total of 47.5% of the total respondents rarely watch television. This may be due to problems with regards to accessibility of television programmes or it may also be due to the nature of the content of agricultural-related television programmes which may not emphasize knowledge about agricultural-related activities. Therefore, if the farmers are not given enough knowledge about agricultural-related activities, how can the farmers enhance agricultural-related production in order to improved their own socio-economic conditions?

Agriculture is the backbone of the country and almost 70% of the population is involved in it. Among the propagating sources of information, media is the fourth pillar of the state where people get information about different issues such as education, politics, and agriculture.

In fact, the role of television broadcasted programs in society is high, but still vague in terms of its contribution to the agriculture sector. Therefore, this study was conducted to

determine how and to what extent the media is contributing to the agricultural sector in terms of productivity and income of farmers from the Sindh province of Pakistan.

Acceptance Level

According to Mirza (2008), farmers generally accept and are open to the messages pertaining to agricultural related information, including innovation in agricultural products and machineries which are being disseminated to them through television and radio. The findings of Mirza's (2008) study revealed that the level of acceptance of farmers concerning the application and use of information and communication technologies, including using ICT to disseminate and obtain useful agricultural-related information is rather high. The findings of Mirza's (2008) study also revealed that the level of acceptance among farmers for using ICT to obtain useful agricultural-related information have resulted in significant changes among farmers in terms of using ICT to better improve their agricultural-related activities.

Research Questions

The discussion presented thus far have touched on key issues pertaining to the impact of television programmes on agricultural-related development programmes which are aired by satellite television channels in Sindi, Pakistan. A number of key questions have been raised on this issue, and these are also supported by evidence from the literature. Therefore, based on the discussions presented so far in the article, the following research questions are formulated and outlined:

1. What are the problems in terms of accessibility of television for development in the agricultural sector of Sindh, Pakistan?

2. Is literacy considered to be one of the main barriers to using television for development in the agricultural sector of Sindh, Pakistan?
3. What is the level of acceptance among farmers in using television for development in the agricultural sector of Sindh, Pakistan?

Objectives of the Study

The main objective of the study is to examine the impact of a satellite television channel on agricultural development in Sindh, Pakistan. In terms of the specific objectives of the study, the following apply:

1. To examine the problems in terms of accessibility to television for development in the agricultural sector of Sindh, Pakistan?
2. To identify to what extent illiteracy is considered to be one of the main barriers for accessing television for development in the agricultural sector of Sindh, Pakistan?
3. To analyse the level of acceptance among farmers in using television for development in the agricultural sector of Sindh, Pakistan?

METHODOLOGY

With regards to the research design to obtain the primary data of the study, the main method of generating the data was done by using the quantitative approach whereby the respondents of the study were interviewed based on the questions in the questionnaire survey and their responses were recorded by the researcher. A total of 200 respondents from the Hyderabad region in Sindh, Pakistan were interviewed based on the quantitative approach (in August 2011). This was done in order to obtain their perceptions and views

about the impact of the satellite television channel for agricultural development in Sindh, Pakistan. This approach is believed to be more effective because it enables the respondents to provide recommendations, suggestions and to identify the perceptions and views of the respondents towards particular television programmes focussing on the agricultural sector.

The quantitative data which were obtained from the questionnaire survey were analysed using the SPSS software version 18. The main data were keyed into the computer system and analysed in order to obtain the findings of the study.

Discussions of Findings

This section of the article presents the discussion of the main findings of the study, which is based on the data collected from the survey questionnaire focussing on the following main points: i) respondents demographic information, ii) respondents television viewing habits, iii) respondents' preference for watching television programmes, iv) respondents' perceptions on the effectiveness of television for disseminating agricultural-related information and v) respondents' perceptions on whether agricultural-related television programmes have helped increase respondents' productivity and income.

Respondents' Demographic

In terms of respondents' demography, the data presented in Table 1 illustrates the details of the respondents' gender, marital status, age group, highest level of educational achievement and total household monthly income. This demographic information is seen to be very important and significant in the study because the demographic variables identified above are assumed to have a significant relationship with the extent of

influence of television viewing habits among the respondents of the study, especially with regards to the respondents' extensive consumption of agricultural-related development programmes which are transmitted by a satellite television channel in Sindh, Pakistan.

The data presented in Table 1 clearly indicates that the respondents of the study comprise mainly of male respondents. This is because farmers in Sindh, Pakistan are mostly male adults therefore it would be relevant to include only male respondents as the main subject of the study.

With regards to the marital status of the respondents, the data presented in Table 1 shows that majority of the respondents of the study are married, comprising 167 individuals (83.5%) who are married as compared to 33 individuals (16.5%) who are not married. The marital status of the respondents is seen as a significant and important variable in the study because there may be a significant difference in terms of choice of television programmes to watch between respondents who are married and those who are single. In the context of the study, it is also assumed that respondents who are married may not have complete control of choosing which television programme to watch due to the intervening interest from their wives who may be interested in watching other programmes rather than agricultural-related development television programmes.

In terms of the age distribution of the respondents, the results show that the majority of the respondents are aged between 21 – 33 years old; 99 respondents (49.5%) are in this age group. This is followed by respondents between the age of 31 – 40 years old, comprising of 71 respondents (35.5%). A significantly lower number of respondents are

aged 41 years and above (9.5%) while only 11 respondents are aged between 15 – 20 years old (5.5%). It is quite common to find a low number of respondents who are farmers in the 15-20 years age category because people in this age category would either be at school or they would prefer to work in an industry or organization, rather than work in the fields as farmers. In spite of this, it is also common to find a rather high number of young adults who are between 21 – 30 years old who are working as farmers in the fields. This could probably be due to the scarcity of employment opportunities in Pakistan where these people may not have too many employment opportunities to choose from, apart from working in the fields as farmers.

As for highest level of educational achievement, the findings revealed that a majority of the respondents had only received primary level education, comprising of 170 individuals (85.0%). This represents a large number of respondents with the most basic level of education, as compared with those with a higher level of education, specifically at the College level where only 1 respondent (0.5%) had achieved this level of education. No respondents had achieved the level of graduate education. There were some respondents, comprising of 16 individuals (8.0%) who had elementary education while a total of 13 respondents (6.5%) had high school education as their highest level of educational achievement.

The findings of the study clearly revealed that the level of education of most of the respondents of the study is at the lowest level of the educational categories. This could partly be due to poverty and low economic situation which are significantly high among families residing in most rural parts of the country. Furthermore, formal education is not seen as an important requirement for survival in the rural parts of the country, as

compared to acquiring skills related to farming, hunting and fishing. These skills are seen to be significantly more important for survival among village communities. This finding clearly indicates that most of the respondents of the study are not educated and therefore, may find it difficult to understand the information which was being conveyed to them by the government about agricultural-related development programmes and which is aired on satellite television in Pakistan.

Consistent with the findings of the study concerning highest level of educational achievement, the data presented in Table 1 also indicates that the majority of the respondents, comprising of 132 respondents (66.0%) earned a total household monthly income of below 5,000 rupees, as compared to a significant lower number of the respondents with a total household monthly income of more than 5,000 rupees a month. This once again indicates that the majority of the respondents' income level is at the lower range and this probably explains why some respondents of the study may not even afford to purchase television sets or other forms of information and communication technologies in their homes.

Table 1 – Respondents' Demographic Data

Respondents' Demographic Variables		Number	Percentage (%)
Gender	Male	200	100
	Female	0	0
	Total	200	100
Marital Status	Single	33	16.5
	Married	167	83.5
	Total	200	100
Age Group	15-20 years	11	5.5
	21-30 years	99	49.5
	31-40 years	71	35.5
	41 years and above	19	9.5
	Total	200	100

Highest level of Educational Achievement	Primary education	170	85.0
	Elementary education	16	8.0
	High School	13	6.5
	College	1	0.5
	Graduate	0	0
	Total	200	100

Respondents’ Television Viewing Habits

In terms of the respondents’ television viewing habits, the discussions presented in this section of the paper are mostly focused on respondents’ ownership of televisions at home, the extent of television viewing on a daily and weekly basis among the respondents, programmes which are accessed by the respondents of the study as well as agricultural-related television programmes which are aired on satellite television stations.

In terms of the ownership of television sets at home, the findings of the study as presented in Table 2 indicate that a majority of the respondents (87.0%) own at least one television set at home. However, a small number of the respondents (13.0%) did not have their own television set.

As for the allocation of time to watch television daily, most of the respondents from the study, comprising of 119 respondents (59.5%) said that they spent between 4 – 6 hours per day watching television, followed by 44 respondents (22.0%) who said that they watch television more than 6 hours per day, while 37 respondents (18.5%) said they watch television daily between 2 – 4 hours. Based on the findings of the study as revealed in Table 2 and given the rather high number of respondents, comprising of 119 respondents (59.5%) who said they watch television between 4 – 6 hours per day, this is indeed a good indication of a rather high level of television viewing habits among farmers in Sindh, Pakistan. Furthermore, the findings of the study revealed that a majority

of the respondents, comprising 71 individuals (35.5%) said that they watch television between 6-7 days per week. This is again a strong indication of a high accessibility rate for television viewing among the respondents of the study. The government and television stations should capitalise on this point and focus more on introducing more agricultural-related development programmes on television. This would certainly benefit the farmers who would be gaining knowledge on the different agricultural-related information which are being broadcasted in the content of the television programmes.

Respondents' Preference for Watching Television Programmes

The results indicate the respondents' preference of which television programmes they like to watch. The findings of the study clearly indicate that agricultural-related programmes are the respondents' most preferred television programmes, where a total of 82 respondents (41%) said that they prefer to watch agricultural-related television programmes compared to other kinds of television programmes. This is followed by news-related television programmes where a total of 36 respondents (18%) indicated preference on watching this form of television.

The findings of the study as presented in the table 2 also revealed that the respondents of the study indicated that they like watching drama-related television programmes where a total of 32 respondents (16%) have indicated their preference for watching drama programmes on television. Other forms of television programmes which are preferred among the respondents of the study include educational television programmes (29 respondents, 14.5%), entertainment television programmes (11 respondents, 5.5%), documentary television programmes (9 respondents, 4.5%) and sports television programmes (1 respondent, 0.5%).

Table 2 – Respondents’ Television Viewing Habits

Television Programmes	No. (%) of respondents
Ownership of television set at home	174 (87.0%)
Not owning television set at home	26 (13.0%)
Watch television between 2 – 4 hours per day	37 (18.5%)
Watch television between 4 – 6 hours per day	119 (59.5%)
Watch television 6 hours or more per day	44 (22.0%)
Watch television between 1 – 2 days per week	25 (12.5%)
Watch television between 3 – 5 days per week	104 (52.0%)
Watch television between 6 – 7 days per week	71 (35.5%)

The findings of the study clearly revealed that a majority of the respondents preferred to watch agricultural-related programmes compared to other types of programmes aired on television. This is evident from the findings in which a total of 82 respondents (41%) indicated that they like watching agricultural-related programmes over other kinds of programmes. This once again is an important indication that the majority of the respondents, comprising of farmers residing in Sindh, Pakistan prefer to watch agricultural-related programmes over other programmes on television.

Based on these findings, the government should capitalise on this important information and take the appropriate steps and necessary actions to encourage more productions of agricultural-related programmes to be aired on national television channels. Some of the steps that can be taken by the Pakistani government are to formulate policies to ensure the number of agricultural-related television programmes is given special focus and attention by television stations. Apart from this, the Pakistani government can also ensure that the content of agricultural-related television programmes be more focused on providing agricultural-related information so as to benefit farmers collectively in Pakistan.

Table 3 – Respondents Preference on Watching Television Programmes

Television Programmes	No. (%) of respondents
Prefer to watch educational programmes	29 (14.5%)
Prefer to watch drama programmes	32 (16%)
Prefer to watch entertainment programmes	11 (5.5%)
Prefer to watch agricultural-related programmes	82 (41%)
Prefer to watch news programmes	36 (18%)
Prefer to watch documentary programmes	9 (4.5%)
Prefer to watch sports programmes	1 (0.5%)

Another step that can be taken by the Pakistani government is to ensure all television stations comply to the television programme ratio of perhaps 3:2, where for every 5 programmes shown on television, 3 of the programmes must be more focused on agricultural-related programmes. This is where the focus of agricultural-related programmes can be more concentrated on providing useful and often necessary information to farmers in Pakistan in order that they can improve on agricultural development.

Respondents’ Perceptions on the Effectiveness of Agricultural Programmes on Satellite Television Channels

The data presented in Table 4 focuses on the respondents’ perceptions of whether television is the best medium to disseminate agricultural-related information to the general public, specifically farmers in Pakistan. The findings of the study revealed that a majority of the respondents, comprising of 141 respondents (70.5%) felt that television is indeed the best medium for disseminating agricultural-related information to the Pakistani general public. This represents a significantly large number of respondents who indicated such reaction, as compared to a significantly lower number of respondents, comprising of only 5 respondents (2.5%) who felt that television is not the best medium

to disseminate agricultural-related information to the general public. In spite of this, a total of 54 respondents (27.0%) seemed not too sure about this issue when they reacted by only saying that sometimes television is the best medium in disseminating agricultural-related information to the general public while during other times, television may not be a good medium to disseminate agricultural-related information to the Pakistani general public.

Table 4 – Respondents’ Perceptions on Whether Television is the Best Source to Disseminate Agricultural-related Information

Television Programmes	No. (%) of respondents
Yes , TV is the best source for agricultural-related information	141 (70.5%)
No , TV is NOT the best source for agricultural-related information	5 (2.5%)
Sometimes TV is the best source for agricultural-related information	54 (27.0%)

The findings of the study, as presented are a clear indication of the positive views of the respondents on the effectiveness of television as a medium to disseminate agricultural-related information. In relation to this finding of the study, a number of questions should be raised. Firstly, why not capitalise on television as an important medium of disseminating government-related projects and activities, including agricultural-related programmes? Secondly, why not use television as a medium to educate and inform the general public about important issues and events happening in the country, including information about agricultural-related matters such as weather forecast, market prices on crops, information about wholesale purchasers, pests and insecticides and others?

Given the significantly large number of the respondents who felt that television is an effective medium to disseminate agricultural-related information to the general public, the government should therefore fully exploit television, especially the content of

television programmes in disseminating key and important information to the general public. This is where non-governmental organizations and television stations could play a vital role in facilitating and assisting the government in materializing this aspiration.

Respondents' Perceptions on the Effectiveness of Agricultural Programmes for Increasing Agricultural Income

In terms of the effectiveness of television for increasing agricultural income among the farmers in Sindh, Pakistan, most of the respondents, comprising of 161 respondents (80.5%) felt that television was moderately effective in increasing agricultural income among the farmers in Pakistan, as compared to 11 respondents (5.5%) who felt that television was very effective in terms of increasing agricultural income among the farmers in the country, while 28 respondents (14.0%) felt television is not effective at all in increasing the agricultural income among the farmers in Pakistan.

A number of assumptions can be made based on the findings of the study on respondents' perception regarding the effectiveness of television in increasing agricultural income among the farmers in the country. Firstly, the agricultural income of the farmers in Pakistan is spread across a period of 1 year (12 months) where there may be certain months in the year when the farmers received higher income as compared to other months in a particular year. This could partly be attributed to seasonal crops produced which obviously may be dependent on the weather and other contributing factors. Therefore, it would be rather difficult to measure the extensiveness of television programmes in increasing the agricultural income of the farmers in Pakistan. Secondly, the content of television programmes may not be devoted fully on agricultural-related programmes, therefore farmers only obtain partial information about agricultural-related

information such as crops prices, weather information, government allocation of financial assistance to farmers and others from television. Thirdly, farmers' income is largely dependent on the commitment of the farmers in working in the fields. Therefore, the more committed the farmers are towards their work, the more likely they will be getting higher incomes compared to those who are less committed towards their work.

Table 5 – Respondents' Perceptions on the Effectiveness of Television in Increasing Agricultural Income

Television Programmes	No. (%) of respondents
<u>Very effective</u> in increasing agricultural income	11 (5.5%)
<u>Moderately effective</u> in increasing agricultural income	161 (80.5%)
<u>Not effective</u> in increasing agricultural income	28 (14.0%)

CONCLUSION

The main objective of the study is to analyse the impact of a television channel on agricultural development in Sindh, Pakistan. The discussions presented in the review of literature section have clearly revealed that information and communication technologies (ICT), where ICT in the context of the study is mainly focusing on satellite television programmes is an important medium of communication in developed or developing countries across the world, including Pakistan.

As highlighted in the review of the literature, there will always be problems in terms of using ICT to either disseminate or retrieve information, especially in areas of a country where there are problems concerning accessibility, commitment of the government and acceptance levels towards ICT among farmers. In the context of the study, these are some of the main issues and challenges highlighted in the study which prevents farmers

from obtaining useful information from agricultural-related television programmes in Pakistan.

Although issues concerning accessibility have been highlighted rather extensively in this article, it must be remembered that this is an area of concern which involves not only heavy investments on infrastructure, hardware and software to overcome the problem, but it also involves other factors to overcome the problem which includes skills and knowledge among the general public, especially among the farmers to ensure they have the skills, knowledge and expertise to access agricultural-related programmes which are aired on satellite television stations in the country. Apart from this, the general public, specifically the farmers should be able to understand the language which is used in the agricultural-related programmes aired on satellite television channels.

This is where the government should be taking steps and outlining initiatives and policies to ensure that the content of agricultural-related television programmes aired by satellite channels are appropriate for the consumption of the general public, especially the farmers who generally have very low levels of education. The content of the agricultural-related television programmes should be tailored towards the appropriate consumption and understanding of the main audience, which is the farmers. It is important to take note that the findings of the study have revealed that the majority of the respondents, comprising of farmers have indicated they preferred to watch agricultural-related television programmes as compared to other forms of television programmes. Therefore, this is where the government should be taking special interest in ensuring the content of agricultural-related satellite television programmes are well suited for the consumption of the Pakistani public at large and at the farmers specifically.

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