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PRESENT STATUS AND FUTURE PREFERENCES OF ELECTRONIC MEDIA AS AGRICULTURAL INFORMATION SOURCES BY THE FARMERS

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In this age of information technology revolution, extension can empower the farming community with latest knowledge through electronic media for the development of agricultural sector. Obviously, the physical distance and logistic problems are the major impediments in personal contacts between farmers and extension field staff (EFS). In this context, strengthening extension services with effective use of electronic media seems indispensable. Thus, the research was conducted to get the real picture of farmers' perceptions regarding present and prospective role of electronic media in the dissemination of agri. information among farmers. The research was conducted in Faisalabad district of the Punjab province, Pakistan. Multistage random sampling technique was used. The total sample size comprised 330 respondents. The data collected through a validated and reliable interview schedule were analyzed through computer software SPSS. Electronic media included radio, TV, audio/video cassettes/CDs, internet, telephone, agri. help line, and mobile phone. The awareness regarding agri. broadcasts and contacts was poor. Similarly, the use of electronic media as agri. information sources was not substantial. However, the future preferences for getting agri. information from the electronic media showed some improving trend in each case as compared to the present use of electronic media.
Key words: Electronic media, dissemination of agriculture information, technology transfer, agriculture. help line, agriculture extension

INTRODUCTION

Agricultural development can facilitate to overcome the enormous challenges of the present era i.e. poverty and food insecurity; however, concerted efforts are needed in promoting this important sector (OECD and FAO, 2009). In most of the courtiers of the world, agriculture is a major contributor in terms of Gross Domestic Product (GDP) and employment particularly in rural areas; in addition, it has the capacity to reduce poverty in rural areas (World Bank, 2007; DESA, 2008).

Agriculture is the mainstay of developing countries and its transformation from low to high profit business through effective technology transfer can improve the living standards of rural people (Cambell and Barker, 1997). For effective technology transfer, there are three prime stakeholders of agricultural sector i.e. research, extension, and the farmers, which can uplift this important sector through mutual endeavor (Qamar, 2005).

Developing agricultural technologies is the primary responsibility of the research. Then comes its transfer to the farming community, which is crucial because all the painstaking in producing the agri. technologies will be useless if these technologies are not transferred to the ultimate users (farmers). The research outputs (agri. technologies) can only be worthwhile when they are adopted by the farming community (Fliegel, 1984; Swanson, 1997). These functions can be accomplished through an effective extension service.

There is need of rethinking in the context of agricultural extension efforts. Keeping in view the global challenges and economics aspects of the modern world, the extension services for technology transfer should be redefined (Rivera, 2000). The main function of extension organizations includes dissemination of empirical and useful information furnished with better solutions of farming problems (Okunade, 2007). So, making the farmers aware of new agricultural technologies and finally motivating them for adoption thereof remains a focal point of the agricultural extension.

For dissemination of agri. technologies various methods/media are being employed by the extension wing involving both interpersonal and impersonal contacts (Muhammad, 2005). Various extension methods are useful in various situations and the selection of the most appropriate method is the key function of the extension agent (Nisha, 2006; Okunade, 2007). Among various extension methods, use of media is useful in creating awareness and stimulate

interest, along with large coverage of the audience (Hussain, 1997; Okunade, 2007).
In this era of information revolution, the use of electronic media seems inevitable to accomplish the task of agri. technology transfer on account of coverage and speed. Electronic media being source of information and entertainment can play a vital role to transform attitude and interest. Among the media, electronic media have their own distinctive place in technology transfer.

Electronic media can play a vital role to inform farmers in the situation of urgency and emergency. Farmers can be informed quickly and swiftly about diseases and pest control, flood, and changing weather (Muhammad, 2005). Farmers can also get the appropriate advices of experts through these media to cope with the emerging problems. In this way the farmers can get hold of their future planning in a better way. The electronic devices used for communication can be regarded as electronic media (Albarran, 2002). Important electronic media pertinent to agriculture include radio, television, audio/video cassettes, telephone, internet, agri. help line, and mobile phone.

Various agri. radio broadcasts like “Kahit kahit haryali” and “Sandhal darti” etc. have been disseminating the agri. information to the farmers in Pakistan (Muhammad *et al*., 2008). In addition, the short messages regarding crops and livestock are also delivered in which information regarding agri. technologies is being provided in short time in a concise and comprehensive form. Moreover, various agencies like pesticide, fertilizer, seed, farm machinery, livestock etc. through advertisements are not only achieving the goal of promoting their products but also providing agri. information to farmers regarding their specific products.

Television is considered to be one of the effective media as a source of agricultural information for the farmers. Farmers’ awareness about various telecasts may be an indicator of interest taken by them in TV telecasts. In agricultural context, various TV channels are telecasting agri. programes like “Kisan time” from Channel 5; “Haryali” from PTV-Home; “Khait Punjab Day” from Punjab TV and “Apna Kisan Apni Zarait” from Apna TV. In addition to these programmes, short messages are also important forms of agri. TV telecasts which provide brief and comprehensive information to farmers. Advertisements relevant to agriculture are for the promotion of their products (seed, fertilizer, pesticides etc.) and at the same time act as source of agri. information for the intended audience. In recent years, it is evident that satellite TV channels and Cable TV network have enhanced provision of entertainment and information. However, the agri. telecasts have faced dilemma of changing schedule of agri. TV telecasts.

It is generally thought that audio/video cassettes or CDs are only used for entertainment. However, these may also be used as an effective source of agricultural information. Farmers’ awareness of this source of agri. information reflects its worth as an information source. The Directorate of Agri. Information Govt. of the Punjab has been playing its role in providing the farmers with the facility of audio/video cassettes (Govt. of Punjab, 2009) and CDs about various aspects of agriculture on no profit no loss basis. If a farmer is unaware of their availability, he/she will not be able to get benefit of this facility.

Various web sites are available in Pakistan equipped with agricultural information. There are some websites having the agri. information in Urdu language like www.pakissan.com and official website of Department of Agriculture, Govt. of the Punjab www.agripunjab.gov.pk. If a farmer is internet user having the knowledge of agri websites/agri. e-mail addresses, it reflects his/her inclination towards using the internet as agri. information source.

Department of Agriculture, Govt. of the Punjab on its printed material related to agri. information has been mentioning official telephone Nos. enabling farmers to obtain further information pertinent to agricultural areas. Likewise, input agencies also mention their contact Nos. on their printed material. Moreover, extension field staff on field visits or on various other occasions also give their contact Nos. to farmers for further interaction. Farmers having awareness regarding telephone Nos. of extension field staff of public as well as private sectors are likely to use this facility for getting agricultural information.

Agri. help line is also playing an important role in answering the queries of the farming community. Directorate of Agricultural Information, Punjab has facilitated the farmers by providing them toll free agri. helpline (0800-15000 and 0800-29000) for acquiring information pertinent to their urgent and emergent issues. Telephone calls are received and feed back is given accordingly. Keeping in view the importance of livestock sector, Livestock and Dairy Development (L&DD) Department has also extended the facility of help line (like 0800-78686) for providing livestock information to the needy farmers.

Mobile companies through a unique "Kisan service" also made it easier to the farmers to keep in touch with the latest information in various spheres of agriculture like weather up dates, crops, and market rates etc. (Mobilink, 2009). Farmers can feel comforted to get the desired agri. information whenever needed. The service has been available on Mobilink as "Kisan service" and on Telenor as "Tele Kissan". Such type of service has also been provided by U-fone network. The acquisition of information about various aspects of agriculture is easily accessible just by dialing 700 and afterwards voice instruction (guidelines) is available for getting specific information (Mobilink, 2009; Telenor, 2009). The awareness about the "Kisan service" and the agriculture related mobile contacts among farmers reflects their inclination towards this electronic device.

In Pakistan, recent developments of various electronic media with greater power of coverage and swiftness appeared a positive sign for agricultural sector. Obviously, the impediments of physical distance and logistic problem cannot be overcome only through personal contacts for agri. technology transfer. On the other hand, agriculture sector has been facing various challenges like increasing population, declining trend in terms of GDP, fluctuated agricultural growth, globalization, weaker dimensions of agricultural extension. In this context, strengthening extension services with effective use of electronic media seems indispensable to enable the farming community in the context of knowledge for enhancing agri. production both in qualitative and quantitative terms. Still, effective use of these electronic media itself is a challenge. Thus, the research was conducted to get the real picture of the farmers' perceptions regarding present and prospective role of electronic media for dissemination of agri. technologies among farmers with a view that the outcomes of the study would help the extension organizations in making effective use of electronic media for agri. technology transfer.

MATERIALS AND METHODS

The study was conducted in district Faisalabad. All the farmers living in the rural union councils of the district were considered as research population of the study. Multistage random sampling technique was used to draw the sample. District Faisalabad comprises five subdivisions (tehsils) namely Faisalabad (Sadar+City), Chak Jhumra, Samundri, Tandlianwala, and Jaranwala (DOA, 2008). The list regarding the rural union councils and villages of the district was obtained from office of the District Officer Agriculture (Ext.), Faisalabad. From each of the five tehsils, one rural union council was selected at random. From each of the selected union councils, two villages were selected randomly. From each of the selected villages, 33 farmers were selected at random. For selecting appropriate sample size, the Table for determining sample size (Fitzgibbon and Morris, 1987) was consulted. Thus, the sample comprised 330 respondents. The respondents were interviewed through a reliable and validated interview schedule. The data were analyzed through Statistical Package for Social Sciences (SPSS).

RESULTS AND DISCUSSION

Awareness of electronic media

The awareness about the availability of agri. information through electronic media seems the primary step towards using electronic media for agri. purposes. This is of vital importance because the farmers who are well aware of the availability agri. information through various electronic media are likely to be in a better position to use/adopt the information.

The data regarding the awareness about various aspects of electronic media in the context of agri. information dissemination among farmers were obtained, which are depicted in Table 1 which reveal that awareness about agri. radio broadcasts, advertisements pertinent to agriculture were at the top which were known to about 1/5th of the respondents followed by short messages which were known to about 13% and Sandhal dharti, which was reported by only 10% respondents. Other agri. radio broadcasts presented the awareness in fraction.

Concerning agri. TV telecasts, there was a similar scenario in the context of advertisement and short messages but with greater percentages i.e. 54.24 and 27.88% respectively. The awareness regarding agri TV programmes "Kisan time" and "Haryali " was almost similar . "Khait Punjab day" and "Apna kisan apni zarait" appeared to be the subsequent programmes as far as awareness was concerned.

Only 7% of the respondents were aware of the availability of agri. information through audio/video cassettes/CDs. However, the awareness about the exact location of getting audio and video cassettes/CDs copied for agri. information i.e. Directorate of Agri. information, Lahore, Punjab was almost nil. None of the respondents was found aware of agri. web sites and agri. e-mail. Only a fraction (3.64 and 2.73%) of the respondents was found aware of agri. related private and Govt. telephone Nos.

Table 1. Respondents' awareness regarding electronic media based agricultural programmes and contacts

Electronic media	Awareness	
Agri. radio broadcasts	**No.**	**%**
Sandhal dharti	34	10.30
Khait khait haryali	8	2.42
Jithey teray hal wagday	12	3.64
Utum khaiti	-	-
Wasnay rehan gran	-	-
Dharti bakht bahar	-	-
Sajri Rut	-	-
Short messages	41	12.42
Advertisements	67	20.30
Agri. TV telecasts		
Kisan time	46	13.94
Haryali	38	11.51
Khait Punjab day	29	8.79
Apna kisan apni zarait	23	6.97
Short messages	92	27.88
Advertisements	179	54.24
Audio/video cassettes/CDs		
Audio/video cassettes/CDs as agri. information sources	23	6.97
Availability along with location (Directorate of Agri. Information, Punjab)	4	1.21
Internet		
Agri. web sites	-	-
Agri. e-mail	-	-
Telephone (Agri. contacts)		
Govt. Nos.	9	2.73
Private Nos.	12	3.64
Agri. help line		
Agri. help line as information source	132	40.0
Agri. help lines, Punjab (0800-15000/0800-29000)/Livestock help line (0800-78686)	42	12.73
Mobile phone		
Kisan service (Jazz, Telenore, U-fone)	4	1.21
Mobile contacts for agri. information (Vet. doctors/ staff, seed/ pesticide /fertilizer dealers, progressive farmers etc.)	76	23.03

respectively. A reasonably good percentage (40%) of the respondents was found aware of agri. help line including agri. and livestock help line while only 12.73% were aware of the exact No. of agri related help lines. About 23% of the respondents were aware of various agri. information related contact Nos. However, only a small fraction (1.21%) of the respondents was aware of "Kisan service" through mobile.

It may be concluded that as a whole the awareness of various electronic media based programmes and contacts was very low and there is a great potential to enhance awareness level in each case of electronic media under study for agricultural purposes.

Regarding awareness about agri. radio/TV broadcasts, the results are more or less similar to those of Muhammad *et al.* (2008) who reported the awareness pertinent to advertisements and short messages was prominent as compared to awareness regarding agri. programmes. Likewise, Abbas *et al.* (2003) pointed out that majority of the respondents was unaware about the names of agricultural programmes broadcast through radio and TV.

The results are also similar to those of Muhammad *et al.* (2004) who found that majority of the respondents was unaware of the regular agricultural telecasts. Moreover, the awareness about regular agri. programmmes like "Kisan Time" and "Haryali" was lower. However, in a study conducted by Irfan (2005), the awareness regarding radio programmes "Khait

khait haryali" (37.5%) and "Jithey tery hal wagday" (35.8%) was comparatively more as compared to the present study. In case of TV programmes "Kisan time" (63.3%) and "Haryali" (61.7%) the awareness was also more with a larger difference of percentage as compared to the present study.

Use of electronic media as sources of agricultural information

To explore the existing role of electronic media in the dissemination of agricultural technologies among the farming community, it seems quite logical to first of all probe out whether or not the farmers are using electronic media for getting agricultural information. The respondents were asked about their extent of using the electronic media for getting agricultural information with the help of a five point Likert scale. Based on the data collected, the score, rank order, mean, SD were calculated and are depicted in Table 2.

The data presented in Table 2 reflect that the use of electronic media for getting agri. information was not encouraging. The general perception of electronic media seems entirely different from the ground reality. The range of using electronic media specifically in obtaining agri. information was from very low to low levels.

Three extreme cases of not using electronic media for agri. information were audio cassettes/CDs, video cassettes/CDs and internet. However, concerning the use of electronic media for getting agri. information, TV got the top position (score=314 & mean=2.17) followed by mobile phone (score=135 & mean=2.01) radio (score=105 & mean= 1.81) and telephone (score=21 & mean=1.76). The least use was observed in case of agri. help line (score=20 & mean=1.43).

It may be concluded that farmers did not make effective use of electronic media in getting agri. information through. The situation demands for more concerted effort in this regard to develop urge for using these electronic media as valuable sources of agri. information.

The results are in consonance to those of Irfan (2005), Ashraf (2008), and Muhammad *et al.* (2008) who reported TV more effective than radio as an agri. information source. The similarity may be due to the reason that these research studies were conducted in the same province i.e. Punjab. However, the results are contradictory to those of Siddiqui (2006). The variation may due to different research area i.e. Baluchistan.

Moreover, in the present study and in the study conducted by Muhammad *et al.* (2008), it appeared that use of audio/video cassettes/CDs and internet as agri. information sources was nil. The similarity affirms the results of the present study.

In international perspective, the findings are in consonance to those of Prathap and Ponnusamy (2006) and Fawole (2006) who reported TV as a prominent information source. The results are in dissonance to those of Mirani *et al.* (2002) where radio was leading TV as information source. The present results are also contradictory to Chapman *et al.* (2003) where radio was a prominent tool for dissemination of information. Moreover, Ejembi *et al.* (2006) also found radio (60.0%) more prominent than TV (3.0%). Oyegbami and Fabusoro (2003) found that respondents' extent of using the media (radio and TV) was on the average. While in the present study, the media usage ranged from very low to low.

Table 2. Ranking of electronic media according to their use for agri. Information (n=330)

Electronic media	Total		Ranking	Mean	SD
	No.	Score			
TV	145	314	1	2.17	0.66
Mobile phone	67	135	2	2.01	0.71
Radio	58	105	3	1.81	0.83
Telephone	21	37	4	1.76	0.83
Agri. help line	14	20	5	1.43	0.51
Audio Cassettes/CDs	-	-	-	-	-
Video Cassettes/CDs	-	-	-	-	-
Internet	-	-	-	-	-

Table 3. Respondents' future preferences of electronic media for getting agri. Information (n=330)

Electronic media	No.	Score	Rank order	Mean	SD
TV	157	477	1	3.04	0.98
Mobile phone	131	387	2	2.95	0.83
Radio	60	155	3	2.58	1.03
Agri help line	47	121	4	2.57	1.04
Telephone	36	80	5	2.22	0.72
Audio cassettes/CDs	11	20	6	1.82	0.87
Video cassettes/CDs	8	14	7	1.75	0.71
Internet	5	7	8	1.60	0.89

Future preferences of electronic media as agri. information sources

It is quite possible that the farmers who are the present users of electronic media may not use them in future. On the other hand, it may also be possible that the non users of electronic media (due to some reasons) might have an inclination to use them in future. Keeping in view, these possibilities, the respondents were asked about the future preferences of using electronic media against a given Likert scale 1-5. Based on the data, weighted score, rank order, mean, and standard deviation were calculated as presented in Table 3, which reflects that the preference for using the electronic media under study ranges from very low to medium. The future intention for getting agri. information indicates improving mean value in each case as compared to the present use of electronic media (Table 2). Concerning the preference for obtaining agri. information in future, TV was at the top (score=477) with mean value 3.04 indicating medium level of preference. Mobile phone (387) acquired the 2nd position with mean value 2.95 showing preference level between low and medium but tended more towards medium. Radio (score=155), agri. help line (121), and telephone (80) got 3rd, 4th, and 5th positions with mean values 2.58, 2.57, and 2.22, respectively. These mean values depict that the preference ranged from low to medium but tended more towards medium level in cases of radio and agri. help line while tended more towards low in case of telephone. However, the level of preference was reduced in cases of audio cassettes/CDs (score=20), video cassettes/CDs (score=14), and internet (score=7) with mean values 1.82, 1.75, and 1.60. These mean values indicate the preference levels between very low to low level but tended towards low.

CONCLUSIONS

As a whole, the awareness regarding agri. broadcasts and contacts was very weak. Further, the use of electronic media for getting agri. information was not appreciable i.e. from very low to low levels and some electronic media were used not at all. However, in prospective scenario, the preference for using the electronic media under study ranged from very low to medium showing improving mean value in each case as compared to the present use of electronic media. Nevertheless, overall it can be concluded that electronic media are not plying effective role in the dissemination of agricultural information among farming community.

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