Perception of the Extension Agents Regarding Information Sources of Sustainable Agriculture in Sindh Province of Pakistan

Muhammad Ismail Kumbhar[1,*], Saghir Ahmed Sheikh[2], Shuhabuddin Mughal[3] and Mahvish Jabeen Channa[2]

[1]*Faculty of Agricultural Social Science, Sindh Agriculture University, Tandojam, Pakistan*

[2]*Institute of Food Sciences & Technology, Sindh Agriculture University, Tandojam, Pakistan*

[3]*Sindh Development Study Center, University of Sindh, Jamshoro, Pakistan*

Abstract: The study was undertaken in Sindh province to examine the extension agents perceptions of various sources of information. This study used a descriptive research design and the target population was Extension Agents. A representative sample of 162 Extension agents was proposed from six districts of Sindh, namely, 1. Larkana 2. Naushehro Feroze 3. Shaheed Benazirabad 4. Sanghar 5. Mirpurkhas 6. Badin representing the agro-ecological zones of Sindh province. The majority of the respondents 49.38% having their age in the range of 31-45 years. The data revealed that majority of the extension personnel 43.21% of the respondents were graduate level of education. The diploma holder's respondents were 24.69%. The majority of the extension personnel (43.21%) had job experience 21-30 years. Only 6.17% of the extension personnel had job experience of more than 31 years. The most frequent sources of information was perceived by extension agents about sustainable agriculture were television broadcasts,. However, Internet / Computers, Books and Manuals, Middle Man, and Electronic Devices (Mobile, Fax and other sources). The majority of the respondents perceived that Lack of effective monitoring (reporting and supervision) (M=1.26, SD=.058), Lack of Linkage between Research and Extension (M=1.06, SD=.025), Shortage of time to teach farmer properly (M=1.21, SD=.042), Illiteracy among farmers (M=1.141, SD=.061) and Lack of transportation facilities (M=1.21, SD=.042)as higher barrier that hampering the promotion and adoption of sustainable agriculture practices in the areas where they worked, this implies that proper guidelines and teaching aids had not been given to the extension worker to effectively work and communicate with the local farmer. However in sufficient funding for agriculture extension (M=1.71, SD=.061 Lack of means for upgrading qualification M=1.93, SD=.048), Large farm area (M=1.85, SD=.065), Lack of In-service Courses M=2.00, SD=.040), More time and management M=2.00, SD=.000) and Lack of Information about Sustainable Agriculture Technologies M=2.00, SD=.000) were perceived as a low barrier in adoption of sustainable agriculture practices.. This study will enable policy makers to effectively transfer the technology for sustained growth and will enhance farmers understanding about the concept of sustainable agriculture.

Keywords: Perception, Extension agents, information sources, sustainable agriculture.

INTRODUCTION

Pakistan is one of the developing countries of the world. Agriculture is the mainstay of the Pakistan's economy in terms of providing food employment and foreign exchange earning. The importance of agriculture is apparent from the fact that more than 70 percent of Pakistan's population lives in rural areas and agriculture is their main source of their livelihood. It contributes 26 percent of the gross domestic product (GDP). Agriculture provides 47% employment of labor force and 72% population directly or indirectly is engaged in agriculture. Environmentally sustainable agriculture movement is very strong in most developed countries, but it is new in Pakistan. The question is whether or not it is possible to maintain resources, most importantly the soil and simultaneously minimize environmental damages without decreasing gross output and net farm returns. If Yes, what extension strategies to be adopted and what extension education programmes should be framed in order to achieve these twin objectives of environmentally sustainable agriculture.

Agriculture is an important part of every society. Sustainable economies are, in part, based upon sustainable food systems which depend in part upon agriculture. Agriculture affects the environment, human health, and even social order. However despite frequent attention in recent years on sustainable agricultural practices, the adoption of sustainable practices such as GAP has been slow by farm producers [1] reported that although the Pakistan scheme on Good Agricultural Practices was launched on 31 January 2002 and the Department of Agriculture has already taken positive steps to promote some of the program, however majority of the farm producers were reluctant to practice the program [2]. further contended that Pakistan agricultural policies are supportive for sustainable agricultural practice however the present agricultural practices in Pakistan differ from the standard of sustainability.

Hence, extension workers could play a main role in assisting farm producers in their decision making process regarding the adoption of sustainable

*Address corresponding to this author at the Faculty of Agricultural Social Science, Sindh Agriculture University, Tandojam, Pakistan; Cell: +92-3013569244; Fax: +92-22-2765554; E-mail: mikumbhar2000@yahoo.com

ISSN: 1814-8085 / E-ISSN: 1927-5129/12

agricultural practices. Although sustainable agriculture was recognized very important, extension workers' knowledge and support for the concept is not favorable [3]. According to [4] the first step in sustainable agriculture plans is training extension workers to develop their understanding, qualifications and ability to teach farm producers. Nonetheless researchers show that extension workers have problems in the first step of understanding the concept of sustainability [5]. Extension workers are in a position to promote sustainable agriculture and to facilitate the adoption of sustainable agriculture. Hence they must be competent to adequately orient themselves toward their responsibility on sustainable agriculture. Extension workers in order to promote sustainability practices, they must first understand sustainable agriculture concepts. Thus, the role of extension workers is very crucial in supporting sustainable agriculture.

Agricultural information interacts with and influences agricultural productivity in a variety of ways. It can help inform decisions regarding land, labour, livestock, capital and management. Agricultural productivity can arguably be improved by relevant, reliable and useful information and knowledge. Hence, the creation of agricultural information (by extension services, research, education programmes and others) is now often managed by agricultural organizations that create information systems to disseminate information to farmers so that farmers can make better decision in order to take advantage of market opportunities and manage continuous changes in their production systems. This study was therefore undertaken to examine the extension agents perceptions of various sources of information. Especially, the study identified the socio-economic and demographic characteristics of respondents and perception of extension agents on the sources of information.

METHODOLOGY

Population and Sample

The research work was carried out in Sindh province. This study used a descriptive research design and the target population was Extension Agents. A representative sample of 162 Extension agents was proposed from six districts of Sindh, namely, 1. Larkana 2. Naushehro Feroze 3. Shaheed Benazirabad 4. Sanghar 5. Mirpurkhas 6. Badin representing the agro-ecological zones of Sindh province producing Cotton, Wheat, Rice, Vegetables, Orchards and Sugar Cane crops. Multistage plan was used to collect the data.

The research work was carried out by the structure survey method using a self-report questionnaire, the questionnaire included quarries on the area under Extension agents are working, sources of information and their effectiveness in adoption of sustainable agricultural practices. In addition, various sustainable agriculture practices were included after the consultation with the Experts. The questionnaire was sent to a panel of reviewer for suggestion and after the

Table 1: Demographic Characteristics of the Respondents

Demographic Characteristics	Categories	*f'*	%
Age	16-30 years	32	19.75
	31-45 years	80	49.38
	46-60 years	40	24.69
	61- above years	10	6.17
Education	High school	10	6.17
	College	12	7.41
	Diploma	40	24.69
	Graduate	70	43.21
	Postgraduate	30	18.52
Job experience	Up to 10	52	32.1
	11 to 20	30	18.52
	21 to 30	70	43.21
	31 and above	10	6.17

incorporation of suggestions, the questionnaire was administered. Personal direct interviews were conducted. Extension agents were asked to record their responses on likert type scale for sources of information, and awareness of sustainable practices. The data gathered were tabulated and analyzed by using SPSS (PC) program.

RESULTS AND DISCUSSION

Selected demographic characteristics of the respondents such as age, educational level, and professional experience were inquired. The results are presented in Table **1**.

The data given in information on the characteristics of respondents (Table **1**) the results revealed that majority of the respondents 49.38% having their age in the range of 31-45 years, while 24.79% of the respondents were in age group of 46-60 years. The extension personnel who had age of 16-30 years were 19.75%. However, only 6.17% respondent was between 60 and above. It was observed that the respondents included in this study represented all middle age groups and there was a considerable number of respondents in all age groups. The data depicted in Table **1** reveal that majority of the extension personnel 43.21% of the respondents were graduate level of education. The diploma holder's respondents were 24.69%. The respondents having education up to postgraduate level were 18.52%. The percentage of the respondents having up to college education was 7.41% respectively. Only a meager 6.17% percentage of respondents with this education level fell in matriculation. It is observed from the results given in Table **1** that the majority of the extension personnel (43.21%) had job experience 21-30 years, 32.10% of the respondents were having up to 10 years of job experience and 18.52% of the samples size had job experience 11-20. Only 6.17% of the extension personnel had job experience of more than 31 years.

Table 2: Sources of Information about Sustainable Agriculture Practices as Perceived by Extension Agents

Sources of information	N	Mean	Std. Error
1. Radio Broadcast	162	1.70	.039
2. Television Broadcast	162	2.94	.037
3. Public Extension Agent	162	1.96	.061
4. Private Extension Agent	162	1.04	.015
5. Research Workers	162	1.58	.057
6. Neighboring Farmer	162	2.83	.035
7. Contact Farmer	162	1.29	.040
8. Progressive Farmer	162	1.47	.037
9. NGO's / CBO's Worker	162	1.43	.047
10. Farmer Field School	162	1.41	.047
11. Fertilizer and Herbicide Dealer	162	2.84	.037
12. Farm Magazine and Publications	162	1.54	.058
13. Seed Dealer	162	2.89	.024
14. Internet / Computers	162	1.04	.014
15. Local Newspapers	162	1.96	.025
16. Relatives	162	1.97	.013
17. Books and Manuals	162	1.00	.000
18. Extension Materials	162	1.79	.054
19. Middle Man	162	1.42	.037
20. Cooperative Society	162	1.00	.000
21. Informal Saving Groups	162	1.00	.000
22. Religious Organizations	162	1.00	.000
23.Electronic Devices (Mobile, Fax etc)	162	1.26	.034

Scale: 1= Never, 2 = Sometimes, 3 = Always.

The extension personnel were asked how often they used several sources of information about sustainable agriculture as provided in Table **2**. The mean scores reported in Table **2** were computed from responses reported on a 3-Point likert-scale, ranging from 1 = Never, 2 = Sometimes and 3 = Always for each of the potential sources of information. The most frequent sources of information about sustainable agriculture were television broadcasts, Neighboring Farmers, Fertilizer, Herbicide and Seed Dealers, while slightly over half the extension agents reported using information about sustainable agriculture from Public Extension Agent, Private Extension Agent, Research Workers, Farm Magazine and Publications, Local Newspapers, Relatives and Extension Materials. Private Extension Agent, Contact Farmer, Progressive Farmer, NGO's / CBO's Worker, Farmer Field School, Internet / Computers, Books and Manuals, Middle Man, Cooperative Society, Informal Saving Groups, Religious Organization and Electronic Devices (Mobile, Fax and other sources).

Extension personnel were asked: what were the major obstacles or barriers that create problems in the adoption of sustainable agriculture program. Their responses to this question are summarized in the p. The majority of the respondents perceived that Lack of effective monitoring (reporting and supervision) (M=1.26, SD=.058), Lack of Linkage between Research and Extension (M=1.06, SD=.025), Shortage of time to teach farmer properly (M=1.21, SD=.042), Poor attendance of farmers (M=1.141, SD=.051), Illiteracy among farmers (M=1.141, SD=.061) and Lack of transportation facilities (M=1.21, SD=.042)as higher barrier that hampering the promotion and adoption of sustainable agriculture practices in the areas where they worked, this implies that proper guidelines and teaching aids had not been given to the extension worker to effectively work and communicate with the local farmer. While extension agents perceived that Lack of appropriate manuals in extension materials (M=1.80, SD=.041), Rapid Changes in Agriculture (M=2.35, SD=.049), Resistance of farmers to adopt new technologies (M=1.54, SD=.053), Lack of confidence among farmers (M=1.71, SD=.047), Incentives for extension worker (M=1.56, SD=.051), Not enough administrative support (M=1.56, SD=.065), Law and Order situation in rural areas (M=1.56,

Table 3: Extension Personnel Perception Regarding Barriers Hampering for the Promotion of Environmentally Sound Sustainable Agriculture Practices in Sindh Province

Barriers hampering (Extension personnel perception)	N.	Mean	Std. Error
Lack of effective monitoring (reporting and supervision)	162	1.26	.058
Lack of Linkage between Research and Extension	162	1.06	.025
Shortage of time to teach farmer properly	162	1.21	.042
Poor attendance of farmers	162	1.141	.051
Illiteracy among farmers	162	1.141	.061
Lack of transportation facilities	162	1.21	.042
Lack of appropriate manuals in extension materials	162	1.80	.041
Rapid Changes in Agriculture	162	2.35	.049
Resistance of farmers to adopt new technologies	162	1.54	.053
Lack of confidence among farmers	162	1.71	.047
Incentives for extension worker	162	1.56	.051
Not enough administrative support	162	1.56	.065
Law and Order situation in rural areas	162	1.56	.051
In sufficient funding for agriculture extension	162	1.71	.061
Lack of means for upgrading qualification	162	1.93	.048
Large farm area	162	1.85	.065
Lack of In-service Courses	162	2.00	.040
More time and management	162	2.00	.000
Lack of Information about Sustainable Agriculture Technologies	162	2.00	.000

Scale: 1= High barrier; 2 = Low barrier 3 = Not a barrier.

SD=.051), In sufficient funding for agriculture extension (M=1.71, SD=.061 Lack of means for upgrading qualification M=1.93, SD=.048), Large farm area (M=1.85, SD=.065), Lack of In-service Courses M=2.00, SD=.040), More time and management M=2.00, SD=.000) and Lack of Information about Sustainable Agriculture Technologies M=2.00, SD=.000) were perceived as a low barrier in adoption of sustainable agriculture practices.

CONCLUSIONS/RECOMMENDATIONS

The study found that there exists a communication gap between extension agents and farmers. This gap must be narrow down through open discussions and increased flow of information in both directions, i.e. extension agents to farmers and farmers to extension agents. The most frequent sources of information about sustainable agriculture were television broadcasts. The majority of the respondents perceived that Lack of effective monitoring (reporting and supervision, Lack of Linkage between Research and Extension, Illiteracy among farmers and Lack of transportation facilities as higher barrier that hampering the promotion and adoption of sustainable agriculture practices in the areas where they worked, this implies that proper guidelines and teaching aids had not been given to the extension worker to effectively work and communicate with the local farmer. However extension agents suggested that sufficient funding for agriculture extension services should be provided for transfer of sustainable agriculture practices to the farmers. Similar type of studies should be conducted so as to help extension policy makers in designing and implementing sustainable programs through out the Sindh Province. This will enable policy makers to effectively transfer the technology for sustained growth and will enhance farmers understanding about the concept of sustainable agriculture.

REFERENCES

[1] Aflakpui GKS. Present outlook and transformation in the delivery of agricultural extension services: implications for research-extension-farmer linkages. Outlook Agric 2007; 36(1): 35-39. http://dx.doi.org/10.5367/000000007780223687

[2] Agwu AE, Dimelu MU, Madukwe MC. Innovation system approach to agricultural development: policy implications for agricultural extension delivery in Nigeria. Afr J Biotechnol: 2008; 7(11): 1604-11.

[3] Albert CO, Isife BI. Issues in developing a national policy on agricultural extension service in Nigeria: the perception of extension professionals. Agric J 2009; 4(1): 22-26.

[4] Shahbazi E. Development and rural extension. Tehran, Iran: Center for Tehran University publication 1993.

[5] Chizari M, Lindner JR, Bashardoost R. Participation of rural women in rice production activities and extension education programs in the Gilan Province, Iran. J Int Agric Exten Educ, 1997; 4(3): 19-26.

Received on 02-04-2012 Accepted on 12-05-2012 Published on 07-06-2012

http://dx.doi.org/10.6000/1927-5129.2012.08.02.14