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Role of Communication Channels in Awareness of Farmers for Improving per Acre Yield of Kinnow (Mandarin) in District Sargodha

ABSTRACT

Kinnow (Mandarin) is one of the major fruit crops of Pakistan, but unfortunately the production of Kinnow orchards is lower than the standard. On the other hand, agriculture department of Pakistan is using various communication channels and techniques to inform the growers of Kinnow about the various measures and techniques required for better yield, and to persuade them to adopt the same to achieve the standard yield of Kinnow. It was therefore, decided to conduct a research study with the objective to observe the impact of agricultural communication channels on kinnow production. For this purpose 20 union councils of tehsil Sargodha were randomly selected and from each union council 10 kinnow growers were selected making a sample of 200 respondents. Findings of the study show that a vast majority (94.5%) of the farmers were aware about the sources and channels which provided information regarding the recommended horticultural practices for better yield of Kinnow. There was a significant difference between the role of the various channels of used for awareness of the farmers regarding orchard management, water

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and fertilizer application, pruning, diseases management and marketing .

Key Words: *Role, Communication channels, Awareness, farmers, Kinnow Yield*

■ Introduction

Agricultural Extension communication plays a promising role in improving farm productivity standards, which would finally result to enhanced living standard of rural people. The developed nations of the world are extensively applying extension approaches for the development of agricultural and allied areas.

Agricultural information can be viewed as a process of communicating ideas skills and technology from extension to farmers. The importance of such information as an ingredient for advancement of agriculture cannot be over emphasized as its inadequacy could be dangerous and turn to become a major constraint to agricultural development (Adeola, 2008).

The high output of agricultural research has led to a large pool of new agricultural technologies, which are yet to be disseminated to farmers as it is supported by (Abbas et al 2003), that most of the farmers are not fully aware of the recommended agricultural practices resulting in low yield per acre. In order to accelerate the pace of effectiveness of the research findings to farmers, a variety of communication channels have been adopted with the assumption that both the approaches and technical information packages are suitable to the farmers. This can be minimized only if recommended technology is effectively transferred from researchers to farmers who are the ultimate users of innovation. For communication of new ideas and skills to the farmers, interpersonal communication channels (relatives, experienced farmers, Agricultural extension staff), printed material and dealers of agricultural inputs play a crucial role in establishing foundation store of the knowledge base for the farmers in shape of technological package, as Knowledge acquisition occurs with awareness exposure and at least a rudimentary understanding of how an innovation functions (Rogers, 1986 as cited by Ayoade,

2010). However, it is not definitely known which of the sources are more effective in transmission of information to the farmers. Research has shown that farmers' information exposure is most likely to be an important factor influencing their adoption behavior as greater exposure is likely to enhance awareness about the latest recommendations and to lead farmers putting these recommendations into practice in a precise manner (Muhammad & Garforth, 1995).

Muhammad and Garforth (1999) reported that who are exposed diverse sources of information are more likely to be adopter than those who are exposed to fewer contact with information. By and large neighbor/friends/relatives become visible to be the foremost sources of information followed by radio as second key source.

Amjad (2002) found that radio was perceived to be most effective source of information by the respondents. The field assistant was the second most effective sources followed by agriculture officers and fellow farmers.

Samad (2005) reported that there were different information sources available to the farmers but majority (94.30%) of respondents took information from Zaraat Nama. While ranking different information sources according to their effectiveness the Zaraat Nama was at the top of the list and TV was at lower point.

Irfan et al (2006) exposed that a simple majority (54.1%) of the respondents furnished first to television, 25.0% gave 2nd preference to radio, and 16.7% awarded 3rd preference to print media as source of agricultural information. A huge majority of the respondents did not listen /watch agricultural radio/TV broadcasts frequently or rarely. With view to effectiveness, the respondents ranked TV, radio and print media as 1st, 2nd and 3rd respectively.

Kinnow(Mandarin) is the most important tree fruit of Pakistan .The soil and climatic conditions in Pakistan have given 'Kinnow' a unique flavor which distinguishes it from other comparable cultivars (mandarins) grown in the World. Pakistan produces about 3 to 4 percent of the world citrus fruits but sells out only about 0.8 percent of its harvest abroad. Pakistan is the sixth largest producer of Kinnow (mandarin) and oranges in the world, with 2.1 million tons. According to an estimate nearly 95 percent

of the total Kinnow produced all over the world is grown in Pakistan (Sharif & Waqar, 2005). Citrus fruit production share is about 40 percent of the total fruits produced in Pakistan. Citrus fruit is grown in all four provinces of Pakistan. Punjab produces over 95 percent of the crop and 70 percent of citrus grown in Punjab is under Kinnow because of its greater population, favorable growing conditions and adequate water (Nawaz, 2007).
Major citrus growing areas in Pakistan are Sargodha, Sahiwal, Lahore, Sialkot, Jhang, Mianwali, Multan, Gujranwala, Toba Tek Singh, Mardan, Peshawar, Swat, Swabi, Nowshera, Hazara, Sukkur, Khairpur, Nawabshah, Mekran, Sibi and Kech.

The popular varieties grown in Punjab province include oranges, Blood red, Musammi, Ruby red, Jaffa, Feutrells early, Kinnow, limes and lemons.

Non application of modern technology is contributing to low yield than the world average. Infusion of modern management practices in farm sector to boost productivity is important to enable farmers to move from subsistence to market driven farming that requires changes in crop selection, cultivation, harvesting, marketing, transportation and adoption of new technologies (Dawn, 2007). The government of Pakistan is using different communication channels i.e. print, electronic, static and interpersonal to improve production of different fruit crops. However it has been observed that per acre yield of various fruits crops particularly kinnow is still lower than its potential. Similarly as compared to other countries, per acre production of citrus in Pakistan is very low. Therefore, the researcher designed a research study to investigate the impact of communication channels on awareness and adoption level of farmers and also to check their services upon the production of Kinnow of tehsil Sargodha

■ Material and Methods

District Sargodha was selected as the study area because it is main district of Kinnow production in Pakistan. Purposively 20 union councils from Tehsil Sargodha were selected while 10 kinnow growers from each union council were taken on random basis.

Total 200 respondents were interviewed through interview schedule. The data collected was tabulated systematically and analyzed statistically. Statistical package for Social Sciences (SPSS) was used for data analysis. All the results were presented in counts and percentages in different tabular form. The association between information sources with per acre yield of kinnow was tested with the help of chi-square test at .05 level of significance.

■ Results and Discussion

Source of information and guidance play an important role in improving of yield of kinnow Credibility of a source of information also plays a vital role in the motivation, persuasion and adoption of innovation. . In this regard to identify the sources which were providing information about the recommended horticultural practices and their impact on kinnow yield. Farmers were asked specific questions on the topic.

Table 1: Distribution of respondents according to awareness about sources of information

Response	No. of Respondents	Percent (%)
Yes	189	94.5
No	11	5.5
Total	200	100.0

The data presented in the table-1shows that a large majority of the farmers (94.5%) were aware of the sources and channels which provided information and guidance about recommended horticultural practices, while only (5.5%) respondents were unaware about the sources which can provide information and guidance to them.

Table 2: Distribution of respondents according to the types of sources provided information

	Frequency	Percent (%)
Agriculture department	138	73.02

Local Leaders	14	7.42
Relatives and Neighbors	28	14.82
NGO	5	2.65
Radio	1	0.52
TV	1	0.52
Print Media	2	1.05
Total	189	100

Source: Field Survey $X^2 = 41.126$ $P < .05$

The respondents who were aware about the agricultural communication channels were again asked about the types of sources which provided information and guidance to them for adoption of recommended horticultural practices. The data presented in the table-2 shows that majority of the farmers (73.02) were guided by the agriculture department for the adoption of recommended horticultural practices .Second source of information was relatives and neighbors as reported by the 14.82% respondents. It means that agriculture department was the main source regarding the dissemination of recommended and advanced horticultural techniques to the kinnow (Mandarin) growers. Agricultural information can be viewed as a process of communicating ideas skills and technology from extension to farmers. The importance of such information as an ingredient for advancement of agriculture cannot be over emphasized as its inadequacy could be dangerous and turn to become a major constraint to agricultural These findings are of partial agreement with those obtained by Bukhari (2000), as he found that radio (67.44%), Field Assistants (41.86%) and Agriculture Officers (40.46%) were the main sources of information among the respondents. These findings are also similar to those obtained by Jasra et al. (2001) and Nazim (2000).This findings also agreed with the Malik (2000) who found that a large majority 86.40% of the respondents got information from the department of agriculture. Similarly Adams (1988) also reported that agricultural extension serves as a source of advice and assistance for farmers to help them in improving their production and marketing.

Table 3: Orchard management, fertilizer and irrigation application information by the communication channels

Orchard management information			Fertilizer application		Irrigation Application	
Information level	Frequency	Percentage	Frequency	Percentage	Frequency	Percentage
No information	11	5.5	11	5.5	11	5.5
Maximum information	75	37.5	71	35.5	71	35.5
Enough information	76	38.0	101	50.5	96	48.0
Not enough information	35	17.5	14	7.0	18	9.0
Not at all	3	1.5	3	1.5	4	2.0
Don't know	-		-		-	
Total	200	100	200	100	200	100
$X^2 = 65$ $P < .05$			$X^2 = 51$ $P < .05$		$X^2 = 47$ $P < .05$	

Source: Field Survey

It was asked from the respondents about the extent of information which these agencies/ channels provided about the orchard management, fertilizer and irrigation application. A simple majority of the respondents (38.0%) respondents' replied that enough information provided by these agencies about orchard management. While 37.5% respondents reported maximum information about orchard management. About 50.5% respondents reported that enough information provided by these channels about fertilizer application while 48.0% respondents' replied that enough information provided by the communication channels about recommended irrigation application practices. There was also significance difference ($P<0.05$) among, orchard management practices, fertilizer and water application and the yield per acre.

Table 4: Pruning, weeds and diseases management

Pruning			Weeds		Diseases Management	
Information level	Frequency	Percentage	Frequency	Percentage	Frequency	Percentage
No information	11	5.5	11	5.5	11	5.5
Maximum information	72	36.0	69	34.5	66	33.0
Enough information	66	33.0	85	42.5	76	38.0
Not enough	45	22.5	30	15.0	46	23.0

information						
Not at all	5	2.5	5	2.5	1	0.5
Don't know	1	0.5	-		-	
Total	200	100	200	100	200	100.0
$X^2 = 44$ P < .05			$X^2 = 43$ P < .05		$X^2 = 62$ P < .05	

Source: Field Survey

It was also asked from farmers about information provided by the agencies regarding pruning of the kinnow trees, weed eradication, and diseases management. Majority of the respondents reported that maximum information was given about pruning, enough information about weeds eradication and at enough information about diseases management were provided by theses communication channels. There was close association among, pruning of trees, weeds eradication, and diseases management with yield per acre.

Table 5: Distribution of respondents regarding marketing information

Information level	Frequency	Percentage
No information	11(5.5)	5.5
Maximum information	41(20.5)	20.5
Enough information	66(33.0)	33.0
Not enough information	73(36.5)	36.5
Not at all	9(4.5)	4.5
Don't know	-	
Total	200(100.0)	100

Source: Field Survey $X^2 = 64$ $P < .05$

It was also asked from farmers about information provided by the agencies regarding marketing of kinnow fruits. A simple majority of the respondents (36.5%) reported that not enough information was given about marketing. There was significance difference (P<0.05) between marketing and the yield per acre.

■ Conclusion

On the basis of analyses of the sampled data we conclude that a large majority (94.5%) of the respondents were aware of the sources of information, which provide guidance to them about the recommended horticultural practices. While 5.5% respondents replied that no agency provided any information regarding modern agricultural techniques. The Department of Agriculture appeared to be the major source of information regarding kinnow growing practices reported by majority of the farmers (69%). Second and third major sources of information were relatives/neighbors and local leaders reported by 14% and 7% of respondents respectively. Contribution of NGO, radio, TV and print media in this regard were very low i.e. 2.5%, 0.5%, 0.5% and 1% in that order. A simple majority of the respondents (38%) replied that enough information provide by agencies about orchard management. Similarly majority of the respondents (50.5%) replied that enough information provided by these agencies about fertilizer application. Moreover (48%) respondents replied that enough information provided by these agencies about irrigation application. About 36% respondents were being provided maximum information about pruning of the kinnow orchard. Majority of the respondents 42.5% and 38% were provided enough information about weeds management and diseases respectively. While regarding marketing not enough information was provided. There was close association between the awareness about information of modern horticultural techniques regarding orchard management, fertilizer and irrigation application, weeds management, diseases, marketing and the yield per acre.

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