

# Role of Mass Media in Dissemination of Agricultural Technology among the Farmers of Jaffarabad District of Balochistan

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**Abstract:** Agricultural extension is essentially a message delivery system organized to convey the latest findings of agricultural research to farmers. Effective communication is therefore, the prime requirement in extension work. This study conducted during 2013 attempted to examine the role of mass media in dissemination of agricultural technology among the farmers of Jaffarabad district of Balochistan province of Pakistan. The results revealed majority of the respondents were male (80%), belonged to the age group of 31-40 years (45.35%), and with formal education of (31%). Information regarding agricultural farming revealed that three-fourth (75%) of the respondents owned personal land, medium size of farms (12.5-50.0 acres) were more common (52%). Majority (70.93%) of the respondents perceived that the sources of media used in the area are highly conventional. About two third (66.28%) of the respondents perceived that the sources of media for agricultural information was highly accessible. Relative majority of the respondents (40.70%) supposed to prefer listening to agricultural programs between 8 pm to 12.00 am; 33.72% respondents showed preference for listening to agricultural programs from 4.00 -8.00 pm. Majority (70.93%) of the respondents considered the information receiving through mass media is highly relevant in solving agriculture problems. Majority (41.86%) of the respondents reported infrastructural development due to agricultural information received through mass media and 22.09 percent found that agricultural information received through mass media was helpful in capacity building. Regarding major obstacles in receiving information, 31.40 percent respondents reported power failure, followed by high cost (24.42%), and poor signals (12.79%).

**Keywords:** Mass Media, Agricultural Technology Transfer, and Agricultural Extension.

## 1. INTRODUCTION

### 1.1. Background

Modern agriculture is characterized among other things by the salient role of communication as factor of change and progress. Electronic media transmit the agriculture innovation to the farming community. Undoubtedly, there has been a rapid quantitative diffusion of mass media [1-2]. The primary conveyors of development information in agriculture are also the persuasive agents of change in rural areas. Communication of development information; and equally persuasive conveyors of change, is the development workers: extension agriculture personnel in agriculture. A third source of development information is influential opinion leaders. Pakistan has increasingly become aware of the tremendous role that mass media can play in agriculture growth. Agriculture development is the need of time for a better and prosperous nation.

Agricultural extension, or agricultural advisory services, comprises the entire set of organizations that support people engaged in agricultural production and

facilitate their efforts to solve problems; link to markets and other players in the agricultural value chain; and obtain information, skills, and technologies to improve their livelihoods [3]. This definition has evolved since the T&V program, where the focus of extension was transfer of technology to improve productivity, especially for staple food crops. While transfer of technology still has relevance, agricultural extension is now seen as playing a wider role by developing human and social capital, enhancing skills and knowledge for production and processing, facilitating access to markets and trade, organizing farmers and producer groups, and working with farmers toward sustainable natural resource management practices. Within this expanded role, the breadth of information that agricultural extension can support through provision and facilitating access and sharing is much larger. In addition, as the agriculture scenario has become more complex, farmers' access to sources of reliable and relevant information has become increasingly important [4].

Agricultural extension is essentially a message delivery system organized to convey the latest findings of agricultural; research to formers. Effective communication is therefore, the prime requirement in extension work. Three classes of extension methods, namely individual contact, group contact and mass

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contact, accomplish the task of extension communication [5]. There are various Mass contact method are used to promote advanced agricultural information and techniques to the farmers, such as, agri. newsletters, grey literature, hand bills and walls newspaper, posters, radio programs, television programmers [6]. Mass media are used for mass contact for impersonal transmission of messages to large audiences. The most generalized and widely accepted classification of mass media which is used in actual practice is print media and electronic media [7]. Print media comprised of those forms of printed material which are distributed on a mass scale. These include newspapers, newsletters, books, grey literature (brochures, bulletins, pamphlets, leaflets, hand bills and posters.) [8]. Electronic media include radio and television, which have transformed World into a 'global village'. The electronic gadgetry of information technology like transistors, video tape recorders, mobile cinema vans and other audio-visual equipment like sound slide system, slides and film strips and also included electronic media [9].

The present study was carried out to see the role of mass media (radio, TV & print media) in the dissemination of agricultural technologies among farmers in district Jafferabad of Balochistan province.

## 1.2. Objectives

1. To identify the effective mass media source of information used for disseminate of agricultural technologies.
2. To determine the level of farmers awareness and adoption of agriculture technologies/messages disseminated through mass media.

## 2. METHODOLOGY

### 2.1. Study Area

The study on role of mass media in dissemination of agricultural information was carried out during the year 2012 in district Jafferabad of Balochistan province. The majority of the people in the study area are predominantly peasant farmers who engaged in cultivation of various types of crops and rearing of animals. The study area lies on the border line of Sindh province and hence most of the traditions and cropping patterns are similar to those adopted in Sindh province by the farming communities.

### 2.2. Sampling Procedure and Sample Size

A multistage sampling technique was used to select two (2) Tahsils of District Jafferabad, and from each Tahsil four (4) Union Councils were selected, out of which two (2) villages from each union council were selected and from each village five farmers (5) were randomly sampled, giving a total sample size of eighty (80) respondents. However, some farmers (06) were additionally interviewed from the third Tahsil of the Jafferabad to provide wider representation of the farming communities. Hence, the overall sample size reached at 86 respondents.

### 2.3. Data Collection Method

The data for this study were generated using structured questionnaires which were administered with the help of trained enumerators. The questionnaires distributed to the farmers were structured interview schedules and the questions were mostly to cover relevant information about the general socio-economic characteristics of the farmers, such as age, sex, educational level, farm size, marital status; major sources of media available; level of information utilized; farming experience; house hold size, general problems encountered with media usage and relevancy of information sources.

### 2.4. Questionnaire Design and Analysis of Data

A questionnaire was developed in such a way to collect the information from the respondents represent study area. The structured questionnaire was finalized with the consultation of the senior faculty members of the department. The data was collected through personal interview using the questionnaire by the researcher himself to get the accurate information from the respondent farmers. The structured interview schedule contained items concerning personal characteristics.

### 2.5. Analysis of Data

Data were analyzed using Statistical Package for Social Sciences (SPSS, Version 21). Before data feeding, variable were created, values were labeled, data were fed, cleaned, and analyzed. Descriptive statistics was used. Frequencies and percentages were calculated and reported.

## 3. RESULTS AND DISCUSSION

Data regarding role of mass media in dissemination of agricultural technology among the farmers of district

Jaffarabad were gathered and analyzed during - 2013. Information about respondents were collected on demographic characteristics of respondents, information about agricultural farming and perceptions related to the role of mass media in dissemination of agricultural technology. The data collected on various demographic characteristics and other study features have been presented hereunder:

### 3.1. Demographic Characteristics of Respondents

Table 1 provides information on major demographic characteristics of the respondents. Description of primary data on age, gender, and educational attainment is provided as under:

#### 3.1.1. Age of Respondents

Distribution of farmers age was categorized as <30 years, 31-40 years, 41-50 years, 51-60 years and 61 years and above and the summarized data are presented in Table 1. Survey results revealed that that majority (45.35%) of the respondents belonged to the age group of 31-40 years, 24.42 percent of the farmers involved in this study were 41-50 years old; while 16.28 percent of the respondent farmers were below 30 years of age. However, 10.47 percent farmers belonged to age group of 51-60 years; while 3.49 percent of the agriculture farm operators were older than 60 years. The study showed that the selection of respondent farmers in the study area was logically purposeful to

involve the farmers of all ages for establishing a balanced sample in relation to their life experience.

#### 3.1.2. Gender of Respondents

Besides male household members, females are also involved in farming in addition to household activates. Because of low documentation of their role in farming, women are considered invisible hands. Distribution of respondents by gender has been provided in Table 1. The table revealed that overwhelming majority (80.23%) of the respondents were male farmers while proportion of females was 19.77 percent. This indicates that about one-fifth of the total respondents involved in agricultural farming was recorded as female workforce. In fact, this is significant contribution of women in agricultural farming.

#### 3.1.3. Educational Attainment

Table 1 shows the summarized information about educational attainment. The education attainment among the farmers of district Jaffarabad was assessed and respondents were distributed for non-formal education, formal education, Quraan/Islamic education, adult literacy and no education (none). The table shows that about one third (31.40%) farmers possessed formal education while about one fifth (26.74%) respondents possessed non-formal education. Rate of illiteracy was computed at 22.09 percent, who had no education in any kind. About 16.28 percent possessed

**Table 1: Demographic Characteristics of Respondents**

|                        | Variable                 | N  | %      |
|------------------------|--------------------------|----|--------|
| Gender                 | Male                     | 69 | 80.23  |
|                        | Female                   | 17 | 19.77  |
|                        | Total                    | 86 | 100.00 |
| Age Group              | <30 years                | 14 | 16.28  |
|                        | 31-40 years              | 39 | 45.35  |
|                        | 41-50 years              | 21 | 24.42  |
|                        | 51-60 years              | 9  | 10.47  |
|                        | 61 years and above       | 3  | 3.49   |
|                        | Total                    | 86 | 100.00 |
| Educational Attainment | None                     | 19 | 22.09  |
|                        | Non-formal education     | 23 | 26.74  |
|                        | Formal education         | 27 | 31.40  |
|                        | Quraan/Islamic Education | 14 | 16.28  |
|                        | Adult literacy           | 3  | 3.49   |
|                        | Total                    | 86 | 100.00 |

Quraan/Islamic education while 3.49 percent had attended adult literacy programs in the past.

### 3.2. Information about Agricultural Farming

Information regarding agricultural farming were gathered on three major indicators namely land ownership, farm size, and farming experience. Summarized data have been presented in Table 2.

#### 3.2.1. Land Ownership Status

The land ownership status of the respondents has been given in Table 2. The major categories of land ownership status were personal land, tenant (shareholder), family land and community land. The data indicated that about three fourth (75.58%) of the respondents had personal land, while 18.60 percent of the respondents were shareholders (tenants). Family land was reported by 5.81 percent of the respondents. None of the respondents possessed the community land. This indicates that most of the agricultural lands in Jaffarabad district of Balochistan are private lands.

#### 3.2.2. Farm Size

Distribution of respondents by farm size has been presented in Table 2. The table shows categories of farm size as small (upto 12.5 acres), medium (12.5-50.0 acres) and large scale (>50 acres). It was noted from the data that majority of the farmers (52.33%) possessed medium scale agricultural land (12.5 -50.0 acres) and 31.40 percent of the respondents

possessed large scale agricultural land (>50.0 acres) and small farm (up to 12.5 acres) possessed by 16.28 percent respondents. The data showed that most of the farmers possessed medium to large scale agricultural land in the study area of Balochistan province.

#### 3.2.3. Farming Experience

The respondents were also asked to perceive on their farming experience and responses were managed according to the length of their experience in years and the data is presented in Table 2. The data in the above table showed that majority of the respondent farmers (29.07%) possessed more than 21 years farming experience about one fourth (26.74 percent) of the respondent farmers possessed 16-20 years farming experience. Similarly, 22.09 percent of the respondents possessed 11-15 years of farming experience, 6-10 years farming experience was reported by 13.95 percent respondents. Similarly, 2-5 years' experience has been reported by 8.14 percent. This indicates that quite a large majority of the respondents possessed more than 10 years farming experience.

### 3.3. Perceptions about Role of Mass Media

Efforts were made to collect information on perceptions of farmers about mass media with special reference to disseminating information on agriculture advancement. Table 3 shows summarized collected data.

**Table 2: Information about Agricultural Farming**

| Variable              |                         | N  | %      |
|-----------------------|-------------------------|----|--------|
| Land Ownership Status | Personal land           | 65 | 75.58  |
|                       | Tenant                  | 16 | 18.60  |
|                       | Family land             | 5  | 5.81   |
|                       | Total                   | 86 | 100.00 |
| Farm Size             | Small (up-to 12.5 acre) | 14 | 16.28  |
|                       | Medium (12.5 - 50 acre) | 45 | 52.33  |
|                       | Large (Above 50 acres)  | 27 | 31.40  |
|                       | Total                   | 86 | 100.00 |
| Farming Experience    | 2-5 years               | 7  | 8.14   |
|                       | 6-10 years              | 12 | 13.95  |
|                       | 11-15 years             | 19 | 22.09  |
|                       | 16-20 years             | 23 | 26.74  |
|                       | ≥ 21 years              | 25 | 29.07  |
|                       | Total                   | 86 | 100.00 |

**Table 3: Perceptions of Respondents about Role of Mass Media**

|  | Variable   | N  | %      |
|--|--|----|--------|
| Major Source of Agricultural Information                                   | Radio  | 27 | 31.40  |
|  | Television   | 45 | 52.33  |
|  | Newspapers   | 3  | 3.49   |
|  | Extension Bulletin                                   | 2  | 2.33   |
|  | Posters  | 9  | 10.47  |
|  | Total  | 86 | 100.00 |
| Conventionality of Sources of Mass Media                                   | Highly conventional                                  | 61 | 70.93  |
|  | Moderately conventional                              | 16 | 18.60  |
|  | Not-conventional                                     | 9  | 10.47  |
|  | Total  | 86 | 100.00 |
| Accessibility of Mass Media  | Highly accessible                                    | 57 | 66.28  |
|  | Moderately accessible                                | 18 | 20.93  |
|  | Not-accessible                                       | 11 | 12.79  |
|  | Total  | 86 | 100.00 |
| Preferred Time of Listening to Agricultural Programs                       | Morning (5am to 12 noon)                             | 19 | 22.09  |
|  | Afternoon (12 noon – 4 pm)                           | 3  | 3.49   |
|  | Evening (4 pm – 8.00 pm)                             | 29 | 33.72  |
|  | Night (8.00 pm- 12.00 am)                            | 35 | 40.70  |
|  | Total  | 86 | 100.00 |
| Relevance of Information   | Highly relevant                                      | 61 | 70.93  |
|  | Moderately relevant                                  | 22 | 25.58  |
|  | Not-relevant   | 3  | 3.49   |
|  | Total  | 86 | 100.00 |
| Effectiveness of agricultural information in solving agricultural problems | Capacity building                                    | 19 | 22.09  |
|  | Infrastructural development                          | 36 | 41.86  |
|  | Acquisition of major assets                          | 21 | 24.42  |
|  | Inability to access support                          | 10 | 11.63  |
|  | Total  | 86 | 100.00 |
| Problems of Mass Media   | No problem/constraint                                | 13 | 15.12  |
|  | Language barriers                                    | 0  | 0.00   |
|  | Poor signal  | 11 | 12.79  |
|  | Inability to respond immediately to source           | 14 | 16.28  |
|  | High cost of purchasing and maintaining media source | 21 | 24.42  |
|  | Power failure  | 27 | 31.40  |
|  | Total  | 86 | 100.00 |

### 3.3.1. Source of Agricultural Information

Major sources of information described were radio, television, newspapers, extension bulletin, posters and extension worker. The data in the table exhibited that majority of the farmers in the study area supposed television as the major source of agricultural

information for them, while radio was the source of agricultural information for 31.40 percent respondents; while 10.47 percent respondents supposed posters as the major source of agricultural information. However, 3.49 percent respondents relied on newspapers and 2.33 percent relied on extension bulletin; while none of

the respondents indicated extension worker as the source of agricultural information.

### **3.3.2. Conventionality of Sources of Media**

The conventionality of the source of media used by the respondents in Jaffarabad district was recorded on the basis of three conventionality ranking including highly conventional, moderately conventional and non-conventional. The data in above table showed that 70.93 percent of the respondents perceived that the sources of media used in the area are highly conventional, while 18.60 percent of the respondents indicated that the source of media for agricultural information was moderately conventional. However, 10.47 percent of respondents perceived that the source of media for agricultural information is not conventional. This indicated that there is need to improve the situation regarding the sources of media for agricultural information in the study area.

### **3.3.3. Accessibility of Media Sources for Agricultural Information**

Accessibility of media sources used by the respondent farmers in District Jaffarabad of Balochistan was determined and accessibility was assessed on the basis of ranking as highly accessible, moderately accessible and not accessible. The survey results indicated that about two third (66.28%) of the respondents perceived that the sources of media for agricultural information was highly accessible, while one-fifth (20.93) percent of the farmers perceived moderately accessible and the 12.79 percent of the respondents perceived that the sources of media for agricultural information was not accessible. This indicates that, although the source of media for agricultural information was moderately to highly accessible, but due to lack of motivation of the extension providers and other sources of information, the productivity improvement is not desirable.

### **3.3.4. Preferred Time of Listening to Agricultural Programs**

The preferred time of listening to the agricultural programs was enquired from the respondents in the study area and they were offered various time schedules for listening to agricultural programs. The table shows that majority of the respondents (40.70%) supposed to prefer listening to agricultural programs between 8 pm to 12.00 am; 33.72% respondents showed preference for listening to agricultural programs from 4.00 -8.00 pm while 22.09 percent of the respondents showed their preference for listening

to agricultural programs during 5.00 am to 12.00 noon time period. However, 3.49 percent of the respondents supposed to prefer listening to agricultural programs during 12 noon to 4.00 pm.

### **3.3.5. Relevance of Information Received in Improving Agricultural Production**

Survey results revealed that majority of respondents (88.37%) were positive and agreed over the relevance of information received mass media in improving agricultural production; while 11.63 percent of the respondents were against this perception and replied that there is no relevance of information received through mass media in improving agricultural production.

### **3.3.6. Relevance of Information Receiving in Solving Agriculture Problems**

The farmers in the Jaffarabad district were also enquired for relevance of information receiving through mass media in solving agriculture problems and level of relevance was described as highly relevant, moderately relevant and not relevant. Majority (70.93%) of the respondents considered the information receiving through mass media is highly relevant in solving agriculture problems; while about one fourth (25.58%) of the respondents indicated that the information receiving through mass media is moderately relevant in solving agriculture problems. However, 3.49 percent of the respondent farmers of the study area disclosed that information receiving through mass media is not relevant in solving agriculture problems.

### **3.3.7. Effectiveness of Received Agricultural Information in Solving Agricultural Problems**

The farmers of the study area were also asked to perceive on the effectiveness of received agricultural information through various sources of information in solving agricultural problems. Majority (41.86%) of the respondents reported infrastructural development due to agricultural information received through mass media and 22.09 percent found that agricultural information received through mass media was helpful in capacity building. Similarly, 24.42 percent respondents agreed that such information was helpful in acquisition of major assets. On the other hand, 11.63 percent respondents showed inability to access such support from the mass media.

### **3.3.8. Problems Encountered in Obtaining Information from the Media Sources**

The farming communities in Jaffarabad district were asked to perceive on the problems encountered in

obtaining information from the media sources. The table suggested that 31.40 percent of the respondents complained the power failure is constraint in obtaining information from media sources, 24.42 percent respondents reportedly could not afford the cost of purchase and maintaining the media source, 16.28 percent showed inability to respond immediately to media source, 12.79 percent complained the poor signals; while 15.12 percent of the respondents disclosed that they have no problem/constraint in obtaining the information from media sources.

#### 4. CONCLUSION AND RECOMMENDATIONS

This study was conducted during 2013 to examine the role of mass media in dissemination of agricultural technology among the farmers of district Jaffarabad. The results revealed that majority (45.35%) of the respondents belonged to the age group of 31-40 years. Overwhelming majority (80.23%) of the respondents were male farmers while proportion of females was 19.77 percent. A large majority (82.56%) of the respondents were passing married life while about one-tenth (10.47%) respondents were recorded as single. About only one-third (31.40%) farmers possessed formal education while about one fifth (26.74%) respondents got non-formal education. Radio was the source of agricultural information for 31.40 percent respondents; while 10.47 percent respondents supposed posters as the major source of agricultural information. However, only 3.49 percent respondents relied on newspapers. Majority (70.93%) of the respondents perceived that the sources of media used in the area are highly conventional. About two third (66.28%) of the respondents perceived that the sources of media for agricultural information was highly accessible. Relative majority of the respondents (40.70%) supposed to prefer listening to agricultural programs between 8 pm to 12.00 am; 33.72% respondents showed preference for listening to agricultural programs from 4.00 -8.00 pm.

Majority (70.93%) of the respondents considered the information receiving through mass media is highly relevant in solving agriculture problems. Majority (41.86%) of the respondents reported infrastructural development due to agricultural information received through mass media and 22.09 percent found that agricultural information received through mass media was helpful in capacity building. Regarding major obstacles in receiving information, 31.40 percent respondents reported power failure, followed by high cost (24.42%), and poor signals (12.79%).

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