

Role of Print Media in Dissemination of Agricultural Information among the Farmers of Moulvibazar District of Bangladesh

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Abstract—This study was carried out to assess role of print media in dissemination of agricultural information among the farmers in Moulvibazar sadar Upazila of Moulvibazar District, Bangladesh. A random sampling technique was used for selecting samples. The total sample size was 100 respondents. Data were collected through a well structure interview schedule and analyzed with descriptive statistics and inferential statistics i.e. correlation co-efficient. 50 percent of the respondents had low print media use whereas 50% of the farmers had medium to high use of print media. Agricultural leaflet was used to the highest extent and agricultural poster had highest effectiveness in getting agricultural information from print media. Majority of the farmers were middle aged with largely primary level education having medium family and small farm holdings, medium cosmopolitanism, organizational participation and low annual income with medium innovativeness and agricultural knowledge prevailed in the study area. In addition to this, more than two-third respondents got no training and maintained medium extension contact for agricultural information. Level of education, Farm size, Annual income, Organizational participation, Extension contact, Innovativeness, cosmopolitanism and Agricultural knowledge of the farmers had positive significant relationship with their use of print media whereas age, family size and training experience of the farmers had no positive significant relationship with their use of print media in receiving agricultural information. Lack of publicity, not availability of print media in cropping season, unknown source face, low mentality to share print media etc. were the major constants in using print media.

Keywords: Print media, Dissemination, Agricultural information, Analysis, Farmers.

1. INTRODUCTION

Bangladesh is basically a rural based agricultural country. The development of agriculture is mostly depending on the use of modern agricultural technologies by the farmers. The country is supplying to meet the basic need of her population from its net cultivable land which is estimated around 8.29 million hectare and perhaps agricultural productivity of Bangladesh is one of the lowest in the world. Agricultural production can only be increased if appropriate technologies are used by the

farmers who are the primary unit of adoption of improved practices. Diffusion of proper knowledge on modern agriculture among the rural people demands effective communication system. In addition, timeliness and effectiveness are also valuable dimensions for communication of technological message. This suggests that the flow of information should be as first as possible, and also should be understandable, well interpreted accepted and liked by the others.

The Department of Agricultural Extension (DAE) is the largest extension organization in Bangladesh which is directly involved in motivating farmers for using modern agricultural technologies in order to improve productivity and to increase production.

The Department of Agricultural Extension (DAE) and some other government and non-government organizations are working in the field in transferring information as well as technologies from research system (source of technology) through proper extension system (interpreter and dissemination of technology) to the client system (users of technology).

Agricultural production can be increased if appropriate technologies are used by the farmers. Diffusion of proper knowledge of modern agriculture among the rural people demands effective communication system which is largely ensured by the extension agents of DAE.

In addition, immediacy and effectiveness is also valuable of dimension for communication of technical message. This is suggested that the follow of information should be as first as possible and also should be understandable; we interpreted, accept and linked by the farming community. All this depends upon effective dissemination of latest technology among the end users-farmers. It involves the use of various channels including mass media for the transmission of messages to large audiences. The mass media can be a powerful tool for

information dissemination within the rural masses. Mass media can be classified as print media and electronic media. Print media include words, pictures and diagram to convey precise and clear information on a mass scale. Farmers can use print media for long period as permanent reminder and can use again and again. Print media can effectively be used if their form and content are tailored to the needs and interest of the target audience, offer options and facilitate decision making, encourage the adaptation of technology to local situation, provide a more explicit treatment of sustainability in relation to the technical content, and give information on the economic and financial implications of any recommended technologies, including the uncertainties and risks involved.

Oakley and Garforth (1985) considered print media as permanent message senders in Agri. Extension. However they acknowledge their limitation for illiterate population. Thus, they can mainly be useful for literate farmers. It is obvious that with the passage of time the literacy rate has increased to 61.5 percent in Bangladesh (UNESCO, 2015) and according to education minister of Bangladesh, it has been reached to 70 percent in 2016. So the print media seem very important, as more than two-third of the population is literate. In this context, Mehmmod (2000) reported that group discussions were ranked the best by 70% of the respondents, print media as the second best by 40% and TV was the third best by 37.5% of the respondents. Mosher (1976) indicated that the reading material including posters, pamphlets and other print media changed the behaviors of 98% farmers. So the present paper is based on a study conducted to satisfy the following objectives:

1. To determine and describe the selected characteristics of the farmers using print media used in getting agricultural information;
2. To identify the print media and their extent of use by the farmers in receiving agricultural information;
3. To examine the effectiveness of print media in getting agricultural information to the farmers;
4. To find out the problems faced by the farmers in using print media in getting information;
5. To explore the relationship between the selected characteristics of the farmers and their use of print media.

2. METHODOLOGY

2.1 Locale of the study

The study was conducted in sadar upazila of Moulvibazar district. The researcher selected print media users of a union in this upazila. Four villages of 11 Numbers Mostofapur union constituted the locale of the study. The physical, social and cultural heritage of the people of this area was similar in many cases with other district of the Sylhet division. Communication of the study villages with Moulvibazar town is mostly facilitated by pucca roads. Villages are easily

accessible by rickshaw, auto rickshaw, bicycle, motor cycle, tempo, CNG, etc.

2.1 Population and sampling design

All the print media users of 11 Numbers Mostofapur union of Moulvibazar sadar upazila constituted the population for this study. For this purpose an up to date list of the print media user farmers were prepared with the help of the village elites and Sub Assistant Agriculture Officers (SAAO's) of this union. The total number of the print media user farmers in those four villages was 340. About 33 percent of the farmers were selected as samples following simple random sampling method. In all 100 farmers were selected as sample for the present study. A reverse list of the 11 farmers was also prepared.

2.3 Collection of data

Primary data were collected personally by the researcher himself from the respondents by using pre-tested interview schedule while Secondary data were obtained from literatures, examples include textbooks, journal, annual reviews, internet, electronic libraries and past students' thesis. The researcher faced no serious difficulty during the collection of data and excellent co-operation was obtained from the field extension workers and the local leaders.

2.4 Variables of the study

In this study eleven selected characteristics of the farmers constituted the independent variables and those were: age, level of education, farm size, family size, annual income, training exposure, extension media exposure, organizational participation, innovativeness, cosmopolitanism and agricultural knowledge whereas use of print media by the farmers in receiving information was the dependent variable.

2.5 Analytical Tools

The analysis was performed using SPSS (Statistical package for social science) computer package. Descriptive analysis such as range, frequency count, number and percentage, mean, standard deviation and rank order were used, person's Product Moment Coefficient Correlation (r) was used in order to explore the relationship between the concerned variables. Throughout the study, five percent (0.05) level of probability was used as a basis of rejecting a null hypothesis. In order to determine difference between the respondents from two study locales regarding dependent and independent variables, student t-test for the difference of means was used. The use of different print media was calculated by Use Index (UI) and it was computed by using the following formula:

$$UI = N_r \times 2 + N_o \times 1 + N_n \times 0.$$

Where, N_r = Number of farmers use print media regularly, N_o = Number of farmers use occasionally, N_n = Number of farmers never use print media

Thus, UI could vary from 0 to 300 where 0 indicates no use and 300 indicate regular use of print media. Each issue was ranked according to obtained score.

3. RESULTS AND DISCUSSIONS

3.1 Socio-economic characteristics of the respondents

In this section, the findings on the farmers’ selected characteristics have been discussed and a summary profile of these characteristics is presented in table 1, which indicates an overwhelming majority (81%) of the respondents belonged to middle and young aged categories except a few (19%), among which 90% had education ranged from primary to secondary which is far above the national average and possessed small to

medium farm holdings. Large portion (86%) of the respondents belonged to medium and small family. The highest proportion (68%) of the farmers had low annual income whereas only 6% farmers had high annual income. 73% of the respondents did not experience any training while 65 percent of them had low organizational participation and almost similar percent maintained medium extension media contact and cosmopolitanessin the study area. Most (70%) of the respondents belonged to medium cosmopolitaness category while More than 50 percent of the respondents had medium to high innovativeness. The tabulated data indicates that most (71%) of the respondents had medium agricultural knowledge while only 12% of them had high agricultural knowledge.

Table 1: Socioeconomic Characteristics of the farmers

| Socio-economic characters | Frequency | Percent | Socio-economic characters | Frequency | Percent |
|-----------------------------|-----------|---------|--------------------------------------|-----------|---------|
| Age (years) | | | Medium (9) | 9 | 9 |
| Young (up to 35) | 18 | 18 | High(3) | 3 | 3 |
| Middle age (35 to 60) | 63 | 63 | Mean | 6.99 | |
| Old (> 60) | 19 | 19 | Standard Deviation | 15.381 | |
| Mean | 49.15 | | Organizational Participation (score) | | |
| Standard Deviation | 10.994 | | Low (up to 9) | 65 | 65 |
| Education &(score) | | | Medium (10-18) | 30 | 30 |
| Primary (up to 5) | 55 | 55 | High (>18) | 5 | 5 |
| Secondary (6-10) | 35 | 35 | Mean | 2.68 | |
| Above secondary (above 10) | 10 | 10 | Standard Deviation | 5.008 | 5 |
| Mean | 6.74 | | Extension Contact (score) | | |
| Standard Deviation | 3.202 | | Low (up to 23) | 13 | 13 |
| Family size (members) | | | Medium (24-32) | 68 | 68 |
| Small (up to 4) | 6 | 6 | High (>33) | 19 | 19 |
| Medium (4-7) | 46 | 46 | Mean | 27.270 | |
| Large (7-10) | 40 | 40 | Standard Deviation | 4.69 | |
| Extra-large (> 10) | 8 | 8 | Innovativeness (score) | | |
| Mean | 6.72 | | Low (up to 21) | 41 | 41 |
| Standard Deviation | 1.969 | | Medium (22-28) | 49 | 49 |
| Farm Size (ha) | | | High (>28) | 10 | 10 |
| Small (0.21-1.00) | 30 | 30 | Mean | 21.51 | |
| Medium (1.01-3.00) | 60 | 60 | Standard Deviation | 3.59 | |
| Large (>3.01) | 10 | 10 | Cosmopolitaness (score) | | |
| Mean | 1.572 | | Low (up to 11) | 19 | 19 |
| Standard Deviation | 0.9469 | | Medium (12-15) | 70 | 70 |
| Annual Income ('000) | | | High (15) | 11 | 11 |
| Low (up to 329) | 68 | 68 | Mean | 13.33 | |
| Medium (330-573) | 26 | 26 | Standard Deviation | 1.96 | |
| High (>573) | 6 | 6 | Agricultural knowledge (score) | | |
| Mean | 230.66 | | Low (up to 17) | 17 | 17 |
| Standard Deviation | 126.04 | | Medium (18-23) | 71 | 71 |
| Training Experience (score) | | | High(>23) | 12 | 12 |
| No (73) | 73 | 73 | Mean | 20.03 | |
| Low (15) | 15 | 15 | Standard Deviation | 3.05 | |

Uses of print media by the farmers in receiving agricultural information:

The use of print media scores of the farmers ranged from 5 to 21 against the possible score of 0 to 33. The mean and standard deviation were 10.80 and 4.387 respectively. On the basis of the observed score of print media use, the respondents were classified into three categories.

Table 2: Distribution of farmers depending on their print media use

| Categories | Farmers | | Mean | Standard Deviation |
|---------------|-----------|---------|-------|--------------------|
| | Frequency | Percent | | |
| Low(up to 10) | 50 | 50 | 10.80 | 4.387 |
| Medium(11-16) | 36 | 36 | | |
| High(>16) | 14 | 14 | | |

The study revealed that 50 percent of the respondents were lagged behind and had low print media use whereas 50 percent of them using print media at medium to high extent. This might be due to the fact that, more than 50 percent of the respondents only received primary education and had less interest on reading print media rather got information from other sources like radio, television, neighbours etc. However, Dinampo (1989) also observed that farmers were found to prefer an interpersonal media (extension agent) rather than mass media. Among mass media, first preference was radio followed by print media and audio visual sources.

3.2 Extent of information received

On the basis of the observed score of the received information from print media, the respondents were classified into three categories such as, "low information received from print media" (up to 6), "medium information received from print media" (7-11) and "high level of information received from print media" (above 11). The distribution of farmers based on their effectiveness of print media scores is shown in table3.

Table 3: Distribution of farmers depending on their extent of agricultural information received from print media

| Categories | Farmers | | Mean | Standard Deviation |
|---------------|-----------|---------|------|--------------------|
| | frequency | Percent | | |
| Low (up to 6) | 40 | 40 | 6.10 | 2.36 |
| Medium (7-11) | 52 | 52 | | |
| High (>11) | 8 | 8 | | |

Analysis of the data reveals that 60 percent print media users in the study area were trying to keep pace with updated agricultural information using print media at medium to high extent whereas 40 percent of them were in low level category.

The table indicates the Rank order of print media used by the farmers in getting agricultural information. The farmers were asked to mention the print media they used for getting agricultural information during the time of need. The data obtained in this regard is presented in the table

Table 4: Ranking of different forms of print media based on their Use index

| SL.NO. | Print media | Use index | Rank order |
|--------|-----------------------|-----------|------------|
| 1 | Leaflet | 261 | 1 |
| 2 | Poster | 195 | 2 |
| 3 | Agricultural bulletin | 76 | 6 |
| 4 | Krishi kotha | 96 | 5 |
| 5 | Flip chart | 56 | 7 |
| 6 | Flash card | 53 | 8 |
| 7 | Daily Prothom alo | 124 | 3 |
| 8 | Daily Jugantor | 109 | 4 |
| 9 | Daily Ittefaq | 28 | 11 |
| 10 | Daily Kalarkantha | 47 | 9 |
| 11 | Others | 31 | 11 |

Source: field survey

Eleven print media were tabulated with their user index and calculating their rank order on the basis of their use index. The use index could be ranged from 0 to 300. Computed used index of 11 print media ranged from 28 to 261. The major source of agricultural innovation to the respondents through the printed and electronic media was Agricultural leaflet (Table 2). This accounted for 261 score out of 300 and rank order 1, Poster (195 score) rank order 2. Another important source of agricultural information used by the farmers are the daily news paper. Chidanandappa and Veerabhadraiah (1988) examined different mass media as the source of agricultural information and reported a good use of the package of practices like booklets, extension folders, radio, newspaper and farm magazine as media of information. The table also showed that many of the respondents got their agricultural information through booklets like "krishi kotha" and some other teaching aids like flipcharts, flash cards and Agricultural bulletin etc and similar findings was claimed by Samanta (1986); Haque (1972) and Latif (1974).

3.3 Areas of receiving agricultural information using print media

Attempt was also made to find out the types of information received from different print media. A rank order of different types of information received by the farmers from different print media is shown in the table 5.

Table 5: Rank order of different areas for receiving information using print media

| SL. No. | Types of information | Information received index | Rank order |
|---------|----------------------|----------------------------|------------|
| 1 | Cereal crops | 247 | 1 |
| 2 | Vegetables | 197 | 2 |
| 3 | Animal husbandry | 48 | 3 |
| 4 | Fish culture | 38 | 4 |
| 5 | Fruits | 26 | 5 |
| 6 | Dairy farm | 19 | 6 |
| 7 | Forestry | 15 | 7 |
| 8 | Homestead forestry | 11 | 8 |
| 9 | Poultry | 8 | 9 |

Source: field survey

The 9 agricultural divisions are tabulated with their type of information received index and calculating their rank order on the basis of their type of information received index. The effective index could range from 0 to 300. Computed type of information received index of 9 agricultural divisions ranged from 8 to 247. Farmers received agricultural information to the highest extent about cereal crops and vegetables. However, farmers also used print media in getting information related to animal and fish culture to a great extent.

4. EFFECTIVENESS OF PRINT MEDIA USED

The effectiveness of print media scores of the farmers ranged from 4 to 24 against the possible score of 0 to 33. The mean and standard deviation were 11.950 and 4.615 respectively. On the basis of the observed score of the effectiveness of print media the respondents were classified into three categories such as, “low effectiveness of print media” (up to 11), “medium effectiveness of print media” (12-19) and “high effectiveness of print media” (above 19). The distribution of farmers based on their effectiveness of print media scores is shown in Table 6:

Table 6: Distribution of farmers depending on their effectiveness of print media

| Categories | Farmers | | Mean Standard Deviation | |
|----------------|-----------|---------|-------------------------|------|
| | Frequency | Percent | | |
| Low (up to 11) | 42 | 42 | | |
| Medium (12-19) | 45 | 45 | 11.950 | 4.61 |
| High (>19) | 13 | 13 | | |

Analysis of the data reveals that (42 percent) of the respondents had low effectiveness of print media, 45 percent having medium and 13 percent had high effectiveness of print media. The farmers were asked to mention the print media according to effectiveness that they used for getting agricultural information during the time of need. The data obtained in this regard is presented in the table 7:

Table 7: Rank order of print media on the basis of effectiveness index

| Sl. NO. | Print media | Effectiveness index | Rank order |
|---------|-----------------------|---------------------|------------|
| 1 | Leaflet | 180 | 2 |
| 2 | Poster | 262 | 1 |
| 3 | Agricultural bulletin | 128 | 4 |
| 4 | Krishi kotha | 140 | 3 |
| 5 | Flip chart | 96 | 6 |
| 6 | Flash card | 75 | 8 |
| 7 | Daily Prothom alo | 108 | 5 |
| 8 | Daily Jugantor | 95 | 7 |
| 9 | Daily Ittefaq | 31 | 11 |
| 10 | Daily Kalarkantha | 45 | 9 |
| 11 | Others | 32 | 10 |

Source: field survey

Eleven Print media are tabulated with their effectiveness index and calculating their rank order on the basis of their effectiveness index could be range from 0 to 300. Computed effectiveness index of 11 print media ranged from 31 to 262. Agricultural poster was highly effective in supplying agricultural information to the farmers followed by leaflets, booklets, agricultural bulletins and different newspapers and this is might be due to the presence of motivational illustrations present in those materials.

Factors militating against effective utilization of mass media

The farmers were asked to mention the problems they have been facing in getting agricultural information from print media. The data obtained in this regard is presented in table 8:

Table 8: Rank orders of different problems according their citation mentioned by the farmers

| SL. No. | Problems | No. of citation | Rank/order |
|---------|---|-----------------|------------|
| 1 | Lack of publicity | 56 | 1 |
| 2 | Not available in cropping season | 53 | 2 |
| 3 | Source face is unknown to the farmers | 33 | 5 |
| 4 | Low mentality to share print media | 18 | 6 |
| 5 | Costly | 48 | 3 |
| 6 | Unwillingness about sources | 36 | 4 |
| 7 | Unable to reading correctly | 8 | 9 |
| 8 | Low agricultural knowledge | 9 | 8 |
| 9 | Lack of sincerity among the extension agent | 15 | 7 |

Source: field survey

Information contained in table 8 presents’ data on factors that militate against effective utilization of print media as sources of agricultural information in the study area. Lack of publicity (56) publicity formed the core constraint in the study area followed by no availability of information in cropping season, Costly materials, Unwillingness about sources, Source face is unknown to the farmers, Low mentality to share printed materials, Lack of sincerity among the extension agents, Low agricultural knowledge and Unable to reading correctly (8) are factors the top 9 obstacles due to which farmers did not get need based updated agricultural information from using print media.

Relationship between the selected characteristics of the respondents and their use of print media

An attempt was made to find out the relationship between the selected characteristics of the respondents with their print media use in receiving agricultural information on improved rice production technologies. Co-efficient of correlation results revealed that out of 11 selected characteristics of the respondents only 8 namely Level of education, Farm size, Annual income, Organizational participation, Extension contact, Innovativeness, cosmopolitaness and Agricultural

knowledge of the farmers had significant positive relationship and these attributes might facilitate individuals to receive more agricultural information which helps individuals to increase his/her understanding and awareness on different aspects of agricultural information. Islam (1995), Nuruzzaman (2003), Alam (2004) also found almost similar relationship and concluded that with increase in the characters of the farmers, their use of print media is increase. Age, family size and training experience of the respondents had no significant relationship with print media use in receiving information on improved rice production technologies and the above findings resembles the findings of Amin (2001), Coughenour (1960). Level of education, Farm size, Annual income, Organizational participation, Extension contact, Innovativeness, cosmopolitaness and Agricultural knowledge of the farmers had positive significant relationship with their use of print media in receiving agricultural information. Again age, family size and training experience of the farmers had no positive significant relationship with their use of print media in receiving agricultural information.

Table 9: Correlation co-efficient between the selected characteristics of the farmers and their use of print media (N=100)

| Dependent variable | Independent variable | Computed value for 'r' | Table value of 'r' at Degrees of freedom | |
|-----------------------------------|------------------------------|------------------------|--|-------|
| | | | 0.05 | 0.01 |
| Use of print media by the farmers | Age | 0.088 (NS) | 0.197 | 0.257 |
| | Level of education | 0.784** | | |
| | Farm size | 0.465** | | |
| | Family size | 0.044 (NS) | | |
| | Annual income | 0.601** | | |
| | Training experience | 0.126 (NS) | | |
| | Organizational participation | 0.603** | | |
| | Extension media | 0.698** | | |
| | Innovativeness | 0.816** | | |
| | Cosmopolitaness | 0.602** | | |
| Agricultural knowledge | 0.773** | | | |

** Significant at 0.01 level of probability,

* Significant at 0.05 level of probability

5. CONCLUSIONS AND RECOMMENDATIONS

The study revealed that, fifty percent of the respondents had low print media use whereas 36 percent having medium and 14 percent had high level of print media use. This means 50% of the farmers had medium to high use of print media which is encouraging for modernization of existing farming practices. The findings indicate that agricultural leaflet was used as the print media in receiving agricultural information to the highest extent and agricultural poster had effectiveness in getting agricultural information from print media to the highest extent. Majority of the farmers were middle aged with largely primary

level education having medium family and small farm holdings, medium cosmopolitaness, organizational participation and low annual income with medium innovativeness and agricultural knowledge prevailed in the study area. In addition to this, seventy percent respondents got no training and 68 percent maintained medium extension contact for agricultural information. However, Level of education, Farm size, Annual income, Organizational participation, Extension contact, Innovativeness, cosmopolitaness and Agricultural knowledge of the farmers had positive significant relationship with their use of print media in receiving agricultural information. On the other hand age, family size and training experience of the farmers had no positive significant relationship with their use of print media in receiving agricultural information. The major constants were lack of publicity, not availability of print media in cropping season, unknown source face, low mentality to share print media etc. in using print media. However, to provide better access and improve the effectiveness of printed media in the dissemination of agricultural information in the study area, the following recommendations were made:

- i. In view of the above facts it may be recommended that the extension and development agenesiss should strengthen extension activities considering these characteristics and situational factors in view in supplying farm information through print media.
- ii. A large number of farmers have primary level of literacy, arrangement should be made by concerned authority to provide information in easy and language that farmers can read, understand and apply knowledge in their real life situation.
- iii. Policy development is needed for dissemination of agricultural information through leaflet, newspaper, poster and other print media. Technology specific area based and traditional folk based presentation style should be encouraged.
- iv. The existing print media coverage on agricultural activities should be increased. The print media such as newspaper, poster and leaflet publication should give more coverage on agricultural information
- v. Extension contact is important for getting farm information from various sources. Hence, it is recommended that concerned organizations should increase the supply of print media of the farmers for getting farm information by the farmers.

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