

Analyse the Communication Network in Mobilizing Youth in Adoption of Improved Farm Technology in Bihar (With special reference to Patna district)

Alok Kumar ¹, Dr. Jahanara ²

¹ Research Scholar, ² Prof. & Head (Dr.) Jahanara

¹ Department of Agricultural Extension and Communication, Naini, Agricultural Institute, Sam Higginbottom University of Agriculture, Technology And Sciences, Naini, Allahabad, U.P. 211007.

² Department of Agricultural Extension and Communication, Naini Agricultural Institute, Sam Higginbottom University of Agriculture, Technology And Sciences, Naini, Allahabad, U.P. 211007.

Email-alokjgi@gmail.com

Abstract: The present study was conducted to explore the impact of communication network in mobilizing youth in adoption of improved farm technology used by farming youth and its impacts on the farming system adopted by the farmers. The descriptive research design has been used by the researcher, and PRA technique was used to identify the problems of rural farming youths. Two hundred respondents were selected through the purposive sampling from Bihta and Bikram block of Patna district of Bihar. For the dissemination of information Audio - visual, Visual and Audio media are used by the respondents along with various social sites and apps, it was observed that maximum number of youths were using Kisan call center for the Agricultural updates. The modern Indian farming system inclusive ICT, with the farm management system to keep track inputs and outputs and economics weather forecasting, early warnings and decision support system for adoption of improved farm technology.

Key Words: PRA, ICT, Dissemination, early warnings.

1. INTRODUCTION:

Communication network in simple terms can be defined as the basket of technologies, which assists or support in storage, processing of Data/Information or in dissemination can be through radio, T.V., newspaper, e-portals, social media or mobile phone that will turn agriculture into e-agriculture and will conceptualize the farmers of modern techniques and benefit them in a number of ways. But the truth behind the curtain is that despite such a vast use of internet and smart mobiles still large populations of 50%-55% have no reach to modern communication means. (Manorma year book 2015)

Over, the past thirty years communication network have been introduced in agri-sectors. Important milestones were introduction of computers (1980s), internet, email and mobile phones and Global navigation satellite system (GNSS), wireless communication and social media. Modern farms make use of one or more of the following ICT. Computers with a farm management system to keep track inputs, outputs and economics weather forecast, early warning and decision support systems for crop management auto guidance system for controlled traffic on fields, tractor mounted board computers for steering of sprayers and other machines in a preferred way and data registration.

2. OBJECTIVES:

- To assess the socio-economic characteristics of the respondents.
- To assess the effect of communication network in mobilizing youth in adoption of improved farm technology.

3. RESEARCH METHODOLOGY:

The study was conducted in Patna region corresponding their outskirts villages in Bihar. In Patna district there were twenty three blocks out of that Bihta and Bikram was purposively selected because of large number of mobile user and electricity supply is regular and large number of literate population, ten villages (five from each) were selected randomly thus a total of two hundred respondents were selected for the present study.

3.1. Socio-economic level /status of the respondent

Table - 1

| S. No | Level | Frequency | Percentage |
|-------|--------|-----------|------------|
| 1 | Low | 69 | 34.50 |
| 2 | Medium | 92 | 46.00 |
| 3 | High | 39 | 19.50 |
| Total | | 200 | 100 |

It was observed that the level that 46.00 per cent socio-economic level was medium level followed by 34.50 per cent socio-economic level was low followed respectively by high level 19.50 per cent.

3.2. Different Sources of communications networks:-

Table - 2

| S. No | Sources | Frequency | Percentage |
|-------|---------------------|-----------|------------|
| 1 | Friends | 83 | 32.00 |
| 2 | Neighbour | 96 | 38.00 |
| 3 | Relatives | 79 | 27.00 |
| 4 | Media | 89 | 44.50 |
| 5 | Kisan Call Centre | 122 | 61.00 |
| 6 | Internet | 59 | 29.50 |
| 7 | KVK | 16 | 08.00 |
| 8 | Private field staff | 51 | 25.50 |
| 9 | BDO/AO | 06 | 03.00 |

Multiple responses:

The data presented on Table 2 shows that the 61.00 per cent respondents get information through kisan call centre where as 44.50 per cent respondents find information about farming through media, 38.00 per cent get information through neighbours and respectively 32.00 per cent, 29.50 per cent, 27.00 per cent, 25.50 per cent and 8.00 per cent and 03.00 per cent respondents got knowledge by communicating from friends, internet, relatives, private field staff KVK, private staff respectively and BDO/AO. Similar founding is also reported by **Ezekiel Babatope Familusi, (2014)**, it was also found that 98 per cent respondents mostly used radio to access information followed by mobile phone 86.70 per cent television 85.80 per cent, Newspaper 75 per cent, social network 65 per cent DST and other cable television 48.3 per cent and Internet 46.70 per cent was the list most accessible and usable to access information among the residents.

3.3. Extent of use of social networks by the respondents (Computer & Mobile apps):

Table -3

| S. No | Social network /Sources | Purpose | Frequent ly | Occasio nally | Daily | Once week | Monthly | Never |
|-------|--|---------------|---------------|----------------|---------------|---------------|---------------|----------------|
| 1 | Gmail and others mail services like yahoo etc. | Only chatting | 22 (11.00) | 59 (29.50) | 31 (15.50) | 32 (16.00) | 34 (17.00) | 23 (11.50) |
| | | Agriculture | 14 (07.00) | 21 (10.50) | 17 (08.50) | 59 (29.50) | 61 (30.50) | 28 (14.00) |
| 2 | Whatsapp | Only chatting | 21 (11.50) | 59 (29.50) | 31 (15.50) | 31 (15.50) | 36 (18.00) | 22 (11.00) |
| | | Agriculture | 16 (08.00) | 44 (22.00) | 21 (10.50) | 29 (14.50) | 26 (13.00) | 64 (32.00) |
| | | Entertainment | 76 (38.00) | 45 (22.50) | 23 (11.50) | 19 (09.50) | 14 (07.50) | 23 (11.50) |
| 3 | Face book | Only chatting | 14 (07.00) | 45 (22.50) | 17 (08.50) | 36 (18.00) | 59 (29.50) | 29 (14.50) |
| | | Agriculture | 11 (05.50) | 23 (12.50) | 19 (09.50) | 21 (11.50) | 81 (40.50) | 51 (25.50) |
| | | Entertainment | 14 (07.00) | 33 (16.50) | 21 (11.50) | 34 (17.00) | 36 (18.00) | 79 (39.50) |
| 4 | Twitter | Only chatting | 00 | 19 (09.50) | 00 | 00 | 00 | 181 (90.50) |
| | | Agriculture | 00 | 14 (07.00) | 00 | 00 | 00 | 186 (93.00) |
| 5 | You tube | Only chatting | 00 | 49 (24.50) | 00 | 00 | 00 | 151 (75.50) |
| | | Agriculture | 00 | 41 (20.50) | 00 | 00 | 00 | 159 (79.50) |
| | | Entertainment | 00 | 99 (49.50) | 00 | 00 | 00 | 101 (50.50) |
| 6 | M-Kisaan | Agriculture | 00 | 111 (55.50) | 11 (05.50) | 00 | 00 | 78 (19.50) |

| | | | | | | | | |
|---|------------------|-------------|----|----------------|---------------|---------------|----|---------------|
| 7 | Kisansuvidha app | Agriculture | 00 | 90 (45.00) | 13 (06.50) | 09 (04.50) | 00 | 88 (44.00) |
| 8 | KCC | Agriculture | 00 | 122 (61.00) | 00 | 00 | 00 | 88 (44.00) |

The above table shows that majority (61.00%) of the respondents use kisan call centre, where as 55.50 per cent respondents use M-Kisan and respectively 45.00 per cent were use kisan suvidha app, 23.78 per cent respondents were use WhatsApp for their requirments,22.16 per cent respondents use YouTube for better agricultural information and followed by the Facebook, Gmail, Twitter . Similar finding is also reported by **Bite Bhalchandra Balkrishna et al** (2011)most of them are using WhatsApp followed by Facebook and YouTube.

3. 4. Adoption of ccommunication network in improved farm technology by the respondents (wheat):

Table - 4

| S. No | Practices | Level of adoption | | | | | |
|-------|--|-------------------|-------|-------------------|-------|-------------|-------|
| | | Fully adopted | | Partially adopted | | Non adopted | |
| | | P | F | P | F | P | F |
| 1 | Land preparation | 93 | 46.44 | 81 | 41.33 | 26 | 13.33 |
| 2 | Soil type | 200 | 100 | 00 | 00 | 00 | 00 |
| 3 | FYM application | 102 | 51.00 | 71 | 35.54 | 27 | 13.46 |
| 4 | Variety | 123 | 61.66 | 66 | 33.44 | 11 | 5.50 |
| 5 | Seed treatment | 111 | 55.54 | 59 | 29.33 | 30 | 15.13 |
| 6 | Seed rate | 124 | 62.24 | 41 | 20.21 | 35 | 17.38 |
| 7 | Time of showing | 89 | 44.34 | 96 | 28.00 | 15 | 07.57 |
| 8 | Soil testing | 78 | 39.00 | 111 | 55.54 | 11 | 05.46 |
| 9 | Spacing between plant to plant | 99 | 49.34 | 78 | 39.24 | 27 | 13.52 |
| 10 | Cropping system | 114 | 57.14 | 67 | 33.34 | 19 | 09.52 |
| 11 | Depth of showing | 126 | 63.00 | 49 | 24.36 | 22 | 11.24 |
| 12 | Method of showing | 131 | 65.63 | 60 | 30.13 | 09 | 04.24 |
| 13 | Mixed cropping | 121 | 60.34 | 46 | 23.44 | 33 | 16.22 |
| 14 | Time of showing | 140 | 69.54 | 44 | 22.24 | 16 | 07.22 |
| 15 | Recommended dose of fertilizer (N:P:K) | 123 | 61.14 | 67 | 33.34 | 10 | 05.52 |
| 16 | Number of Irrigation | 109 | 54.34 | 71 | 31.11 | 20 | 10.55 |
| 17 | Control of weeds | 99 | 49.24 | 79 | 40.22 | 22 | 11.54 |
| 18 | Disease control measures | 114 | 57.00 | 50 | 25.00 | 36 | 18.00 |
| 19 | Insect and pest control measures | 103 | 51.34 | 71 | 35.48 | 26 | 13.18 |
| 20 | Harvesting time | 108 | 54.44 | 81 | 40.24 | 11 | 05.32 |
| 21 | Yield | 111 | 55.54 | 66 | 33.22 | 23 | 11.26 |

Similar founding is also reported by **Hanan Suliman Mohamed and Samar Abdalla(2014)** majority of the respondents adopted improved farm technology for better production and productivity.

3. 5. Over all level adoption of improved farm practices of the respondents :(Wheat)

Table - 05

| S. No | Level (Range) | Frequency | Percentage |
|-------|----------------|-----------|------------|
| 1 | Low (24-33) | 45 | 22.50 |
| 2 | Medium (34-43) | 106 | 53.00 |
| 3 | High (44-55) | 49 | 24.50 |
| Total | | 200 | 100 |

3.6. Adoption of communication network in improved farm technology by the respondents (Rice):

Table -06

| S. No | Cultivation Practices | Level of adoption | | | | | |
|-------|--|-------------------|-------|-------------------|-------|-------------|-------|
| | | Fully adopted | | Partially adopted | | Non adopted | |
| | | N | F | N | F | N | F |
| 1 | Land preparation | 126 | 63.34 | 51 | 25.23 | 23 | 11.43 |
| 2 | Preparation of improved nursery | 121 | 60.34 | 49 | 24.22 | 30 | 15.44 |
| | | 00 | 00 | 00 | 00 | 00 | |
| 3 | FYM application | 119 | 59.34 | 70 | 35.16 | 11 | 05.50 |
| 4 | Varieties | 118 | 59.00 | 64 | 32.00 | 18 | 09.00 |
| | | 89 | 44.50 | 70 | 35.00 | 41 | 20.50 |
| 5 | Cropping system | 200 | 100 | 00 | 00 | 00 | 00 |
| | | 00 | 00 | 00 | 00 | 00 | 00 |
| 6 | Soil type | 200 | 100 | 00 | 00 | 00 | 00 |
| 7 | Seed treatment | 103 | 51.34 | 77 | 39.24 | 20 | 10.44 |
| 8 | Nursery /Broadcasting method seed rate/hac | 131 | 65.66 | 64 | 32.00 | 05 | 02.34 |
| 9 | Time of showing | 138 | 69.00 | 40 | 20.00 | 22 | 11.00 |
| 10 | Nursery management practices | 99 | 49.36 | 67 | 35.23 | 34 | 17.41 |
| 11 | Transplanting time | 119 | 59.11 | 64 | 32.44 | 17 | 08.45 |
| 12 | Method of transplanting | 200 | 100 | 00 | 00 | 00 | 00 |
| | | 00 | 00 | 00 | 00 | 00 | 00 |
| 13 | Spacing | 107 | 53.36 | 71 | 35.24 | 22 | 11.40 |
| 14 | Recommended dose of fertilizer (N:P:K) | 144 | 72.22 | 31 | 15.23 | 25 | 12.55 |
| 15 | Irrigation management | 131 | 65.44 | 60 | 39.00 | 09 | 04.56 |
| 16 | Control of weeds | 101 | 50.50 | 76 | 39.00 | 23 | 11.50 |
| 17 | Disease Control measures | 123 | 61.50 | 54 | 27.00 | 33 | 16.50 |
| 18 | Insect and pest control measures | 129 | 64.44 | 54 | 27.22 | 17 | 08.34 |
| 19 | Harvesting time | 134 | 66.54 | 44 | 22.23 | 22 | 11.23 |
| 20 | Yield | 133 | 66.50 | 34 | 17.00 | 33 | 16.50 |

Similar founding is also reported by **S.B. Mustapha (2014)** most of the respondents done these practices for increase their production.

3.7. Over all level adoption of improved farm practices of the respondents:-

Table -07

| Sr. No | Level (Range) | Frequency | Percentage |
|--------|----------------|-----------|------------|
| 1 | Low (26-36) | 51 | 25.50 |
| 2 | Medium (37-46) | 111 | 55.50 |
| 3 | High (47-57) | 38 | 19.00 |
| Total | | 200 | 100 |

Correlation between selected independent variables and Extension of use.

Table -08

| Independent variables | Adoption |
|------------------------------|-----------------|
| Age | -0.131 |
| Education | 3.458 |
| Caste | 0.171 |
| Size of family | 0.219 |
| Occupation | 0.681 |
| Land holding | 0.415 |
| Annual Income | 3.228 |
| Social Participation | 1.935 |
| Extension Contact | 2.358 |

Correlation is significant at the 0.01 level.

The correlation analysis is carried out to know the association/relationship between adoption of an independent stalk holder and all other social economical condition/status of the respondents employed for my study. The correlation coefficient results shows that the motivation of the respondents was high significantly correlate positively and high significance with education level (3.455**), annual income (3.228**), extension contact (0.2358**), social participation (1.935**). Whereas there was no association with the Size of family (0.219), caste (0.171) and negative association with age (0.131). It concludes that that the factors like education, size of family, annual income, social participation and extension contact are important socio economic status of the respondents plays a very important role in the adoption. Whereas the factor like age, caste shows not much important in the adoption.

4. CONCLUSION:

It is concluded from the present study that the respondents have the medium level of socio economic status. The major sources of information were friends, neighbours, media, kisan call centre, internet, KVK, privet field staff, BDO/AO. The respondents mostly use social network/computer/mobile for means communication like Gmail and other mail services, WhatsApp, Facebook, Twitter, YouTube, M-Kisan, Kisan subhidha app, Kisan call centre. It shows that if we improve the education and income level of the respondents there will be more users of computers and mobile based app in future, this leads to better adoption of farm technology in rural areas. At present adoption level is medium level.

REFERENCES:

1. Awotide, B., Diagne, A. and Omonona, B.(2012). Impact of improved agricultural technology adoption on sustainable rice productivity and rural farmers' welfare in Nigeria: A Local Average Treatment Effect (Late) Technique. African Economic Conference. Kigali, Rwanda.
2. Bite Bhalchandra Balkrishna et al (2017) A Study on Role of Social Media in Agriculture Marketing and its Scope, Global Journal of Management and Business Research: E Marketing Volume 17 Issue 1 Version 1.0 Year 2017 Type: Double Blind Peer Reviewed International Research Journal Publisher: Global Journals Inc. (USA) Online ISSN: 2249-4588 & Print ISSN: 0975-585
3. Gulati. G.A (2012) Kurukshetr, Role of ICTs in Rural Development ,The Monthly Journal, published from MINISTRY OF RURAL DEVELOPMENT, Vol. 60 No. 3 ,Page-3, January 2012'.
4. Ganesan et al. (2013) Use of mobile multimedia agricultural advisory systems by Indian farmers: Results of a survey, Journal of Agricultural Extension and Rural Development , Vol.5(4), pp. 89-99, May 2013 DOI: 10.5897/JAERD13.0466 ISSN 2141-2170 ©2013 Academic Journals .
5. Hanan Suliman Mohamed and Samar Abdalla (2014) Impact Assessment of Improved Wheat Production Package in Sudan,NAF International Working Paper Series, paper number 14/6.
6. Martin.B.J (2010) Mobile phones and rural livelihoods: An exploration of mobile phone diffusion, uses, and perceived impacts of uses among small- to medium-size farm holders in Kamuli District, Uganda, Iowa State University ,Digital Repository @ Iowa State University, Graduate Theses and Dissertations Graduate College,PP.8.
7. S.B.Mustapha etal (2012) Analysis of adoption of improved rice production technologies in Jeer local government area of Borno state, Nigeria. International Journal of Development and Sustainability Online ISSN: 2186-8662 – www.isdsnet.com/ijds Volume 1 Number 3 (2012): Pages 1112-1120 ISDS Article ID: IJDS12091101.
8. Umar, S., Ndanisa, M.A. and Olaleye, S.R. (2009), "Adoption of Improved Rice Production Technologies Youth Farmers in Gbako Local Government Area Niger State, Nigeria", Journal of Agricultural Extension, Vol. 13 No. 1, pp. 1-8.