

Original Research Article

Socioeconomic Characteristics of Farmers Who Use of Mobile Phone for Farming in Lakhnaur Block of Madhubani District of Bihar

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ABSTRACT

Modern agriculture has become highly knowledge intensive and requires appropriate, consistent, precise and timely information on various aspects like crop management, markets, weather information etc. The nature of information always depends on a number of factors such as the farm activity, land holding, climatic conditions, marketing opportunities etc. Using the available information further depends on various factors like literacy, and economic status etc. This study is attempting to undertake a micro level analysis of collected data to assess characteristics of the respondents using mobile phone through study of Independent variables in Madhubani District of Bihar. Total of 100 farmers were randomly selected from Block Lakhnaur in Madhubani district of Bihar. Lakhnaur block consists of 44 villages, out of which 2 villages were selected randomly for this study. The data was collected through personal interview with the help of structured interview schedule.

Key word: *Mobile, Farmer, Agriculture Information, socio-economic, Farming*

Introduction:

Agriculture continues to be the most important sector of the Indian economy. It is a more or less a compulsion for livelihood of millions of farmers. Land and water resources have almost reached their limits, price of commodities are fluctuating almost every day. Profits are negligible for most of the marginal and small farmers and most of all getting information is cumbersome. In present day agriculture, soft resources like knowledge and skills are as important as hard resources like inputs, and sometimes more important, [1].

34 The dissemination of information and communication technologies (ICTs) in developing
35 countries provides much opportunity to transfer knowledge and information by private companies and
36 government department. Last many years mobile phone coverage has been spread fast in Asian,
37 African and Latin American countries, [2]. Mobile phone effectively reduces the distance between
38 individuals and institutions, making the sharing of information and knowledge easier and more
39 effective [3]. Social networks can be strengthened and individuals are empowered through use of
40 mobile. It is providing a direct global communication channel to rural communities. It also helps in
41 making local content, rural services more efficient, cost-effective, reliable and timely communication
42 channel in the context of markets, extension advice, monitoring, finances, health, etc [4]. It provides
43 multiple formats for information in one device and accessibility for illiterate users (i.e. voice and
44 images).

45 Bihar is third populated state of India with total population of 103.8 million (54.2 million male
46 and 49.6 million female) in 2011 census of India, [5]. It has a total literacy rate of 69.83%. Overall
47 Male and Female literacy rate is 70.32% and 53.57% respectively. Total Rural literacy rate is 43.9% in
48 rural areas and total urban literacy rate is 71.9 in urban areas of Bihar, [6].

49 Bihar has a total geographical area of about 93.60 lakh hectare, 57.12 lakh hectares is under
50 cultivation which is around 60 per cent of the total. About 23.58 lakh hectare areas are put to
51 cultivation more than once in a year. Therefore the Gross cropped area is 78.82 lakh hectares. The
52 cropping intensity is 138 per cent, [7].

53 Agriculture is the vital source of assets in Bihar. 76% of its population is engaged in
54 agricultural activities. The Bihar state is gifted with rich biodiversity. Agriculture provides sufficient
55 supply of raw materials for the establishment of Agro based industries. Bihar is the third largest
56 producer of vegetables and fourth largest producer of fruits in the country. Bihar is largest producer of
57 Litchi, Makhana, Guava, Lady's finger in India. Agriculture productivity of Bihar contribution in food
58 grain, fruits, vegetables, spices and flowers can increase various with adoption of improved methods
59 and management, [8].

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61 Similar study in other areas

62 Survey conducted in Kigali of Africa, reported that all the respondents owned mobile phones
 63 and (69%) users were men, with a median age of 32 years. Most of them had completed primary
 64 (26%) or secondary (54%) schooling. Further, (20%) had postsecondary or university certificate, [9].
 65 Likewise, [10] it was found that the participants were composed of 57 (49.1%) farmers from the
 66 Muang District and from the Soongmen District 59 (50.9%) farmers. In total, the number of male
 67 participants (71.6%) were many more than female participants (28.4%). The majority of farmers in this
 68 experiment must be seen as middle-aged or elderly farmers. Most participants (76.7%) had
 69 completed only a primary school education, although 12.9 per cent of participants finished at the level
 70 of junior high school. The majority of participants from Muang District (77.2%) earned about 8001 –
 71 20000 baht (1USD= 34.93 baht) where as (69.5%) of those from Soongmen District earned 3001 –
 72 8000 baht. Stated that people between 19 to 30 age groups were mostly using to mobile phone but
 73 people of 31-50 age groups were not far behind and in fact they were the most frequent phone
 74 owners. The majority of persons (72%) were a monthly household income of less than USD 84. The
 75 majority of the farmers (68%) had an education level below the metric and secondary school, [11].
 76 Survey conducted in Maharashtra of India, reported that the majority of person (36%) were belonged
 77 to age group 41-50 years followed by (33.72%) were the age groups of 31-40. Educational status
 78 showed that majority of persons (58.86%) had completed higher secondary school, 12.57 per cent
 79 had done diplomas, and polytechnic, while (10.28%) were graduate and (18.81%) person were
 80 illiterate [12]. Similar type of study reported that sex of the respondents were made up of males
 81 (50%) and females (50%) with 39% owning farms with the sizes of less than an acre, (30%) between
 82 1-2 acres whiles (31%) had farms above 2 acres. Majority (45%) of the respondents had their highest
 83 education at the Junior High/Middle School, (29%) had up to primary school, (6%) had up to the
 84 tertiary level, and (6%) had up to SHS/Vocation / Technical education and (11%) had no formal
 85 education [13]. Related studies, found that majority (91.0%) of the farmers using cell phone were in
 86 the age bracket of 20-50 years. Most of male farmers (68.2%) were predominating in using cell
 87 Phone. Concerning farmers' educational status, majority of cell phone users (78.4%) had above
 88 secondary education. Most of the cell phone user (82%) earned higher average income of ₦81,000 –
 89 ₦90,000 per annum (1USD=₦315.25) and majority of the cell phone user (61.7%) cultivated more
 90 than 10 hectare [14]. Stated that there was active involvement of people across all the age groups in
 91 using mobile phones for agricultural purposes and particularly the younger farmers were using the

most. Most of them were well educated and more than 82% of the farmers had completed at least secondary level of education. [15] In survey, Out of the 384 respondents, females were 200 (52.1%), while 184 (47.9) were males. Based on mobile phone ownership, most respondents 306 (79.7%) indicated that they owned mobile phones. Furthermore, of the 384 respondents, the young numbered 262 (68.2%) and were aged between 20-45 years. This implied that over two thirds of the young respondents owned mobile phones [16]. Other related survey, found that majority of the respondents (77.78%) belonged to middle age category and (17.22%) were from old age category. Rest of the respondents was in young age category. Educational level of the respondent showed that most of the respondents (25%) were educated up to high school and only 10 per cent of respondents were illiterates. Respondents who were involved in primary occupation farming constituted 77.77 per cent. Analysis of income of respondents revealed that most of the respondents (44.44%) were from high income group, low income group accounted for 33.34 per cent, and middle income group constituted only 22.22 per cent of respondents. The maximum numbers (36.13%) of respondents were medium farmers whereas 30.55 per cent were small farmer, and 16.66 per cent were marginal farmer. Most of young educated respondents were using mobile for agriculture purpose [17].

Materials and methods

The study was conducted in Madhubani District of Bihar. India is vast country, comprising of 28 states and 7 union territories. Out of 28 states Bihar was selected, purposively. The State has cultivable land in the Indo-Gangetic Plain and abundant water, both surface and sub-surface for irrigation. Agriculture is the dominant economic activity. Agriculture is the dominant economic activity employing around three quarters of the work force in the State. Bihar comprising 38 districts, out of which Madhubani District was selected purposively for study. The availability of large numbers of micro & small enterprises this District. The District has very rich & fertile land and is surrounded by three rivers i.e. Koshi, Kamala & Baghmati. Madhubani District comprises of 21 blocks. Out of these 21 Blocks, Lakhnaur was selected purposely for this study. Lakhnaur block consists of 44 villages; out of which 2 villages were selected from Lakhnaur block randomly for this study. From Lakhnaur village and Behat village 60 and 40 respondents were randomly selected respectively who possessed mobile phones. Thus, total 100 number respondents were selected for this study. The obtained results were analyzed in the form of percentage.

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127 **Results and discussion:**

128 **Table 1: Distribution of the respondents in terms of socio-economic characteristics:**

I.	S.No.	Categories	Respondent (N=100)	
			Frequency	Percentage
Age	1	Young (up to 35)	36	36
	2	Middle (36 to 50)	42	42
	3	Old (above 50)	22	22
	Total		100	100
II.	1	Illiterate	15	15
Education	2	Primary	6	6
	3	Middle	33	33
	4	High school	21	21
	5	Intermediate	14	14
	6	Graduation	11	11
	Total		100	100
III.	1	Farming	52	52
Occupation	2	Govt. Service	5	5
	3	Farming &Business	16	16
	4	Private Service	27	27
	Total		100	100
IV.	1	Low(Below Rs. 50,000)	32	32
Family annual income	2	Medium(Rs.50,000 to1,00,000)	47	47
	3	high (Above Rs .1,00,000)	21	21
	Total		100	100
V.	1	General	36	36
Cast	2	OBC	48	48
	3	SC/ST	16	16
	Total		100	100
VI.	1	Marginal (below 2 acre)	61	61
Land holding	2	Middle (2-4 acre)	28	28
	3	Large (above 4 acre)	11	11
	Total		100	100

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130 Majority of the respondents (42%) was belonged to the middle age category followed by
131 young age category and old age category. Literate respondent's categories into five groups. The
132 maximum number of respondents were in the category middle school (33%) followed by high school
133 (21%), about 14 per cent respondents standard up to intermediate,(6%) primary school ,while (11%)
134 were graduate and only (15%) of respondents were illiterate. Majority of respondents (52%) were
135 farming as their main occupation followed by private job (27%) and farming and business (16%). Only
136 (5%) of respondents were in government job. It can conclude that most of the respondents were doing
137 farming along as the main occupation. Maximum number of respondents (47%) had medium level of
138 income category followed by low (32%) and high level (21%). Majority of respondents (48%) belonged
139 to other backward caste followed by general (36%), and scheduled caste and scheduled tribe (16%)
140 respectively. Majority of respondents (61%) had marginal land holding, (28%) of respondents had
141 middle land holding and least by large land holding respondents were only (11%).

142 **Conclusion:**

143 The result of the study says that socio-economic factors like age, education, farm size and income
144 level have significant effect on what kind of information sources farmers are seeking the most. With
145 increase in educational levels, farmers get attracted more towards the modern information outlets like
146 mobile phones and internet, [18]. With rise in assets possession farmers tend to have greater
147 accessibility to various information sources as compared to farmers having low material resources.
148 On the other hand the current trend shows that mobile phones play vital role in agriculture where the
149 poor farmers to seek vital information about the agriculture that was in past were very difficult for
150 small farmers to obtained. Access and adoption of modern ICT is limited in case of farmers with low
151 literacy levels. These results focuses the compatibility of technology to different farmers with different
152 education level, age group farm size , income level and other socio-economic factors. M-learning can
153 be a best alternative to the man driven extension system in India in near future.

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Contribution of the Authors

This current study is a vast study and time taking as interviewing the farmers during the cropping season is not a easy task. Singe handed approach towards the study is very challenging. Still it was managed to collect the information by interacting with farmers without interfering their scheduled works as per the need of the study. Seeking help of the advisors and friends is always welcome in this type of studies. All the authors named in this research paper has more or less contributions to make the study completed with success. The co-authors have helped a lot in assisting in forming the interview schedules, providing guidelines, documenting the information, analyzing the data and framing the literature, etc. Their contributions towards editing the text while making research papers and publishing is worth respecting.

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