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Impact of communication technology on status of farmers: A socio economic analysis of Rural India

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Abstract In this paper, the impact of communication technology on Rural India and assessment of socio economic status of farmers have been discussed. The research is all about economic development of rural population using communication technology. In this paper an attempt has been made to minimize the problem of agriculture and rural based population i.e lack of communication, transportation, awareness, computer networking, wireless network, Nano technology etc contributing 70% to world's agriculture economy.
A sample size of 360 farmers was chosen as sample size. A Survey method has been used for data collection. Survey was done during 2010 in highest cultivation area of Uttar Pradesh in India. Highest cultivation 4 districts were chosen for the survey. 3 Tehsils were chosen from each districts.2 villages were chosen from each Tehsil. 15 farmers were randomly interviewed from each village.
The primary collection of data has been made through interview and questionnaire. Major crops of U.P have been chosen for study. Accordingly the data has been analysed and results have been recommended.
Though, research has been conducted in India but can be applied to other countries where the farmers might be facing same problems which heal the gap between rural and urban population. The rural masses face the same type of common problem. It is hoped that the paper will be helpful in healing the gap between rural and urban population.

Key words: Communication, Socio Economic Analysis, Farmers

Introduction

While talking about the world's economy it states that almost 70% of world's population is dependent on agriculture (State agriculture policy Assam, 2001), can't be neglected in contributing the economic development of the country. It has been reported (Facts about Indian Agriculture; http://ekikrat.in) agriculture and allied Sectors contribute nearly 22% of GDP and 65-70% of the

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population is dependent on agriculture for their livelihood. Nearly 60% of the area sown is dependent on rainfall.

Right from cultivation of potatoes on farm land and its procurement till packed Lays potato chips are the part of agriculture. Whether it is fruits or vegetables or non vegetables like fisheries, poultry or pulses, species etc contribute as a part of agriculture only. And rest 30% of world's population depends on junk food other than agriculture. While talking about agriculture we can't neglect the fact that farmers are the king of agriculture farming. They hold major part of agricultural land and do cultivation on it; this product is procured and sold to different markets. West African cities are consuming over 80% of farm produce and thus have a significant impact on rural economy (Gerdien and Pim, 2007). In total, the share of employment in developing countries constitutes 53% of the total work force in 2004. In Sub Sahara Africa, 60% of the population works in agriculture sector.

In India, 73% is rural therefore with detailed analysis, if we look upon, we can say that farmers are almost responsible for contributing 90% to world's agriculture economy. It is a fact that these farmers are being exploited by private traders due to big gap of communication between the rural and governments or by urban and rural areas. There is gap of transportation, between Government Mandi's and villages which generates unawareness among these farmers. This gap can easily be seen in developing and underdeveloped countries. Due to this the farmers does not get proper price of their product or the hard work. We the consumers, get ready-made food which is already procured by the farmer's labor and hard work. It is tough for urban population just to move in sun but these farmers work whole day in sun. They work day and night; Tough summers of May and June in the hot states of India like Rajasthan. Thus a normal public can't imagine the role and efforts of farmers in economic development of that country and therefore being a citizen of India, it's our duty to help these farmers and overcome their exploitation.

The food grains procurement policy was started in 1950s with the twin objectives of ensuring easy access to food at the household level and providing a fair and remunerative price to the producer (DeshPande and Raveendra, 2002). The main body responsible for food grain procurement from farmers was the FCI (Food Corporation of India) set up by the Central Government and the APMC (Agricultural Produce Marketing Committee) set up by the state Government of respective states where the APMC act has been enforced and accepted. This has been one of the major ways to provide the farmers with a fair price so that they can get a good price for their product with the introduction of the concept of MSP (Minimum Support Price) and linking the

procurement of FCI to the Public Distribution System, which provides food grains to the public through fair price shops.

So, despite of having a very efficient network of procurement system, the machinery doesn't work in a proper manner and the farmers don't get the actual price for which they are entitled. The Minimum Support Price of food grains which are announced well before the commencement of the seasonal crop, after taking into account the cost of production inter-crop price parity, market prices and other relevant factors but if we compare the costs incurred by the farmers and the prices received by the majority of the farmers, they are way below the MSP for food grains such as Wheat and Paddy, which will be dealt in the results and discussion.

As per the guidelines of FCI (Food Corporation of India), the centre for procurement during the post harvest season should be set up within 10 kilometres from the farmer's villages but it has cover out in the survey that the average distance of nearest Mandi from the villages is much more than that. Moreover, procurement is started very late, which may be one mouth and half month after the harvest season is over in the most of the villages so the farmers have to sell their produce in a hurry at much less prices in the anticipation and earnest requirement of money. Under such circumstances, the sole objective of procurement by Government which is to prevent the farmers from resorting to distress sales has been forfeited and the farmers still continue to bear the losses in the form of low prices.

Now let us discuss why we chose these districts in our sample of study. The main reason being the production and productivity levels of food grains in these districts are high compared to the adjoining districts and also to make out a good sample from the Eastern Uttar Pradesh. The facilities with respect to agriculture are better compared to other places however irrigation facilities, soil properties and overall climatic conditions though some parts of Basti district have low production levels due to the low land areas where water logging is a major problem and farmers have to carry out agriculture in those lands only as they are left with no other option but to be satisfied with the low levels of production.

The overall socio-economic status of the farmers in the region is dismal despite of having one of the best resources required for carrying out agriculture in terms of the climatic requirements, geographical location, with very fertile and loamy soil located in the Indo-Gangetic Plains considered as the best region suitable for wheat-rice agricultural ecosystem. The farmers' socio-economic conditions can be analyzed by the condition of their houses which are mostly *kuchha* (made out of mud).

Material and methods

A sample size of 360 farmers was chosen. Survey method was used for data collection. Survey was done during 2010 in highest cultivation area of Uttar Pradesh in India. Highly cultivated four districts were chosen for the survey. Three Tehsils were chosen from each district. Two villages were chosen from each Tehsil. 15 farmers were randomly interviewed from each village. Questionnaire, interview, survey and random sampling method were used for primary data collection. Major crops of Uttar Pradesh were chosen for study. Survey method & random sampling method are used for primary data collection.

Questionnaire was used as tool for collecting data. Research was conducted in 4 districts of eastern Uttar Pradesh namely Basti, Maharaj Gunj, Gazipur, Deoria. Highest crop growing districts were chosen for research. 3 Tehsils namely Bhanpur, Harraiya, Dudhaul from Basti, Maharjgunj sadar, Nichlaur, Nautanwa from Mahargunj,Mohabbdabad, Saidpur, Gazipur sadar from Gazipur district and Deoria sadar, Bhatparrani, Barhaj from deoria districts were chosen for the study. Two villagesfrom each Tehsils namely Subhai, Basdiliya, Vardiya Kunwar, Baraga Dahiya, Kohra, Amolaura, Lakhima Tharwa, Kad, Khom holly, Jaishree, Rajpur Khurd, Karriliya, Malikpura, Belsadi, Paliya, Gopalpur, Mahapur, Andhau, Pagra, Bhusauli, Belwania, Chotka, Matthdanour, and Banketa Mishra were chosen.

A range of 15 farmers was randomly selected from each village. A total of 360 farmers was the sample size of the study. The farmers were grouped into small, medium and large categories in the ratio of 5:3:2.Major crops chosen for the study were paddy, wheat, maize, sugarcane, and pulses for both kharif and Rabi season. The study was done for the year 2010.Various statistical tools like mean, variance etc where used for the data analysis.

Results

Table 1 gives a brief description about different categories of farmers in Uttar Pradesh (U.P) state of India. It was found that there exist 3 categories of farmers- Small, Medium and Large. In India, there are 2 main seasons- Rabi and Kharif. Wheat, Mustard, Pea, Paddy, Bajra, Sugarcane and Arhar are the major crops grown in indo gage tic plains of U.P. Out of these crops, wheat and Paddy were major cultivated that too by medium farmers. These crops were highest cultivated therefore the study mainly emphasises on these 2 crops- wheat and paddy. Details can be seen in table given at end hence It can be stated from Table 1, that maximum cultivation is of wheat and paddy compare to other crops. The soil of U.P is more fertile for growing these crops. U.P has

rich soil fertility compare to other states. This is the reason that other crops are grown frequently. The range of % is also shown in the table i.e the % of crop grown by these farmers- area wise, farmers- wise and crop wise. For instance, wheat and paddy are cultivated maximum by medium farmers (55%) compare to others where as minimum by large farmers- Paddy as 10% and wheat as 11%.

Table 2 gives an analysis about the minimum support price-MSP, i.e the standard price of crops set by the government for benefit of the farmers and consumers. MSP for Paddy was Rs 950/quintal and for wheat it was Rs 1080/quintal during my study at Government Mandi or MSP centres. It gives a detailed comparison between 2 major crops MSP in between government Krishi Mandi or MSP centres and the private/village traders in different districts of U.P in India. It gives brief analysis report on exploitation rate of farmers. It can be observed that these farmers do not get fare price of what they produce and their hard work. These poor farmers have been exploited by the private traders. Farmers sell their produce always less than MSP to these private traders.

This is the biggest reason for "Increasing rate of migration of farmers from rural areas to urban areas in search of jobs. Farmers today are in complete loss situation." It is our responsibility to prevent farmer's migration otherwise a day will come when no farmers will be left for working on farm land. Then imagine the dark situation. Then who will be involved in agriculture on which 70% people are dependent. Creating from the table it can be seen that Deoria district farmers gets 46% less price in case of Paddy and 15% in case of wheat. Same may also be judged in case of other districts also.

Table 3 gives a brief analysis of quantity sold by different group of farmers to different agencies. Maximum sales were in case of paddy and wheat while minimum in case of pea and mustard. Same can also be seen in Fig-1. It can be seen that maximum sales is done in case of private traders compare to other APMC or government Mandi. Maximum produce was sold to private traders by these poor farmers.

Table 4 gives an analysis of average time taken by farmers to reach the nearest Mandi or the village traders to sell their product. It also gives a detailed description about the average distance of Mandi or the village trader from village of farmers. But our result states that, farmers prefer to sell the product to private traders only rather to government Mandi. Irrespective of distance, there are many reasons for this but the main reasons are – these governments Mandi's have strict rules like sale has to be made only in gunny bags but there is shortage of these bags. There is always delay in payment. Payment is made through cheques only whereas private traders pay directly through cash to farmers. Even 15% commission is charged by commission agent sitting in Mandi to sell the product of farmers.

Even it requires political approach to sell the product at Mandi this is the reason only large farmers with contact are more benefited with Mandi compare to other farmers. Large farmers get more benefit of the fare price of their produce at Mandi compare to other farmers. Private traders are able to influence these farmers easily with good relationships, contacts, links, references and more close distance but they give less price to these farmers. Even these private traders buy farmers product immediately at low price but sell it at high price as per market price fluctuations.

There is improper weighing system sometime as huge produce comes at a time to Mandi. It is tough to manage all. Even by selling to private traders, farmers are able to save time and transportation charges which are very high from village to mandi. Even they are unaware of MSP centres where they can sell their produce at proper price. There are very few MSP centres located in the districts. Even there is high political approach needed to sell at Mandi which is possible in case of large farmers. These Mandi doesn't full fill the immediate need of money for these farmers therefore the farmers' feels whatever I'm getting by the private traders at least that is sufficient for daily need of basic requirement of food. But it does not full fill the real requirement of his efforts which he has invested working in sun. He does not get the fare price.

Figure 3 gives a brief analysis about awareness about the MSP purchase centre. It was analyse in deep and it shows that in spite of all problems of MSP centres/Mandi, if we analyse in deep, MSP centres are best in giving fare price to farmers. But it is not been recognized by due to lack of patience, lack of awareness about these MSP centres. It is noted from the graph that 52% of small farmers, 11% of medium farmers and 13% of large farmers are unaware of the MSP centres in U.P state of India. Though these centres are valuable for the farmers in terms of providing fare price and awareness to these farmers, even the awareness of fluctuations of price of different commodities, therefore it is important task to make the farmers aware about the benefits of these centres set up by government for benefits of consumer and farmers.

Emphasising on farmer's socio economic conditions, it was found pathetic. Total 373(Lakh) people or 24% in rural U.P and total 111(lakh) people or 26% in urban U.P were below poverty line. Overall 25% population of U.P were below poverty line in compare to India having 19% population below poverty line. There exist 24% of poor population in rural U.P and 26% in urban areas in comparison, India having 19% population who are poor and can't fulfil their basic need of food. The population below poverty line can not even support their basic need of food for them and their families. Some even die of starvation.

U.P has total 71 districts with total population of 179643643 out of which rural population is 143810444. This includes total of 107406 villages out of that 96014 are inhabited villages in U.P. The literacy rate of the state is 57% that means still 43% are illiterate. Still the population of this state lives in Kachcha hut, or the kind of houses made of mud which can easily be broken away by natural calamities. Now the question is that they don't have enough money to sustain their basic need of food, how can they raise their socio- economic status? Is It Really Possible?

By this we can really help the farmers retain to its own rural India rather than migrating to urban India for search of jobs.

Discussion

As above, we have discussed numerous problems faced by farmers. Now the question is how to solve these problems? Though numerous scientists have worked on this and are still working, conducting research, can these researches really be able to solve these poor farmers' problems? This is again a big question on society? Scientists and researchers have done numerous works for the farmers sustaining the development of rural population but it has only been utilized for publishing the papers but only few are benefited to the farmers.

Due to lack of communication technology, these researches are not able to reach the farmers working in the villages. It's only kept in Journals, books, library or for future reference and research. If lack of communication can be overcome, it can minimize 70% of the numerous problems of farmers. Increasing communication technology will increase awareness among farmers about MSP centres or the government Mandi. Use of communication technology can help farmers to know about the price fluctuations in market in advance. Accordingly, the farmers can plan and can come for selling their product in Mandi. Increasing Wireless technology in village can give these farmers instant message and updates about market rates, market fluctuations.

We have numerous researches done in this field even outside India, including use of Nano Technology in agriculture. But the question is how we can take these researches and information to the farmers? The answer is- The use of Human resource management- Man, which is most important economic resource out of 3 M's (Money, Material, Men). We can fill the communication gap between farmers and urban population with the help of educational institutes, colleges, organizations, universities or the entire educational industry working for agriculture. Government should increase the responsibilities of these education industries for the enlistment of farmers. They should voluntary take the initiative.

The institutes working in agriculture in India are for eg- National Institute of agricultural marketing, Jaipur, Indian council of agriculture research institutes, NABARD, GB Pant Agricultural University, etc. Even other college can voluntary participate. The researches, movies, audio etc, should be supplied free of cost in the form of CDs to different blocks, Tehsils, towns, district head quarters, Grahmin banks, working in villages, MSP centres or Mandi, Ghraham Panchayat where ever meeting of the farmer is possible.

This kind of initiative can be taken not only by the educational institutes but also others as social responsibility and by the professional as corporate social responsibility. This will help to increase communication and awareness among farmers. Kisan Mela (farmer's fare) should be encouraged even at village level voluntarily with the help of agricultural organizations, universities and colleges. Kisan Mela hosting should be distributed to entire region of the state covering villages, Tehsil, districts, town. Maximum distribution will help in fulfilment of communication gap. Therefore it is important that the information or work done must be distributed into the entire region so as to reach to the farmers. This will surely help to solve 70% of the farmer's problem discussed here.

Ultimately, half work will be done if we are able to take this communication technology, researches on communication done to the farmers fulfilling the gap of rural and urban India.

Table 1. Major crops grown by different categories of farmers in Rabi and Kharif Seasons of India

S.no	Name of Crops	Sown Area (Hectare) Small farmers	Sown Area (Hectare) Medium farmers	Sown Area (Hectare) Large Farmers
1	Wheat	272 (34%)	441 (55%)	88 (11%)
2	Mustard	07 (20%)	24 (68%)	04 (12%)
3	Pea	02 (29 %)	05 (71%)	0 (0%)
4	Paddy	263 (35%)	419 (55%)	78 (10%)
5	Bajra	11 (37%)	19 (63%)	0 (0%)
6	Sugarcane	07 (9%)	40 (53%)	28 (37)
7	Arahar	03 (18%)	14 (82%)	0 (0%)

Source: Primary data collected through questionnaire

Table 2. Comparative Analysis of Minimum Support Price (MSP) of 2 major crops in between the Government Krishi Mandi and Private Traders in Uttar Pradesh

S. No.	District	Crop	Avg. price (Rs./Quintal) Mandi	Sell (%) Mandi	Avg. price (Rs./Quintal) Pvt. Firm	Sell (%) Pvt. Firm	Increase (%)
1	Deoria	Paddy	950	12	512	88	46
		Wheat	1080	11	923	89	15
2	Gazipur	Paddy	950	05	728	95	31
		Wheat	1080	06	927	94	14
3	Basti	Paddy	950	15	740	85	22
		Wheat	1080	19	978	81	09
4	Maharaj -ganj	Paddy	950	09	749	91	21
		Wheat	1080	11	749	89	44

Note: MSP of Paddy = Rs 950/quintal and Wheat is Rs 1080/quintal
Mandi: Govt. Krishi Mandi
Pvt. Firm: Private Traders
Source: Primary data collected through questionnaire.

Table 3. Determines the Quantity sold to different agencies by farmers as shown in Figure 1

S. No.	Agency	Paddy	Wheat	Bajra	Sugarcane	Arhar	Pea	Mustard
1	Small Former (Mandi)	307	164	-	-	-	-	-
2	Small Former (Pvt. Firm)	10503	10533	443	3916	103	08	08
3	Medium Former (Mandi)	2792	2478	-	-	-	-	-
4	Medium Former (Pvt. Firm)	15681	15334	650	19143	282	-	46
5	Large Former (Mandi)	800	900	-	-	-	-	-
6	Large Former (Pvt. Firm)	2203	1862	-	13340	-	-	-

*each value is in quintal
Mandi: Govt. Krishi Mandi
Pvt. Firm: Private Traders
Source: Primary data collected through questionnaire

Table 4. Analysis of Time and Distance Taken by farmers to sell their Produce

S. No.	District	Type of Agency for sale of good By farmers	Avg. distance from from village mandi (Kms)	Avg. time taken from village Mandi (Hrs)
1.	Basti	village traders	19	02
		Govt. Mandi	17	1.42
2.	Deoria	village traders	07	0.78
		Govt. Mandi	13	01
3.	Gazipur	village traders	4.75	0.33
		Govt. Mandi	05	0.50
4.	Maharaj-ganj	village traders	09	0.60
		Govt. Mandi	14	1.50

Source: Primary data collected through questionnaire
Govt= Government. Mandi= Market place where buy and sell transactions take place related to food grains, vegetables, fruits etc.

Table 5. Analysis of Transportation used in various districts:

S. No.	District	Tractor (%)	Bullock cart (%)	Trucks (%)	Rickshaw (%)	Cycle (%)
1	Basti	80	08	-	10	02
2	Deoria	60	35	-	05	-
3	Gazipur	60	24	10	05	01
4	Maharajganz	71	-	09	15	05

Source: Primary data collected through questionnaire

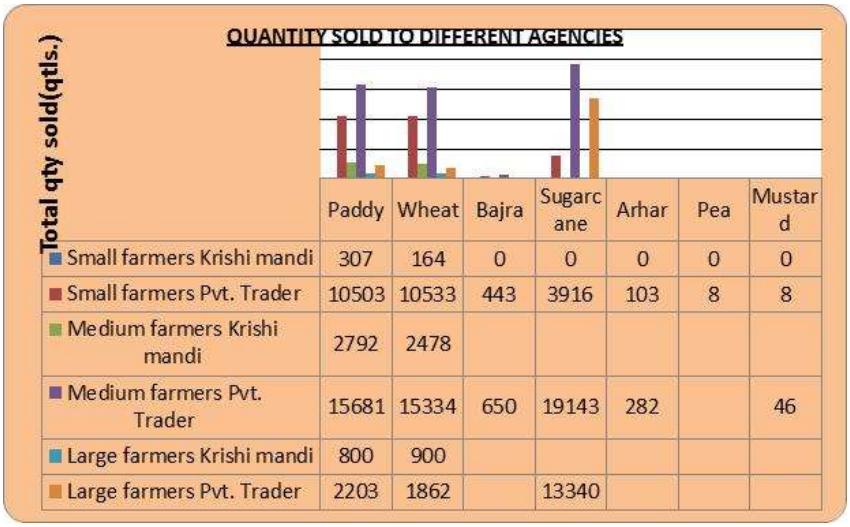

Fig. 1. Graph showing quantity sold to different agencies by farmers.
Source: Primary data collected through questionnaire

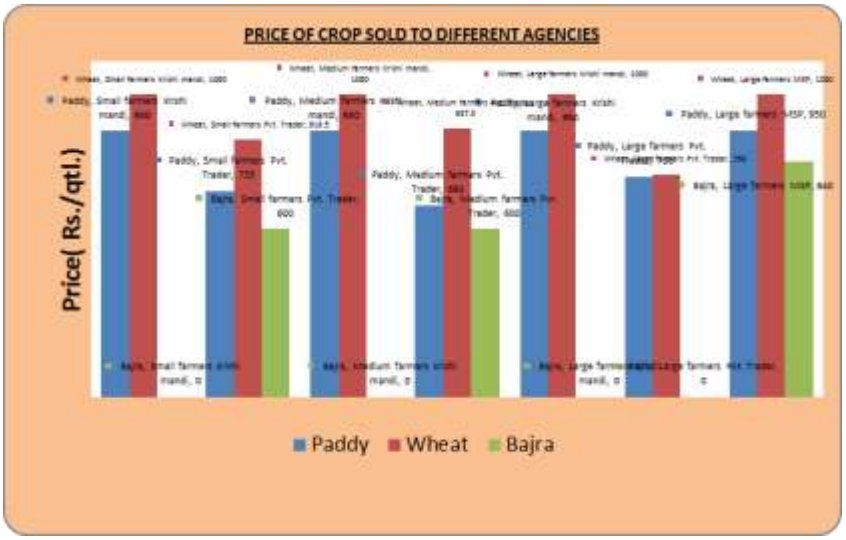

Fig. 2. Price of produce sold to different Agencies
Source: Primary data collected through questionnaire

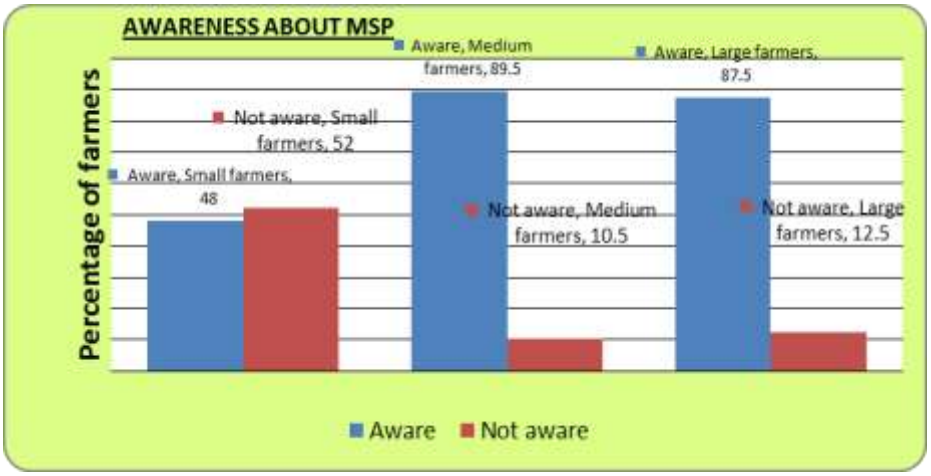

Fig. 3. Showing the awareness among farmers for MSP
Source: Primary data collected through questionnaire

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