

Socio-economic aspects and identification of problems faced by farmers under Farmer FIRST Project in Fatehpur District of Uttar Pradesh

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ABSTRACT

Integrated approaches towards agriculture development is required for a sustainable and long-term growth. A project entitled “Integrated approaches for food, nutrition and livelihood security of rural household in Fatehpur district of Uttar Pradesh” under Farmer FIRST was implemented in three villages viz., Karchalpur, Mirai and Kharouli village of Devmai block of Fatehpur district. A survey was conducted by the project team to assess the socioeconomic condition and problems faced by 300 farmers through structured questionnaires. Results revealed that majority of farmers belonged to middle age category with small family size, major occupation being agriculture with small land holdings. Survey also showed that mobile phones have become an important ICT tool for farmers to access the information. The major crops grown in the villages were rice, wheat, mungbean, urdbean, vegetable and maize, pigeonpea, chili and mustard. Results indicated that problems of diseases like Yellow Mosaic Virus in urdbean and mungbean, insect problem in chickpea and lack of quality insecticide and quality seed for normal and late sown wheat were the major problems faced by the farmers. In horticulture crops, major problems faced by the farmers were unavailability of quality planting material and quality seed and problems of insects and diseases. Similarly in case of livestock rearing, major problems were FMD, lack of AI facility and absence of milk cooperative societies for the sale which was affecting the income of farmers. Based on the problems identified, suitable interventions such as providing quality seed of disease resistant high yielding varieties, setting up of milk cooperatives, cultivation of summer pulses and vegetables were undertaken in the project area to address the problems and to enhance the income of farmers.

Key words: Farm income, Problems, Socioeconomic Analysis

Integrated approaches towards agriculture development is required for a sustainable and long-term growth. With changing cultivation pattern and land holding size, integrated approaches are crucial for agricultural development in India (Mahendra Dev, 2014). A project entitled “Integrated approaches for food, nutrition and livelihood security of rural household in Fatehpur district of Uttar Pradesh” under Farmer FIRST was implemented in three villages viz., Karchalpur, Mirai and Kharouli village of Devmai block of Fatehpur district. Fatehpur district is one of the 71 districts of Uttar Pradesh. The district covers an area of 4,152 km² with a population of 2,308,384 (2001 Census). Fatehpur city is the administrative headquarters

of the district. Located on the banks of the sacred rivers Ganges and Yamuna, Fatehpur also finds a mention in *puranic* literatures.

Out of the total area of the district 4,27,573 hectares, nearly 1.7 per cent was covered with forests and about 6 per cent of the area was uncultivable. About one-tenth of the total area was utilized for purposes other than agriculture. The cultivation practices prevailing in this district do not differ significantly from other districts of the state Uttar Pradesh.

Rice is the major staple crop. In the wet tract the major rabi crops are mixtures of gram and peas with wheat and barley while the major *kharif* crop in the district is jowar, which alone or in combination with pigeonpea covers the major portion of area sown during *kharif* season of all pulses, pigeonpea occupies a sizeable area in this district.

Socioeconomic status (SES) is a combined measurement of economic and social position of an individual or a group in relation to others in the society where the individual/group resides in. Socioeconomic status has a significant role in determining one's accessibility to resources, livelihood pattern, household food & nutritional security. It also guides the psychological and behavioral components of a sample viz. knowledge, attitude, perception, adoption, change-proneness, level of aspiration, risk bearing ability, economic motivation etc. Problems faced by farmers were also analyzed to arrive at suitable interventions for improving the economic conditions of the farmers through better cereal crops, pulse crops, horticulture crops and livestock management.

MATERIALS AND METHODS

This study was conducted in purposively selected villages namely Karchalpur, Kharouli and Mirai of Devmai Block in Fatehpur district, Uttar Pradesh. The data were collected from 100 respondents from each village through structured schedule in all the three villages. Apart from this, data were also collected through observation and group discussion. The data collected were analyzed through suitable statistical tools to arrive at logical conclusions.

RESULTS AND DISCUSSION

Distribution of farmers according to age: It is revealed from the table 1 that majority of farmers belonged to middle age (51.33 %) category followed by old and young

categories of farmers. In a way, this also indicates that young farmers were less interested to take up farming mainly because of lower profit levels.

Table 1. Distribution of farmers according to age

S. No.	Category	Frequency	Percentage
1.	Young (Up to 30 years)	68	22.66
2.	Middle (30-50 years)	154	51.33
3.	Old (Above 50 years)	78	26.00

N=300

Distribution of farmers according to caste/religion: As depicted in table 2, majority of the farmers belonged to general category in the Mirai village (69.00 %) where as in Karchalpur majority of farmers belonged to OBC (56.00 %) and in Kharouli village 36.00 % of the farmers belonged to schedule caste. Share of Muslim farmers was less in Mirai village. These results are on the line of previous study by A. Samarpitha *et al.* (2016).

Table 2. Distribution of farmers according to caste/religion

S. No.	Cate-gory	Village – Mirai (N=100)		Village- Kharouli (N=100)		Village- Karchalpur (N=100)	
		Fre-quency	Per-centage	Fre-quency	Per-centage	Fre-quency	Per-centage
1	Gen	69	69.00	26	26.00	22	22.00
2	OBC	11	11.00	38	38.00	56	56.00
3	SC	15	15.00	36	36.00	22	22.00
4	Muslim	05	05.00	00	00.00	00	00.00

N=300

Distribution of farmers according to family size: It can be observed from Table 3 that majority of farmers belonged to small category (62.00 %) followed by medium 20% and large (18%) family sizes.

Table 3. Distribution of farmers according to Family size

Sl. No.	Category	Frequency	Percentage
1.	Small	186	62.00
2.	Medium	60	20.00
3.	Large	54	18.00

N=300

Distribution of farmers according to occupation: Agriculture was a major occupation for all the farmers with dairy as the subsidiary source of income for 86.33% farmers as indicated in Table 4. Horticulture is another prominent enterprise which was being practiced by 66.66 % of farmers.

Table 4. Distribution of farmers according to occupation

S. No.	Category	Frequency	Percentage
1	Agriculture	300	100.00
2	Subsidiary (Dairy and other animal)	259	86.33
3	Horticulture (Vegetable + Fruit Crop)	200	66.66

N=300

Distribution of farmers according to size of the land holding: As shows in the table 5, majority (57.30) of the farmers were small farmers followed by 24% of medium and 18.66 % of large farmers. So there was a need to give special attention to small farmers for improving their economic condition.

Table 5. Distribution of farmers according to land holding
N=300

S. No.	Category	Frequency	Percentage
1	Small (below 1 ha)	172	57.30
2	Medium (1-2 ha)	72	24.00
3	Large (above 2 ha)	56	18.66

Sources of seed for crops with their preference: Tables 6 revealed that majority of farmers give higher preference to own saved seed for the next year and some farmers borrow/purchased from fellow farmers. Third preference was given for purchase of seed from local markets followed by KVK, private seed agencies, government agriculture department.

Table 6. Sources of seed for crops with their preference rank

S. No.	Major Sources	Rank
1	Fellow farmers	II
2	Own saved seed	I
3	Local market	III
4	Private seed agencies	V
5	Govt. department	VI
6	KVK	IV
7	Others	VII

Ownership of ICT tools: It was revealed in table 7 that the major ICT tools owned by farmers were mobile phones (68.33%) followed by TV (15.33%). It showed that farmers were mainly depending on mobile phone and doordardhan for agriculture related information.

Table 7. Ownership of ICT tools

Sl. No	ICT tools	Frequency	Percentage
1	Radio	00	00.00
2	Television	46	15.33
3	Mobile phone	205	68.33
4	Computer	06	02.00
5	Telephone (land line)	00	00.00
6	Other sources/tool	00	00.00

Sources of farm information and their preference ranking: Table 8 showed that major source of information was neighbouring farmers followed by input dealers and extension workers. Similarly mobile and TV were the major source of information in case of mass media.

Existing Crops cultivation and their economics: Table 9 shows that major crops cultivated were rice green chilli, bajra, pigeonpea, mustard, wheat, mungbean, urdbean and chickpea in different seasons *viz.*, Rabi, *Kharif* and summer season. Sarbati variety of Rice, G-4 variety of Chilli, Hybrid bajra, Bahar variety of pigeon pea were the major Rabi crops

Table 8. Sources of farm information and their preference ranking

S. No.	Major Sources		Rank	Sources		Rank
	Personal Contact			Mass Media		
1	Neighbouring farmers		I	Radio	IV	
2	Input dealers		II	TV	II	
3	Radio/TV/News paper		V	News paper	III	
4	KVK scientist		-	Mobile	I	
5	IIPR scientist		-	Other sources	V	
6	Village level worker		III			
7	Block level agril. officer		IV			

grown by the farmers, with an average yield 18 q, 80 q, 16 q, 8 q per acerespectively.

Similarly during *Kharif* season, farmers cultivated PBW343 of wheat with an average yield of 18 quintal /acre and net income of Rs. 21000/ acre. Chickpea was cultivated using locally available seed. During summer, mungbean and urdbean were cultivated using local variety/purchased from local markets by few farmers. The major problem faced

by farmers waslack of quality seed.

Table 10. Prevailing major cropping systems

Rice-Wheat

Short duration Pigeonpea-Wheat

Maize-Chickpea

Urdbean-Mustard

Bajra- Vegetable Pea

Wheat-Chilli

Sources of irrigation: It evident from the table 11 that the majority of farmers irrigated their crop through hired tube well followed by government tube well and owned tube well. Further, it was reported that farmers who were having their own tube well were providing higher number of irrigation than others. Thus it can be said that tube wells were playing vital role in irrigation of crop as 75.00 % area is irrigated by hired tube well and pump set.

Table 9. Existing Crops cultivation and their economics

S.No	Crops	Varieties	Yield obtained (q/acre)	Cost of cultivation (Rs/acre)	Rate of sale (Rs/q)	Place of sale	Income (Rs/acre)	Major problems, if any
Kharif	1. Rice	a. Sarbati	18	15000/	1300/	Kanpur	8400/	Unavailability ofquality seed, Problem of irrigation, high cost of irrigation, Problem of blue bull, marketing problem
	Green Chilli	b. Local	15	12000/	1200/	Mandi	6000/	
		c. G-4	80	5000/	2000/	And Khadra Chilli Mandi	155000/	
			(harvested three time)					
	2. Bajra	a. Hybrid	16	3000/	1200/	Kanpur	16200/	Unavailability ofquality seed, Problem of irrigation, high cost of irrigation, blue bull, marketing Problem, no mechanical threshing,
		b. Local	13	2500/	1000/	And Khadra Mandi	10500/	
	3. Pigeonpea	a. Bahar	8	3000	5000	Kanpur Mandi And Khadra Mandi	37000/	Unavailability ofquality seed, Problem of irrigation, high cost of irrigation, Blue bull, good marketingProblem, No processing facility, no mechanical threshing, Problem of insects (Helicoverpa)
Rabi	1. Wheat	a. PBW 343	18	6000/	1500/	Kanpur Mandi And Khadra Mandi	21000/	Unavailability ofquality seed, Problem of selling, long distance market, Blue bull, no mechanical threshing, No variety for late sown condition
	2. Chickpea	a. Local	8	4000/	4000/	Kanpur Mandi And Khadra, Aung Mandi	28000/	Unavailability ofquality seed, Problem of selling, distant market, irrigation, Blue bull, threshing, Helicoverpa problem
		3. Mustard	a. Varuna	5	3500/	4000/	Kanpur Mandi	
			b. Local	3	3000/	3500/	And Khadra, Aung Mandi	7500/
Zaid	1. Mung	a. Local	6	5000/	3500/	Kanpur Mandi And Khadra, Aung Mandi	16000/	Problem of YMV, heavy rain, Unavailability ofquality seed,
	2. Urd	a. Local	08	5000/	5000/	Kanpur Mandi And Khadra, Aung Mandi	35000/	Unavailability ofquality seed, Problem of YMV, heavy rain

Table 11. Sources of irrigation

Sl. No.	Source of irrigation	Area in %	Number of irrigation	Number of tube well	Cost of irrigation/hr. (Rs)
1	Own tube well	10	5-6	55	30
2	Hired tube well/river	75	2-4	45	100
3	Government tube well	15	4-5	2	10

Seed rate of different crops kg /ha: It was observed that farmers were using higher seed rate than the recommended seed rate (Table 12). Similarly, in case of summer mungbean/urdbean seed rates followed by farmers were less than the recommended rate of seed in summer season. Similar trend was observed in other crops as well and it showed that farmers were not aware of the recommended package of practices.

Table 12. Seed rate of different crops kg /ha

S. No	Crops	Before implementing project Seed rate kg/ha
1	Wheat	160-180
2	Mung bean	12-15
3	Urd bean	12-15
4	Maize	16-20
5	Okra	12-15
6	Pumpkin	1
7	Sponge gourd (toria)	1
8	Bottle gourd	1

Awareness and adoption of modern agricultural technologies: It was revealed from table 13 that most farmers were aware of improved varieties of crops but due to non-availability of quality seed they were not able to cultivate. Farmers also indicated that they need training for the seed production. Farmers were not aware about IPM, INM, IDM, Zero tillage, drip irrigation, on-farm conservation of water, preparation of vermincompost etc.

Problems identified in the selected villages: The major problem as perceived by the farmers are mentioned in table 14. Major problems were YMV and insect problem in urdbean and mungbean. Because of these problems, during recent years, area under mungbean in summer has gone down drastically. In case of chickpea, insect problem and lack of quality insecticide were the major problem (rank II). In horticulture crops, major problems faced by the farmers were unavailability of quality planting material and quality seed and problems of insects and diseases. Similarly in case of livestock rearing, major problems were FMD, lack of AI facility and absence of milk cooperative societies for the sale which was affecting the income of farmers. Based on the problems identified, suitable interventions such as providing quality seed of disease resistant high yielding varieties, setting up of milk cooperatives, cultivation of summer pulses and vegetables were undertaken in the project area to address the problems and to enhance the income of farmers.

Table 13. Awareness and adoption of modern agricultural technologies by the farmers

Technology/ modern agricultural practices	Awareness (Yes/No)	Adoption (Yes/No)	Training need (Strongly Needed/ needed/ Not needed)
Improved varieties/ hybrids of Cereals	Yes	Yes	Needed
Vegetables	Yes	No	Needed
Pulses	Yes	No	Needed
Potato	Yes	Yes	Needed
Oil seed	Yes	No	Needed
Integrated pest management	NO	No	Strongly Needed
Integrated disease management	NO	No	Strongly Needed
Integrated use of fertilizers	NO	No	Strongly Needed
Use of bio-fertilizers	NO	No	Strongly Needed
Use of low cost polyhouses	NO	No	Strongly Needed
Zero-Tillage	NO	No	Strongly Needed
Mulching	No	No	Needed
Drip irrigation	No	No	Needed
Crop rotation	Yes	No	Needed
Laser leveling	No	No	Needed
On-farm water conservation	No	No	Strongly Needed
Summer ploughing	Yes	No	Not needed
Use of vermi-compost	No	No	Needed
Use of herbicides	Yes	No	Needed

Table 14. Problems identified in the selected villages-

Sl. No.	Particular	Ranking
1.	Problem related to Crop Production	
	Quality seed for normal and late sown condition of wheat	III
	YMV and insect problem in Urdbean and mungbean	I
	Insect problem in Chickpea and no quality insecticide	II
	Problem of selling the produce	V
	Problem of Blue bull and stray animals	IV
2.	Problems related to Horticulture identified in the selected villages-	
	Quality planting material	I
	Quality Seed	III
	Diseases and insects	II
	Problem of selling the produce	V
	Storage Problem	IV
3.	Related to livestock production- Low Production and Productivity	
	F.M.D. Problem	I
	Thanaila (Mastitis) Problem	IV
	Lack of AI facility	II
	Lack of milk cooperative society in village	III

As revealed by this study, majority of the farmers were using locally available seed instead of purchasing seed of improved varieties. This reduced the yield levels and crops were more susceptible to diseases and insects leading to lower profitability and reduced area under some of the crops like urdbean and mungbean during summer

season. Based on the problems identified, suitable interventions were designed to improve the socioeconomic conditions of the farmers keeping the local scenario in mind. There is also the need to improve the availability of quality seed at farm levels and also there is a need to strengthen marketing infrastructures to enable farmers to sell their produce at remunerative prices.

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