An economic study of animal-agriculture in Central U.P.

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ABSTRACT

This paper measures trends and patterns of the socio-economic determinants like sex, literacy total cultivated area, and average size of holdings. The percentage of male and female workforce was recorded 64.81 and 35.19 per cent, respectively. The average size of family was 6.25 members. The overall literacy was 72.58 per cent and illiteracy was 27.42 per cent, however, the large farm having highest educated persons *i.e.* 78.57 per cent as compared to small and marginal farms. Total cultivated area of all the different size groups of farm were found 92.19 hectares, while large farm having highest cultivated area. Average numbers of agricultural worker per farm came to 4.89 and on an average per hectare agricultural worker accounted for 6.20. The overall data were found to be higher percentage of livestock in case of buffalo 34.48 per cent followed by cow, bullock, goat, poultry and young stock was 25.10, 12.97, 11.70, 7.88 and 7.87 per cent, respectively. It was found that highest number of animal 56.59 per cent at marginal farms followed by small and large farms 32.55 per cent and 10.85 per cent, respectively.

Key words : Development, Institutional, Changes, Animal-Agriculture

INTRODUCTION

The contribution of livestock in gross domestic product (GDP) has been under estimated as the input of draught power does not enter the calculation. Draught animal power shared nearly 46 per cent of total power utilized in Indian agriculture during 1970. It is matter of concern that the share of animal power in the total power utilized for agriculture during 1990s has declined to about 12 per cent. this clearly indicates that mechanization is an increase in agricultural operations and draught power requirement is on decline owing to diversification of crops in cropping pattern. However, for resource poor farmer and marginal and small farm holders, animals' power is still an important and cheaper source of power for agricultural operations as drought animals provide about 15 million kw. of energy to agriculture. The rate of milk production is increasing at 1 per cent per annum in the world, while in India it is increasing by more than 4 per cent. Dairying, is one of the fastest growing enterprises in the country with 7.4 per cent growth rate during the 9th Five Year Plan (Baluswami, 1981). The milk collection in Central Uttar Pradesh by private and co-operatives dairy units is solely purchased by the state government. Now, various private milk processing units are involved in purchasing the milk, collected by dairy co-operatives and thus there exists tough competition in marketing. The development of livestock and agriculture has been contributed economically in improving the socio-economic conditions of the rural people and this development brought parallel change in rural and urban institutional mechanisms in the study area. Therefore, the present study has been carried out with the following objectives:

– To study the socio-economic characteristics of selected households in the study area.
– To suggest suitable measures in context of the development of institutions for future.

MATERIALS AND METHODS

A cluster sampling technique was used in the present study. The sampling techniques at a respective stage were made for selection of two blocks, village and households in the district Fatehpur. Out of 13 development blocks, only two blocks Malwan and Khajuha were selected. From these universe of two blocks were selected randomly. Previously two nuclear villages were selected in each block and two adjacent villages of each nuclear village were also selected to form a cluster of three villages. In all the total 12 villages (6 village from each block) were selected randomly from both development blocks. In all, 120 households were also selected for the different size groups of farm.

Flow chart of blocks and villages

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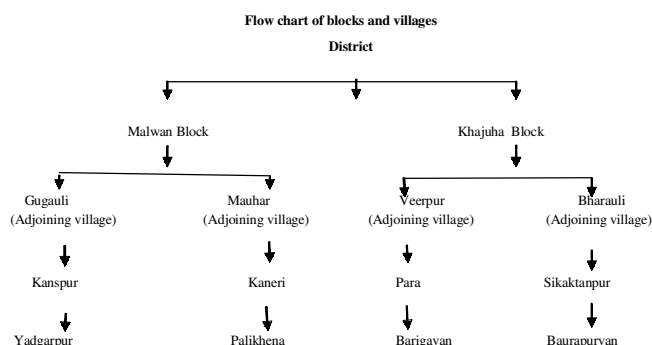
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RESULTS AND DISCUSSION

The results obtained from the present investigation are summarized in Table 1, 2, 3, 4, 5 and 6 :

The structure of a farm family plays an important role in the farm economy, since it is directly related to the pressure of population on land as income earning capacity

and decision making process of farming, that are also closely related to farm families. As regards the households according to occupations and castes, the data indicated that there were wide occupational variations, seen in the research area of district and blocks. The family structure usually comprises the family composition (male/female/ child), number of workers and illiteracy etc. and data have been shown in the Table 1.

Sr. No.	Articulars	Marginal	Small	Large	Total
Table 1 : Over all distribution of total family members, number of workforce and education of sample households
		Size groups of farm (in ha)			Total
1.	Total no. of selected households	65	46	9	120
2.	Total family members (number)	361	251	70	682
(a)	Total males	227 (62.88)	170 (67.73)	45 (64.29)	442 (64.81)
	Work force	183	157	33	373
(b)	Females	134 (37.12)	81 (32.27)	25 (35.71)	240 (35.19)
	Work force	102	62	17	181
3.	Average size of family (number)	5.55	5.45	7.77	6.25
4.	Total literate family members (number)	256 (70.91)	184 (73.30)	55 (78.57)	495 (72.58)
(a)	Illiterate family members	105 (29.09)	67 (26.70)	15 (21.43)	187 (27.42)
(b)	High School	181 (50.14)	106 (42.23)	13 (18.57)	300 (43.98)
(c)	Graduation	47 (13.02)	45 (17.93)	19 (27.14)	111 (16.28)
(d)	P.G.	28 (7.76)	33 (13.15)	23 (32.86)	84 (12.32)
5.	Total cultivated area (ha.)	29.76	28.98	33.45	92.19
6.	Average size of holdings (ha.)	0.48	1.26	2.23	1.32

*Figures in parentheses are the percentage of the respective totals

Table 2 : Block-wise distribution of family population according to workforce and their level of education of sample households

Sr. No.	Particulars	Marginal	Small	Large	Total	Marginal	Small	Large	Total
		Size groups of farm (in ha)							
		Malwan				Khajuha			
1.	Total no. of selected households	34	26	5	65	31	20	4	55
2.	Total family members (number)	189	130	38	357	172	121	32	325
(a)	Total males	117 (61.90)	90 (69.23)	27 (71.05)	234 (65.55)	110 (63.95)	80 (66.12)	18 (56.25)	208 (64.00)
	Work force	88	80	16	184	95	77	17	189
(b)	Females	72 (38.10)	40 (30.77)	11 (28.95)	123 (34.45)	62 (36.05)	41 (33.88)	11 (34.38)	114 (36.00)
	Work force	52	34	10	96	50	38	7	95
3.	Average size of family (number)	6.30	7.22	7.60	7.04	5.73	6.72	8.00	6.81
4.	Total literate family members (number)	135 (71.43)	95 (73.08)	30 (78.95)	260 (72.83)	121 (70.35)	89 (73.55)	25 (78.12)	235 (72.31)
(a)	Illiterate family numbers	54 (28.57)	35 (26.92)	8 (21.05)	97 (27.17)	51 (29.65)	32 (26.45)	7 (21.88)	90 (27.69)
(b)	High School	85 (44.97)	54 (41.54)	7 (18.42)	146 (40.90)	96 (55.81)	52 (42.98)	6 (18.75)	154 (47.38)
(c)	Graduation	30 (15.88)	24 (18.46)	11 (28.95)	65 (18.21)	17 (9.88)	21 (17.36)	8 (25.00)	46 (14.15)
(d)	P.G.	20 (10.58)	17 (13.08)	12 (31.58)	49 (13.72)	8 (4.65)	16 (13.22)	11 (34.38)	35 (10.77)
5.	Total cultivated area (ha)	14.08	27.12	13.57	54.77	15.00	20.06	10.45	45.51
6.	Average size of holdings (ha)	0.44	1.04	2.10	1.19	0.50	1.46	2.37	1.44

*Figures in parentheses are the percentage of the respective totals

Table 1 reveals that on an average, 6.25 family members came per household. The level of literacy has been found around 72.58 per cent and illiteracy was found 27.42 per cent on all the size groups of the farms. The data of workforce and education of both blocks are given in Table 2. The extent of workforce and education have been found in similar trends. Similar observations were reported by (Bayer and Waters, 1989).

Table 2 reveals that the average size of family members in Malwan block came to 7.04 while it was 6.81 family members in Khajuha block. The level of literacy has been found around 72. 83 per cent in Malwan block, while in case of Khajuha block it was 72.31 per cent. The percentage of illiteracy in Malwan and Khajuha block was found 27.17 and 27.69 per cent, respectively. In the data of workforce and education, there was minor variation in both the blocks.

Table 3 reveals that the average numbers of agricultural worker per farm came to 4.89 and on an average of per hectare agricultural worker came to 6.20. The tendency of per farm agricultural workers increases with the increase in the size of the farm and per hectare agricultural workers decreases with the increase in size of farms. Same evidence has also found in the both blocks (Devadoss *et al*., 1985).

Table 3 : Overall distribution of agricultural workers on the selected households (In number)

Size groups of farm (in ha.)	Average size of farm (in ha)	Number of agriculture workers in family	
		Per farm	Per hectare
Marginal	0.48	4.38	9.57
Small	1.26	4.76	7.55
Large	2.23	5.55	1.50
Average	1.32	4.89	6.20

Table 4 reveals that the average size of farm in Malwan block came to 1.19 ha. while in Khajuha block it was 1.44 ha. On an average, number of agricultural workers per farm was 4.56 in Malwan block, while in case of Khajuha blocks it was 5.19. On an average, per hectare number of agricultural workers were more in Malwan *i.e.* 7.04 while it was 5.52 in Khajuha block.

Table 5 reveals that upkeep of the buffalo was much higher than that of the cow *i.e.* 34.48 per cent. The animal-agriculture components are comprised by large upkeep of buffaloes and cows in the study area.

Table 6 reveals that relationship between buffalo was highest in Khajuha block than Malwan block. The data indicate that a larger number of bullocks were found in

Table 4 : Block wise distribution of agricultural workers of selected households (In number)

Size groups of farm (in ha)	Average size of farm (in ha)	Number of agriculture workers in family	
		Per farm	Per hectare
Malwan			
Marginal	0.44	4.11	9.94
Small	1.04	4..38	9.13
Large	2.10	5.20	2.06
Average	1.19	4.56	7.04
Khajuha			
Marginal	0.50	4.67	9.66
Small	1.46	5.90	5.75
Large	2.37	5.00	1.17
Average	1.44	5.19	5.52

Table 5 : Overall number and kind of animal of selected households (In number)

Sr. No.	Particulars	Size groups of farm (in ha.)			Total
		Small	Marginal	Large	
1.	Bullock	28	17	16	61
		(10.52)	(11.11)	(31.37)	(12.97)
2.	She buffaloes	91	54	17	162
		(34.21)	(35.30)	(33.33)	(34.48)
3.	Cow	68	40	10	118
		(25.57)	(26.14)	(19.60)	(25.10)
4.	Young stock	17	12	8	37
		(6.40)	(7.84)	(15.70)	(7.87)
5.	Goat	38	17	-	55
		(14.28)	(11.11)		(11.70)
6.	Poultry	24	13	-	37
		(9.02)	(8.50)		(7.88)
	Total	266	153	51	470
		(100)	(100)	(100)	(100)

*Figures in parentheses are the percentage of the respective totals

Khajuha block than Malwan block. The highest number of goats (32) were found in Malwan block while it was 23 in Khajuha block but in case of poultry, 8.8 per cent accounted in Khajuha block while it was 6.81 per cent in Malwan block.

Policy implication:

The milk development programme led the foundation of Village Development Institution (VDI) as they involve in family welfare improvement of the groups of competitions. The growth of the agri-business institution recovered, while the existing economic federation was creating a sole agri-business institution in the study area. Tremendous potential for development of dairy farming

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Table 6 : Block wise number and kind of animal of selected households (In number)				
Sr. No.	Particulars	Size groups of farm (in ha.)			Total
		Small	Marginal	Large	
A.	Malwan				
1.	Bullock	12	9	8	29
		(9.67)	(12.32)	(34.79)	(13.20)
2.	She buffaloes	43	25	8	76
		(34.67)	(34.25)	(34.78)	(34.55)
3.	Cow	32	18	5	55
		(25.80)	(24.66)	(21.73)	(25.00)
4.	Young stock	7	4	2	13
		(5.64)	(5.48)	(8.70)	(5.90)
5.	Goat	20	12	-	32
		(16.12)	(16.44)		(14.54)
6.	Poultry	10	5	-	15
		(8.06)	(6.85)		(6.81)
	Total	124	73	23	220
		(100)	(100)	(100)	(100)
B.	Khajuha				
1.	Bullock	16	8	8	32
		(11.26)	(10.00)	(28.58)	(12.80)
2.	She buffaloes	48	29	9	86
		(33.80)	(36.25)	(32.14)	(34.40)
3.	Cow	36	22	5	63
		(25.35)	(27.50)	(17.86)	(25.20)
4.	Young stock	10	8	6	24
		(7.04)	(10.00)	(21.42)	(9.60)
5.	Goat	18	5	-	23
		(12.67)	(6.25)		(9.20)
6.	Poultry	14	8	-	22
		(9.85)	(10.00)		(8.80)
	Total	142	80	28	250
		(100)	(100)	(100)	(100)

*Figures in parentheses are the percentage of the respective totals

exists as animal-agriculture these are supplementary to each other and agro-supportive business (Rangasamy and Dhaka, 2007).

On the basis of results obtained from present study involving the institutions of Fatehpur district in Central Uttar Pradesh, following suggestions are given below which can be applicable in the development of the institutions in future. The private dairy functions successfully. But successful ratio depends upon approach on the leaders and desire to work honestly at village level as well as block and district level. The strategy and programme for rural area development should be based on the macro level entrepreneurial support rather than micro level financial institutional support. There is an urgent need of credit supply at lower interest to promote the dairy farming separate financial corporation and banking system is required to finance for various dairy activities based on the performance analysis of dairy activities. The dairy cooperative units at local level can be established and provide permanent productive fund for dairy sector at local level. Advance scientific dairy farming requires the proper update and timely guidance with active cooperation of expert in dairy farming. Need of veterinary doctor to each village is highly essential. Such doctor cum Development Officer may shoulder responsibility for promoting the dairy business. To establish the veterinary hospital/animal health care centre at a village level can provide the timely vaccination and artificial insemination, could go a long way in development of rural community.

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