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To study the socio-economic structure of potato growers of district of Kannauj (Utter Pradesh)

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Abstract
An examination of constraints in context to production and marketing of potato crop shows that the poor quality seed inadequate and imbalanced use of fertilizer, plant protection measures, irregular supply of electricity for tube wells and unawareness about the modern cultural practices were highly responsible for lower return to the potato growers, there is need to overcome these constraints. There is need to use good quality of seeds of potato varieties, which are resistance of insect pest and diseases and maturity at different intervals. The potato growers should be advised to used recommended package of practices, particularly use of fertilizers, irrigation and plant protection measures for obtaining higher yield and income from potato crop. There is also need to provide cold storage facilities to avoid forced sales, provide higher price of produce and make available the potato throughout the year.

Keywords: Kannauj, potato, socio-economic

Introduction
Potato is the important crop of the world. It is the staple food all over the globe and also in India. Among the food crops It ranks fourth in importance next only in Rice, wheat, and corn covering about 20 million hectare and fifth in the production yielding about 376.4 million tones after sugarcane, paddy, wheat and maize. Potato is produced in about 110 countries in the whole world. But the china, India and Russian federation occupy the first three place in term of area and production. About 60% of world potato area and about 40% of the world potato production besides, China, India, Russian federation are also the leading potato producing countries of the world. The total area of potato in world during 2010-11 was 18.6 million hectare which gave an annual production of about 376.4 million tones the average yield being 17.4 tones/ha. in 2010-11. According to F.A.O. estimated out of total production of potato in world was 376.4 million tones and in India it was 45 million tones. Which was 11.9% of total world production. In India the area allocated in 1949-50 was 0.234 million ha. and the production was 1.54 million tones the productivity was 6.59 tones/ha which now in current scenario has escalated to 23.9 million ha. in area 45.3 million tones in production and 19.9 tones/ha in productivity. The Indo Gangatic region, Punjab, Haryana, U.P., Bihar W.B. and union territory of Delhi is the potato bowl of the country accounted for the 78% of the area and honor 87%of production. As regards to U.P. it is a leading state in India allocates 38.3% of area and gives 41% of production of total potato in India. It is an important cash crop of the state and growing on almost all district of state the total area under the potato crop was 0.37 lakh ha. giving total production of 9.56 lakh tones as the productivity of 254 q/ha in year 2014-15 the Kanpur region contributes highest in area production and productivity among all the regions of Uttar Pradesh being 37620 thousand ha. of area produced 95.6 thousand tones and 254 q/ha of productivity respectively.

Potato can be cooked in many ways they can fried, rosted, tosted, steamed they can also be proceed flakes, cubes, granules, chips, French fries, pan cakes etc. They are good for breakfast lunch dinner. Potato contain about 80% water and 20% dry matter major portion of dry matter is starch and sugars constitutes 60% and fat contain is very low at 0.1% in addition potato contain fiber vitamin glyocoalkaloids it is a whole some a nutritive food potato provides about 69 kcal/100 gm. Staples proceeds products of potato have high protein high biological value, it is much higher than major cereals higher than even protein of animal origin like milk, beef. The biological value of mixture of egg and potato is higher than egg along potato protein has a better balance amino acid contains the advantage of potato over other cereals staples is its high lycin content fresh weight basis. The fat content of potato is negligible compare to other cereals theycontent 30 mg or more citric acid of 100 gm tuber, cereals taking in vitamin C.Potatoes content considerable quantity of 'B' group vitamin potato are an important source

of thyamine, niacin, pyridoxine and derivatives. In Uttar pradesh district Kannauj occupies prestigious position so for as potato production is concerned the Kannauj allocated 10.4 per cent of area and give 14 per cent of production of the state. it has largest area in highest production in the state. The area from 600 thousand ha to 604 tones production with a productivity of 258 q/ha. in above period the per capita consumption of potato.

Objective

To know the personal, socio-economics and communicational characteristics of Potato crop growers.

Methodology

A multi-stage random sampling technique were adopted for selection of the block, village, farmers and the market functionaries for the investigation of all potato growing blocks of the district Kannauj were prepared and out of this one block "Chhibramau" was selected purposely on the basis of highest area under potato crop in the district Kannauj.

Result and Discussion

The present chapter deals with the economic structure of the sample farmers. It takes in to account the examination of size and distribution of farms investment in fixed capital, irrigated area, cropping intensity etc.

Table 1: Education and literacy of potato growers

Size of group (ha.)	Illiterate	Primary	High school	Above high school	Total
Below-1	3	10	8	6	27
1-2	2	2	3	5	12
2 &above	1	3	5	2	11
Total	6	15	16	13	50

The above table shows that majority of illiterates were in marginal size group while literacy percentage was more in small and big farmers above 2 ha. of land.

Table 2: Sex and age group of potato growers

Size of group	Sex		Age group		Total
	Male	Female	Below 25	Above 25	
Below- 1	16	11	6	21	27
1- 2	9	3	2	10	12
2 & above	10	1	-	11	11

Table V-2 Show that the most of the respondent were above of 25 year age and near about 90 per cent of the 2 & above size group constituted by male members the contribution of both sexes were commonly observed in each group of sample farmers.

Table 3: Caste characteristics of sample farmers in potato growers.

S. N.	Caste	No. of respondent	%age
A.	Upper caste	17	34
B.	Back ward caste	24	48
C.	Schedule caste	9	18
Total		50	100

The above table V-3 shows that majority of sample potato respondents were on backward caste, 48 per cent fallowed by upper caste, 34 per cent and schedule caste constituted only 18 per cent in the study area.

Size of Farms

The number of sample farms, cultivated area, average size of holding under different size groups of farm have been presented in table 4.

Table 4

Size group (in ha.)	No. of sample farms	%age of farms to total	Net cultivated area	Average cultivated area	%age of cultivated area to total
0-1	27	54	14.59	0.54	15.94
1-2	12	24	18.04	1.50	19.72
2 and above	11	22	58.85	5.35	64.34
	50	100	91.48	3.82	100.00

Table-4:- portrays that the average size of holding on the sample farms came to 3.82 hectare. It varied from marginal 0.54 on the marginal farms of below 1 hectare to 5.35 hectare on the large farm. Table further indicates that 54 per cent marginal farmers occupied 15.94 per cent of total cultivated area and 24 per cent small farmers accounted for 19.72 per cent area of total cultivated area, while 22 percent large farmers occupied as much as 64.34 per cent of the total cultivated area. It clearly indicate that there exist an uneven distribution of cultivated area among the farmers of the different size.

Table 5: Family structure of the sample house hold farmers.

S. No.	Particular	Size group (ha)			Total
		0-1	1-2	2 & above	
1.	No. of the family member	145	91	79	315
2.	Male (adult)	63	38	33	134
3.	Female (adult)	53	32	29	114
4.	Boy	16	12	07	35
5.	Girl	13	09	10	32
	Average size of family	5.37	7.58	7.18	

Table-5 Reveals that the total no. of family member of the farmers came to 315 and average size of family members in 0-1 hectare was 5.37, while it was7.58 members in 1-2 hectare group and 7.18 members family in 2 ha. and above size group in the study area.

Table 6: Irrigated area under the different size group of the sample house hold in hectare

Particular	Size group (ha)			
	0-1	1-2	2 or above	Total
Total cultivated area	14.59	18.04	58.85	91.48
Irrigated area (tube well/pumping set	13.81	18.04	54.73	86.58
Un irrigated area	0.78	-	4.12	4.90
%age of irrigated area to cultivated area	94.7	100	93	95.9

Table-6 Indicates that about 95.9 per cent area was irrigated on the sample farms. At marginal farms it was 94.7 per cent, at small farms 100 per cent while it was 93 per cent at 2 ha. or above size group of farms. The main source of irrigation at sample farms were observed as tube wells and pumping sets.

Table 7: Investment in fixed capital excluding land (in Rs./ ha)

Particulars	Size group of farms (in ha)			Average
	Below 1 ha	1-2 ha	2ha and above	
Farm building	4275 (10.05%)	6225 (12.45%)	7525 (12.53%)	6008.33 (11.67%)
Irrigation structure	3476 (8.17%)	3837.75 (7.67%)	4825 (8.36%)	4046.25 (8.06%)
Milch cattle	25430 (59.80%)	29245 (58.51%)	33340 (57.83%)	29338.33 (58.71%)
Drought cattle	5200 (12.22%)	4835 (9.67%)	4045 (7.01%)	4693.33 (9.63%)
Implement machinery	3537.7 (8.32%)	4842.5 (9.68%)	6849 (11.88%)	5076.40 (9.96%)
others	600 (1.41%)	690 (1.38%)	965.8 (1.67%)	751.93(1.48%)
Total	42518.7 (100.00%)	49975.25 (100.00%)	57649.80 (100.00%)	50047.91 (100.00%)

Table 7 Reveals that the average investment in fixed capital excluding land came to 50047.91/ha. It was lowest being Rs. 42518.7 on marginal farms, which increased to 49975.25 on small farms and 57649.8 on large farms. The higher investment on large farm was more on irrigation structure, farm building and implement and machinery as compared to marginal or small farms. The percentage investment came higher on milch cattle, farm building, implements and machinery on large farm than the small farms and marginal farms.

Intensity of cropping

Intensity of cropping is an indicator of efficiency of a farm. Higher the intensity of cropping generally high would be the income and employment. It is worked out by using the following formula.

Intensity of cropping = total cropped area*100/net cultivated area

The intensity of cropping for different categories of farms has been given in table -8

Table 8: Intensity of cropping on different categories of farms

S. No.	Size group (in ha)	Net cultivated area (in ha)	Total cropped area (In ha)	Intensity of cropping in per cent
1.	Below 1	14.59	30.10	206.3
2.	1-2	18.04	29.22	161.97
3.	2 and above	58.85	91.80	155.98
4.	Total	91.48	151.12	165.19

The above table-8 reveals that the average intensity of cropping at sample farms came to 165.19 per cent while it was highest at marginal farms 206.30 per cent and lowest at large farms 155.98 per cent.

Conclusion

The average size of holding of marginal and small size of group of sample holders came to 0.54 hectare and 1.5 hectare respectively while the average size of holding of the sample potato growers having 2 hectare and above size of group came to 5.35 hectare among sample potato growers. Out of total selected farmers 54 per cent of marginal size group 24 per cent of small size group and 22 per cent of the sample farmer were of 2 hectare and above size group, among all samples potato growers. On an average 16 per cent of respondents was of below 25 years age group while the female participation in po and above size group). The literacy percentage was found more on large farm tato growing was more in marginal group and less in large farms (2 ha ers and less on small farmers. The investment on fixed capital was found higher on large farmers & lower on small and marginal farmers.

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