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An economic analysis of the socio-economic status of wheat growers in Banda district of Bundelkhand region (U.P.)

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Abstract

Wheat occupies a very important place in our diet and source of income for millions around the world. To examine An Economic Analysis of the socioeconomic status of wheat growers in the Banda District of Bundelkhand Region (U.P.) This study was conducted in the Bundelkhand region of Banda district. For the selection of sample farmers, purposive sampling, stratified random sampling was adopted for the selection of districts, blocks, villages, and respondents in the study area. Seven districts come under the Bundelkhand (Jhansi and Chitrakoot division) region. In the first stage, the Banda district was selected purposively for study based on having higher production and area under wheat crop in Chitrakoot division. Banda has eight blocks: Badaokhar Khurd, Jaspura, Tindwari, Naraini, Mahuwa, Baberu, Bisanda, and Kamasin, with Baberu being chosen using a simple random sampling method. Another reason for choosing Baberu is that he is local to the investigator, making it easier for him to build rapport with respondents and collect data. Five villages namely Rayan, Santar, Kayal, Fufundi, and Kauhara, were selected at random from the selected block. The total sample size was 92 wheat growers selected randomly at different villages in the study area. The study on the agriculture year 2021-22 was collected through personal interviews method with the help of a pre-tested comprehensive schedule from wheat growers. After the collection of data descriptive statistics, were used to find out the various socio-economic characteristics of the wheat growers in the study area. The results show that the majority of farmers 61.96 percent are old and the average age experience of farmers the highest recorded for 21 years and above is about 60.67 percent in the study area. Religion such as Hindu and Muslim, 98.91 percent of wheat growers belong to the Hindu community and the majority of the caste category in wheat growers belongs to the OBC category 73.92 percent in the study area. The results show that 31.52 percent were found illiterate and occupation and the average income of different size groups that the majority of the wheat growers 93.48 percent are engaging with agriculture and the annual income of a farm family includes all kinds of revenue generation, the majority of respondents 53.26 percent medium annual income category 40001 to 100000 and the total number of land holding was found maximum found under marginal farms category is about 32.61 percent in the study area. The cropping intensity found in almost every district cropping intensity in the study area is about 130.80 percent with a net cultivated land area is 316.4 hectares and a total gross cropped area is about 413.90 hectares in the study area.

Keywords: Wheat growers, socioeconomic status, annual income, educational status, cropping intensity, etc.

Introduction

Wheat (*Triticum aestivum L.*) is the most widely cultivated cash crop in the world because it produces a high yield per unit area and grows well in temperate climates despite having a relatively short growing period. Wheat originated in the Middle East, near the junction of national borders for the USSR, Iraq, Turkey, and Iran. It is the world's most widely cultivated staple food crop, having been grown since prehistoric times, and is consumed in various forms by over one thousand million people worldwide. It has been dubbed the "King of Cereals." Wheat has recently been used in processed food products such as baked leavened bread, biscuits, cakes, pastries, flakes, and noodles. It is the most widely cultivated cereal crop, and it is widely used for human consumption in the form of flour, Suzi, flour, and maida, and is eaten by a variety of consumers in various ways such as chapatis, puris, paratha, Dalia, halwa, and upma.

Wheat straw and wheat bran are also good sources of animal feed. Wheat is the most important source of vegetative protein in the human diet, with higher protein content than soyabean or other major cereals such as maize (Corn) or rice. Wheat's nutritional value is comparable to that of other cereals. It has a good nutritional profile with 12.1 percent protein, 1.8 percent lipids, 1.8 percent ash and 2.0 percent reducing sugar, 6.7 percent pentose, and 59 percent starch. It is also a good source of vitamin minerals and nicotinic acid (Agricultural Statistics at a Glance 2019-20) ^[1]. Wheat is India's most important food grain and the staple food of millions of Indians, for the most part in the country's south and northwestern regions.

Agriculture plays a crucial role in the Indian economy, which contributes about 16 percent share in the total Gross Domestic Product (GDP), and the total workforce engaged in agricultural and allied activities is 54.6 percent (Census 2011). As per the Land Use Statistics (LUS) 2016-17, the total geographical area of the country is 328.70 million hectares. Out of which net cultivable land is 139.4 million hectares and the gross cropped area is 200.20 million hectares with 143.6 percent of cropping intensity. At present, the net sown area is 42.4 percent of the total geographical area and the net irrigated area is 68.6 million hectares in the country (Annual Report 2020-21, DAC&FW) ^[2].

Wheat is produced in about 120 countries of the world. The main wheat-producing countries are China, India, USA, Russian Federation, Australia, Canada, etc. The total area of wheat in the world is 219 million hectares with a production of 760.92 million tonnes the normal world productivity is 3474 kg/ha. The production of wheat in China is 134.25 million tonnes, followed by India is 107.59 million tonnes, Russia at 8.89 million tonnes, the USA at 49.69 million tonnes, Canada at 35.18 million tonnes, France at 30.14 million tonnes, Pakistan at 25.24 million tonnes, Ukraine 24.91 million tonnes, Germany 22.17 million tonnes and Australia 14.48 million tonnes. However, the wheat share in China is 17.64 percent followed by India is 14.13 percent, Russia at 11.28 percent, the USA at 6.53 percent, Canada at 4.62 percent, France at 3.96 percent, Pakistan at 3.31 percent, Ukraine at 3.27 percent, Australia at 2.85 percent and Germany 1.90 percent in wheat production (*Agristatics. nic, 2020-21*). However, China is a vital producer of wheat. The maximum area under wheat production in India is 14 percent followed by the Russian Federation at 12.43 percent, China at 11.14 percent, and the United States of America at 6.90 percent which all together accounts for about 45 percent of global area.

In India, the wheat crop is mainly grown in North India. The major wheat-producing states i.e. Uttar Pradesh, Punjab, and Haryana followed by Madhya Pradesh, Rajasthan, Bihar, Gujarat, Maharashtra, Uttarakhand, West Bengal, Himachal Pradesh, Karnataka, and Jammu & Kashmir. All these states contribute about 99.5 percent of total wheat production in the country. Remaining states like Jharkhand, Assam, Chhattisgarh, Delhi, and other North Eastern States contribute only about 0.5 percent of the total wheat production in the country. The cultivated area under wheat at the national level has shown 31.45 million hectares. Out of these, Uttar Pradesh has the largest share in an area with 9.5 million hectares at 30.19 percent, followed by Madhya Pradesh at 20.83 percent, Punjab at 11.15 percent, Rajasthan at 9.91 percent, Haryana at 8.06 percent and Bihar at 7.14 percent.

The area of wheat in UP Bundelkhand region is about 897666 hectares, with production of 2945108 metric tonnes and average productivity of 3142 kg per ha. Out of seven districts

of UP Bundelkhand region, Banda district covers an area of 165405 hectares, production of 489299 metric tons and productivity is 3063 kg per hectare. Thus, the Banda district has contributed 18.42 percent of the area and 16.61 percent to the production of wheat crops in the UP Bundelkhand region. This region is divided into Chitrakoot and Jhansi divisions. The area of the Chitrakoot division is 417356 hectares, production is 1219178 metric tonnes, yield is 2950 kg per hectare and the area is Jhansi division is 480310 hectare, production is 1725930 metric tonnes, and yield is 3400 kg per hectare (<http://updes.up.nic.in>, 2021-22).

Research Methodology

This study was conducted in the Bundelkhand region of the Banda district which is under the research and extension area of the university. For the selection of sample respondents, a stratified random sampling procedure was adopted for the selection of districts, blocks, villages, and respondents selected in the study area. Seven districts come under the Bundelkhand (Jhansi and Chitrakoot division) region. In the first stage, the Banda district was selected purposively for study based on having higher production and area under wheat crop in Chitrakoot division. Banda has eight blocks: Badaokhar Khurd, Jaspura, Tindwari, Naraini, Mahuwa, Baberu, Bisanda, and Kamasin, with Baberu being chosen using a simple random sampling method. Another reason for choosing Baberu is that he is local to the investigator, making it easier for him to build rapport with respondents and collect data. Five villages were chosen at random from the selected block, and respondents/farmers were chosen at random from each village, namely Rayan (22), Santar (18), Kayal (17), Fufundi (16), and Kauhara (19), for a total of 92 farmer households. The primary data required for the study of the agriculture year of 2021-22 was collected through personal interviews method with the help of a pre-tested comprehensive schedule from sample farmers.

The first goal, descriptive statistics, was used to determine the distribution of land holding size, house, education, caste, family size, occupation, cropping intensity, source of lighting, drinking water, cooking technology, toilet facility, economic status, vehicle status and implements, and livestock availability on a farm and per hectare basis.

Descriptive statistics were used to find out the various socioeconomic characteristics of the wheat growers in the study area.

Frequency and Percentages

The frequency and percentages were used for making simple comparisons. The frequency of the particular category was multiplied by a hundred and divided by the total number of farmers in that particular category to get percentages.

$$\text{Percentage (\%)} = \frac{\text{The sum of all the responses}}{\text{number of all the responses}} \times 100$$

Results and Discussion

The socio-economic characteristics of the farmers affect the organization and management of the farm as well as the production and disposal of the produce. An analysis of the socio-economic characteristics of any area may furnish a base for further planning and development of agriculture. Under socio-economic aspects, these are comprised of age, gender, education, caste category, family type, family size, land holding, occupation, annual Income, social involvement, and farming experience of the wheat growers were assessed and have been presented in the following subsections.

Table 1: Age and Experience distribution of wheat growers

S. No.	Age-wise distribution		Experience wise distribution	
	Particular	Frequency and Percentage	Particular	Frequency and Percentage
1	Young (18 TO 30 Years)	5 (5.44)	Up to 10 years	2 (2.18)
2	Middle Age (31 to 45 Years)	30 (32.60)	11 to 20 year	34 (36.95)
3	Old Age (46 Years and above)	57 (61.96)	21 years and above	56 (60.87)
	Total	92 (100)	Total	92 (100)

Figure shown in parenthesis

The family age groups of wheat growers of different sizes of groups were revealed that the majority of growers found about 61.96 percent in the old age group, followed by the middle age group and the least in the young age group about 5.44 percent, and the average age of the experience in the

study area was found highest in 21 years & above about 60.67 percent followed by 11-20 years. Whereas, the least farming experience was found up to 10 years of age group about 2.18 percent in the study area (Prasad, S. N. and Chaudhary A. K. 2008) [5].

Table 2: Religion and Caste-wise distribution of wheat growers.

S. No.	Religion wise distribution		Caste wise distribution	
	Particular	Frequency and Percentage	Particular	Frequency and Percentage
1	Hindu	91 (98.91)	UR	11 (11.95)
2	Muslim	1 (1.09)	OBC	68 (73.92)
3	Any other Specific	0 (0.0)	SC	13 (14.13)
	Total	92 (100)	ST	0 (0.0)
			Total	92 (100)

Figure shown in parenthesis

Religion is a most distinctive feature of the socioeconomic profile of wheat growers in the table it is revealed that religions such as Hindu and Muslim, etc. Out of the overall sample of farmers, about 98.91 percent belong to the Hindu community and 1.09 percent of growers belong to the Muslim

community in the study area. Of the cost category of wheat growers about 73.92 percent belongs to the OBC Category followed by the General Category and the least SC/ST category about 14.13 percent in the study area (Singh A. *et al.*, 2020) [6].

Table 3: Distribution Pattern of family type and Family size of wheat growers

S. No.	Distribution pattern of family type		Distribution pattern of family size	
	Particular	Frequency and Percentage	Particular	Frequency and Percentage
1	Nuclear	73 (79.35)	1 to 5 Members	67 (72.82)
2	Joint	19 (20.65)	More than 5 Members	25 (27.18)
	Total	92 (100)	Total	92 (100)

Figure shown in parenthesis

It is revealed that the majority of the wheat growers about 79.35 percent belong to the nuclear family and a minute part of the farmer 20.65 percent farmer belongs to the joint family. The family size of wheat grower farmers of different size of groups has also been categorized into small family size (up to

5) and big family size (> 5). Of the wheat growers about 72.82 percent belonged to small family size and only 27.18 percent of growers belonged to large family size (Kalia *et al.*, 2015) [7].

Table 4: Distribution pattern of the type of house and Educational Status of wheat growers

S. No.	Distribution pattern of the type of House		Educational status of wheat growers	
	Particular	Frequency and Percentage	Particular	Frequency and Percentage
1	Hut	0 (0.0)	Illiterate	29 (31.52)
2	Kaccha	6 (6.53)	Primary School	8 (8.70)
3	Semi-Pakka	78 (84.78)	Middle School	17 (18.48)
4	Pakka	8 (8.69)	High School	19 (20.65)
5	Apartment	0 (0.0)	Intermediate	12 (13.05)
	Total	92 (100)	College and Above	7 (7.60)
			Total	92 (100)

Figure shown in parenthesis

The type of house it is revealed that the majority of the wheat growers is about 84.78 percent found living in semi-pakka houses followed by pakka houses and very few growers is about 6.53 percent are living in kaccha houses. Thus, the majority of growers are living in semi-pakka houses and very few growers are living in kaccha houses (Tinde *et al.*, 2017) [8].

technology and it could make rational use of scarce resources. In the different size of groups of education it was observed that out of 92 sample farmers, the highest wheat growers were found illiterate is about 31.52 percent followed by primary education, and the least wheat growers were found to be college or higher educational is about 7.6 percent in the study area (Singh, M. and Supriya, K. 2017) [9].

Educational qualification is the most important indicator of socio-economic status the helpful tool for the adoption of new

Table 5: Distribution pattern of occupation and Annual income of wheat growers.

S. No.	Distribution pattern of occupation		Distribution Pattern of Income	
	Particular	Frequency and Percentage	Particular	Frequency and Percentage
1	Agriculture only	86 (93.48)	Low annual income (< 40000)	34 (36.96)
2	Agriculture & Dairy	2 (2.18)	Medium annual income (40001 to 100000)	49 (53.26)
3	Agri. & Service	1 (1.08)	Large annual income (> 100000)	9 (9.78)
4	Agri. & Business	3 (3.26)	Total	92 (100)
Total		92 (100)		

Figure shown in parenthesis

The estimation of occupation and average annual income of the different sizes of groups in the study area found the majority of wheat growers engaging with agriculture is about 93.48 percent followed by Agri. & Business and least in Agri. & Service is about 1.08 percent in the study area.

The annual income of a farm family includes all kinds of revenue generation, the majority of respondents found 40001 to 100000 Rs/- annual income followed by < 40000 annual income and the least is about >100000 annual income of the wheat growers in the study area Singh (Singh D. K., *et al.* 2009) ^[10].

Table 6: Distribution pattern of land holding (ha.) and Drinking water of wheat growers

S. No.	Distribution pattern of Land Holding		Distribution Pattern of Drinking Water	
	Particular	Frequency and Percentage	Particular	Frequency and Percentage
1	Marginal (< 1 ha)	30 (32.61)	Tap water in the house	22 (23.91)
2	Small (1 – 2 ha)	27 (29.35)	Public tap	67 (72.82)
3	Medium (2- 10 ha)	21 (22.83)	Hand Pump	2 (2.18)
4	Large (> 10 ha)	14 (15.22)	Well	1 (1.09)
Total		92 (100)	Total	92 (100)

Figure shown in parenthesis

The land use pattern has described the dynamics of the right and balanced distribution of land within the total land holding of Wheat growers in different sizes of groups. It is one of the most important parameters of crop production and its ownership to ensure the economic prosperity and social status of the wheat growers in the study areas. it revealed that the total number of land holding was found maximum under marginal group size of farms is about 32.61 percent followed

by small group size farms and least farm group size was found in large group size of wheat growers is about 15.22 percent in the study area (Tripathi, A.K. and Singh, J.P. 2018) ^[11]. and the majority of the wheat growers used public tap is about 72.82 percent followed by tap water houses, and a little part is about 1.09 percent of wheat growers used wells as the source of drinking water.

Table 7: Economic status of wheat growers

S. No.	Distribution pattern of Economic Status		Distribution pattern of Procurement of Agricultural Inputs	
	Particular	Frequency and Percentage	Particular	Frequency and Percentage
1	BPL	9 (9.79)	Private shops	89 (96.73)
2	APRIL	81 (88.04)	Govt. agencies	3 (3.27)
3	Red card	2 (2.17)	Total	92 (100)
Total		92 (100)		

Figure shown in parenthesis

The table shows that the economic status of wheat growers in the study area majority of the respondents are found in APL (Above the poverty line) is about 88.04 percent followed by BPL card (Below the poverty line) is about 9.79 percent in the

study area., and the procurement of agricultural inputs of wheat followed by government agencies is about 3.73 percent in the study area.

Table 8: Distribution of cropping intensity in wheat growers

Particulars	Marginal	Small	Medium	Large	Overall
Total cropped area (ha)	22.80	51.90	89.50	249.70	413.90
Net cultivated area (ha)	16.90	38.90	68.30	192.20	316.40
Cropping intensity (%)	135.0	133.30	131	129.90	130.80

Cropping intensity refers to the number of crops raised on a field during an agricultural year. The net area sown and gross sowed area in the Study area for the year 2021-22 indicate that the cropping intensity found in the study area is about 130.80 percent with the net cultivated land area is 316.40 hectares and the total cropped area is 413.9 hectares in the

study area. The majority of the land is still not subjected to raising two or more crops in various seasons due to unexpected rain, due to lack of irrigation facilities, and damage caused to crops by stray animals like "Anna Pratha" (Singh, A. 2006) ^[12].

Table 9: Distribution of farm implements and machinery in wheat growers

Sr. No.	Particulars	Marginal	Small	Medium	Large	Overall	
1	Tractor	Total No.	0.00	3.00	6.00	14.00	5.75
		Per Farm	0.00	0.11	0.29	1.00	0.35
		Per ha	0.00	0.08	0.09	0.07	0.06
2	Trolley	Total No.	0.00	3.00	5.00	14.00	5.50
		Per Farm	0.00	0.11	0.24	1.00	0.34
		Per ha	0.00	0.08	0.07	0.07	0.06
3	Cultivator	Total No.	0.00	3.00	6.00	14.00	5.75
		Per Farm	0.00	0.11	0.29	1.00	0.35
		Per ha	0.00	0.08	0.09	0.07	0.06
4	Harrow	Total No.	0.00	3.00	5.00	13.00	5.25
		Per Farm	0.00	0.11	0.24	0.93	0.32
		Per ha	0.00	0.08	0.07	0.07	0.05
5	Seed Drill	Total No.	0.00	1.00	6.00	14.00	5.25
		Per Farm	0.00	0.04	0.29	1.00	0.33
		Per ha	0.00	0.03	0.09	0.07	0.05
6	Thresher	Total No.	0.00	3.00	5.00	14.00	5.50
		Per Farm	0.00	0.11	0.24	1.00	0.34
		Per ha	0.00	0.08	0.07	0.07	0.06
7	Chaff cutter	Total No.	11.00	2.00	4.00	10.00	6.75
		Per Farm	0.37	0.07	0.19	1.00	0.41
		Per ha	0.65	0.05	0.06	0.05	0.20
8	Khurpi	Total No.	30.00	27.00	21.00	14.00	23.00
		Per Farm	1.00	1.00	1.00	1.00	1.00
		Per ha	1.78	0.69	0.31	0.07	0.71
9	Fawada	Total No.	30.00	27.00	21.00	14.00	23.00
		Per Farm	1.00	1.00	1.00	1.00	1.00
		Per ha	1.78	0.69	0.31	0.07	0.71

Distribution of farm Implements and machinery according to various group sizes of farms has greater relevance in the study. It indicates how mechanized the farmers in the study area. This table shows per hectare as well as per farm availability of various implements used in the agricultural activities of the wheat growers (Verma R, *et al.* 2021) ^[13]. It is clear that among all farm categories, the large group size of the farms category was found highest in most of the implements & machinery and followed by the medium group size of the farms category in the study area (Yadav H, *et al.* 2014) ^[14].

Summary and Conclusions

Wheat occupies a very important place in our diet and source of income for millions around the world. The important concern is to examine how efficiently the farmers are using their resources. The sources used are found to be inefficient in a wheat crop of the study area; the farmers apply the inputs of wheat cultivation to adopt the improved technology of wheat crops in the systematic and requirement bases in the study area. The results show that the majority of farmer 61.96 percent is old and the lowest in the age (18-30 Years) group of 5.44 percent and the average age experience of farmers the highest recorded for 21 years and above is about 60.67 percent in the study area. The religion such as Hindu and Muslim, overall 98.91 percent of wheat growers belong to the Hindu community and the majority of the caste category in wheat growers belongs to the OBC category 73.92 percent in the study area. The majority of wheat growers belong to the nuclear family about 79.35 percent and the family size of wheat growers also belongs to a small family size in the study area. Thus, the majority of wheat growers are living in semi-pakka houses and very few growers are living in kaccha houses. The results show that 31.52 percent were found illiterate and only 7.6 percent of wheat growers were found college and above educational qualification. The occupation and the average income of different sizes of groups that the

majority of the wheat growers 93.48 percent are engaging in agriculture and only 1.08 percent of wheat growers are performing agriculture and service in the study area. The annual income of a farm family includes all kinds of revenue generation, the majority of respondents were 53.26 percent medium annual income category 40001 to 100000 and the total number of land holding was found maximum found under the marginal farms category is about 32.61 percent in the study area. The maximum number of wheat growers 88.04 percent found the APL (Above the poverty line) card followed by the 9.79 percent BPL card (Blow the poverty line). The cropping intensity found in almost every district cropping intensity in the study area is about 130.80 percent with a net cultivated land area is 316.4 hectares and a total gross cropped area is about 413.90 hectares in the study area.

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