

Study on socio-economic condition of Tribal farmers in Sonbhadra district of Uttar Pradesh

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Abstract

The economy of Sonbhadra district is mainly dependent on agriculture. The district has the highest percentage of forest area among all districts of Uttar Pradesh and the district is also called as Energy Capital of India. Sonbhadra district has highest Scheduled Tribe (ST) population in Uttar Pradesh and constituting 20.67 per cent in total district population. The present study was based on primary and secondary data collected to study the socio-economic condition of tribal farmers and status of agriculture in Sonbhadra district. The analysis of secondary information and data shows that net area sown and forest cover was 28.26 per cent and 50.36 per cent of total area respectively in the district. The cropping intensity and irrigation intensity of the district was 151.34 and 172.96 respectively. Wheat crop has the highest share in area (22.93 per cent) followed by paddy (15.77 per cent), maize (4.98 per cent), arhar (3.54 per cent) and gram (3.36 per cent) in the district. Total number of land holdings in the district was around 2.03 lakhs and 84.14 per cent land holdings in the district belongs to marginal and small category of land holding. Classification of population shows that district has highest share of marginal workers followed by agricultural labour, other workers, farmers and family labour. Around 61 per cent population in the district were illiterate. The analysis of primary information and data shows that average age of surveyed farmers was 40.1 years with majority of farmers (68.4 per cent) belongs to age group 35-50 years. Majority of farmers getting agriculture related information from neighbor,

friends and relative followed by radio, progressive farmers, officials of SHGs and NGOs and newspaper. The productivity of almost all the crops at farmers level was less than the district average. There is a high potential to increase the farm productivity. Share of marketed surplus in total production (Roy et al. 2019) was very less at farmers' level showing major portion of the farm production was consumed as family need. Around 67 per cent farmers are taking credit from bank followed by money lender and Self Help Groups. Consumption expenditure details of farmers shows that around 36 per cent of their expenditure on food items which consists of 22.63 per cent on foodgrains, 4.18 per cent on pulses, 5.20 per cent on vegetables and 3.53 per cent on other food items (Roy et al. 2020). The findings of the present study are crucial for future planning towards upliftment of socio-economic condition of the tribal farmers and improvement in status of agriculture in Sonbhadra district of Uttar Pradesh.

Key words: Socio-economic condition, agriculture, Sonbhadra, Tribal farmers

Introduction

Sonbhadra is the 2nd largest district of Uttar Pradesh. It is the only district in India which borders four states namely Madhya Pradesh, Chhattisgarh, Jharkhand and Bihar. The district lies in the extreme southeast of the state and is bounded by Mirzapur District to the northwest, Chandauli District to the north, Kaimur and Rohtas districts of Bihar state to the northeast, Garhwa district of Jharkhand state to the east, Koriya and Surguja districts of Chhattisgarh state to the south and Singrauli district of Madhya Pradesh state to the west. The district headquarters is

in the town of Robertsganj. On the basis of its topography, soil, micro-climate, the district has 4 distinct characters viz. the northern part of the district which is plains of Ganga, Son, Karmnasa and Belan rivers, the southern part of the district is plateau region transected by Son, Renu, Bihul and Kanhar rivers, eastern part is plain land of Belan and Karmanasa rivers while western part is also plain region of Belan river. Sonbhadra district is an industrial zone and has lots of minerals like bauxite, limestone, coal, gold etc. The economy of the district is mainly dependent on agriculture. The major cropping system of the district is Rice-Wheat. The major crops of the district are Paddy, Wheat, Arhar, Gram, Lentil, Linseed, Sesamum, Pea and Vegetables like Tomato, Brinjal, Chilli, Cucurbits and broad beans (Roy et al. 2016). The cattle breeds are mostly non-descriptive with low milk productivity. Goat and sheep are other domestic animals dominant in district. The lack of irrigation facilities is one of the major factors affecting production and productivity of crops in this district. Major source of irrigation is canal supplying water from the reservoirs after storing rain water. This water is not sufficient for providing irrigation to Kharif and Rabi season crops. Management of red, black soils with shallow depth and rocky nature located in undulated terrain is another problem of the district. The Sonbhadra district is very rich in forest vegetation which has very good bio diversity with rich in Medicinal plant. The district has the highest percentage of forest area among all districts of Uttar Pradesh. District is also called as Energy Capital of India, because there are so many power plants. The district has many electrical power stations around Govind Ballabh Pant Sagar. NTPC has three coal based thermal power plants at Shakti Nagar, Vindhya Nagar and Bijpur. Other power stations are at Anpara, Obra, Renuagar. NCL has its headquarters and many coal mines in this region. Hindalco has a major Aluminium plant at Renukoot. The district is characterized by warm and humid climate from June to September and dry and cool weather from October to February-March. April to June are characterized by hot winds. The mean maximum and minimum temperature recorded in the past are 45.80C and 2.80C respectively. The average rainfall received in the district in last five year was much below from the normal average of 1115 mm. The district consists of four sub division (Tehsil) and ten blocks with headquarter at Robertsganj. There

are 67 Nayaya Panchyat, 637 Gram panchayat and 1431 revenue village in the district.

Very few studies have been made on Socio-economic condition of Tribal farmers in Sonbhadra district of Uttar Pradesh (Singh 2013, Khan 2017, Verma et al. 2017, Kumar and Tripathi 2018). Anand et al. 2016 reported that farmers prefer low water requiring crops in combination with tree component under different agro-forestry systems in Sonbhadra district. Singh and Sharma, 2017 reported that Sonbhadra district has more than 50 per cent area under food grains of total cropped area followed by pulses (19.84 per cent), other crops (8.50 per cent), oilseeds (7.62 per cent), commercial crops (2.19 per cent) and industrial crops (0.19 per cent) in 2014-15. There was decreasing trend of cropping of all kind of crops since 1995 to 2015 except commercial crops and pulses. The farmers of the study area facing more challenges of livelihood (Singh et al, 2014) due to transformation of agroland into non-agro activities. Kumar et al. 2020 reported that decreasing trend of rainfall and increasing trend of both maximum and minimum temperature in Sonbhadra district resulted into decreased agricultural production. Ansari et al. 2021 in his study in Sonbhadra district reported that majority of the respondents were middle aged, illiterate, had agriculture as their main occupation, possess below 1 hectare of land holding, medium level of mass media exposure and earns medium level of annual income. With the above mentioned background, the need was felt to study the Socio-economic condition of Tribal farmers and status of agriculture in Sonbhadra district of Uttar Pradesh.

Methodology

Secondary data and information on various aspects of agriculture and socio-economic condition of Sonbhadra district for the year 2018-19 have been obtained from website of Directorate of Economics and Statistics, Lucknow, Uttar Pradesh. The Scheduled Tribe (ST) population of Uttar Pradesh was 11,34,273 at 2011 census, constituting a meager 0.57 per cent of the total population (199,812,341) of the State. While in case of sonbhadra district Scheduled Tribe (ST) population was 20.67 per cent of total district population (1862559). The Scheduled Caste (SC) population of Uttar Pradesh was 41357608 at 2011 census, constituting 20.70 per cent of the total population of the State while Scheduled Caste population in sonbhadra district is

22.64 per cent of total district population. Chopan block of Sonbhadra district has highest ST population (135261). So, Chopan block was selected purposively for survey and operations under Tribal Sub Plan programme. Primary data and information on various aspects of agriculture and socio-economic condition of selected farmers in Chopan block of Sonbhadra district have been obtained through a pre-tested questionnaire through survey method. General observation was conducted with the villagers, key persons of the villages, panchayat

pradhans and NGO functionaries. The NGOs Banwasi Sewa Ashram and Gram Swaraj Samity extended their helping hand for collection of data and information. The total sample size for collection of data and information was 170 from Chopan Block of Sonbhadra district. The baseline survey was conducted during the year 2013-14.

Results and Discussion

Land utilization pattern of Sonbhadra District has been provided in Table 1.

Table 1: Land utilization pattern of District Sonbhadra (2018-19)

S. No.	Particulars	Area (ha)	Percentage of total area
1	Total area	680961	100.00
2	Net area sown	192445	28.26
3	Forest	342953	50.36
4	Barren cultivable waste	12503	1.84
5	Present fallow land	18891	2.77
6	Other fallow land	5413	0.79
7	Barren & uncultivable land	13012	1.91
8	Land put to non- agriculture use	60165	8.84
9	Pastures	190	0.03
10	Area under bush & horticulture tree	35389	5.20

The total area was 6.81 lakhs ha in Sonbhadra District. The Net area sown and forest cover was 28.26 per cent and 50.36 per cent respectively of total area. The agricultural waste land was 1.84 per cent of total area. Fallow land in the district was 3.56 per cent of total area. The area under pastures was very meager and it was only 0.03 per cent of

total area. The area under bush and horticulture tree was 5.20 per cent of total area.

Cropping and irrigation intensity of Sonbhadra district has been presented in Table 2. Net sown area in Sonbhadra district was 1.92 lakh ha and area sown more than once was 0.99 lakh ha. Gross cropped area in the district was 2.91

Table 2: Cropping and irrigation intensity of district Sonbhadra (2018-19)

S. No.	Particulars	Area (ha.)
1	Net area sown	192445
2	Area sown more than once	98804
3	Gross area sown	291249
4	Cropping intensity	151.34
5	Net irrigated area	61897
6	Net irrigated area (%)	33.72
7	Gross irrigated area	107058
8	Gross irrigated area (%)	36.76

lakh ha and the cropping intensity was 151.34. Net irrigated area in the district was 0.62 lakh ha which only 33.72 per cent of net sown area was. Gross irrigated area was 36.76 percent of gross cropped area. Irrigation intensity of the district was 172.96. The total length of canal in the district was 511 Km and number of permanent wells were 11538.

Majority of area (around 71.42 per cent) in the district were irrigated by canal. The other sources of irrigation in the district were private tube well (7.61 per cent), wells (5.38 per cent), pond (4.52 per cent) and others (11.07 per cent). Cropping pattern and average productivity of major crops in Sonbhadra district have been provided in Table 3.

Table 3: Cropping pattern and average productivity of District Sonbhadra (2018-19)

S. No.	Particulars	Area (ha.)	Percentage of gross area sown	Productivity (Quintal/ha)
1	Paddy	45936	15.77	27.19
2	Wheat	66798	22.93	23.57

3	Barley	6964	2.39	11.73
4	Maize	14510	4.98	19.68
5	Sawa & Kodo millet	8433	2.89	6.56
6	Urad	25a78	0.89	6.83
7	Lentil	8683	2.98	8.53
8	Pea	3511	1.21	13.78
9	Arhar	10308	3.54	8.81
10	Gram	9781	3.36	13.78
11	Rapeseed & Mustard	4327	1.49	6.02
12	Linseed	4918	1.69	-
13	Til	6008	2.06	-
14	Vegetables	4639	1.59	-
15	Other	93855	32.23	-
16	Gross area sown	291249	100.00	-

The table shows that wheat crop has the highest share in area (22.93 per cent) followed by paddy (15.77 per cent), maize (4.98 per cent), arhar (3.54 per cent), gram (3.36 per cent), lentil (2.98 per cent), sawa and kodo (2.89 per cent), barley (2.39 per cent) and til (2.06 per cent). The above mentioned crop constitutes 60.9 per cent area of gross cropped area of the district. The average productivity of paddy and wheat in the district was 27.19 and 23.57 q/ha. The productivity of pulses like urd, arhar, moong and gram was at lower side and it was 6.83, 8.81, 5.33 and 13.78 q/ha respectively.

Area and number of land holdings in Sonbhadra district have been presented in Table 4. Total number of land holdings in the district was 2.03 lakhs. Around 84 per cent land holdings in the district belongs to marginal (<1 ha) and small (1-2 ha) land holding with only around 41 per cent of total area. Around 16 per cent land holding belongs to semi-medium, medium and large land holdings with around 59 per cent of total area. Marginal workers (Table 5) have the highest share in the district (45.62%) followed by agricultural labour (20.17%), other workers (18.32 %),

Table 4: Area and number of land holdings in Sonbhadra district (2018-19)

S. No.	Land holding	Number of land holding	Percentage of total land holding	Area (ha)	Percentage of total area
1	< 1 ha.	135083	66.46	49979	20.29
2	1- 2 ha.	35950	17.68	50897	20.67
3	2-4 ha.	20516	10.09	56667	23.01
4	4-10 ha.	9938	4.89	57908	23.51
5	>10 ha.	1780	0.88	30829	12.52
Total		203267	100.00	246280	100.00

farmers (13.91 per cent) and family labour (1.99 per cent). The villages having less than 500 populations has the highest share in the district (41.91 per cent) followed by population between 500-999 (26.82 per cent) and population between 1000-1999 (16.82 per cent). The villages having population equal to and more than 5000 was 2.52 per cent. Classification of population in different age group in Sonbhadra district shows that less than 15 years age group has the highest share in the district (45.83 per cent) followed by age group 30-59 years (26.37 per cent) and age group 15-29 years (22.20 per cent). The age group equal to 60 years and more has only 5.60 per

cent share in total population. Majority of population (61.05 per cent) in the district was illiterate. Around 12.00 per cent population has less than primary education and 21.11 per cent population were educated from primary to high school. Only 3.25 per cent population was intermediate & diploma holder while only 2.60 per cent population was graduate & above.

Primary data and information

Primary data and information on various aspects of agriculture and socio-economic condition of selected farmers have been obtained through a pre tested

questionnaire by survey method. Majority of farmers (68.4 per cent) belongs to age group 35-50 years followed by 22.1 per cent farmers belongs to age group less than 35 years and 9.5 per cent farmers belongs to age group more than 50 years (Table 6). The average age of surveyed farmers was 40.1 years. Majority of farmers (57.8 per cent) getting agriculture related information from neighbor, friends and relative followed by radio (19.6 per cent), progressive farmers (13.70 per cent),

officials of SHGs and NGOs (6.9 per cent) and newspaper (2.00 per cent). Majority of farmers (41.27 per cent) have annual income between Rs. 30,001-60,000 followed by 26.98 per cent farmers have annual income of Rs. more than 90,000. Average annual income of all families was Rs. 70621. Non-timber forest products (NTFPs) have the highest share (33.31 per cent) in total income of the farmers followed by agriculture, labor and animal husbandry.

Table 5: Population classification of Sonbhadra district

Population classification	Farmers 13.91%, agricultural labourers 20.17%, family labourers 1.99%, marginal workers 45.62%, other workers 18.32%
Classification of villages according to population	Less than 500= 41.91%, 500 to 999= 26.82%, 1000 to 1999= 16.82%, 2000 to 4999= 11.93%, more than equal to 5000= 2.52%
Classification of population in different age group	Less than 15 years= 45.83%, 15 to 29 years= 22.20%, 30 to 59 years= 26.37%, more than equal to 6 years= 5.60%
Classification of population according to education level	Illiterate= 61.05%, less than primary= 12.00%, primary to high school= 21.11%, intermediate to diploma= 3.25%, graduate and above= 2.60%

Table 6: Socio-economic conditions of sample population of Chopan block of Sonbhadra district (n=170)

Classification of sample farmers according to age group	Less than 35 years= 22.1%, 35 to 50 years= 68.4%, More than 50 years= 9.5%
Different source of information in agriculture	Neighbour, friends and relatives= 57.80%, radio= 19.60%, progressive farmers= 13.70%, SHG, NGO, officials= 6.90%, newspaper= 2.00%
Classification of farmers on the basis of total annual income (Rs)	Less than Rs. 30000= 9.53%, 30001 to 60000= 41.27%, 60001 to 90000= 22.22%, More than 90000= 26.98%
Share of different source of income at farmer's level	Non timber forest product (NTFP)= 33.31%, agriculture= 29.70%, animal husbandry= 17.92%, labour= 18.84%, others= 0.22%

The productivity of almost all the crops at farmer's level was less than the district average productivity (Table 7). There is a high potential to increase the farm productivity. Share of marketed surplus in total production was very less at farmers' level. This shows that major portion of the farm production was consumed as family need. The Cropping intensity of

surveyed area was 148.97. All farmers used to sale the surplus produce in local market (Roy et al. 2016) to traders. In case of maize and rice majority of farmers use the high yielding varieties and hybrid seed while in other crops majority of farmers use the local or farm saved seed (Roy et al. 2021 and Roy et al. 2015).

Table 7: Average productivity of crops (q/ha), share of marketed surplus in total production and type of seed used

Crops	Productivity (q/ha)	Share of marketed surplus in total production	Type of seed / Percentage of farmers	
			Local	HYV / Hybrid
Paddy	21.19	19.74	7.94aa	92.06
Wheat	24.77	10.85	88.89	11.11
Gram	8.27	16.59	65.08	34.92
Maize	28.46	33.07	15.87	84.13
Pea	7.99	0.00	85.29	14.71
Pigeon pea	19.60	12.19	100.0	00.0
Urad	5.39	0.00	66.67	33.33
Cropping intensity: 148.97				

Majority of farmer's family (more than ninety per cent) in the study area are having cow and goat (Table 8).

The average number of cow and goat available per family was around 2 and 4 respectively. Around 53

Table 8: Livestock details at farmers level (n=170)

Particulars	Number per family	Average value per animal (Rs)	Remarks
Cow	2.02	11903	92 per cent family have
Buffalo	0.35	23091	30 per cent family have
Calf	2.02	5213	79 per cent family have
Calves	0.44	7571	32 per cent family have
Draft animals	1.94	12762a	53 per cent family have
Poultry	0.19	275	6 per cent family have
Goat	4.3	2548	92 per cent family have

per cent family have draft animals with average number 2. Consumption expenditure details of farmers have been presented in Figure 1.

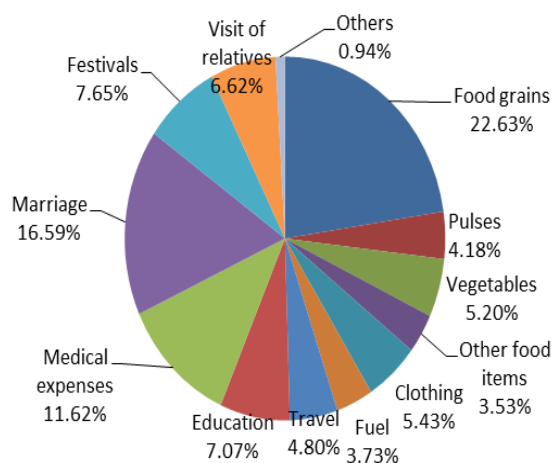
**Figure 1:** Consumption expenditure of farm

Figure shows that surveyed farmers made around 36 per cent of their expenditure on food items which consists of 22.63 per cent on food grains, 4.18 per cent on pulses, 5.20 per cent on vegetables and 3.53 per cent on other food items. The expenditure on marriage purpose was 16.59 per cent of total expenditure. The expenditure on medical and education purpose was 11.62 per cent and 7.07 per cent respectively of total expenditure. The expenditure on other items has also been shown in the figure.

Conclusions

The analysis of secondary information and data shows that net sown area in Sonbhadra district was 1.92 lakh ha and the cropping intensity of the district was 151.34. Net irrigated area in the district was 0.62 lakh ha and irrigation intensity of the district was 172.96. Majority of area (around 71.42 per cent) in the district was irrigated by canal followed by private tube well (7.61 per cent), wells (5.38 per

cent), pond (4.52 per cent) and others (11.07 per cent). Wheat crop has the highest share in area (22.93 per cent) followed by paddy, maize, arhar, gram, lentil, sawa and kodo, barley and til. Around 84 per cent land holdings in the district belongs to marginal and small land holding with only around 41 per cent of total area. Around 16 per cent land holding belongs to semi-medium, medium and large land holdings with around 59 per cent of total area. Classification of population shows that less than 15 years age group has the highest share in the district (45.83 per cent) followed by age group 30-59 years (26.37 per cent) and age group 15-29 years (22.20 per cent). The age group equal to 60 years and more has only 5.60 per cent share in total population. The analysis of primary information and data shows that majority of farmers (57.8 per cent) getting agriculture related information from neighbor, friends and relative followed by radio (19.6 per cent), progressive farmers (13.70 per cent), officials of SHGs and NGOs (6.9 per cent) and newspaper (2.00 per cent). Majority of farmers (41.27 per cent) have annual income between Rs. 30,001-60,000 followed by 26.98 per cent farmers have annual income of Rs. more than 90,000. Average annual income of all families was Rs. 70621. Non-timber forest products (NTFPs) have the highest share (33.31 per cent) in total income of the farmers followed by agriculture, labor and animal husbandry. The productivity of almost all the crops at farmers level was less than the district average. There is a high potential to increase the farm productivity. Share of marketed surplus in total production was very less at farmers' level showing major portion of the farm production was consumed as family need. Livestock details shows that majority of farmers family (more than ninety percent) in the study area having cow and goat with average number around 2 and 4, respectively. Consumption expenditure details of farmers show that around 36 per cent of their expenditure on food

items. The expenditure on medical and education purpose was 11.62 per cent and 7.07 per cent respectively of total expenditure. The findings of the present study are crucial for future planning towards upliftment of socio-economic condition of the tribal farmers and status of agriculture in Sonbhadra district of Uttar Pradesh.

सारांश

सोनभद्र जिले की अर्थव्यवस्था मुख्य रूप से कृषि पर निर्भर है। उत्तर प्रदेश के सभी जिलों में इस जिले में वन क्षेत्र का प्रतिशत सबसे अधिक है और जिले को भारत की ऊर्जा राजधानी भी कहा जाता है। सोनभद्र जिले में उत्तर प्रदेश में सबसे अधिक अनुसूचित जनजाति (एसटी) की आबादी है और कुल जिले की आबादी का 20.67 प्रतिशत है। वर्तमान अध्ययन सोनभद्र जिले में आदिवासी किसानों की सामाजिक-आर्थिक स्थिति और कृषि की स्थिति का अध्ययन करने के लिए एकत्रित प्राथमिक और द्वितीयक आंकड़ों पर आधारित था। द्वितीयक सूचना और आंकड़ों के विश्लेषण से पता चलता है कि जिले में शुद्ध बोया गया क्षेत्र और वन क्षेत्र कुल क्षेत्रफल का क्रमशः 28.26 प्रतिशत और 50.36 प्रतिशत था। जिले की फसल तीव्रता और सिंचाई तीव्रता क्रमशः 151.34 और 172.96 थी। जिले में गेहूँ की फसल का क्षेत्र में सबसे अधिक हिस्सा (22.93 प्रतिशत) है, इसके बाद धान (15.77 प्रतिशत), मक्का (4.98 प्रतिशत), अरहर (3.54 प्रतिशत) और चना (3.36 प्रतिशत) है। जिले में कुल भूमि जोतों की संख्या लगभग 2.03 लाख थी और जिले में 84.14 प्रतिशत भूमि जोत भूमि जोत की सीमांत और छोटी श्रेणी की है। जनसंख्या के वर्गीकरण से पता चलता है कि जिले में कृषि श्रमिकों, अन्य श्रमिकों, किसानों और परिवार के श्रमिकों के बाद सीमांत श्रमिकों का उच्चतम हिस्सा है। जिले की करीब 61 फीसदी आबादी निरक्षर है। प्राथमिक सूचना और आंकड़ों के विश्लेषण से पता चलता है कि सर्वेक्षण किए गए किसानों की औसत आयु 40.1 वर्ष थी, जिसमें अधिकांश किसान (68.4 प्रतिशत) 35-50 वर्ष की आयु वर्ग के थे। अधिकांश किसान कृषि संबंधी जानकारी पड़ोसी, दोस्तों और रिश्तेदारों से प्राप्त कर रहे हैं, जिसके बाद रेडियो, प्रगतिशील किसान, स्वयं सहायता समूहों और गैर सरकारी संगठनों के अधिकारी और समाचार पत्र आते हैं। किसानों के स्तर पर लगभग सभी फसलों की उत्पादकता जिला औसत से कम थी। कृषि उत्पादकता में वृद्धि की उच्च संभावना है। रॉय और अन्य, 2019 के अनुसार कुल उत्पादन में विपणन अधिशेष का हिस्सा किसानों के स्तर पर बहुत कम था, यह दर्शाता है कि कृषि उत्पादन का बड़ा हिस्सा परिवार की जरूरत के रूप में खपत किया गया था। लगभग 67 प्रतिशत किसान बैंक से ऋण ले रहे हैं जिसके बाद साहूकार और स्वयं सहायता समूह हैं। किसानों के उपभोग व्यय विवरण से पता चलता है कि खाद्य पदार्थों पर उनके व्यय का लगभग 36 प्रतिशत जिसमें खाद्यान्न पर 22.63 प्रतिशत, दालों पर 4.18 प्रतिशत, सब्जियों पर 5.20 प्रतिशत और अन्य खाद्य पदार्थों पर 3.53 प्रतिशत शामिल हैं (रॉय और अन्य, 2020)। वर्तमान अध्ययन के निष्कर्ष उत्तर प्रदेश के सोनभद्र जिले में आदिवासी

किसानों की सामाजिक-आर्थिक स्थिति के उत्थान और कृषि की स्थिति में सुधार की दिशा में भविष्य की योजना के लिए महत्वपूर्ण हैं।

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