

*Article***A Geographical Analysis of Tribal Women's Participation in Agricultural and Allied Activities in Udham Singh Nagar District, Uttarakhand***Mandeep Singh^{1*}, Anita Rudola² Akshay kumar²**¹Research Scholar (Department of Geography), School of Earth Science, H.N.B. Garhwal University, BGR Campus, Pauri Garhwal, India.**²Professor, (Department of Geography), School of Earth Science, H.N.B. Garhwal University, BGR Campus, Pauri Garhwal, India.**³Research Scholar (Department of Geography), School of Earth Science, H.N.B. Garhwal University, BGR Campus, Pauri Garhwal, India.***Email: mandeepprocha@gmail.com***Abstract**

Agriculture is one of the most important activities for an area's development. A major share of India's population is engaged in agriculture. In 2011, 8.6% of the country's total population belonged to tribal communities. This paper examines tribal women's participation in agriculture and allied sectors, as well as the challenges they face, including minor (headache, fever, cold, body pain, etc.) and major illnesses. This paper attempts to analyse the secondary data gathered from various sources, such as published Papers, Articles, and government departments, and the District Census Handbook, 2011. The data were processed and analysed using statistical methods. Most tribal women contribute more to agriculture and related sectors than men. However, due to limited knowledge of modern agricultural practices and frequent exclusion from decision-making, women cannot contribute to development to their full potential. This study suggests ways to strengthen policy structures for tribal women so they can contribute optimally to agricultural development and to their villages, based on their labour and potential.

Key Words: Tribal women; Agriculture; Development; Participation; Decision-making.

Introduction

Tribal women represent nearly half of the tribal population and play a significant role in the socio-economic development of rural and tribal communities. In developing countries, their contribution to agriculture often remains unrecognised despite their extensive involvement in farming and other livelihood activities. They actively participate in various agricultural operations and household responsibilities, and they also support their families financially through wage-based employment. A large proportion of tribal women are directly associated with agricultural activities, making them important contributors to farm production and rural livelihoods. Their involvement extends beyond cultivation to several activities that strengthen household food security and income generation. The nature and extent of their agricultural responsibilities vary across regions and communities and have shifted as the rural economy, social structures, and agricultural practices have changed. Beyond agricultural work, rural women often manage household affairs and pursue diverse livelihood activities to meet their families' economic and social needs.

Tribal women actively contribute to family income through subsistence agricultural activities alongside men, except for ploughing. They share major responsibilities in farm production and household work. Their involvement in both agricultural and domestic activities often results in a greater overall workload than that of men. Tribal women's work is always more than that of their counterparts, as they work year-round, unlike men, who enjoy seasonal and periodic leisure. In tribal communities, women play a substantial and crucial role, working hard to improve family income and livelihood security (Patel et al., 2016). Tribal women face several challenges, including low wages, limited awareness of development programmes,

inadequate education, restricted decision-making opportunities, and health-related problems. Extension services need to improve awareness of government schemes for Scheduled Tribes. Tribal farm women play a vital role and contribute significantly to small and medium-sized farms (Mohanta, 2017).

The paper examines tribal women's participation in agricultural and allied activities in Udham Singh Nagar district. During the study, tribal women could not account for their contribution to the agriculture sector because of a lack of modern agricultural technology, limited decision-making, and limited knowledge of new seed varieties, fertilisers, pesticides, etc.

This study examines the demographic profile of Udham Singh Nagar district, including population characteristics, literacy, occupation, and socio-economic conditions, with special emphasis on the tribal population. It also assesses tribal women's participation in agricultural and allied activities such as crop cultivation, livestock rearing, dairy farming, and other livelihood practices. The study further explores their contribution to household income, agricultural productivity, and rural development while identifying the challenges they face in accessing resources, technology, and institutional support.

Study Area

Udham Singh Nagar district is situated in the southeastern part of Uttarakhand and forms part of the Kumaon division. The district lies in the Tarai region and is administratively organised into seven development blocks—Jaspur, Kashipur, Bajpur, Gadarpur, Rudrapur, Sitarganj, and Khatima—which together comprise 327 Gram Sabhas. Geographically, the district extends from 28°53' N to 29°23' N latitude and 78°45' E to 80°08' E longitude. It has seven tehsils, namely Bajpur, Gadarpur, Jaspur, Kashipur, Kichha, Khatima, and Sitarganj. Most of these areas have small-scale cottage industries. These are widely blended with different cultures, religions, and lifestyles. The district is well known for communal harmony and brotherhood. After Haridwar and Dehradun, it is the third most populous district of Uttarakhand as per the Census 2011. The 2011 population was 16,48,902, with 8,58,783 males and 7,90,110 females. As per Census 2011, the SC population is higher than the ST population in Udham Singh Nagar, with 2,38,264 and 1,23,037, respectively.

Literature Review

In this paper, the researcher draws on many papers and articles, mainly on women's participation in agriculture and allied sectors. Some of the papers include (Ghosh & Varerkar, 2019) in the article, "The Analysis of Women's Participation in Indian Agriculture"; the paper explains women's participation in the agriculture sector, classified based on female worker participation in the agriculture and non-agriculture sectors. In this paper, the authors analyse women's participation in the agriculture sector using the coefficient of variation and the women's participation rate. The study found that rural women mainly work in the agriculture sector, but they do not participate effectively because of men's social attitudes and limited knowledge of modern agricultural technology. In urban areas, women participate in the non-agricultural sector, creating a large gap between rural and urban women's participation in agriculture. This study suggests that the government start new plans and policies for rural women's participation in the agriculture sector (Ranjithkumar & Dimitrov, 2023). In the article, "Status of tribal women in India with the special reference to socio-economic and education conditions", the paper analyses that the social, economic, and educational status of tribal women is very low, and they face many challenges in education, income, and occupational structure. It studies many government plans and policies that affect the status of tribal women in India. Shamna (2006) measured mass media participation, extensive participation, and

decision-making patterns. To assess farmers' knowledge of agricultural practices, a structured schedule was developed based on the recommended cultivation practices of the crops included in the local cropping sequence. The responses were assigned scores for analysis. Before the final data collection, the schedule was pre-tested in an area outside the selected sample. Singotiya (2014) and Patel et al. (2016) found that the variable 'social participation' had a negative and significant correlation with tribal women's participation in farming activities. This may be attributed to their active involvement in Self-Help Group activities. Women who devoted more time to such activities had comparatively less time available for farm-related work. For this reason, the variable had a negative correlation with participation in farming activities (Alkire et al., 2013; Anderson et al., 2021; Malapit et al., 2019, 2020). Women's participation in decisions related to agricultural production and management, the use of income from agricultural activities, and the use of agricultural inputs have also been shown to bring economic benefits, such as improved health outcomes and increased household productivity. This paper examines the demographic profiles and participation of tribal women in agricultural and allied sectors in Udham Singh Nagar district.

Research Methodology

This paper analyses secondary data collected from papers, Articles, government Departments, and the District Census Handbook, 2011. The data were processed and analysed using statistical data shown in the Tables and a study area map created with ArcGIS Software. In the paper, statistical data tables and diagrams were created using MS Excel.

Results and Discussion

The population data for the tribal community in the district are based on the District Census Handbook 2011, which shows the tehsil-wise sex ratio and decadal population growth (2001-2011) in the district in the context of rural and urban population.

Table 1 presents the sex ratio of the total, rural, and urban population at the tahsil level according to the 2011 Census. In Udham Singh Nagar district, the overall sex ratio is 920 females per 1,000 males. The rural population records a higher sex ratio (930) compared with the urban population (903). Among the tahsils, the rural sex ratio ranges from 978 females per 1,000 males in Khatima to 906 in Kichha.

Table 1: Tehsil-wise Sex Ratio in Udham Singh Nagar District 2011

S. No.	Tehsil	Total	Rural	Urban
1	Kashipur	903	912	895
2	Jaspur	911	908	918
3	Bajpur	915	923	892
4	Kichha	900	906	895
5	Gadarpur	925	929	909
6	Sitarganj	936	938	925
7	Khatima	970	978	903
Total	Udham Singh Nagar	920	930	903

Source: District Census Handbook, 2011

Table 2 indicates that, according to the 2011 Census, the decadal variation in the Scheduled Tribe population of Uttarakhand was 13.97 per cent, with a variation of 10.25 per cent in rural areas and 70.13 per cent in urban areas. In Udham Singh Nagar district, the overall

decadal variation was 11.62 per cent, while the rural and urban areas recorded 7.87 per cent and 300.56 per cent, respectively.

Table 2: Decadal change in Scheduled Tribe(ST) population 2001-2011

District	Total	2001			2011			Difference in Decadal	Decadal Change (%)
		Person	Male	Female	Person	Male	Female		
USN	Total	110220	55941	54279	123037	61758	61279	12817	11.62
USN	Rural	108808	55081	53727	117381	58843	58538	8573	7.87
USN	Urban	1412	860	552	5656	2915	2741	4244	300.56

Source: District Census Handbook 2011.

Table 3 presents the distribution of villages by the proportion of Scheduled Tribe population relative to the total village population. In the district, Scheduled Tribes constitute 11.5 per cent of the rural population. As many as 400 villages (59.35 per cent) have no recorded Scheduled Tribe population, while 90 villages (13.35 per cent) have less than 5 per cent Scheduled Tribe population. About 28 villages (4.15 per cent) have a Scheduled Tribe population of 11–20 per cent, while 29 villages (4.30 per cent) fall within the 21–30 per cent range. In 43 villages, the proportion ranges between 51–75 per cent, representing 6.38 per cent of the district's total population.

Table 3: Proportion of Scheduled Tribe (ST) Population and Total Population in Villages 2011

ST Population in Total Population	No. of Villages	Population in Percent (%)	Schedule Tribe (ST)	Total ST Population (%)
Nil	400	59.35	0	0.00
Less than 5	90	13.35	1274	1.09
5 – 10	11	1.63	1651	1.41
11 – 20	28	4.15	11211	9.35
21 – 30	29	4.30	14746	12.56
31 – 40	28	4.15	20629	17.57
41 – 50	28	4.15	21690	18.48
51 – 75	43	6.38	35354	30.12
76 and above	17	2.52	10826	9.32
USN	674	100	117387	100

Source: District Census Handbook 2011.

Table 4 shows the distribution of villages by literacy-rate ranges for the Scheduled Tribe population, as recorded in the 2011 Census. The Scheduled Tribe population is reported in 274 villages in the district, of which 26 have a literacy rate of 100 per cent. The largest share, accounting for 56.77 per cent (66,633 persons), is concentrated in 104 villages where the literacy rate ranges between 71 and 80 per cent.

Table 4: Distribution of villages by literacy rate range for Scheduled Tribe Population (Rural)

Range of Literacy Rate in Villages	No. of Inhabited villages	Distribution of Villages in (%)	Schedule Tribe (ST)	Distribution of Population in (%)
0	12	4.38	22	0.02
1 -10	0	0.00	0	0.00
11 – 20	2	0.73	31	0.03
21 -30	2	0.73	21	0.02
31 -40	4	1.46	37	0.03

41 -50	9	3.28	353	0.30
51 -60	21	7.66	6276	5.35
61 -70	55	20.07	30050	25.60
71 -80	104	37.96	66855	56.96
81 -90	32	11.68	13101	11.56
91 -99	7	2.55	254	0.22
100	26	9.49	381	0.32
USN	274	100	117381	100
Literacy Rate	73.38			

Source: District Census Handbook 2011

Participation of Tribal women in Economic activities

In the district, tribal women participate in agricultural and allied activities such as cultivation, household work, and other activities. These activities mainly affect tribal women's health and their independent status in society.

Table 5 explains the Distribution of Tribal women's Participation in economic activities in Rudrapur city. The city's total population is 1,60,448; of this, 84,195 are males, and 76,253 are females. In the city, people are engaged in cultivation (8,606), agriculture (17,291), household activities (2,182), and other activities (27,695). Out of the total male population, cultivators (7,377), agriculture (12,941), household activities (1,120) and other activities (21,829); and out of the total female population, cultivators (1,229), agriculture (4,350), household activities (1,062) and other activities (5,866). A considerable number of Tribal women participated in agricultural activities (34.78%), but few engaged in household activities (8.49%).

Table 5: Distribution of Tribal women Participation in Economic Activities

	Total Population	Cultivators	Agriculture	Household Activities	Other Activities
Total	1,60,448	8,606 (15.43)	17,291 (31)	2,182 (3.91)	27,695 (49.66)
Male	84,195	7,377 (17.51)	12,941 (29.91)	1,120 (2.59)	21,829 (50.45)
Female	76,253	1,229 (9.83)	4,350 (34.78)	1,062 (8.49)	5,866 (46.91)

Source: District Census Handbook 2011

Conclusion

The study found that the tribal women in the district participated in agriculture and allied sectors more than men. However, because they lacked knowledge of modern agricultural practices and were excluded from decision-making, women could not contribute to agricultural development to their full potential. Tribal women participate in the agriculture sector more than in other activities/sectors. This study also found that, because of limited awareness of modern agricultural technology, tribal women could not reach their full potential in agricultural production. Therefore, tribal women need to be made aware of modern agricultural technology and equipment.

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