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Chapter

The State of Housing, Drinking Water, Electricity, and Sanitation Facilities of Scheduled Tribes in Eastern Uttar Pradesh, India

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Abstract

Facade design, drinking water, electricity, and sanitation are critical basic human needs for a decent life in the modern period. The development and implementation of these regulations are necessary for socioeconomic advancement and protect tribes, particularly women, from significant public health, environmental, and security issues. Despite the government's intentions to address their backward status through special constitutional provisions, tribes in eastern Uttar Pradesh remain severely underserved regarding these services. The design of facades has a favorable impact on the lives of socioeconomically deprived citizens of developing countries like India. The present chapter examines the facade design, drinking water, electricity, and sanitation services provided to Scheduled Tribes in the eastern Upper Peninsula and potential improvement initiatives. Facade design impacts the types of businesses that thrive in a given location. The majority of scheduled tribes rely on the informal economy for a living. The majority of ST families (43.9%) still live in jhuggis, only 27.12% have both tap water supplies and electricity, the majority (92.15%) use hand pumps for drinking water outside the home, 77.4% of STs do not have latrine facilities inside the premises, and the surrounding sanitation is inadequate. Although government is taking steps for piped water supply, ST families are still deprived of this facility due to the scattered nature of remotely placed *kaccha* houses and lack of proper attention from responsible authorities.

Keywords: scheduled tribes, housing, sanitation, drinking water, electricity facility

1. Introduction

Tribes are different from the general population because of their different way of living and community life. Tribes as custom-bound communities in India are facing numerous problems like geographic separation from mainstream of the masses such as unemployment, poverty, poor health, alcoholism, various kinds of exploitations, natural calamities, and naxalism in present global area. Their inclusive growth can be

achieved only by bringing them into the national mainstream and, at the same time, preserving their culture and traditions. Nomenclature of the Scheduled Tribe (ST) fully emerged under the Government of India Act of 1935 and the Constitution of India to bring them into the mainstream of national development by their equitable and balanced progress [1].

Except for Africa, India has the highest concentration of tribal people worldwide. According to the 2011 census, tribes made up approximately 8.6% of the total Indian population, with 89.97% of them living in rural areas. Uttar Pradesh (U.P.) is the most populous state. However, it is also one of the least developed, with a Human Development Index (HDI) value of 0.380 (2007–2008), lower than the national average of 0.467, placing it 18th among Indian states/U.T.s. It ranks 17th among all Indian states regarding the number of S.T.s. According to the 2011 census, 1.13 million indigenous people made up 0.6% of the overall population of the U.P. The eastern section of the state was home to around 84% of the population. Sonbhadra district accounted for more than one-third (33.94%) of the total S.T. population, while Ballia and Deoria accounted for more than half (53.34%) (2013) (Government of India) [2]. Although HDI improvement in India was estimated to be greater (0.633) in 2021, it was relatively slow (0.592) in Uttar Pradesh, which ranked 32nd out of 33 states [3].

At present, there are 15 notified tribal communities in U.P. *Gond* tribe accounts for first highest number of tribes followed by Kharwar as second most populous tribal community. After 2002 proclamation, Gonds were categorized as ST in 13 districts only, and in other districts, they were renamed SC. In 2011, the Gonds, along with the sub-ethnic groups namely Dhuria, Nayak, Ojha, Pathari, and Rajgond, were the largest and most prominent tribal population, accounting for 50.2% of all STs and occupying 18 districts in eastern Uttar Pradesh. According to the 2011 census, Kharwar is the second most populous tribe, accounting for 14.6% of the state's ST population. These two tribes accounted for nearly two-thirds of the total ST population in the Upper Peninsula. Tharu is the third largest community, with a population increase of 26% from 83,544 in 2001 to 1,05,291 in 2011. Their percentage share of all STs has declined from 77.4 in 2001 to 9.3 in 2011. *Saharya* is the fourth largest tribe, found mainly in Lalitpur district accounting for 6.25 of all STs followed by Chero (3.7%). Thus, according to census 2011, all these five tribes constitute 83.6% of ST population of U.P. *Baiga and Pankha/Panika* constituted 1.5 and 1.4%, respectively. *Agariya and Bhuiya/Bhuinya* constituted 2.6 and 2.2%, respectively. Population share of Bhotia (0.5%), Buksa (0.4%), Janusari (0.3%), Raji (0.1%), Parahiya (0.1%), and Patari (0.01%) contributes to minimum in ST population. Sonbhadra district constituted more than one-third (33.94%) and along with Ballia and Deoria more than one-half (53.34%) of total ST population of the U.P. [4].

Welfare programs directed for the development of these STs have not resulted in any visible positive impact. Given the common backwardness and suffering of the S.T. people in the eastern U.P., it is critical to study and uncover the underlying correlates that make their lives so wretched. Façade design, drinking water, electricity, and sanitation are crucial basic human necessities for a decent life in the modern day, and the development and implementation of these provisions are critical for the socio-economic uplift of these less fortunate parts of society. Population of STs is less in eastern U.P. So it has not drawn attention of researchers in the past. No extensive field study has been reported on STs in socioeconomically backward regions of eastern U.P. Hence, there is an urgent need to conduct such study to fill up the gap of knowledge and to provide guidelines and strategies for formulation of sustainable development program for the overall betterment of these deprived community.

2. Objectives

Present study was conducted among families of different ST communities in Deoria, Ballia, Ghazipur, Varanasi, and Sonbhadra districts of U.P. with following objectives:

1. To study the status of housing in terms of types of houses and locality used for living by STs in eastern U.P.
2. To study the facilities of tap water supply and electricity for STs in eastern U.P.
3. To study the drinking water supply source, distance, and purification used by STs in eastern U.P.
4. To study the availability of sanitary latrine and sanitation status in ST families of eastern U.P.
5. To compare the housing, drinking water, electricity, and sanitation status of STs with general population of eastern U.P.
6. To explore the further possibilities to strengthen housing, drinking water, electricity, and sanitation facilities in ST communities in eastern U.P.

3. Review of literature

Belshaw [5] mentioned that though a lot has been done for tribal's social and economic betterment, a great deal remains to be done.

Sharma [6] mentioned that 20% of the tribal population has been uprooted and displaced in less than 50 years; they have lost their rights because of their political powerlessness. The magnitude of land and number of displaced persons has been increasing since then.

Sharma [6] mentioned that 20% of the tribal population has been uprooted and displaced in less than 50 years; they have lost their rights because of their political powerlessness. The magnitude of land and number of displaced persons has been increasing since then.

According to Singh [1], the tribals in India are the most adversely impacted ethnic group due to post-independence development, and the new economic policy is likely to worsen their situation. As a result, more earnest efforts are required to salvage and enhance their socioeconomic situation within the restrictions and possibilities of their existential circumstances, including rural, illiteracy, poverty, ill-health, and unproductive agriculture. The government's efforts to improve tribal welfare through protective developmental measures have had little impact on tribal development. Mehta [7] gave a comprehensive analysis of tribal development initiatives used during the twentieth century, revealing that the government failed to provide them with basic survival needs.

Mondal and Mete [8] noted that tribes are not able to appreciate modern concept of health and sanitation due to illiteracy and ignorance. Based on NITI Aayog estimates (2011–2012), U.P. stands among states having 30–40% population below

poverty line and it is better only to Jharkhand and Chhattisgarh. Deshmukh [9] revealed that the existing welfare strategies did not help the tribal overcome from inferiority and atrocities on them.

Although welfare plans such as subsidizing housing (facade designed by the government as multistory building) like *Lohia, Indira, and Kashiram Awas Yojna* exist for the poor in rural area, tribes are not getting benefits and they are victims of inequality, exploitation, and oppression. Their economic situation is worse than other communities in society, the majority of them are deprived of the basic needs of life. Compared to urban areas, situation of tribal living in remote area is worse [10].

Access to adequate drinking water and sanitation services is intimately linked to public health. Consumption of contaminated drinking water, poor disposal of human excreta, a lack of personal and food hygiene, and improper solid and liquid waste disposal have all been identified as causes of numerous diseases in developing nations such as India. According to the 2011 Census of India, almost 70% of India's population (650 million) lives in rural and slum areas. It increases the population's vulnerability to water-borne and vector-borne diseases. It is also due to a need for more basic sanitation facilities, contaminated water, and unsanitary living conditions.

According to the 2011 census, 40.62% of STs live in good-conditioned houses with sustainable facade designs. Meanwhile, 6.2% live in crumbling facade-designed dwellings, compared to 53.1% and 5.35% for all socioeconomic groups. The availability of drinking water portrays a dismal perception, with only 19.72% of STs having a drinking water source inside their premises and 33.59% having it outside their premises. The other group does better (46.6 and 17.6%, respectively). The hand pump is the primary drinking water source for STs and all categories—all categories (33.5%) and STs (39.2%). Tap water from treated sources is the second most available source for all social group households (32%), whereas in case of STs, it is water from uncovered wells (19.1%).

In India, 77.4% of STs do not have access to a latrine, compared to 53.1% of the general population. Only 46.9% of all homes, including 22.6% of ST households, have a latrine. Human night soil removal is still used by up to 0.3% of all households and 0.1% of ST households. While just 49.8% of total households utilize open defecation, 74.7% of ST households still practice it [2].

The disparity in terms of access to household amenities like tap water and latrine is sharp across states. While facility of tap water is as high as 89.5% in Himachal Pradesh and 85.4% in Sikkim and Goa, it is only 27.35% in U.P. Facility of drinking water within the premises is as high as 85.9% in Punjab, it is only 51.9% in U.P. The government initiated a new project supported by the World Bank called as National Rural Drinking Water Programme, which aims to provide safe, 24 × 7 piped drinking water supply to 7.8 million rural population in four low-income states namely Assam, Bihar, U. P., and Jharkhand that have the lowest piped water supply and sanitation facilities.

While access to and coverage of latrine facilities is only 35.7% in Uttar Pradesh, it also attempts to promote excellent hygiene and cleanliness among people by launching Solid and Liquid Waste Management initiatives in villages, towns, and cities. Since the commencement of the Swachh Bharat Mission, sanitation progress has accelerated. According to the NSSO, sanitation coverage has increased to roughly 48.8% as of December 2015. The mission's intended outcomes are the maintenance of installed toilets and their use by beneficiaries [11].

Jaiswal [12] found that more than 55% of tribes stay in *kuccha* houses facade design made of mud and natural local amenities, half of the population lack pure water; more than 60% tribal areas are not electrified.

Bano and Ara [13] found only 22% literacy in Kharwar tribe of Sonbhadra, the majority of them (66%) were agriculturists followed by labor work (30%), mostly (92%) living in semicemented houses. Their economic status was pulling them down due to backwardness in education, lack of ideas and techniques, lack of knowledge and skill production, and inability to manage their income.

4. Methodology

All ST communities living in eastern U.P. comprised as universe of the study. Five districts of eastern U.P. namely Sonbhadra, Varanasi, Ghazipur, Deoria, and Ballia were selected randomly to conduct the study. With the assistance of health specialists and related experts, the author created a semiconstructed questionnaire based on perspectives regarding general health, education, and socioeconomic level markers. Section A contains 22 socioeconomic status questions developed by Aggarwal et al. [14], a scale suitable for all segments of society. Section B includes questions about the general health and education of the head of the household and family members. Section C contains questions about general health, education, and socioeconomic status variables. Present research project, being extensive field study, was performed by survey research method based on the primary as well as secondary data collected by observation and interview. Field surveyors used the semiconstructed questionnaire to collect the data from the study sample, which consists of selected 11,416 families residing in 474 villages of five districts. Field surveyors also subjected them to scheduled information interviews and observation techniques as needed. The secondary data were collected from the relevant published documents. Data were compiled in Excel sheet of SPSS version 16, analyzed, and subjected to vigorous statistical treatment for analysis as needed.

5. Results

5.1 Housing

5.1.1 Type of house used for living in family

Analysis of different types of houses used for living by families in study districts is presented in **Figure 1**. Most of them live in either *jhuggis* (43.9%) or own houses with 1–2 rooms (45.5%), and only 10.5% own houses with 3–4 rooms but none have five or more room houses.

5.1.2 Facilities of tap water supply and electricity

Analysis of tap water supplies and electricity in families in study districts is presented in **Figure 2**. It reveals that only 27.12% of ST families have both tap water supply and electricity and 43.7% have none of it. Sonbhadra families are without tap water supply and electricity connection is limited to 22.5% only.

5.1.3 Drinking water supply source, distance, and purification status

Analysis of drinking water supply and purity status of families in study districts is presented in **Table 1**. Most of the ST families (92.15%) collect drinking water directly

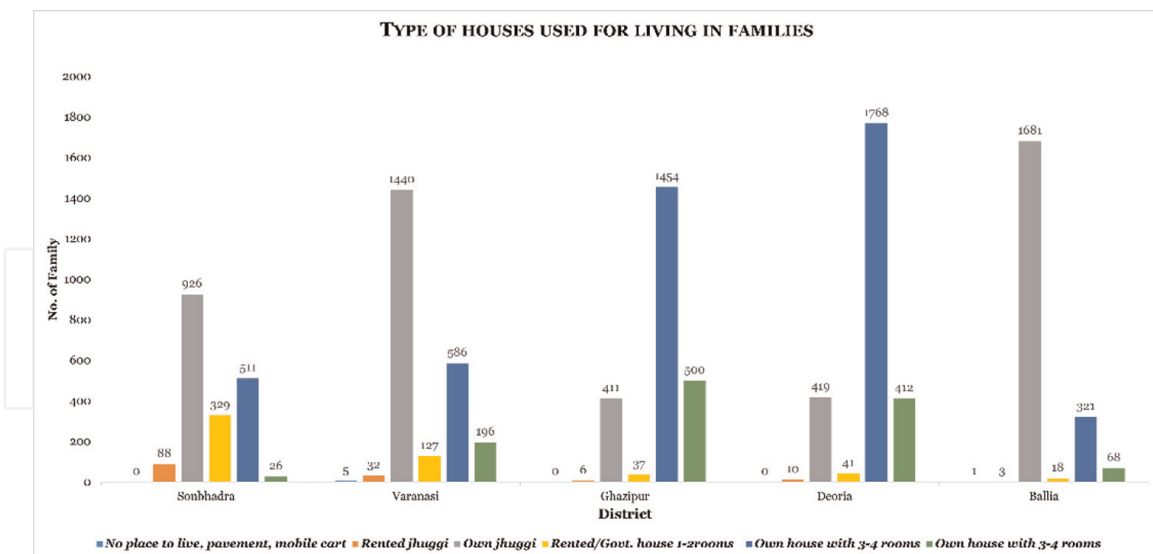


Figure 1. Graph showing type of house used for living in each district.

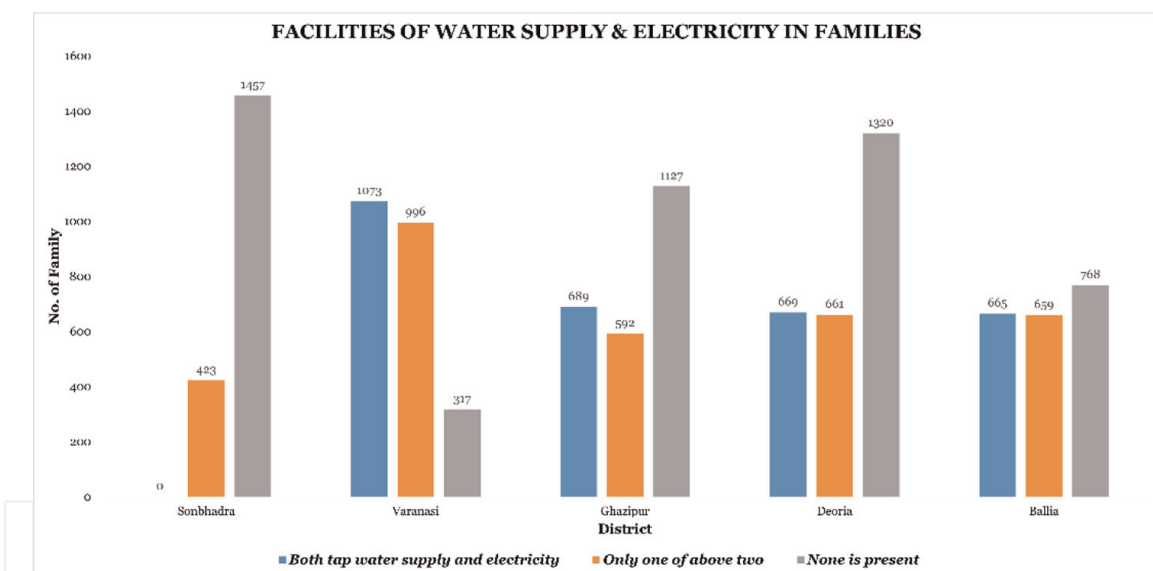


Figure 2. Graph showing water and electricity facilities in each district.

Drinking water parameters	Number of families (%)	District wise distribution: number (%)					
		Sonbhadra	Varanasi	Ghazipur	Deoria	Ballia	
Source	Tap water	188 (1.64%)	0	77 (3.2%)	97 (4%)	8 (0.3%)	6 (0.3%)
	Hand- pump	10,520 (92.15%)	1522 (80.95%)	2231 (93.5%)	2049 (85.1%)	2639 (99.5%)	2079 (99.6%)
	Boring	336 (2.94%)	0	67 (2.8%)	261 (10.8%)	2 (0.07%)	6 (0.3%)
	Well	364 (3.18%)	350 (18.6%)	11 (0.5%)	1 (0.04%)	1 (0.03%)	1 (0.05%)
	Pond	8 (0.07%)	8 (0.43%)	0	0	0	0

Drinking water parameters		Number of families (%)	District wise distribution: number (%)				
			Sonbhadra	Varanasi	Ghazipur	Deoria	Ballia
Location	Within house	6090 (53.34%)	12 (0.6%)	692 (29%)	1771 (73.5%)	2480 (93.6%)	1135 (54.3%)
	Neighboring area	4169 (36.51%)	1528 (81.3%)	1037 (43.5%)	629 (26.1%)	161 (6.08%)	814 (38.9%)
	Outside away	1157 (10.13%)	340 (18.1%)	657 (27.5%)	8 (0.33%)	9 (0.33%)	143 (6.8%)
Purification method	Bleaching Chlorinated	188 (1.65%)	0	77 (3.2%)	97 (4%)	8 (0.3%)	6 (0.3%)
	Alum mix	0	0	0	0	0	0
	Machine	0	0	0	0	0	0
	Boiling	0	0	0	0	0	0
	None	11,228 (98.35%)	1880 (100%)	2309 (96.8%)	2311 (96%)	2642 (99.7%)	2086 (99.7%)
Total	11,416	1880	2386	2408	2650	2092	

Table 1.
 Drinking water supply source, distance, and purification status.

from hand-pump followed by submersible boring (2.94%), well (3.18%), and tap water (1.64%). Pond is still source of drinking water for 0.07% of Sonbhadra families; they are devoid of tap water supply and submersible boring. The majority of drinking water supply is within house (53.34%) or in neighboring area (36.51%), but in Sonbhadra, it is mostly in neighboring area (81.3%) or outside away (18.1%). Almost all (98.35%) drinking water supply is untreated, the remaining 1.6% is bleaching chlorinated.

6. Sanitation

6.1 Facility of in-house sanitary latrine

Figure 3 presents family possession of sanitary latrines. Only 9.1% of ST families have sanitary latrine facility that is nil in Sonbhadra.

6.2 Sanitation status out of home

Figure 4 presents sanitation status outside the home of family. It shows that sanitation outside the home is satisfactory in only 46.95% of families.

7. Discussion

7.1 Housing

7.1.1 Type of house used for living

Majority of ST families live in either *jhuggis* (43.9%) or their own house with 1–2 rooms (45.5%), followed by own house with 3–4 rooms (10.5%). These findings

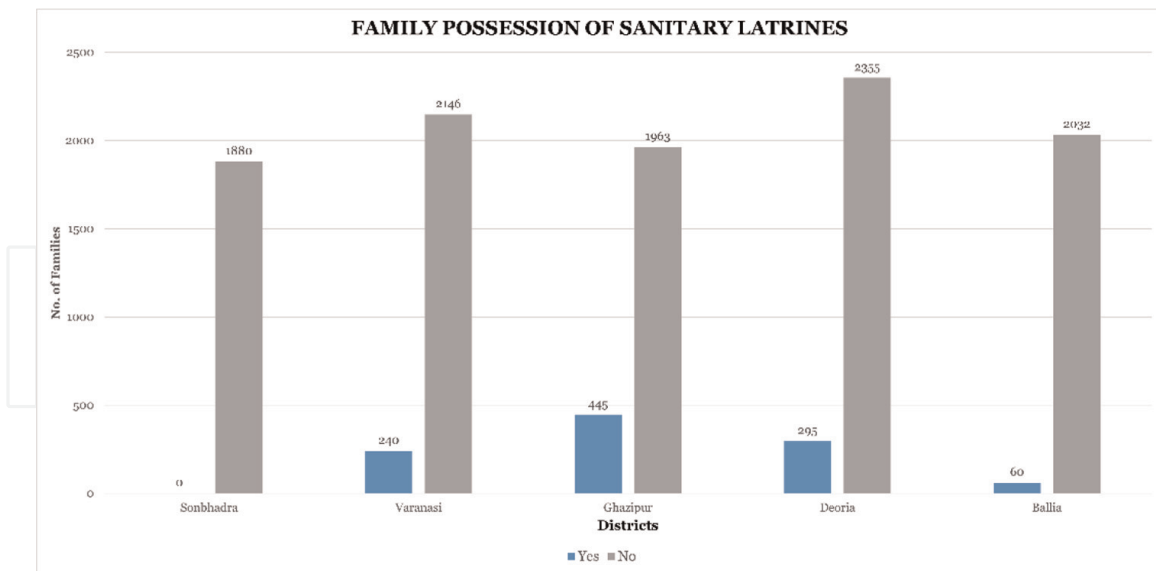


Figure 3.
Graph showing in-house sanitation facilities in each district.

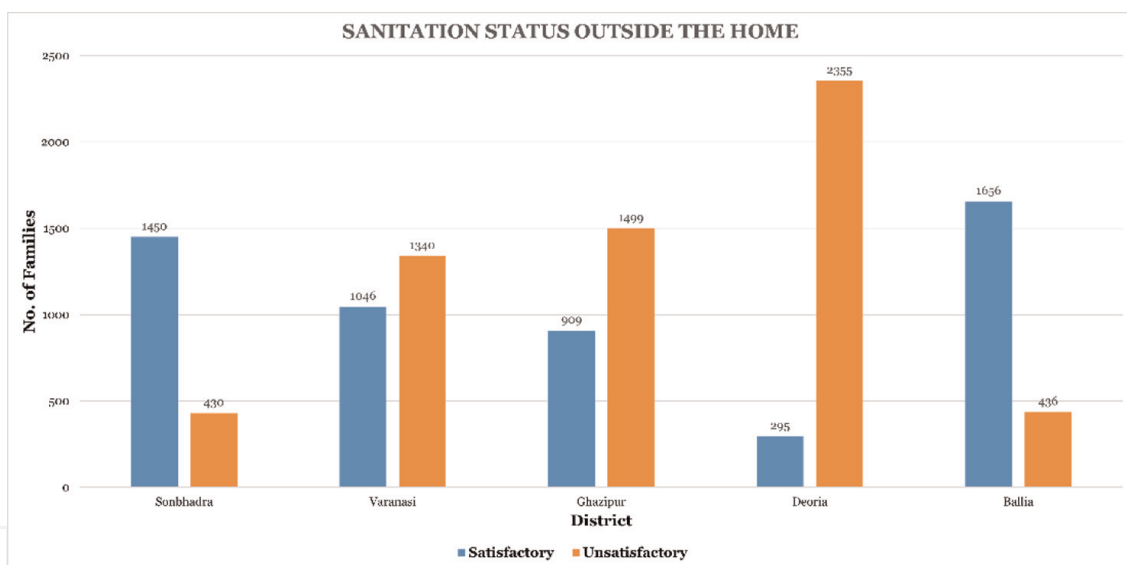


Figure 4.
Graph showing out house sanitation facilities in each district.

affirm the observation made by Singh that ST has very low level of physical conditions of living [1]. Sharma added that 20% of the tribal population has been uprooted and displaced within 50 years, they have lost their rights because of their political powerlessness, and the magnitude of land and number of displaced persons have been increasing since then [6].

Census 2011 data reveal that 40.62% of STs lived in good-condition houses and 6.2% lived in dilapidated houses compared to 53.1 and 5.35%, respectively, of the all-social groups [15]. In the present study, 54% of ST families in Sonbhadra lives in *jhuggis*, which is still high in comparison to 19.57% in general population of Sonbhadra. Similar is the status of houses of ST families in other districts (Ghazipur 23.3 and 6.22%, Ballia 80.18 and 8.66%, Deoria 15.84 and 8.54%, and Varanasi 61.7 and 2.15%). Present finding is in conformity with the finding of Jaiswal that more than 55% of *Kharwar* tribe stay in kuccha houses [12]. These findings reinforce the fact related to

houses of *tharu* made of mud and brick, using and thatching wooden rod, traditionally, *tharus* house making system, agriculture system, cooking system was based on the nature of law, which is why the environmental balance never distorted in past. Culture of tribes is eco-friendly because of their deep relation with nature, which is also reflected in their living conditions [10].

Rai [10] reported that plans (such as *Awaz Yojna*) are underway for the poor in rural areas but benefits are not transmitted to the beneficiaries due to several factors, including corruption. Some tribes do not have BPL cards in spite of their eligibility, and some have BPL cards but their name is not on the BPL list therefore they do not get benefit of such plans [10]. Present finding is also comparable to the observation presented by Bano and Ara [13] that most (92%) of *kharwar* tribe live in semicemented houses [13].

7.1.2 Locality of family residence

Most of the ST families are living either in rural localities (54%) or in *jhuggis/slums* (43.9%), devoid of basic facilities to live and earn. Most of them are slum dwellers due to hill terrain (Sonbhadra 53.9%), flood-affected area (Ballia 80.4%), and urban slum (Varanasi 61.7%) because of displacement and compulsion of temporary nature of livelihood while those of Ghazipur (81.7%) and Deoria (83.2%) in rural locality. Finding in the present study shows much higher percentage of locality of slum dwelt by families in study districts in comparison to that of general population as reported in census 2011. Finding in the present study shows much higher locality of *jhuggis/slums* dwelt by families in study districts in comparison to that of general population as reported in census 2011 (Sonbhadra 54% in study and 19.57% in census 2011, Ghazipur 23.3 and 6.22%, Ballia 80.18 and 8.66%, Deoria 15.84 and 8.54%, and Varanasi 61.7 and 2.15%, respectively).

7.2 Facilities of tap water supply and electricity

Only 27.12% of ST families have both tap water supplies and electricity and 43.7% have none of it. Sonbhadra families are without tap water supply and electricity connection is limited to 22.5% only, electricity connection in Sonbhadra at the present study is comparable to that of 20.94% in general population of Sonbhadra as reported in census 2011. Electricity supply observed as 45.6% in Varanasi, 24.9% in Ghazipur, 32.8% in Deoria, and 31.3% in Ballia families is comparable to those of 62.04, 20.15, 31.64, and 24.87%, respectively, to general population reported in census 2011; hence, almost all families are lagging behind the supplies of these essentials at present. Present finding is also in conformity with Economic Survey Report (2015–2016), which mentions that the disparity in terms of access to household amenities like tap water is sharp [11]. Facility of tap water is 89.5% in Himachal Pradesh, and 85.4% in Sikkim and Goa but only 27.3% in U.P. Present finding is also in conformity with observation of Jaiswal that more than 60% of tribal areas are not electrified [12]. Both clean energy and drinking water are included in SDG and countries, including India, are committed to achieve it, but there is no desirable progress in ST families [16].

7.3 Drinking water supply source, distance, and purification status

Most (92.15%) of ST families collect drinking water directly from hand-pump followed by submersible boring (2.94%), well (3.18%), and tap water (1.64%). Only

0.07% of them collect it from pond. Drinking water sources from ponds in 0.07% Sonbhadra families and no tap water supply and submersible boring is matter of public health concern. Sonbhadra ST families use hand pumps (80.95%) comparatively higher than general population (62.2%), but no tap water against 14.57% used by general population reported in census 2011. Findings in Ghazipur and Varanasi are also comparable to census 2011 general population. Findings in Ballia are lower (mainly tap water and boring) in comparison to census 2011 general population mentioning tap water (15.56%) and boring (0.31%) [15]. Hence, present finding reveals very low achievement of piped tap water supply in ST families in comparison to general population and they are more dependent on hand pump for drinking water.

In the present study, the majority of drinking water supply is either within house (53.34%) or in neighboring area (36.51%) on average but in Sonbhadra it is mostly in neighboring area (81.3%) or outside away (18.1%). Almost all (98.35%) drinking water supply is untreated, and only 1.6% is bleaching chlorinated due to direct collection from hand pump. The current results are consistent with census 2011 data, which note that the availability of drinking water paints a dismal image because just 19.72% of STs have a source inside their buildings, while 33.59% have one outside. In this aspect, the other group does better (46.6% and 17.6%). As the primary source of drinking water, hand pumps are used by both STs and all categories (33.5%) and 39.2% of STs, respectively. For all homes in social groups, treated tap water ranks as the second most accessible source (32%), while for self-taught people (19.1%), the most accessible source is untreated healthy water.

Almost all (98.35%) drinking water supply is untreated due to direct collection by hand pump. Although government is taking steps for piped water supply, ST family lacks it due to their scattered nature of remote placed *kaccha* houses and lack of proper attention from responsible authority. Untreated drinking water taken from uncovered wells and polluted ponds is an important public health problem.

Present finding is also in conformity with Economic Survey Report (2015–2016) related to drinking water supply mentioned earlier. Facility of drinking water within the premises is as high as 85.9% in Punjab; it is only 51.9% in U.P. The National Rural Drinking Water Programme launched a new project, supported by the World Bank, to provide a safe, 24 × 7 piped drinking water supply to 7.8 million rural people in four low-income states, namely Assam, Bihar, Uttar Pradesh, and Jharkhand, which have the least piped water supply and sanitation facilities [11]. Jaiswal also mentioned that half of the ST population lacks availability of pure drinking water [12].

7.4 Sanitation

7.4.1 Facility of in-house sanitary latrine

Present finding of possession of sanitary latrine of only 9.1% is comparable to the national average, which mentions that in India, an exceedingly high 77.4% of STs do not have latrine facility inside the premises as compared to 53.1% of all population. However, it is very low in comparison to Government of India 2013, which mentioned that only 46.9% of all households out of which 22.6% of ST households have latrine facility within the premises and 74.7% of ST households are still going for open defecation [2]. Present finding is in conformity with the Economic Survey, 2015–2016 report that presented that only 35.7% of population in U.P. had access to and coverage of latrine facilities, which was as high as 95% in Kerala and 91% in Mizoram. Achievement of sanitary latrine in present study is dismal in spite of the fact that the

Government of India launched *Swachh Bharat Mission* and sanitation coverage, which stood at 40.6% as per NSSO, has risen to around 48.8% (as of December 2015) [11].

As per census 2011, more than 72% of the rural population defecates in rural area, which is even more in ST population. Lack of sanitation facilities puts at risk not just public health and pollution but also security, particularly for vulnerable women, leading to severe crimes such as rape, sexual assault, and eve-teasing. Lack of sanitation services leads to pollution, health challenges, and, most importantly, security issues. Women should practice open defecation, which puts them more exposed to crime. Rape, sexual assault, or eve-teasing frequently occur in the dead of night, and the screams of anguish are never heard [15].

Sonbhadra ST family in the present study did not possess sanitary latrine in contrast to that of 25.83% in general population. All of Sonbhadra ST still go for open defecation in contrast to 74.18% in general population of Sonbhadra as reported in census 2011. Possession of sanitary latrine in the present study in Ghazipur (18.5%) is still lower in comparison to 21.89% in general population of Ghazipur reported in census 2011. Possession of sanitary latrine in the present study in Ballia (2.9%), Deoria (11.1%), and Varanasi (10.1%) is still very low in comparison to 26.88% in general population (26.98, 22.8, and 55.91% as reported in census 2011. Figure of open defecation by ST families in the present study (Sonbhadra 100%, Ballia 97.1%, Deoria 88.9%, Ghazipur 81.5%, and Varanasi 89.9%) is still higher than that of general population (74.18, 77.2, 77.75, 76.69, and 43.83%) as reported in census 2011 [15, 17].

7.4.2 Sanitation status out of home

Sanitation of neighboring surrounding is unsatisfactory in 53.05% of families. Census of India 2011 revealed “lack of basic sanitation and unhygienic living conditions, as around 70% of India’s population (650 million) lives in rural and slum area.” Present finding of poor sanitation in surrounding is associated with location of their residence predominantly in slum area/*jhuggi* (43.9%) and rural locality (54%) having unhygienic drainage and surface sanitation as well as their nonpossession of sanitary latrines (90.9%) leading to open defecation [15]. Jaiswal also reported that they do not have any proper sanitation facilities. Their knowledge of health and sanitation is very poor, they are poor at cleaning their own house [12].

8. Conclusion and recommendations

Most ST families still live in either *jhuggis* (43.9%) or own houses with 1–2 rooms (45.5%); they are living either in rural locality (54%) or in slum (43.9%), devoid of basic facilities to live and earn. Such poor conditions due to the terrain of hill and flood, displacement, and compulsion of temporary nature of livelihood; low standard locality is due to the effect of forced migration and urbanization. Although welfare plans such as subsidizing housing like *Lohia, Indira, Kashiram Awas Yojna. PM Yojna* exists for poor in rural areas, but tribes are not getting benefits; their housing condition continues to remain worse compared to previous census data and other social categories. Some tribes do not have BPL cards in spite of their eligibility; therefore, they do not get benefit of such plans.

Only 27.12% of ST families have both tap water supplies and electricity and 43.7% have none of it, facilities are much lower than general population; this disparity is more marked in Sonbhadra. In spite of the government’s commitment to achieve both

clean energy and drinking piped water as part of SDG, benefit is slow among ST families in eastern U.P. They have very low (1.64%) achievement of piped tap water supply in comparison to general population and they are more dependent on hand pump (92.15%) for drinking water. Digging of small pit in the land locally called “*kuhaad*,” which collects water from drains and spring in it, along with pond water (0.07%) in Sonbhadra district pose their exposure to contaminated water not only with germs but also excess iron, fluoride, and heavy metals, leading to deformity and increased mortality [18].

Access to drinking water source is only 53.34% within home and they are dependent on neighbor as high as 81.3% in Sonbhadra, which remain distant compared to general population in spite of drinking water mission. Almost all (98.35%) drinking water supply is untreated due to direct collection by hand pump. It is due to the scattered nature of remote placed *kaccha* houses and lack of proper attention from responsible authority. Necessary corrective measures are needed to provide pure potable water to address highly prevalent water-borne public health problem.

As high as 77.4% of STs do not have latrine facility inside the premises as compared to 53.1% of all India and 64.3% of U.P. general population, and achievement of sanitary latrine is dismal in spite of the *Swachh Bharat Mission*. Figures of open defecation by ST families are still higher than general population reported in census 2011 and it is a matter of great concern, a problem throughout the Indian subcontinent. It poses not only public health and pollution problems but also security problems especially for vulnerable women leading to serious crimes such as rape, sexual assault, and eve-teasing. Provision of adequate sanitation facilities will lead to improvement not only overall status but also reduction in serious crimes against the weaker society, which is still very high among these communities. Sanitation in their neighboring area is unsatisfactory in 53.05% of families mainly due to unhygienic drainage and surface sanitation in slum area. The construction of drainage system, village sanitation infrastructure, personal toilets, and the environmental measures to control mosquito breeding should be included in the MGNREGA scheme and completed on priority basis in Scheduled Areas [15, 19, 20].

Due to low education and economic factors, tribes are victims of inequality, exploitation, and oppression. Tribes of backward eastern U.P. are living in conditions of deprivation; their economic condition due to subsistence low level of economy and standard of living are very low, as most of them do not have land, assets, and education. Protective developmental measures have not yielded any remarkable impact on tribal development; special budget provision remains unutilized largely. Although rich limestone hills in Sonbhadra have given establishment of cement and other allied factories and giant thermal plants, native tribes are not getting desired benefit. The low representation of tribes to the total population often excludes them from development processes hence their adequate political representation is required for their uplift and empowerment. There is an urgent need for robust institutions to not only bridge wide gaps between ST and general population in rapidly changing socio-economic conditions but also strengthen social inclusion.

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