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## **SANITATION AND TOILET USE PATTERN IN INDIAN VILLAGE: A SOCIOLOGICAL ANALYSIS OF RURAL LUCKNOW**

### **Introduction**

Sanitation generally refers to principles, practices, provisions, or services related to cleanliness and hygiene in personal and public life for the protection and promotion of human health well being and breaking the cycle of disease or illness. Sanitation is defined as the means of collecting and disposing of community excreta and liquid wastes in a hygienic way so as not to endanger the health of individual and the community as a whole (UNICEF & WHO, 2012). Sanitation is intrinsically linked to conditions and processes relating to public health and quality of environment, especially the systems that supply water and deals with human waste. Poor sanitation gives many infections the ideal opportunity to spread, plenty of waste and excreta for the flies to breed on and unsafe water to drink, wash with or swim in (Sharma, 2013). Improper sanitation and open defecation indirectly contribute to poverty as they lead to contaminated water sources, soil and land. Once affected by disease, children are unable to complete their formal education and are later hindered in their capacities to work, provide for themselves and educate their children. Illness within the community's senior population represents a significant drain on family budgets and healthcare resources. These factors only perpetuate the poverty cycle (Arvizo, 2014).

Inadequate access to sanitation and hygiene affect poor women and girls to a greater extent as they are often faced with additional challenges related to menstrual hygiene, personal safety, sexual harassments and violence. Without access to latrines, many women and girls become 'prisoners of daylight', using only the night as privacy. Night-time trips to fields or roadsides expose them to risk of physical attack and sexual violence. Ignoring their natural bodily functions out of fear causes discomfort but also increases the risk of being affected by health problems such as urinary tract infections, chronic constipation and mental stress (SIDA, 2015). Proper sanitation facilities with toilets help to achieve social status of women. Securing good

sanitary facilities to meet family needs has direct bearing not only on women's health but also on their access to education and employment (Settar, 2013).

India is the capital of open defecation, accounting for 59% of the practice in the world. Almost 638 million people defecate in the open, leaving 65 million kilograms of faeces on streets, rail tracks and fields every day. The 2011 census showed that out of the 246.74 million households surveyed, only 46.92% of households have toilets within their premises and 3.24% of households use public toilets, leaving the remaining 49.84% simply defecating in the open. The practice has been widely accepted for generations thus becoming a well-established tradition deeply ingrained in a person from early childhood and is almost an accepted part of Indian landscape. Open Defecation (OD) is rampant in rural India where it is practiced by nearly 70% of the rural population, compared to 13% Population in urban areas (Sunderarajan, 2012).

Widespread open defecation in rural India is a unique human development emergency. Open defecation perpetuates a vicious cycle of disease and poverty and making sanitation and hygiene among the most important drivers of health, social and economic environments. Enduring open defecation needlessly kills hundreds of thousands of babies and stunts the development and lives of those who survive and also the economy that all Indians share (Coffey, et al., 2014). Open defecation spreads bacterial, viral, and parasitic infections, including diarrhea, polio, cholera and hookworm and is an important cause of child stunting (Spears, 2013; Ghosh et al., 2014). Open defecation is also a classic example of a 'negative externality' in which one person's behaviour hurts other people (Coffey, et al., 2017). In fact earlier dry latrines were use in the urban space which were also found among rural elites in the villages. Srivastava (2014) says that such latrines were also dangerous in terms of producing health hazards.

It is observed that poverty, illiteracy and occupational nature do not serve as an explanation for the high rate of OD in India. There are many factors affecting rural sanitation behaviours, the most salient of which are social norms, customs and traditions around open defecation. Other important factors include perceptions of latrine affordability, access and availability of functioning latrines, sanitation products and services. Since one's family members, peers, neighbours and other community members defecate in the open, making it a common and widely accepted behaviour that is deeply rooted in the local culture. It is perceived as a traditional practice and part of one's daily routine.

### **Need of Study**

Sanitation is not merely a function of large public culture. We have to investigate the implications of social stratification for an understanding of the complex sociology of sanitation. The sheer untranslatability of ritual

cleanliness and purity into everyday practices of hygienic upkeep of public places poses great challenges (Thakur, 2013). Attitude of people matters most in the utilization and provision of sanitary facilities. Toilet facility is not at all a priority to most of the villagers. Often we find that people resort to use/misuse only public roads instead of their own personal spheres. Further, participatory research exercises show that people tend to attach a higher priority to water than to sanitation and lack of clean water is a more immediate threat of life than the absence of a toilet (HDR, 2008).

Despite economic growth, government latrine construction, and increasing recognition among policymakers that open defecation constitutes a health and human capital crisis, it remains stubbornly widespread in rural India (Coffey *et al.*, 2014). Most of the people still defecate in the open spaces, most of the villages lack waste disposal and drainage systems and many villages are ignorant about the consequences of poor sanitation and unhygienic conditions. As a result, many people suffer and even die of diseases caused by unhealthy practices of personal and environmental hygiene (Figueroa and Kincard, 2010). Despite the importance of sanitation for health and human development, relatively little attention has been paid to explain why rates of open defecation in rural India are so high, compared to other developing countries (Coffey, *et al.*, 2017).

Simply providing public services, whether in water supply, sanitation, curative services or health education does not, in itself guarantee improvement in health status. Just because a service is there does not guarantee that it will be used or that it will be used to the best possible health advantage. Some households contrive to preserve health even without these services. A framework that goes beyond the provision of services and beyond the standard public health perspective, is needed, if we are to find a more effective way of working. In addition to building public health infrastructure and services, individual and social behaviour must also change to ensure that there is demand for public health services. There is an important role for social and behaviour change and communications to address these demand-side barriers to public health, which indeed require an in-depth study to assess the socio-cultural values, belief and practices regarding sanitation and toilet-use followed by individuals.

Considering the above facts, the present study is planned to examine sanitation and toilet use practices adopted by different socio-economic groups of people in rural Lucknow, Uttar Pradesh to identify causes and determinants of poor sanitation, hygiene and lesser toilet-use.

### **Objectives of the Study**

Primary objective of the present study is to identify causes and determinants of poor sanitation and lesser toilet-use. Specific objectives of the study are:

- To study sanitation and toilet-use pattern of respondents.
- To find out socio-cultural values, beliefs and practices among respondents regarding sanitation and toilet-use practices.
- To find out differences in sanitation and toilet-use pattern of various socio-economic variables of respondents.
- To find out association between sanitation and toilet-use practices adopted by different socio-economic groups and social norms.

### **Review of Literature**

Mishra and Kaur (2013) concluded that coverage of sanitation in rural India is still far less than what is required on the developmental scale. Access to proper sanitation is remained the privilege of only a small section of the society in India.

Planning Commission of India (2013) conducted a study to evaluate the TSP. The main purpose of the evaluation study was to assess the socio-economic, health and environmental impact of improved sanitary services on different user groups particularly the rural poor. Study estimated that more than half (55%) of the households still do not use soap before and after the meals. Gap between availability and adequacy of toilets is another reason. 36% of households having toilets reported that they are forced to resort to open defecation due to lack of adequate number of household latrines. "Lack of awareness" and "established age old practice" stand out as the predominant reasons for open defecation in case of households where toilet facilities are already available.

Coffey, *et al.* (2014) conducted a survey to find the reasons behind open defecation. Study revealed that over 78% of respondents who do not have a latrine, cite the cost of a latrine as an important reason for open defecation. Study also found that 57% of households do not own a latrine, but 64% of people defecate in the open. It was observed that 80% of households with latrine, had at least one member who defecates in the open. Males were found more likely to defecate in the open than females at every age. Open defecation among young women was found decreasing quickly with the increase in age of young women with access to latrines. But, for most in the adult age range, open defecation was increasing with age. However, open defecation was found decreasing sharply in age among the oldest household members.

Coffey, *et al.* (2017) conducted a study to understand the causes of open defecation in rural India. Study was based on quantitative survey data collected from 3,200 households in 05 states of North India. Study found that widespread open defecation in rural India is not attributable to relative material or educational deprivation, but rather to beliefs, values, and norms about purity, pollution, caste, and untouchability that cause people to reject affordable latrines.

### **Hypotheses**

Following hypotheses have been formulated in the present study:

- There is a significant difference in socio-cultural values, belief and practices regarding open defecation among respondents of various socio-economic status.
- There is a significant difference in open defecation pattern among respondents of various socio-economic status.

### **Research Methodology**

The nature of present study is exploratory, in which cross-sectional descriptive research design is used. Both primary (qualitative and quantitative) and secondary data are used in the present study. Documentary data source comprise of census data, government reports on health, sanitation and hygiene, research papers, books, monographs, journals etc.. Primary data was collected from selected respondents. Variables selected for present study are as follows:

**Dependent variable:** Sanitation and toilet-use patterns.

**Independent variables:** Social group, education, household income and occupation, values and beliefs regarding sanitation and toilet-use.

### **Sampling Plan**

The study is mainly based on survey of households in rural areas of Lucknow district in Uttar Pradesh. As per reports of Census India (2011), rural population of district Lucknow is 1,550,842, which is residing in 2, 83,193 households. Sampling technique is adopted for selecting a representative sample of all constituents of universe. For this, sample size is determined by Cochran (1963) formula (384) and two blocks namely Mal and Gosaiganj are purposively selected on bases of proximity to city and 04 Non-ODF villages from each block are selected through systematic random sampling method. Further, households from each village are proportionately selected through systematic random sampling method using voter list of 2016-17 Assembly election. One adult member of the selected household is selected as respondent for survey by using convenient sampling method. Provision was also made to replace respondents in case any adult member of selected household could not be contacted or refuse to participate in survey. Accordingly, the number of respondents in final sample were 396. Apart from these respondents, 24 cases (3 from each selected village) were also selected for in-depth study.

Observation, interview and case study methods of data collection were employed in the present study and semi-structured interview schedule was used as tool of data collection.

### Data Analysis

Table 1 shows that there is a significant difference between Scheduled Caste and others as per number of rooms for all segments of households according to number of family members as percentage of total SC households with no specific/single living room (51.36%) is 10.37% more than all households with no specific/single living room (40.99%).

Table 2 reveals that only 46.58% of all households and 35.42% of SC households in India are having source of drinking water within their premises, whereas 17.58% of total households and 21.02% of SC households are carrying drinking water from the sources situated far away from their premises.

Table 3 shows the status of households in Uttar Pradesh as per the location of drinking water sources. This table reveals that only 44.06% of rural households and 78.81% of urban households have drinking water source within their premise, which indicate significant rural urban gap according to location of drinking water source. The percentage of SC households having drinking water source within their premise is 30.48 per cent in rural area and 62.37 in urban areas, which further reveals caste-wise gap in location of drinking water sources.

Table 4 shows the status of households not having bathing facilities within their premises. This table reveals that 54.99% of rural households and 13.02% of urban households do not have bathing facilities in India, which indicates huge rural-urban gap as per availability of bathing facilities in India as well as in UP. This table also reveals the differences in SC and other caste households according to availability of bathing facilities, both in India (10.95%) and Uttar Pradesh (12.76%) but it is more in UP.

Table 5 shows the status of households as per availability of drainage facilities. This table indicates that 31.01% of rural households and 37.26% of urban households have open drainage, whereas 63.25% of rural households and 18.23% of urban households are not having any drainage system which indicates huge rural-urban gap as per availability of drainage facilities in India. This table also reveals that there is no significant difference in SC and other caste households according to availability of drainage facilities.

Table 6 shows that 69.26% of rural households and 18.64% of urban households in India do not have toilet facilities within their premises, whereas 78.23% of rural households and 16.89% of urban households in UP also fall in this category. This data clearly indicate significant rural-urban gap in India and UP with regards to to availability of toilet facilities. It also indicate that availability of toilet in rural UP is much below the national average. This table also reveals a huge gap between different social class as per availability of toilet facilities in household premises, both in India and in Uttar Pradesh.

Table 7 shows that 67.32% of rural households and 12.63% of urban households in India practice open defecation. If we see the percentage of households not having toilet facilities within their premises and practicing open defecation, it reveals that 93.89% of total households without toilet facilities are practicing open defecation, but it is much better in urban area (67.74%), as urban areas have better public toilet facilities.

This table also indicates that prevalence of open defecation in Uttar Pradesh is much more serious than national average, as 77.13% of rural households and 14.82% of urban households practice open defecation. This situation is further deteriorate with SC households as 85.59% SC households in rural area and 31.07% of SC households in urban area of Uttar Pradesh practice open defecation.

### **Socio-Economic Profile of Respondents**

Field data related to selected socio-economic indicators have been classified as follows:

**Education** of Respondents is categorised into three categories, that are Low (Upto primary level), Medium (Junior High School and High School) and High (Intermediate and above, professional).

**Household income** is classified into three groups namely Low income group (upto Rs. 5000), Medium income group (Rs. 5001 to 15000) and High income group (above Rs. 15000).

**Household occupation** are also categorised into three categories, that are Traditional (small farmer, Agricultural labour, small traditional shopkeepers), Moderate (Medium farmers, mechanic, Medium shopkeepers, low level private service) and Modern (Big farmers, Contractors, Professional works, organised business, medium and high level service).

Table 8 indicates that while 41.16% of households belong to OBC, whereas 31.82% belong to SC and 27.02 of sampled households belong to general class. Table also reveals that 41.16% of respondents are having medium level and 37.12% of respondents having low level of education. Only 21.72% of respondents are highly educated. Distribution of households as per their household income show that 43.46% of surveyed households are in low income group, whereas 35.10% of households are in medium income group and 18.43% of household are in high income group. This table also shows that household occupation of 47.47% respondents is traditional, whereas household occupation of 33.84% respondents is moderate and it is modern for 18.369% of respondents.

### **Sanitation and Latrine Use**

To know the sanitation practices and prevalence of open defecation in the study area, various questions related to sanitation practices, households/

individuals' usual choice of defecation and factors affecting their choice to built/use toilet, were included in interview schedule. Analysis of collected data is shown in Table 9.

Table 9 indicates that 60.1% of households are without toilet, whereas 21.97% households have self-financed toilet and 17.93% households have government funded toilet, out of which 13.13% are working (presently used by at least one member of household) and 4.8% are non-working (not in use).

Table 10 indicates toilet use-pattern of government and self-financed toilet. This table reveals that out of total households having government financed working toilet, only 13.46% are used by all members of the household, whereas 28.85% toilets are used by most of the members of the household, 40.38% toilets are used by only female members and 17.31% of toilets are used by only sick/old members of that household.

This table also indicates that out of total household having self-financed toilets, 40.23% toilets are used by all members of household, whereas 35.63% toilets are used by most of the members of household, 20.69% toilets are used by only female members and 3.45% of toilets are used by only sick/old members of that household.

This table further reveals that uses of self-financed toilet are significantly higher than government financed toilet ( $X^2 = 14.89$ ).

Table 11 indicates open defecation pattern of household members. This table shows that out of total household having government financed working toilet, all members of 13.46% households are usually practicing open defecation, whereas All male members of 40.38% household and at least one member of 28.85% households is usually practicing open defecation. This table also shows that out of total household having self-financed toilet, all members of 3.45% households are usually practicing open defecation, whereas All male members of 20.69% household and at least one member of 35.63% households is usually practicing open defecation. Over all, open defecation is in practice in 88.89% of surveyed households. This table also reveals a significant difference between households having government financed toilet and households with self financed toilet ( $X^2 = 6.61$ ).

Table 12 indicates that there is highly significant difference between different social classes ( $X^2 = 16.72$ ) and Occupational Categories ( $X^2 = 19.73$ ), whereas this difference is significant between different economic groups ( $X^2 = 13.14$ ).

### **Norms and beliefs regarding open defecation**

To know the reasons of practicing open defecation, an open-ended question was asked, where household members could volunteer their explanations of what is good about open defecation. Out of all the respondents



usually practice open defecation, 55.11% respondents responded that they do so because it is pleasurable, comfortable that or convenient. Of individuals who defecate in the open despite having access to a latrine in their household, 87.97% respondents cited the same reasons.

The qualitative study also confirmed commonly-held perceptions about the benefits of open defecation, e.g. open defecation provides an opportunity to take a morning walk, see their fields, take fresh air, toilet-use is not good, open defecation is healthy, but most of respondents felt that a toilet is must within household premise, to deal with the situation of illness or any emergency.

### Conclusion

Analysis of census data related to household amenities shows a significant gap between rural and urban area with respect to basic amenities like- drinking water facilities, bathing facilities, access to drainage system, availability of toilet within premise and access to public toilet. Further, this gap is much wider between different social classes.

Analysis of field data reveals that open defecation was increasing with decrease in socio-economic status, but it was increasing with increase in socio-economic status of households having toilet within premises. It indicate that latrine construction is not enough to substantially reduce open defecation as results of the study shows that all or few members of 82.69% of household having government-financed toilet are still defecating open and perceived it as pleasurable, comfortable, or convenient. Rural residents need a large-scale campaign to change their sanitation preferences and to promote latrine used them.

**Table 1**  
**Households as per Number of family member**

No. of Family members	No. of Households		% of HH with Nil/single room		
	All	SC	All	SC	Difference
1 to 2	33,028,859	6,017,112	58.73	70.17	11.44
3 to 4	89,650,434	15,327,609	44.89	57.59	12.70
5 to 8	107,697,949	20,368,033	35.71	44.48	8.77
9+	16,362,986	2,514,687	18.54	24.06	5.52
Total	246,740,228	44,227,441	40.99	51.36	10.37

Source: Census, 2011, Govt. of India

**Table 2**  
**Households as per Location of Source of Drinking Water (India)**

Location	All		SC		Difference
	No. of HH	%	No. of HH	%	
Within Premise	114,925,251	46.58	15,664,533	35.42	-11.16
Near Premise	88,438,970	35.84	19,265,010	43.56	7.72
Away	43,376,007	17.58	9,297,898	21.02	3.44
Total	246,740,228	100.00	44,227,441	100.00	

Source: Census, 2011, Govt. of India

**Table 3**  
**Households as per Location of Source of Drinking Water (UP)**

Location	Rural		Urban		Total	
	All	SC	All	SC	All	SC
Within Premise	44.06	30.48	78.81	62.37	51.92	35.12
Near Premise	41.88	51.43	15.96	28.15	36.01	48.04
Away	14.06	18.09	5.23	9.48	12.06	16.84

Source: Census, 2011, Govt. of India

**Table 4**  
**Households not having Bathing Facility within their Premises**  
(Number in Million)

Area	India					UP				
	All		SC		Diff. in %	All		SC		Diff. in %
	No.	%	No.	%		No.	%	No.	%	
Rural	92.31	54.99	20.58	62.52	7.53	13.61	53.44	4.10	62.79	9.35
Urban	10.27	13.02	2.65	23.46	10.44	1.15	15.39	0.31	27.05	11.66
Total	102.58	41.58	23.23	52.53	10.95	14.76	44.83	4.41	57.59	12.76

Source: Census, 2011, Govt. of India

**Table 5**  
**Households without Drainage or having only open Drainage**  
(Number in Million)

Area	Open drainage				No drainage			
	All		SC		All		SC	
	No.	%	No.	%	No.	%	No.	%
Rural	52.05	31.01	10.94	33.23	106.17	63.25	20.79	63.15
Urban	29.39	37.26	4.67	41.27	14.38	18.23	2.81	24.89
Total	81.44	33.01	15.61	35.28	120.55	48.86	23.60	53.37

Source: Census, 2011, Govt. of India

**Table 6**  
**Households not having Toilet Facility within their Premises**  
 (Number in Million)

Area	India				UP			
	All		SC		All		SC	
	No.	%	No.	%	No.	%	No.	%
Rural	116.27	69.26	25.40	77.15	19.93	78.23	5.67	86.72
Urban	14.70	18.64	3.85	34.08	1.26	16.89	0.40	36.09
<b>Total</b>	<b>130.97</b>	<b>53.08</b>	<b>29.25</b>	<b>66.14</b>	<b>21.19</b>	<b>64.35</b>	<b>6.07</b>	<b>79.35</b>

Source: Census, 2011, Govt. of India

**Table 7**  
**Prevalence of Open Defecation**  
 (Number in Million)

Area	India			UP					
	All			All			SC		
	No.	% to total	% to HH w/o Toilet	No.	% to total	% to HH w/o Toilet	No.	% to total	% to HH w/o Toilet
Rural	113.01	67.32	97.20	19.65	77.13	98.60	5.59	85.59	98.70
Urban	9.96	12.63	67.74	1.10	14.82	87.76	0.35	31.07	86.09
<b>Total</b>	<b>122.97</b>	<b>49.84</b>	<b>93.89</b>	<b>20.75</b>	<b>63.04</b>	<b>97.95</b>	<b>5.94</b>	<b>77.66</b>	<b>97.86</b>

Source: Census, 2011, Govt. of India

**Table 8**  
**Socio-economic Profile of Surveyed Households**

Variables	Distribution of Households			
	General	OBC	SC	Total
Social Group	107 (27.02)	163 (41.16)	126 (31.82)	396 (100.00)
Education	Low	Medium	High	Total
	147 (37.12)	163 (41.16)	86 (21.72)	396 (100.00)
Income Group	LIG	MIG	HIG	Total
	184 (46.46)	139 (35.10)	73 (18.43)	396 (100.00)
Occupation	Traditional	Moderate	Modern	Total
	188 (47.47)	134 (33.84)	74 (18.69)	396 (100.00)

Note: Digit shown in parentheses indicate percent

Source: Field Survey

**Table 9**  
**Availability of Toilet**

Yes		No	
Government funded		Self-financed	
Working	Non-Working		
52 (13.13)	19 (4.80)	87 (21.97)	238 (60.10)

Source: Field Survey

**Table 10**  
**Uses of Toilet**

	Govt. funded Working Toilet (52)	Self-financed Toilet (87)
All Members	9 (17.31)	35 (40.23)
Most of Members	15 (28.85)	31 (35.63)
Only Female	21 (40.38)	18 (20.69)
Only sick/old	7 (13.46)	3 (3.45)

X<sup>2</sup> value of distribution = 14.89 ( Significant at 0.001)

Source: Field Survey

**Table 11**  
**Prevalence of Open Defecation**

	Govt. funded Working Toilet (52)	Self-financed Toilet (87)	All (396)
All Members	7 (13.46)	3 (3.45)	<b>267 (67.42)</b>
Only Male	21 (40.38)	18 (20.69)	<b>39 (9.85)</b>
At least 01 Member	15 (28.85)	31 (35.63)	<b>46 (11.62)</b>
Total	<b>43 (82.69)</b>	<b>52 (59.77)</b>	<b>352 (88.89)</b>

X<sup>2</sup> value of distribution for govt. - and self financed toilet = 6.61

(Significant at 0.05)

Source: Field Survey

**Table 12**  
**Significant of difference in Open Defecation pattern with respect to Socio-economic Status**

Variables	X <sup>2</sup> value	Results
Between Different Social Class	16.72	Significant at 0.01
Between Economic Groups	13.14	Significant at 0.05
Between Occupational categories	19.73	Significant at 0.001

Source: Field Survey

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