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SANITATION CONDITIONS IN SOUTH ASIAN COUNTRIES: A SPECIAL REFERENCE TO INDIA

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ABSTRACT

Globally 2.4 billion people live without access to improved sanitation of which 1 billion people practice open defecation (WHO-2015). Sanitation was one of the most off-track Millennium Development Goals (MDG). Only 68% of the world's population has access to improved sanitation (WHO-2015). Sanitation lies at the root of many other development challenges, as poor sanitation impacts public health, education and the environment. Based on the Global WASH fact sheet (2012), Maldives and Sri Lanka have better sanitation facilities than the great India and Afghanistan which is having least coverage. South Asian Conference on Sanitation (SACOSAN) is working on the improving the sanitation facilities in the SAARC. Among Indian states, North Eastern states are having better facilities compare to other regions (Census-2011). After launching SBM programme sanitation growth is observed across the country. The paper is based on secondary data and focuses mainly on sanitation condition in South Asian countries, India and states. GIS Techniques are used to prepare the maps and analyse the data and is presented in the paper.

KEYWORDS: Sanitation, Rural, Urban, Households, GIS, SAARC.

INTRODUCTION

Sanitation includes environmental sanitation which is largely viewed as “the control of all those factors in man’s physical environment which exercise a harmful effect on his physical environment, health, improving poverty, enhancing quality of life and raising productivity- all of which are essential for sustainable development” (WHO 1992). Sanitation is one of the basic determinants of quality of life and human development index. Good sanitary practices prevent

contamination of water and soil thereby prevents diseases. The concept of sanitation was therefore expanded to include personal hygiene, home sanitation, safe water, garbage disposal, excreta disposal and waste water disposal. Globally Sanitation word is used for safe disposal of human excreta (used by UNICEF-WHO Joint Monitoring Program).

As per the Global WASH fact sheet (2012) 780 million people do not have latrine facilities and more than 35% of the world people lack access to improved sanitation. Worldwide, soil-transmitted parasitic worm infect more than one billion people due to lack of adequate sanitation in the world. Safe and sufficient drinking-water, along with adequate sanitation and hygiene has implications across all Millennium Development Goals (MDGs). Goal number 7 is related to this indicator only. As the world turns its attention to the formulation of the post-2015 Sustainable Development Goals (SDGs) much remains to be done particularly to reduce inequalities across populations. As per the JMP-2014, 2.5 billion people lack access to improved sanitation and 1 billion people practice open defecation and out of 10 people 9 people are still going out for defecation in rural areas. 2.5 billion People lacking of basic sanitation in the world and out of 7 people 1 person is practicing open defecation in the world. According to the WASH – GLAAS*2014 facts, 67% of the countries recognize sanitation as a human right by law, 80% of countries reporting insufficient financing as the main cause for poor sanitation facility in the country.

WASH – GLAAS* The Global Analysis and Assessment of Sanitation and Drinking-Water (GLAAS) is a UN-Water initiative implemented by WHO.

OBJECTIVES OF THE STUDY

1. To study the status of Sanitation facilities across the world and specifically South Asian Countries (SAARC).
2. To study the sanitation conditions in India between 2001 - 2011.
3. To analyse the status of sanitation among Indian states.

GIS TECHNIQUES

This paper has utilized the information and decision support systems to enhance its effectiveness in the analysis of data. GIS techniques are used to prepare maps for this paper. The maps are compared and further analysed to understand the categories of the sanitation facilities across the state and country. From the analysis of such data various conclusions and recommendations are incorporated in this study.

1. WORLD SANITATION SCENARIO

As per the Global Health Observatory data repository 2015, Australia, Austria, Malta, Republic of Korea and Uzbekistan tops in the chart of sanitation facilities. These are all countries now open defecation free countries. These countries rural and urban households are having 100% latrine facilities. Niger is the lowest sanitation having country in the world with 10.9% followed by Togo (11.6) and Madagascar (12). Out of 193 (UNO) countries, 14 countries are having below 20% of the sanitation facilities. 20 countries are having below 25% of sanitation coverage, and 25 countries are having 25 to 50% of the sanitation facilities. Surprisingly out of 193 countries, 98 countries are having above the 75% of the sanitation facilities. Some of the

countries like Peru, China, Myanmar, Colombia, Brazil, Mexico, Iraq, Turkey, Argentina, Poland, UAE, Norway, France, Bahrain and United Kingdom of Great Britain and Northern Ireland, Belgium, Italy and Denmark countries having 75 to 99.6% sanitation facilities. And some of the countries like Spain (99.9), Switzerland (99.9), Canada (99.8), Portugal (99.7), and Denmark (99.6) countries are also having best sanitation facilities in the world. In Spain rural areas have 100% sanitation facilities whereas the urban areas have 99.8% sanitation facilities. Out of 193 countries 11 countries data is not available.

FIGURE 1: WORLDWIDE COUNTRIES % OF SANITATION COVERAGE-2015

2. SOUTH ASIAN COUNTRIES (SAARC)

South Asian Countries like India, Pakistan, Bangladesh, Sri Lanka, Nepal and Butan countries are sub continental country and Afghanistan and Maldives also come under the south Asian countries. In 1985, The South Asian Association for Regional Cooperation (SAARC) is established for improving (developing) economic cooperation among the eight countries.

FIGURE 2: SOUTH ASIAN COUNTRIES

SAARC started with 7 countries in 1985, added Afghanistan in 2006. South Asia covered 5.1 million sq.km. It covered 11.5% of the Asian continent area and 3.4% of the world land surface. The population of the south Asia is 1.749 billion people and have highest Hindu and Muslim population in the world. Overall the world it is having 24% of the population share. Among SAARC countries, India is the largest country in the context of area and the population followed by Pakistan and Maldives are having lowest area and population. The table 1 reveals that Maldives is have highest density of 1053 followed by Bangladesh (1033), India has 382 persons per sq. km area and lowest density at Butan 18.8 persons per sq. km. SAARC countries are performing very low HDI rankings in the world ranks. Sri Lanka (73) is the only country having below 100th rank in the SAARC members.

2.1 SOUTH ASIAN COUNTRIES SANITATION SCENARIO (SACOSAN)

South Asian Countries like India, Pakistan, Bangladesh, Sri Lanka, Nepal and Butan, Afghanistan and Maldives facing lot of problems due to lack of sanitation facilities. These countries are working on the sanitation issue. They established South Asian Conference on Sanitation (SACOSAN)*. It is a government led biennial convention held on a rotational basis in each SAARC country provides a platform for interaction on sanitation. SACOSANs are intended to develop a Regional agenda on sanitation, enabling learning from the past experiences and setting actions for the future. The objectives of such conferences are to accelerate the progress in sanitation and hygiene promotion in South Asia and to enhance quality of people's life.

FIGURE 3: PERCENTAGE AND RANKS OF SANITATION FACILITIES IN SOUTH ASIAN COUNTRIES

Asper the Global Health Observatory data repository 2015, Maldives (97.9) have highest sanitation coverage in the South Asian Countries followed by Sri Lanka (95.1). Only the two countries have above 90% sanitation facilities. The data shows that in Sri Lanka rural areas (96.7) have better facilities than urban areas (88.1). Two countries Pakistan (63.5) and Bangladesh (60.6) have reported more than 60% sanitation facilities. Butan (50.4), Nepal (45.8), India (39.6) and Afghanistan (31.9) have less than 50% sanitation facilities. Afghanistan

provides least sanitation facilities in south Asia countries. India is the largest among SAARC nation. It is having total 39.6% sanitation facilities in the country. Pakistan urban (83.1) area having some good facilities compare to the rural areas (51.1). Except Afghanistan, all countries of the South Asia are well performed than India. the figure 3 showing world ranks in Sanitation facilities also as per the data Sri Lanka (41) and Pakistan (61) having some better ranks in the World ranking. India and Afghanistan countries are having poor ranks with 150 and 155 respectively.

3. CURRENT SCENARIO IN INDIA

Some of the urban areas are having good facilities but rural areas people are still practicing open defecation. Since 1980's Indian government trying to remove open defecation and spend lot of efforts on it and many world organisations funded but still we are not reached 100% sanitation facilities in the country. First Government of India was launched Central Rural Sanitation Programme (CRSP) in 1986 and with the main objective of improving quality of life of rural people and also to provide privacy and dignity to women. Later on CRSP, another programme started Total Sanitation Campaign (TSC)". The main objective of the TSC is to eradicate open defecation in rural areas and to give subsidy to construct toilet that is under poor category. TSC gives support to schools and Anganwadis also. TSC gives strong emphasis on Information, Education and Communication (IEC). To give a fillip to the TSC, Govt. of India also launched Nirmal Gram Puraskar (NGP) that sought to recognise the achievements and efforts made in ensuring full sanitation coverage. Encouraged by the success of NGP programme the government renamed to TSC as 'Nirmal Bharat Abhiyan' (NBA). The objective is to accelerate the sanitation coverage in the rural areas.

SACOSAN* South Asian Conference on Sanitation (SACOSAN), a government led biennial convention held on a rotational basis in each SAARC country provides a platform for interaction on sanitation. The SACOSAN process is instrumental to generate political wills towards better sanitation in the region.

FIGURE 4: AREA WISE PERCENTAGE OF HOUSEHOLDS HAVING LATRINE FACILITIES IN INDIA

Recently the Prime Minister of India launched the Swachh Bharat Mission on 2nd October, 2014 which aims to achieve Swachh Bharat by 2019, as a fitting tribute to the 150th Birth Anniversary of Mahatma Gandhiji. The main objective of this programme is to remove the bottlenecks that were hindering the progress during the previous programs such as Total Sanitation Campaign and Nirmal Bharat Abiyan and focus on critical issues affecting outcomes. State and Central Governments are aiming to construct latrines to the every household in the country. After launching the SBM (Gramin) within one year period nearly 95 lakh toilets have been constructed in rural areas. It is almost 46% of the toilet constructed since launching of the SBM (Gramin). In spite of the best efforts of the Government of India and respective State Governments' to improve the sanitation conditions in the country, the toilet coverage in rural India is only 30.7% which shows around 70% of the rural people still practice open defecation in the country.

If compare to the 2001 to 2011, the total country was not covered 63.6% and 53.1% respectively this means 36.4% and 46.9% of the households having latrine facilities within the household's premises. In the rural area, 30.7% and 21.9% households are having the latrine facilities

respective period. In urban area covered more latrine facilities camper to the rural areas. Urban India households are having 81.4% (2011) and 73.7% (2001) latrine facilities within the household's premises. As per the 69th NSSO Survey during the July 2012 to December 2012, 59.4% of the country rural households are defecating in the open. Jharkhand and Odisha households are doing 90.5% and 81.3% respectively. But As per the Global Health Observatory data repository 2015 data showing sanitation facilities are increased in India in terms of total, rural and urban areas. As per this data total India 7.3% sanitation facilities are decreased from 2011 Census to 2015. Mainly Rural areas sanitation facilities are decreased from 30.7% to 28.5%. Urban areas are data also showing the declining rate. The main reason is increasing the households and population of the country.

3.1 STATE WISE TOTAL SANITATION

India has 29 states* and 7 union territories. Sanitation facilities are very poor in some states where illiteracy, rural population and forest area are more. The country has an average coverage of sanitation 46.9%. 7 states have below country average they are like Jharkhand, Odisha, Bihar and Chhattisgarh, Madhya Pradesh, Rajasthan and Utter Pradesh. Union territories have good sanitation facilities compare to the all the states of the country. As per the 2011 Census data figure 2 developed. The figure 2 shows total country wise sanitation facilities in the states. According to this map, out of 36 administrative province/states only 4 states have below 25% coverage in sanitation facilities like Jharkhand (22), Odisha (22), Bihar (23.1) and Chhattisgarh (24.6). Madhya Pradesh (28.8), Rajasthan (35), Utter Pradesh (35.6), Andhra Pradesh (47.5) and Tamilanadu (48.3) states (Only 5 states) are have 25 to 50% coverage in sanitation facilities

Out of 36 administrative province/states, 15 states are having 50 to 75% of the sanitation facilities. These states (except Telangana and Haryana states) located in the edges of the country boarder. Almost 40% of the states (15 states) are having 50 to 75% of the sanitation facilities.

***State means:** According to Article 12 of the Constitution of India, the term 'State' can be used to denote the union and state governments, the Parliament and state legislatures and all local or other authorities within the territory of India or under the control of the Indian government.

Three states from north eastern such as Assam (64.9), Meghalaya (62.9) and Arunachal Pradesh (62) are having above 60% of the facilities and North states like Himachal Pradesh (69.1), Haryana (68.6), Uttarakhand (65.8), and Jammu and Kashmir (51.2) are also having good facilities compare to the South and Western side states. Western part of the country states like Gujarat (57.3) and Maharashtra (53.1) and southern states such as Telangana (52.5) and Karnataka (51.2) states are have good facilities.

Total 12 states are having more than 75% of the sanitation facilities in the country. Kerala state has highest sanitation coverage with 95.2% followed by the Mizoram (91.9). Delhi, Manipur, Sikkim and Tripura stats are having 70 to 80% of the facilities. Four north eastern states have above 75% of the sanitation coverage; these states are covered with hills and low population due to these reasons the coverage is more. Sikkim (87.2) and Punjab (79.3) also having coverage in the country.

FIGURE 5: STATE WISE TOILET COVERAGE IN TOTAL INDIA
3.2 STATE WISE URBAN SANITATION

Urban India has better sanitation facilities compare to the rural India. As per the Census 2001, 26.3% households were not having sanitation facilities were as in 2011 it decreased to 18.6%. In India out of the 7.88 crores urban households, 82.4% households are having sanitation facilities. In all states urban areas have more than 60%.

The figure 3 is developed based on 2011 Census data. The figure shows that all in states, urban areas are having best sanitation facilities. Among the states, the sanitation facilities are lowest in Chhattisgarh with 60.2%. Out of 36 administrative province/states, 6 states are having 50 to 75% of the sanitation facilities they are Orissa, Jharkhand, Bihar, Maharashtra and Madhya Pradesh. All other 30 states have above 75% of sanitation facilities. In 11 states households are having above 90% of the sanitation facilities. Mizoram state is having maximum coverage in sanitation facilities with 98.5% followed by Tripura (97.9), Kerala (97.4), Manipur (95.8), Meghalaya (95.7), Sikkim (95.2), Nagaland (94.6), Assam (93.7), Uttarakhand (93.6), Punjab (93.4) and Telangana (90). Out of 11 states, 6 states are from North Eastern area of the country. Among Indian states 12 states have 80 to 90% of the sanitation coverage. This includes Haryana, Arunachal Pradesh, Himachal Pradesh, Gujarat, Jammu & Kashmir, Goa, West Bengal, Karnataka, Uttar Pradesh, Andhra Pradesh and Rajasthan states. Tamilnadu state is also having above 75% of the facilities.

FIGURE 6: STATE WISE SANITATION COVERAGE IN URBAN INDIA
3.3 STATE WISE RURAL SANITATION

Comparatively, Rural India has poor sanitation facilities than urban India. As per the 2011 Census, rural India have 16.78 crores households out of them 69.3% household doesn't have sanitation facility within the household premises. The ministry emphasized on the need for innovative thinking to stop the old practice of open defecation and the ministry report saying the many states like Chhattisgarh, Madhya Pradesh, Arunachal Pradesh, Karnataka, Sikkim, Manipur, and Meghalaya have been at the forefront of the mission for construction of rural areas and they were likely to achieve targets in the next 1-2 years. Changing age-old attitudes toward open defecation is critical in attaining 'Swachh Bharat' goals and the sanitation. The target of the first one year is 60-65 lakh but total 95 lakhs toilers have been constructed in the rural areas under the 'Swachh Bharat' mission.

As per 2011 Census, Out of 36 states, 14 States are in the country is still below the national average (30.7%) of toilet coverage. Out of 36 states only 8 states like Lakshadweep, Kerala, Chandigarh (88%), Manipur (86%), Mizoram (84.6%), Sikkim (84.1%), Tripura (81.5%) and Delhi (76.3%) having above the 75% latrine facilities. Total 11 states are falling 50-75% range. Goa, 71% rural households having the latrine facilities, Punjab is also maintain same percentage (70.4%) other states like Nagaland (69.2%), Himachal Pradesh (66.6%) and Andaman (60.2%) states are having above the 60% latrine facilities. Assam, Haryana, Uttarakhand, Meghalaya, Arunachal Pradesh and Daman dayyu states are having 50 to 60% latrine facilities. Total 17 states are having below 50% of the sanitation facilities in the country. West Bengal only has 46.7% latrine facility and other states such as Puducherry, Jammu & Kashmir, Maharashtra, Gujarat, Andhra Pradesh, Karnataka and Dadra Nagarhaveli states are having 40-50% facilities.

FIGURE 7: STATE WISE TOILET COVERAGE IN RURAL INDIA

Maharashtra (38%), Gujarat (33%), Andhra Pradesh (32.2%) and Karnataka (28.4) states are well advanced situation in all other indicators but availability of latrine facilities is very poor and states are having above the country average. The lowest coverage states like Jharkhand (7.6), Madhya Pradesh (13.1%), Odisha (14.1%), Chhattisgarh (14.5%), Bihar (17.6%), Rajasthan (19.6%), Uttar Pradesh (21.8%) and Tamil Nadu (23.2%) states are having below 25% of the latrine facilities within the household's premises.

CAUSES OF THE BACKWARDNESS

- More density of population and low infrastructure facilities also cause to low coverage
- Lacking of sufficient water also influence to the increase of the sanitation facilities.
- States having more rural population and these are the one of the most backward states in the country. Main Reason is Illiteracy and more rural and tribal population.
- Forest also one of the causes of the open defecation. Availability of the more open space also a reason.
- Levels of the understanding the situation is very poor due to more tribal population.
- Illiteracy is the one of the main causes of the backwardness of the progress in the latrine facilities.
- Lack of Funds in all states leads to inadequate infrastructure
- Geographically some of the lowest coverage states are not suitable for construction of the toilet due to having dense forest and not growth in urbanisation.
- One of the important reasons for people not interested to construct the toilet is problems in availing the government incentive system due to lack of effective monitoring systems.
- Some places people are not using community toilets because of the unsafe for girls or women's. Some issues (rape and Murder) happened in Uttar Pradesh state in May 2014.
- Low latrine coverage due to illiteracy and more rural and Tribal population and lack of awareness about the sanitation facilities.

SUMMARY AND RECOMMENDATIONS

Out of 8 South Asian countries, 5 countries are having above the 50% of sanitation facilities. Other three countries are having very low sanitation coverage. Maldives and Sri Lanka countries are having top position in the SAARC. Afghanistan country is having lowest sanitation coverage. Only Sri Lanka and Pakistan countries are having below 100 ranks in the world sanitation ranking. SACOSAN is working on the sanitation to change the situation in the SAARC membership countries. SACOSANs are intended to develop a regional agenda on sanitation, enabling learning from the past experiences and setting actions for the future in the 6th conference which held in Bangladesh, January 2016 in Dhaka.

India also having just 46.9% of the sanitation facilities and it has 121 crores population. The country is facing lot of problems to facilitate to all people is a big challenge to Indian government. Recent studies are showing around 6 crores people in the country still practices open

defecation due to lack of toilet facility. Water supply and sanitation is a State responsibility under the Indian Constitution. The government developed lot of programmes to poor people to eradicate open defecation in the country but lack of proper implementations of these programmes are not touched to the poor people. After launching Swachh Bharat Programme lot of changes are happened across the country. It may increase the sanitation coverage in the households. Overall the country, more sanitation facilities are observed in the North Eastern states of the country. Jharkhand and Odisha states are having lowest coverage in the country. All states urban areas are having good sanitation facilities in the country but compare to the national average only eight states are having below country average. Whereas the rural India, northern part states are having good latrine facilities compare to south, West and Eastern states of the India. Union Territory states also having some better facilities within the household's premises. Indian capital city (New Delhi) surrounding states rural households are having some better conditions and new born Telangana state also having below the country average.

Lowest coverage states are requires not just building lavatories but also changing habits. In all states rural people do in the morning and night time monitoring in the open defecation fields and it will gives good result and eradicate open defecation in rural areas. Countries or States are needed instead are public campaigns, in schools and in the media, to explain the health and economic benefits of using toilets and of better hygiene.

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- Foot notes: states, north east, south Asian countries repetition, latrine or sanitation only one.