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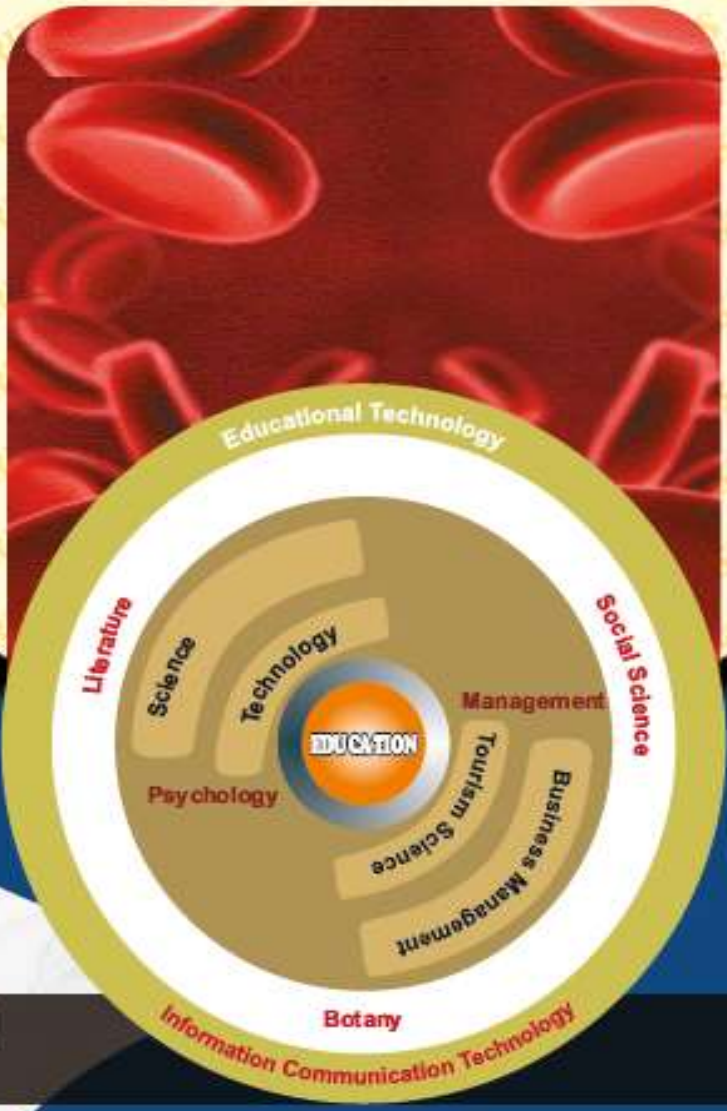

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EDITORIAL

Prof. Jagan Karade

Prof. Prashant Bansode

We are glad to present a special issue of the Scholarly Research Journal for Interdisciplinary Studies on "Sanitation: Issue, Challenges and Future Directions." This particular issue results from the National mid-term conference, held on 23rd and 24th September 2024, jointly organised by the Indian Sociological Society, New Delhi, and the Gokhale Institute of Politics and Economics, Pune.

The mid-term conference is only possible with the particular issue's hardworking organising team and editorial board. We are very much thankful to the chief guest, President of the Indian Sociological Society, New Delhi and Former Professor of Sociology at Jawaharlal Nehru University, New Delhi, Prof. Maitrayee Chaudhuri, and the former President of the Indian Sociological Society, New Delhi and retired Professor of the Department of Studies in Sociology, University of Mysore. Prof. R. Indira. We are also thankful to the Keynote Speaker, a Former Professor of Sociology, M.D. University, Rohtak, Haryana, Prof. B. K. Nagla. They accepted our invitation and attended the mid-term conference.

We are also thankful to the President of the Inaugural Programme, Hon'ble Dr Ajit Ranade, Vice-Chancellor of Gokhale Institute of Politics and Economics, as well as Chief guest of the Valedictory function who has former Professor and Dean of the School of Social Sciences Gandhigram Rural Institute Gandhigram, Dindigul, Tamil Nadu Dr S. Gurusamy. The Managing Committee members of the Indian Sociological Society' are Dr Ramesh H. Makwana (Gujarat), Dr Sudha Khokate (Karnataka), Dr Bibhuti Malik (UP), Dr Balaji Kendre, Dr Sanjay Kolekar and Dr Dilip Khairnar (Maharashtra),

We are very grateful to all speakers and authors, especially Dr Anil Jha (Bihar), Sitaram Sharnangat, Dr Sampat Kale, Ramesh S. Mangalekar (Karnataka), Dr Santosh Sabale, Dr N.

R.Chaudhari, Dr Praveen Jadhav, Dr Pradeep Salve, Dr Aakanksha Gautam, Dr K.D. Sonawane (Kolhapur), Dr Sujata Karade, Dr Vishav Raksha,(Jammu) Dr Naresh Kumar, Dr Anil Waghela and Dr Jaysing Zala (Gujarat), and Research Scholars Sneha Sabale, Vishnu Vairagad, Komal Oswal, Pratiksha Mangalekar, Hansda, Dutta, Mahato and others have given academic contribution on the central theme. Our team, Mr Vishnu Vairagad, Mr Tejas Tule, and Ms Gautami Choudhari, have put so much effort into the grand success of the conference.

Theme-wise, the plenary and technical sessions were chaired professionally and efficiently by chairpersons selected for their vast contribution. During the plenary and technical sessions, there was an excellent dialogue and exchange of thoughts, creating an academic and healthy environment. Without their expertise, the conference could not have been a success.

We presented special issues of the selected research papers. Once again, we are very thankful to all authors and researchers who have engaged in academic work for the last three months and sent their papers quickly. We have followed ethical rules, such as preventing plagiarism and doing all editorial work. It is a difficult task, but we have done it correctly.

It is appropriate to express heartfelt thanks to the Hon'ble Prof. Dr. Ajit Ranade (Vice-Chancellor) and Mr. Kapil Jodh (Col), Registrar of the Gokhale Institute of Politics and Economics, for all possible support, both directly and indirectly.

We also thank Dr Yashpal Netragaonkar, Editor of Scholarly Research Journal for Interdisciplinary Studies and his team for publishing the selected papers in an international, peer-reviewed research journal with the highest impact factor journal.

Finally, we are very thankful to the sponsors for the financial aid for the Mid-term Conference, especially for the publication.

Prof. Jagan Karade
Editor–in – Chief and
Convener AG-02, ISS

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Editor–in – Chief and
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SOCIOLOGY OF SANITATION: PERSPECTIVES AND IMPERATIVES

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Abstract

Sociology of sanitation is a scientific study to solve the problems of society concerning sanitation, social deprivation, water, public health, hygiene, ecology, environment, poverty, gender equality, the welfare of children and empowering people for sustainable development and attainment of philosophical and spiritual knowledge to lead a happy life and to make a difference in the lives of others. In this context, the present paper analyzes various aspects of the sociology of sanitation to understand society and human social action for sanitation activity

Key- words: *Sanitation, Health and hygiene, Management, Sociology.*

Introduction:

A look at Sanitation provides many unique benefits and perspectives. The sociology of Sanitation offers an understanding of social issues and patterns of Sanitation. It helps us identify the social rules governing our lives with or without Sanitation. Social scientists explore how these rules are created for human society, maintained, changed, passed on to generations, and shared among people living in various parts of the world. This reflects the relationship between Sanitation and sociology. In this context, the present paper deals with –

i. Relationship between Sanitation and Sociology
ii. Concept of Sanitation, health, and hygiene
iii. Sanitation movement
iv. Sanitation Management by Government
v. Sociology of Sanitation
vi. Research and Action Research on Sanitation
vii. What should be done

Relationship between Sanitation and Sociology

Sociology as a central social science is fast developing in the world today. It has expanded rapidly since the Second World War. The systematic inquiry into society, groups, interactions, and social relationships constitutes the subject matter of sociology. Specifically, it is the science of *individuals' social relationships in society*. As the area of sociology is vast, it has grown tremendously with several functional specializations and branches, some of which have become independent disciplines. The sociology of sanitation is one such branch that recently emerged and is developing. Hence, the new conceptual and theoretical developments in the sociology of sanitation may be taken as illustrations here. Recently, social scientists realized the importance of sanitation by including the sociology of sanitation as a specialized study in sociology. Thus, the relationship between man and society enabled further development in the sociology of sanitation.

An individual is an essential element of society; his social value depends mainly upon his health, while in turn, his health is partly determined by conditions that society imposes. This conclusion leads to another that is of cheer to those who may perchance and be discouraged and falter. The disheartening status of mankind today is undoubtedly the result of the sanitary and social conditions of past ages and former generations. However, the influences under which men of the present generation place themselves are more or less within their control and may be made to work for both present and future good. As knowledge and purpose unite for this end, the truth of the idea will grow that the degeneracy or perfection of future generations depends on the acts of men of today. Sanitation then will show what steps should be taken by society, individually and collectively, to secure the health of the race. Clean air, sunlight, wide streets, good pavements, public parks, nourishing food, sanitary schools,

public baths, and adequate housing are hygienic measures which are most effective in both sanitary and social results if carried out at times when there seems no particular cause for anxiety. For his part, the social reformer will guide men to make some sacrifice of present comfort or enjoyment, to understand labour and expense, so that all the forces of society may be united in bringing mankind as speedily as possible to the complete realization of its mighty and noble capabilities. Sanitation and sociology must go hand in hand to improve race. The value of the relation between them will be great in proportion as its importance is consciously and openly recognized (Talbot:1986).

Concept of Sanitation, health and hygiene

From the viewpoint of Social Sciences, sanitation, health, and hygiene are trans-disciplinary concepts. The terms *sanitation and hygiene* can mean different things to different people. Here, the term 'sanitation' is used to refer to the management of human excrement. *Hygiene* refers to the behaviours/measures, including but beyond managing human faeces, which are used to break the chain of infection transmission in the home and community. Therefore, it may be viewed that sanitation is about creating an environment safe from pathogens, while hygiene is about personal cleanliness and preventing the spread of illness through individual action. Sanitation is a necessary precondition for hygiene, but the two terms are not interchangeable. When we talk about improving sanitation, we are talking about improving the infrastructure and systems that prevent the spread of disease.

The complex system comprising sanitation, health and hygiene is one of the features for understanding the advancement of human civilization because structural aspects of Sanitation characterize "Cleanliness", which contributes significantly to patterns of social interaction and the interplay between technological culture(s) and normative culture(s). The concept of 'Health' is another interrelated issue. It incorporates physical, mental, and spiritual well-being. After the pandemic, understanding antibodies, vaccination, immunity levels, and infections has become part of standard understanding. This shift from medical specialization to ordinary understanding is a new frame of socialization which, to an extent, is not functional. Rajiv Gupta (2023) opines that the concept of 'Social Health' needs inclusion in understanding 'Health' in terms of totality because the nature and proximity of social relations are those "social medicines" by which a patient can fight effectively with 'Sick Roles'. The concepts of sanitation and health can only be understood logically, given the importance of hygiene and health fitness. Hygiene can be described as one of the "health values" that stress upon "actions to develop cleanliness" of one's body and the nearby environment so that a healthy body can continue. If it happens, then social actors can keep their distance from diseases. In other words, sanitation, health, and hygiene (collective actions) play decisive roles in minimizing pathological social facts so that a healthy society can become a universal feature. The interdependence of these three features is essential to keep a social life, community life and family life-friendly. Thus, such interdependence must be integral to Socialization, Communication and "Collective Conscience". The behavioural patterns of social actors towards sanitation, health fitness and hygiene are essential for elaborating moral solidarity, anomie, alienation, social differences, and various forms of socio-cultural and economic troubles.

Providing better sanitation facilities is one of the biggest challenges to date. After the millennium era, tackling sanitation and hygiene issues has become key in providing sanitation facilities and creating awareness among the masses for behavioural change. Social ailments like poverty are more than a lack of income or material goods. Human poverty, the lack of essential capabilities for participating in the standard activities of the communities, is aggravated by the lack of sanitation.

The growing cities of developing countries are facing a crisis between demand and supply of basic amenities like drinking water, adequate sanitation services, and necessary infrastructure. India (where 7.5 % of reported deaths are sanitation and water-related) has been grappling with the problem of water and sanitation coverage, especially for the rural areas and poor in urban areas (editorial EPW, January 24, 2009). Most cities and towns of India are characterized by over-crowding, congestion,

inadequate water supply and sanitation, which include disposal of human excreta, wastewater, and garbage disposal, which in turn affects the health of urban people

For urban slum dwellers and rural populations, living in areas surrounded by human waste and garbage creates embarrassment and deprives people of participation, choices, and opportunities. Around 8,00,000 people in India still live by manual scavenging, carrying faeces in baskets on their heads, a livelihood that bars their inclusion in mainstream society (Humane and Khan, 2020).

People suffer from a lack of basic sanitation amenities in these pathetic conditions. Poor awareness is the leading cause of this problem. The sanitation problems in rural and urban areas are different, and challenges vary. In this context, we would like to discuss the sanitation movement and the efforts of the central and State governments.

Sanitation movement

Sanitation is essential for the health and well-being of all people on Earth. The disease can spread quickly without good and clean sanitation systems. Therefore, sanitation is a must for promoting good health and preventing diseases. The importance of sanitation has been accepted in different forms and formats according to other places and environments. The State of interdependence between sanitation and society is centuries old, and the relationship between the two has been integral.

> *"It is health that is a man's wealth and not pieces of gold and silver."* – MAHATMA GANDHI.

The history of India is a witness to the fact that many social reformers have started sanitation-related movements. Mahatma Gandhi, Dr Babasaheb Ambedkar, Sant Gadge Baba, Dr Bindeshwar Pathak and Suryakant Parikh are noteworthy. These people have started a campaign for public awareness of sanitation and health improvement, the development of dirty toilets, the cleanliness of toilets and bathrooms, etc. Gandhiji made sanitation and untouchability prevention a part of the freedom struggle movement. Gandhiji's thoughts on sanitation are reflected in the statement, "I will probably not take rebirth; if I do, I will prefer to be born in the family of a sweeper so that the inhuman, unhygienic, filth-picking practice can be avoided". I can go out of the practice and disgusting practices. Former Prime Minister Indira Gandhi thinks that "Sanitation in India is not just sanitation, but it is the end of the practice of carrying human excreta on one's head".

Dr Babasaheb Ambedkar has been inspiring for clean clothes, home cleanliness and clean work. Saint Gadge Baba spread public awareness for using sanitary toilet facilities and public cleanliness in rural areas. Suryakant Parikh worked to clean public roads, pay and use facilities, etc. Dr Bindeshwar Pathak has opposed the work of the low caste people to pick up the dirt and inspired the renovation of toilets. He has made a successful attempt to train the sanitation workers. Dr Pathak has always been active in the context of social upliftment and human rights.

The earliest evidence of urban sanitation was seen in Harappa, Mohenjo-Daro and the recently developed Rakhigarhi of the Indus Valley civilization. Roman cities had elements of a sanitation system. There is little record of sanitation in Europe. The awareness shown by the residents of Harappa and Mohenjo Daro in the context of sanitation is hardly an example of such awareness in any other culture. The ideas related to toilets and cleanliness have been revolutionary in this culture. The result of well-planned and complete deliberation is experienced in this culture. Special arrangement of bathroom and toilet has been seen in the house. The Archaeological Department has received many relics related to cleanliness in this culture.

In India, over the past 2,000 years, the caste system has dominated society, sharply separating intellectual work from physical work, productive work from services, and clean work from that associated with filth. Thus, most people would be forbidden to clean up human waste, and there would

always be a particular group responsible for cleaning and removing it. Even today, most urban dwellers do not clean their toilets. They usually engage somebody from an appropriate caste, typically uneducated, culturally backward and without a sophisticated sense of sanitation. However, with growing urbanization and industrialization, even members of these castes have discontinued this work. Although the caste system is beginning to disintegrate with accelerating development, Indian society has not found new ways to solve the problems of sanitation and related services. In this context, as an innovative approach to the issues of human waste disposal in the slums of Bombay, CORO (Committee of Resource Organization) combines literacy efforts with a new system of maintaining toilet complexes under a locally run pay-for-use plan (Nagla:2020). Therefore, there is a need to educate people about the need for sanitation and hygiene and to break down entrenched social attitudes that prevent rural-urban dwellers from adopting healthier sanitary lifestyles, along with the efforts of governments.

Sanitation Management by Government

Political will and commitment are required urgently to tackle the crisis. Low political priority plays an essential role in chronic under-investment, leading to adverse effects of poor sanitation. Although sanitation is the most cost-effective intervention, most governments, including donors, do not count what they spend on. The central government budgetary allocation for the health sector out of the total budget remains stagnant at 1.3% of Gross Domestic Product (GDP). Besides, this proportion has progressively declined from seven to 5.5% in the States. Water supply and sanitation are among the seven sub-sectors in the health sector, as given by the Planning Commission of India (Park: 2007:689). Sanitation is interdependent on other essential health sub-sectors such as medical education, training and research, public health services and control of infectious diseases and underpins all development efforts.

After independence, the central and State governments implemented several laws and policies and launched many campaigns to address sanitation issues. Personal and public sanitation, toilet-related issues, and toilet construction are propagated through Nirmal Bharat, the Total Sanitation Campaign (TSC), the Global Sanitation Program, and the National Rural Health Mission. Many such movements indicate successful results in the context of toilets and sanitation. Though the Congress-led UPA government started with "Nirmal Bharat Abhiyan", the present-day Modi government continued it with the 'Swachh Bharat Mission" with greater vigour. The programme is aimed at creating a clean India with people's participation.

In 2014, the Government of India launched the Swachh Bharat Mission (SBM), its flagship programme on sanitation. This has triggered significant momentum in India's sanitation sector. Although the SBM is more or less a continuation of the erstwhile policy framework on sanitation in India (the Nirmal Bharat Abhiyan in the rural sanitation context), it did bring sanitation to the forefront of the agenda of implementation agencies. The state machinery, including the machinery at the local level, has started focusing more on implementing sanitation policies and programmes. Achievement of open defecation-free status has suddenly become a target for state governments and regional bodies.

Despite this focus and increasing budget allocations, the abysmal sanitation scenario in the country persists. Some of the key sanitation issues and concerns are:

a) Around 57% (626 million) of the 1.1 billion people in the world who practice open defecation are found in India. According to the 2011 census, the national sanitation coverage is 46.9%, whereas rural sanitation coverage is just 30.7%. For the marginalized, such as the rural Dalits (23%) and tribals (16%), the figures are much lower. There are various reasons for the high rate of open defecation in India (Nagla:2020: See in Box 1).

b) In addition to the lack of toilets, toilet usage rates are miserably low, with rural areas in some states like Madhya Pradesh, Bihar, Jharkhand, Odisha, and Chhattisgarh having a usage percentage of 13.6% to 22% only.

c) The 2011 census report notes that 22.39% (or over Rs. 3.75 crores) of toilets supposedly built through various government schemes at individual household levels do not exist. (Hindustan Times, 2015).
d) According to the 2011 census data, there are 794,390 dry latrines in India from which the human excreta are removed by human beings, primarily by Dalit women.
e) Women face several health, safety and dignity issues, including physical and sexual violence due to a lack of sanitation facilities (Koonan and Bhullar, 2014).
f) India has over one million sewerage workers. An overwhelming majority of them work without adequate protective gear. As a result, they increasingly suffer from occupational diseases. Also, accidental deaths of sanitation workers are not uncommon.

Box 1

Some reasons why people prefer open defecation
(a) Open defecation provides an opportunity for rural women to socialize.
(b) Toilets are perceived as "impure" places, which is why people construct toilets outside the house at a distance. They believe this is necessary for hygiene and cleanliness.
(c) Some cultures (for example, Adivasis) think of toilets, particularly toilets within the house, as unclean and do not consider open defecation to be unhygienic.
(d) Water shortages are a significant problem in several places, deterring the construction and use of toilets.
(e) The availability of open spaces is conducive to open defecation.

In my earlier paper on 'Problems of Sanitation in India: Does Culture Matter' (Nagla:2020), it is viewed that sanitation in India is not only a rural but also an urban problem, particularly in the context of growing industrialization, coupled with concomitant rapid urbanization and expansion of cities. It unveils the link between poor sanitation, especially the preference for open defecation among rural folks, and peoples' practices and perceptions deeply rooted in cultural norms. Ultimately, it is argued that it is not the resources but rather the beliefs, practices and customs of people related to health and the environment that matter in improving the sanitary conditions in India.

Articulating a right to sanitation is one way to address sanitation issues. It is hoped that articulating sanitation in human rights terms is a practical approach that respects equity, human rights, and environmental sustainability. This makes sense in the Indian context because equity, human rights, and environmental sustainability are at stake due to the country's abysmal sanitation scenario.

Today, at the beginning of the twenty-first century, the present government of India and Prime Minister Narendra Modi have successfully established a healthy sanitation campaign among all the country's people. In the context of sanitation, public awareness establishes the importance of sanitation. It is well known that not only India but also many countries worldwide have implemented various policies, activities, and projects on their behalf in sanitation campaigns. Remarkable works have been done in this regard in many states of India. The states have had unique roles. International organisations like UNO have also provided financial assistance to countries by formulating various policies and methods. Today, efforts are being made to establish environmental sanitation through multiple activities.

The Ministry of Urban Development, Government of India, expresses its views on urban sanitation management so that every Indian city becomes completely clean, healthy, and livable. It stabilizes and ensures good public health and environmental outcomes for its citizens. Proper sanitation facilities have been provided for women and people with low incomes.

The day toilets are available for all of us, the country will be at the pinnacle of progress. From 16th to 29th November 2008, the Third South Asia Dialogue conference on sanitation was organized in Delhi. Delegations from Bangladesh, Bhutan, Afghanistan, India, Maldives, Nepal, Sri Lanka, Pakistan, etc. issued a declaration that is as follows:

1. Providing sanitation and drinking water facilities should be a primary need and a national right.
2. Declaration of completion of fixed national targets for sanitation in a fixed period with all participating countries.
3. At the same time, it is confirmed that this is one of the significant issues decided by it in the Sakosen-1 to be held in 2003 and Sakosen-2 to be held in Islamabad in 2006 among the communities living in rural and urban areas in their respective countries.
4. We must focus on the principles and aspects of sanitation. Remembering the resolutions and implementing them at the family, local, subnational, and national levels will make the goals of achieving sanitation a reality.

Sociology of Sanitation

The sociology of sanitation emerged as a branch of medical sociology in the early 1940s. It explores the social causes and consequences of health and illness. The health and sanitary reforms inspired it in Western society. It was well recognized that the relationship between sociology and sanitation is highly intimate (Pais: 2022:18). It is needed for the in-depth study of sanitation problems in society. Sanitation lies at the root of many other development challenges, such as poor sanitation, public health education, and the environment. Girls drop out of school and are vulnerable to assaults due to poor sanitation and lack of privacy. Globally, poor sanitation results in about 700,000 premature deaths annually. A recent survey shows that ending open defecation can help save children's lives by reducing the spread of diseases, stunted growth, and malnutrition, essential for overall childhood cognitive development and economic productivity.

Sociology of Sanitation is a field study that seeks to analyze and explain essential matters that affect the everyday sanitation problems in our society and the world in which we live. *At a personal level*, *the sociology of sanitation* investigates the causes and consequences of such things as lack of toilets in houses and public places, lack of drainage facilities, lack of proper drinking water facilities, gender and sanitation issues, behavioural approach towards sanitation, disposal of waste and cultural practices of various ethnic groups and management of sanitation. *At the societal level*, *Sociology of Sanitation* explores and explains such matters as the existence of night soil carriers, disposal of waste and waste management, *the* relation of sanitation with caste, the social status of manual scavengers and the prejudice and discrimination against them in society, sanitary conditions at the workplace, public places, schools and educational centres, sanitary measures at household, involvement community of the respective region for the sanitation, public policies on sanitation, toilet as business, and the social movements centred around on sanitation. Sanitation and non-governmental organizations (*For example, Sulabh Sanitation Movement in India).* At the global level, the sociology of sanitation analyses such things as the contributions of WHO, UNICEF, etc. It also examines the economic contribution of the development of sanitation. Sanitation, health, and society are concerned with everyone, which is to be understood about gender, caste, culture, environment, State, and society.

Indeed, one need not search for instances of people failing to recognize the close relationship between sanitary conditions and social progress. Still, ignorance or indifference on the part of the general public may be pardoned because so little has been done in the past to diffuse general information concerning the facts and theories, or the actual and ideal achievements, of either sanitation or sociology. The social science academia needs to encompass sanitation discourse on diverse juxtaposed issues such as justice, empowerment, subaltern, multiculturalism, and social inclusion. On January 28, 2013, a national workshop on sanitation was organized under the auspices of Sulabh International Social Organization (SISS), Delhi. In the workshop, the country's sociologists discussed various sanitation-

related topics. As a result, the necessity of the "sociology of sanitation" was recognized. Sociologist Dr Bindeshwar Pathak, the founder of a non-governmental organization of SISS, expressed the opinion that the sociology of sanitation is a scientific subject that can be solved by solving society's problems. He made a conscious effort to reach the ordinary person through education, to give a new direction to our hygienic understanding intertwined with the ancient civilization (culture). With the inspiration of Dr Bindeshwar Pathak, Hetukar Jha, B K Nagla, Richard Payas, Ashish Saxena, Mohammad Akram, and Anil S. Vaghela have written books on the sociology of sanitation. As a result, the importance of the sociology of sanitation has increased as a branch of sociology. Many other disciplines have also adopted sanitation as an integral and distinct part of social sciences. Sociology has also been concerned with them. The sociology of sanitation is recognized as a newly emerging science. It is considered a science because of its conceptual, ideological and applied applications. This science is functional through its innovative applications and methods. Sanitation is a socially engaged activity.

Dr Bindeshwar Pathak has propounded a new "Sociology of Sanitation" theory in the universal knowledge field of sociology for teaching and research in India's universities and worldwide. He views: "Sociology of Sanitation is a scientific study to solve the problems of the society for sanitation, social deprivation, water, public health, sanitation, ecology, environment, poverty, gender equality, the welfare of children and sustainable development and philosophical and spiritual knowledge is a powerful tool to lead a happy life and to make a difference in the lives of others".

Therefore, sanitation includes environmental sanitation, cleanliness in public places, removal of waste from homes and communities, health-related practices, the role of scavengers, etc. Reviewing the importance of these aspects is an essential task of this science. An attempt has also been made in the books on the sociology of sanitation to present the laws, status and activities related to the location-status and change of sanitation workers in ancient, medieval and present times. In these books, topics like the concept of Sociology of Sanitation; Methods, Perspectives and Orientations of Sociology of Sanitation; Sanitation, Health and Society; Historical Background of Sanitation Movement in India; Sanitation and Culture; Sanitation and Environment; Sanitation and India; Globalization and Sanitation, etc., have been discussed.

One of the most important things that the sociology of sanitation can offer to its students is the ability to *grasp* a connection between broad behavioural patterns of individuals and communities towards sanitation. This provides personal experience regarding the unknown faces of sanitation problems. This preparation is essential for living practical personal lives in a changing and complex world. It is also equally crucial for the future development of our society. Therefore, the sociology of sanitation helps us:

i. To understand the changing pattern of sanitation and why and how these changes will occur in society. The social world is constantly changing, and we need to know the importance of sanitation. From the sociological perspective, we can take more effective action and participate in shaping the future for ourselves and others.

ii. To comprehend the workings of the social systems of sanitary conditions. Social scientists bring sanitation into a social context. This means they look not only at sanitary equipment or measures but also at behaviours and relationships and see how our larger world influences them. A sanitation structure, which is how society is organized around sanitation and how society operates the sanitary system and shapes our lives, often goes unrecognized.

iii. To examine the behavioural pattern, cultural attitudes, and geographical influence towards sanitation. According to Anil Vaghela, the sociology of sanitation is a social science of mutual relations of sanitation. This means the sociology of sanitation is a science of practising internal relations between sanitation and society, which studies the mutual influence of man and society.

Finally, we should identify what we have in common within and between cultures and societies and recognize why we need proper sanitation.

Sociologists strive to bring these things out of the fog, reveal and study them, and examine and explain their interrelationships and impacts on individuals and groups. By describing and explaining these social arrangements and how they shape our lives, social scientists help us to better understand ourselves and the world around us.

Social scientists know that although people in different parts of any city, country, and the world dress differently, speak differently, and have many other beliefs and customs, the sanitation requirement is the same for all people, as all of us are humans. A social scientist looks for what sanitation and hygiene mean for various groups. They look at how multiple groups follow sanitary measures. As viewed by B K Nagla (2015), sanitation is an aspect of society and culture. People will follow a cultural pattern and value of society where sanitation is present. There will be a balance of feelings of sanitation in people's lives. Sanitation will remain effective in the cultural elements. At times, with the rise of the mass market becoming classics in the literature of consumer culture, Vivek (2015) examines an essential but neglected part of that culture - the trash it produces and finds in it an unexpected wealth of meaning. Before the twentieth century, garbage and waste were nearly non-existent. Everything possible was reused. Over the last hundred years and more, modern societies have become hooked on disposability, fashion, and constant technological changes, and the rise of mass consumption has led to waste on an unprecedented, unimaginable scale. He recaptures a hidden part of our social history, vividly illustrating that what we throw away defines us as much as what we keep.

Today, sanitation is a widely important subject in our country. Swachh Bharat Abhiyan, under which more than one crore toilets have been constructed in the country in a year. But even half of these toilets are not used. Swachh Bharat Abhiyan: The survey reveals that not even half the toilets built are being used. Not even half the toilets built under the cleanliness mission are being used, according to an all-India survey conducted by the National Sample Survey Office (NSSO:2015). While just 46 per cent of 95 lakh toilets built in rural India are being used, the figure is barely 50 per cent, even in urban areas, as per the survey.

The National Statistical Official (NSO:2018) report is based on a survey carried out between July and December 2018 that covered more than 100,000 households across rural and urban India. In rural areas, 71.3 per cent of households had access to a toilet – so it was less than three-quarters. Moreover, it is said that of those households with access to a bathroom, 3.5 per cent never used it. The report also highlights that the situation in some states is much worse than in others. For example, more than 50 per cent of rural households in Odisha state have no toilets. A study earlier this year of four states – Bihar, Madhya Pradesh, Rajasthan and Uttar Pradesh – estimated that 44 per cent of people in rural areas still defecated in the open.

A survey conducted by National Family Health Survey NFHS in 2019–2021 showed that 19 per cent of Indian households do not use any toilet facility. The government's Swachh Bharat Mission has made headway into improving the sanitation infrastructure, but we must ensure that each corner of the country benefits from it. While the problem is compounded in the villages, the case is grim in urban slums, too. Water and sanitation are cornerstones of public health, and depriving our citizens of this primary sanitation facility hugely compromises their physical, social and mental well-being – with women paying a heavier price for it. At the same time, Sulabh has a very successful model of community toilets in urban India. Our experience is that an individual household toilet is essential for sustainable change in rural India.

People in rural India keep grains in toilets, use them as storehouses, and go to the fields early in the morning as per the old habits. The previous governments of the country had also emphasized the construction of toilets. However, the mere construction of toilets does not guarantee increased usage. The Clean India campaign is partially successful. Until now, there has not been a rapid change in

people's mindset towards cleanliness and the use of toilets, which is necessary for the success of this campaign.

The sociology of Sanitation is also the study of human actions, by the individual, as well as the community, and the public policies pursued to better sanitary measures in the environment, the prevailing infrastructure, and those required for further improvement of sanitation, from the individual household to community living.

Research and Action Research on Sanitation

Many research and action research initiates have been taken up on sanitation at various levels by the Government of India in collaboration with international organizations like the U.N., UNDP, UNICEF, Water Aid, Plan International, CARE and multi-donor and bilateral institutions like the World Bank, Asian Development Bank, DFID, etc. There is an exciting action research partnership with Participatory Methodologies done by the Forum of Kenya (PAMFORK:2009) in promoting participation through the use of Participatory Action Research (PAR) methodologies, facilitating multi-stakeholder processes that deepen the understanding of the relationship between Water, Sanitation and Hygiene (WASH). The study emphasized students' performance, learning in schools, building, and strengthening capacities of stakeholders from the district level to implement evidence-based WASH-related interventions.

The question is how the attitude of the country's people will change. How will you tell them the importance of using toilets and cleanliness? In this context, the founder of Sulabh International Social Services Institute, Dr Bindeshwar Pathak, who created awareness about the necessity of toilets worldwide and in India, contributed to many books on this subject by many authors. The sociology of sanitation *is the action-oriented programme in society* which Dr. Pathak adopted in his life and proved in action. It generally concerns itself with the social rules and processes that bind and separate people from sanitary conditions as individuals, members of associations, groups, and institutions, as well as examining organizations and developing social life for a better world. The sociology of sanitation ranges from analysing individuals on the street to studying global social processes. In India, through the efforts of Dr Bindeshwar Pathak, *the Sociology of Sanitation* is taught at twenty universities in the country. The students passing out from this course will become skilled to become self-employed.

The sociology of sanitation is a science that implements scientific measures to understand sanitary conditions in society better. It helps us to understand the workings of the social systems of sanitary conditions. Social scientists bring sanitation into a social context. This means social scientists look not only at sanitary equipment or measures but also at behaviours and relationships and see how our larger world influences these things. A sanitation structure, which is how society is organized around sanitation and how society operates the sanitary system and shapes our lives, often goes unrecognized.

Sociology is the study of man and society in general. Sociological studies cover man's behaviour with his fellow beings in social surroundings. It studies the collective behaviour of man, developments, organizations, and institutions. Sociology is a social science that conducts various studies and research to find facts from a general understanding. Sociology enables us to understand the relationship between man and his activity in society. It enhances the knowledge of social action. Therefore, books on the sociology of sanitation will act as a catalyst in teaching sanitation in the socialization of the society's children because books are written based on life experiences, and books only influence human life. In this context, various aspects and practices related to sanitation have been described in the book "Sociology of Sanitation", which was contributed by the inspiration of Dr Bindeshwar Pathak and was mainly published in 2015. The first pioneering sociological study on the abolition of scavenging in India, entitled 'Road to Freedom', was done by Dr Bindeshwar Pathak (1991). Pathak applies a holistic approach to the problem of scavenging aimed at a total liquidation of the

system. The author seeks to give scavengers new life and hope by providing a technology accepted even by U.N. bodies- an effective, low-cost, and appropriate alternative to scavenging.

The principal authors of this series are Bindeshwar Pathak, Leela Visaria, Hetukar Jha, B.K. Nagla, Richard Pais, Anil Vaghela, Ashish Saxena, and Mohammad Akram wrote a book on the sociology of cleanliness, which is helpful for school, college, and university studies. And these are also places to create awareness. These scholars analyze the different dimensions as social, cultural, political, economic, historical, ecological, environmental, technological, spiritual, medical and other possible institutional as well as structural dimensions of issues related to sanitation by applying the concepts, approaches, theories and methodological perspectives embedded in sociology.

The sociology of sanitation provides theoretical perspectives to frame policies and research methods that enable us to study sanitation scientifically. The sociology of sanitation is a social science. That means a social scientist works to understand sanitation in very structured and disciplined ways. In the case of the sociology of sanitation, theories focus on how social institutions operate sanitation. They provide a way of explaining these institutions. Scientific methods provide ways of generating accurate research results.

Mohammad Akram (2015) delineates the conceptual and theoretical formulations necessary for the sanitation study. Ashish Saxena (2015) discusses various sanitation systems and procedures available for excreta management. A lack of sanitation and hygiene contributes to various health and environmental problems. The resulting sickness causes suffering and loss of opportunities to earn a living or gain an education. Therefore, Richard Pais (2015) views that for any social and economic development, adequate sanitation in conjunction with good hygiene and safe water is essential to good health. Leela Visaria (2015), in her book "Sanitation in India with - focus on Toilets and Disposal of human excreta", has elaborated on the same factor that facilitates disposal of manure through the construction of latrines in terms of availability and equity of latrines discussed. Visaria has also given information about the impact of improper disposal on health, and she has examined the sociological, cultural, and economic factors of the difficulties of toilet use and the consequences of open defecation, especially for women. Her book dealt with the role of caste and the rights of the scavenger community in their efforts to regain their human self-respect.

In this context, Hetukar Jha has considered sanitation an essential subject for Indian intellectuals to discuss in discussions of the habits and practices of sanitation prevalent in different periods of history. Apart from this, it is clear from the social, political and cultural global examples of scavengers that cleanliness has nothing to do with whether people are rich or poor. If having money understood the importance of cleanliness, then the streets of Soweto in Johannesburg, South Africa, would not be dirty. By the way, dirt is nowhere to be seen in the posh colonies of Delhi and Mumbai.
There is a correlation between sanitary conditions and social progress. The countries that have progressed have also had excellent hygienic conditions. Sociology as a science examines hygiene conditions and, if they are lacking, suggests ways to improve them. Extending the study of sanitation was a requirement to enhance the physical life of human beings in society.

During a trip to South Africa, Pagsekha Chatterjee understood the consequences of a community being conscious of its image. Soweto is the most famous city for blacks in South Africa. It was once the centre of anti-apartheid movements. People associated with black movements, like Desmond Tutu, Frank Chikene and Nelson Mandela, lived here. After the end of the power of the white people in South Africa, continuous development works were being done in Soweto.

Although this city has not yet become ideal, some areas remain strongholds of crime. Apart from unemployment, the lack of essential services also hurts. But what attracted Chatterjee the most was the cleanliness and orderliness here. Earlier, the voices of tension, pain, and protest could be seen from these streets. Today, the people here take pride in cleanliness.

This change in Soweto came about because the people here felt that their city was better than other cities in the country, so this superiority should also be visible on the surface. Swachh Bharat Abhiyan will be successful only when every Indian realizes it is a matter of pride and self-respect.

Sanitation is the basis for a happy life. It is necessary to have a clean surrounding environment for a healthy life. We may develop a better environment and stay away from diseases. Therefore, every person should take the initiative to keep his surrounding environment clean. In India, an effort has been made to discuss the different sanitation movements, the founders of the movements, the role of various institutions working for sanitation, the contribution of the State and central government and multiple programmes keeping in view the different movements related to sanitation. It is pertinent to mention here that the role of the Sulabh International Institute of Social Science, Delhi, has been unique. Its great campaign for public awareness regarding toilets and their context has been attention-grabbing.

What should be done

Sanitation is a global challenge all underdeveloped, developing, and developed countries face. All sections of society demand solutions for better sanitation without discrimination worldwide. Sanitation is closely related to human health.

Effective communication on public health-related issues like sanitation is a big challenge in a country like India, which has a 35 per cent illiterate population. Besides mass media, there is a need for the involvement of NGOs, community-based organizations and the community to tackle the crisis of sanitation failure. Decentralized management of the primary health care level is strongly advocated through Panchayati Raj Institutions (PRIs) as recommended by National Health Policy 2002. The policy also recommends the convergence of management of all vertical public health programs at the district level and below. However, before a delegation of the responsibility and devolution of financial and administrative powers to PRIs, it is essential to build capacities through interactive training sessions. Simultaneously, health functionaries also need to be oriented to adjust to a new environment and play their effective roles (Taneja:2004). Thus, improvement in sanitation requires newer strategies and targeted interventions with follow-up evaluation. The goals for environmental sustainability set by MDG 2015 seem to be unrealistic.

We all want to be in an environment where at least the basic facilities are in constant supply to ensure healthy living conditions. The efforts to ensure proper disposal of human waste seem to have taken deviance in the Indian scenario, as some of the population still resort to bush toilets at the call of Mother Nature. Basic sanitation is related to all the measures to ensure the salubrious separation of human and other waste from human reach. The term basic refers to the necessary healthy living conditions, and in every household, there should be proper sanitation facilities, including toilets. Basic sanitation also encompasses the collection of refuse and its proper disposal, safe drinking water, and the maintenance of sewer systems.

To help improve basic sanitation in India, change needs to start from an individual level rather than relying on the State to bring about the change. Once an individual realizes the need to guard their environment jealously, then the whole scenario will change for the better. More and more awareness programs should be conducted on the benefits of keeping the environment tidy, proper disposal of waste, and the importance of having at least one proper toilet for a single household. A new set of sanitation laws should be put in place to ensure that no person pollutes the environment in any way. However, due to humanity's cunning nature, some laws become much more effective once there are certain penalty provisions. Any person to be found wanting should be held accountable before the law. The sewer systems should be maintained occasionally as this will help combat diseases. In case of any sewer pipe bursts, immediate action should be taken by either the household or the State. There has to be a common dumping site, particularly for waste disposal, to avoid littering everywhere. Environmental campaigns, including the GO GREEN, GO CLEAN campaign, can be helpful in this regard. Several NGOs (Non-governmental organizations) have considerable strengths and play important and varied roles in the

sanitation sector, such as for community education, awareness raising and hygiene promotion and marketing, including gender-sensitive approaches, implementing behaviour change programmes, etc. (Rao:2021).

Poor basic sanitation in India results from illiteracy, poverty, ignorance, and lack of knowledge, and all these contributory factors are close to being corrected. Every citizen has a right to a healthy environment, but this does not overshadow the duty of every individual to ensure that the environment is kept clean at all times. The state helps ensure that refuse is disposed of appropriately through municipal corporations. Basic sanitation requires that the State and its citizens work hand in glove to cooperate fully towards a healthy India with at least basic sanitation facilities for everyone.

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INTERFACE BETWEEN SANITATION, PUBLIC HEALTH AND SOCIAL CHANGE IN THE INDIAN CONTEXT: ISSUES AND CHALLENGES

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Sanitation:

Sanitation refers to accessing and using facilities and services to dispose of all types of waste safely. In addition to preventing disease by avoiding contact with pathogens or parasites in waste, sanitation promotes human dignity and well-being. Sanitation services range from providing and emptying toilets to transporting, treating, and disposing manure. Hand washing, as part of personal hygiene, removes infectious agents from hands and prevents the spread of disease. Sanitation is essential for health, from preventing infection to improving and maintaining mental and social well-being. Sanitation also includes such facilities and services as toilet facilities and waste management systems, which are critical components of sanitation infrastructure in terms of ensuring equitable access to toilet facilities, particularly for marginalised communities' infrastructure to promote the use of safe and hygienic toilet technologies, e.g., flush toilets and composting toilets. Regular maintenance and clean toilet facilities are needed to prevent disease transmission. The water supply is adequate for flushing and handwashing, and proper disposal of human waste and toilet paper. The waste management systems regularly collect and transport waste to treatment facilities. Treatment implements effectively serve waste treatment technologies, e.g., sewage treatment plants and septic systems. Safe disposal of treated waste prevents environmental pollution. Recycling promoted the reuse of waste materials, e.g., composting and biogas production. Regular monitoring promotes waste management systems, which ensures its effectiveness. In addition, it also involves health and hygiene practices, such as hand washing and bathing. Handwashing and bathing are essential for maintaining personal and public health. Here are some key aspects to consider, particularly frequent handwashing at critical times, e.g., after using the toilet and before eating. Promoting proper handwashing techniques like using soap and rubbing hands together ensures access to handwashing facilities like sinks and handwashing stations. Besides these, an adequate water supply ensures handwashing and the availability of soap or hand sanitiser.

Personal Hygiene:

Frequent and regular bathing is encouraged to maintain personal hygiene, necessitating access to bathing facilities, mainly showers, bathtubs, etc. Moreover, it involved adequate water supply for bathing, the availability of soap or body wash, and the promotion of cleanliness of bathing facilities. Additional hygiene practices require facilities like menstrual hygiene management (MHM), food hygiene practices (e.g., proper food handling and cooking), and environmental hygiene practices such as appropriate waste disposal, cleaning, etc. Moreover, safe drinking water and food handling practices prevent waterborne and foodborne illnesses. Here are some key aspects to consider:

Safe Drinking Water and food handling practices are another significant dimension, which includes 1) **Access**: Ensure access to safe drinking water sources, e.g., piped water, wells, and rainwater harvesting. 2) **Quality**: Regular testing and monitoring of water quality to ensure safety.3) **Treatment**: Implement effective water treatment technologies (e.g., filtration, chlorination). 4) **Storage**: Ensure proper storage of drinking water to prevent contamination. 5) **Distribution**: Ensure safe distribution of drinking water to households. The food handling practices involve such aspects as 6) **Handling**: To promote proper food handling practices like washing hands, utensils, and surfaces. 7) To prevent spoilage and contamination and ensure proper food storage. 8) **Preparation**: to promote proper food preparation practices (e.g., cooking, reheating). 9) **Serving**: to ensure proper serving practices like using clean

utensils and plates. 10) **Waste disposal**: to ensure proper food waste disposal to prevent attracting pests.

Public Health

Public health refers to the science and practice of preventing disease, promoting health, and prolonging life through health education and awareness. These are critical to promoting sanitation, public health, and social change. Here are some key aspects to consider. Health Education 1) **Curriculum development**: to integrate health education into school curricula. 2) **Training programs**: to offer training programs for community health workers, teachers, and other stakeholders. 3) **Workshops and seminars**: Organising workshops and seminars on health topics 4) **Materials development**: to create educational materials (e.g., brochures, posters, videos). 5) **Digital platforms**: to utilise digital platforms like websites and social media for health education. Public health involves awareness through 1) **Campaigns** to launch awareness campaigns on specific health topics, 2) **Events** to organise events like World Health Day and Health Fairs, and 3) **Media engagement** to engage with media outlets to promote health messages. 4)**Community engagement**: with communities to raise awareness 5) **Partnerships**: collaborating with partners like NGOs and government agencies to amplify awareness efforts. Disease prevention and control are critical components of promoting public health. Here are some key aspects to note: Disease Prevention through 1) **Vaccination**: Implement vaccination programs to prevent infectious diseases 2) **Screening**: Conduct regular screening for diseases (e.g., cancer, diabetes). 3)**Health promotion**: promoting healthy behaviours like physical activity and diet. 4) **Environmental health**: implementing measures to prevent environmental health hazards (e.g., air pollution, water contamination). 5) **Vector control**: implementing measures to prevent vector-borne diseases (e.g., mosquito control). Disease Control: 1) **Surveillance**: establishing disease surveillance systems to detect and respond to outbreaks. 2)**Contact tracing**: conduct contact tracing to identify and contain outbreaks 3) **Isolation and quarantine**: implement isolation and quarantine measures to prevent disease spread. 4)**Treatment**: to ensure access to effective treatment for diseases. 5). **Outbreak response**: establishing protocols for responding to disease outbreaks.

Social Change:

Social change refers to transforming social structures, institutions, and relationships. It includes Changes in social norms, values, and beliefs, Shifts in power dynamics and social hierarchies, transformations in cultural practices and traditions, and changes in policies, laws, and social institutions. Social change in sanitation and public health refers to transforming societal attitudes, behaviours, and practices to adopt improved sanitation and hygiene practices, leading to better public health outcomes. **Impact:** Sanitation impacts public health through disease prevention. Sanitation has a significant effect on public health through disease prevention. Here are some ways sanitation affects public health: 1) **Reduces waterborne diseases**: Proper sanitation helps prevent contamination of water sources, reducing the risk of waterborne diseases like cholera, diarrhea, and typhoid. 2) **Prevents vector-borne diseases**: Sanitation measures like waste management and sewage control help reduce the breeding of disease-carrying vectors like mosquitoes and flies. 3) **Decreases, particularly diarrheal diseases**: Improved sanitation facilities and hygiene practices reduce the incidence of diarrheal diseases, the leading cause of mortality worldwide. 4) **Lower risk of neglected tropical diseases**: Sanitation improvements can help control the spread of neglected tropical diseases like hookworm, roundworm, and whipworm. 5) **Reduces antimicrobial resistance**: By reducing the spread of diseases, sanitation helps decrease the overuse of antibiotics, which contributes to antimicrobial resistance. 6) **Protects vulnerable populations**: Sanitation improvements benefit vulnerable groups like children, pregnant women, and people with compromised immune systems. 7) **Supports mental health**: Sanitation facilities and hygiene practices contribute to dignity, privacy, and well-being. 8) **Enhances healthcare outcomes**: Sanitation is critical in healthcare settings, reducing the risk of healthcare-associated infections and improving patient outcomes.

Public Health Influences Social Change through Education and Awareness

Public health plays a significant role in influencing social change through education and awareness. Here are some ways public health achieves this: Public health programs educate individuals and communities about healthy behaviours, disease prevention, and management. Awareness campaigns: Public health initiatives launch campaigns to highlight health issues, reduce stigma, and promote social norms. Community engagement: Public health involves communities in health decision-making, empowering them to take ownership of their health. Policy advocacy: Public health professionals advocate for policies supporting health equity, social justice, and environmental changes. Research and data: Public health research and data inform evidence-based interventions, influencing social change. Partnerships and collaborations: Public health builds partnerships with organisations, governments, and stakeholders to amplify social change efforts. Capacity building: Public health strengthens healthcare systems, building capacity for sustainable social change. Addressing health inequities: Public health addresses health disparities, promoting health equity and social justice. Environmental health: Public health highlights ecological health issues, influencing social change for sustainability. Encouraging collective action: Public health encourages communities to work together, driving social change through collective action.

Public health influences social change by educating and raising awareness, promoting a healthier and more equitable society. Sanitation, public health, and social change are interconnected concepts significantly affecting India's development. An overview of the critical issues, policies, and challenges are presented below:

Issues:

1. Inadequate access to safe sanitation and hygiene facilities: Insufficient access to safe sanitation and hygiene facilities can have severe consequences, including:
2. Waterborne diseases: Contaminated water sources can spread diseases like cholera, diarrhea, and typhoid.
3. Poor health outcomes: Poor sanitation and hygiene facilities can increase morbidity and mortality rates.
4. Environmental pollution: Improper waste disposal can contaminate soil, air, and water, harming ecosystems.
5. Social and economic impacts: Inadequate sanitation can lead to low productivity, reduced economic opportunities, and social stigma.
6. Increased healthcare costs: Treating sanitation-related illnesses can burden healthcare systems and economies.
7. Negative impacts on education: Lack of school sanitation facilities can lead to absenteeism among girls.
8. Human rights concerns: Inadequate sanitation and hygiene facilities can violate human rights, particularly the right to health and dignity.
9. Increased risk of antimicrobial resistance: Inadequate sanitation can contribute to the spread of antimicrobial-resistant bacteria.
10. Malnutrition and stunting: Inadequate sanitation can lead to increased rates of malnutrition and stunting in children.
11. Reduced quality of life: Inadequate sanitation and hygiene facilities can significantly reduce overall quality of life.
12. Addressing inadequate access to safe sanitation and hygiene facilities is crucial for promoting public health, environmental sustainability, and human well-being.

Other Issues in the Outbreak of Diseases Due to Poor Sanitation:

They were given poor waste management practices like inadequate waste collection and disposal, open dumping and burning waste, contamination of water sources and soil, and waterborne

disease outbreaks. Those are cholera, diarrhea, typhoid, and other diseases spread through contaminated water due to flooding, poor sanitation, or inadequate water treatment. Malnutrition and related health issues outbreaks due to insufficient sanitation led to malnutrition, stunting, and micronutrient deficiencies, that is, poor health outcomes, especially for children and vulnerable populations. Healthcare facilities and services may be scarce in rural areas, and their inaccessibility and delays in seeking medical attention can exacerbate sanitation-related illnesses.

Social and cultural barriers to the adoption of Sanitation:

The social and cultural barriers that influence the adoption of Sanitation include taboos and misconceptions around sanitation and hygiene, lack of awareness and education, and cultural practices that hinder sanitation adoption. Inadequate policy implementation and lack of enforcement have also hindered sanitation progress. Moreover, insufficient funding, resources, or political will to address sanitation challenges the adoption of sanitation.

Challenges:

The challenges highlight the complexity of sanitation and public health issues, requiring a multifaceted approach to address them effectively. The significant difficulties are listed below:

1. Ensuring proper use and maintenance of toilets
2. Addressing solid and liquid waste management gaps
3. Sustaining behavior change
4. Achieving universal coverage in rural and urban areas

Swachh Bharat Mission (SBM) has been recognised globally for improving sanitation and hygiene and has inspired similar initiatives in other countries. **National Health Mission (NHM):** focuses on improving healthcare services and outcomes. The National Health Mission (NHM) is a government initiative in India that aims to improve the health outcomes of its citizens, particularly in rural and disadvantaged areas. The main objectives of NHM are as follows:

1. Improve access to quality healthcare services
2. Reduce maternal and child mortality
3. Control communicable and non-communicable diseases
4. Strengthen public health systems
5. Promote community involvement and ownership

Present Health Policy and Programs:

1. Swachh Bharat Mission (SBM): Focuses on universal sanitation coverage and cleanliness.
2. National Health Mission (NHM): Aims to improve healthcare services and outcomes.
3. Ayushman Bharat: Seeks to provide health insurance to vulnerable populations.

Methodological Framework:

The narratives and descriptions adopt a secondary data-based exploratory framework, a diagnostic frame of sanitation and public health. Supplementary techniques include sanitation and hygiene practices assessment, public health outcomes analysis, and health impact assessment.

Sanitation and Public Health Issues in India:

Problems of public health issues arise due to inadequate waste management, improper disposal of waste, lack of waste collection infrastructure, insufficient waste treatment and disposal facilities, open defecation and urination. Lack of access to toilets, cultural practices and taboos. Inadequate sanitation facilities in public spaces lead to the spread of rubbish and water stagnation. Littering and dumping of waste and clogged drains and waterways result in stagnant water-breeding disease-carrying insects. Waterborne diseases (cholera, malaria, etc.) contaminated water sources impact poor sanitation and hygiene practices given inadequate healthcare service. The lack of toilets and cultural limitations in usage reflect only the need for more access to toilets, especially in rural areas, given cultural beliefs and practices. Given inadequate maintenance and cleaning, the community toilets and their limitations affect sanitation due to cultural and social barriers.

Addressing these challenges requires a comprehensive approach, including improving waste management infrastructure and practices, increasing access to toilets and sanitation facilities, promoting behaviour change and awareness about proper sanitation and hygiene, which addresses cultural and social barriers to sanitation adoption, ensuring adequate healthcare services and disease surveillance which is expected to tackle these challenges to reduce the risk of waterborne diseases, improve public health, and enhance the overall quality of life.

Environmental Factors in Public Health

Inadequate waste disposal infrastructure results in a lack of proper waste collection and disposal facilities, insufficient landfill capacity and inadequate waste treatment technologies. Poor drainage and sewage systems in the form of clogged or non-existent drains due to inadequate sewage treatment plants and contaminated waterways and soil. Water pollution is caused by contamination of surface and groundwater sources, chemical runoff from agricultural and industrial activities, human waste, and sewage entering water sources. As a result, these environmental factors can spread diseases through contaminated water and soil, unpleasant living conditions and odours, negative impacts on local ecosystems and biodiversity, and economic losses due to environmental degradation.

Addressing these environmental factors requires Investing in waste disposal infrastructure and technologies, upgrading drainage and sewage systems, implementing effective water pollution control measures, promoting sustainable practices, and involving the community. By mitigating these environmental factors, we can reduce the risk of sanitation-related diseases, protect public health, and preserve the environment.

Cultural and Social Factors:

Cultural and social factors that influence sanitation and hygiene include the following: 1) Cultural taboos around toilet use, beliefs that toilets are unclean or impure, taboos around discussing sanitation and hygiene, and also preferences for open defecation due to cultural or religious reasons 2) Limited education and awareness on account of Lack of understanding about proper sanitation and hygiene practices, Limited knowledge about health risks associated with poor sanitation, inadequate education on proper toilet use and maintenance, 3)Social norms and practices include, social pressures to follow traditional practices, limited social support for adopting improved sanitation and hygiene practices, and also cultural or social norms prioritising other issues over sanitation and hygiene. These cultural and social factors can lead to Resistance to adopting improved sanitation and hygiene practices, limited demand for sanitation facilities and services, and persistence of harmful practices, such as open defecation. Addressing these factors requires the following: Community-based education and awareness campaigns, cultural sensitivity and engagement with local leaders and influencers, Social marketing and behaviour change communication strategies, involving communities in the design and implementation of sanitation programs by understanding and addressing these cultural and social factors, we can increase adoption of improved sanitation and hygiene practices, and thereby ultimately improve public health.

Present Problems and Challenges:

Sustaining behaviour change involves maintaining long-term adoption of improved sanitation and hygiene practices, preventing relapse into old habits and encouraging continued use of sanitation facilities. Addressing cultural and social barriers involves overcoming cultural taboos and social norms that hinder sanitation adoption, engaging with local leaders and influencers to promote sanitation, and addressing gender and social equity issues in sanitation access. Improving waste management infrastructure requires upgrading waste collection, transportation, and disposal systems, increasing access to adequate facilities, and implementing effective waste treatment and recycling technologies. Ensuring equitable access to sanitation facilities necessitates addressing disparities in sanitation access across urban-rural, rich-poor, and gender lines. Ensuring inclusive design and accessibility of sanitation facilities requires promoting affordable and subsidized sanitation options for marginalised groups. To

overcome these challenges, implementing sustainable behaviour change strategies, engaging in cultural and social norm change initiatives, investing in waste management infrastructure development, and prioritising equitable access and inclusivity in sanitation programmes are essential. We can ensure that sanitation and hygiene improvements are sustainable, inclusive, and beneficial by tackling these challenges.

Solutions include the following:

First and foremost, it involves community-led initiatives and engagement, which empower local communities to take ownership of sanitation efforts, encourage participatory approaches to sanitation planning and implementation, build capacity, and mobilise resources at the community level. Secondly, behaviour changes in communication and education lead to the design of effective communication campaigns to promote sanitation and hygiene practices, educate communities about the importance of sanitation and hygiene, and address knowledge gaps and misconceptions about sanitation and hygiene.

Thirdly, the improved waste management infrastructure requires upgrading waste collection, transportation, and disposal systems, increasing access to adequate waste management facilities and implementing effective waste treatment and recycling technologies. Fourth, addressing cultural and social barriers through inclusive approaches includes engaging with local leaders and influencers to promote sanitation. Fifthly, gender and social equity issues in sanitation access should be addressed, and culturally sensitive sanitation programs should be developed. Finally, it involves increasing funding and resource allocation for sanitation and public health through which we can undertake advocacy for increased government funding for sanitation and public health initiatives, finally, leveraging private sector investment and partnerships for sanitation development and thereby ensure efficient use of resources and effective budget allocation for sanitation programs.

Implementing these strategies is expected to improve sanitation and hygiene practices, increase access to sanitation facilities and services, reduce health risks associated with poor sanitation, and promote inclusive and equitable sanitation development, strengthening public health outcomes and quality of life. These strategies can help achieve sustainable sanitation and hygiene improvements, primarily when implemented comprehensively and integrated.

Scaling up successful initiatives involves identifying and replicating adequate sanitation and hygiene programs through expanding successful models to reach more communities and populations, leveraging resources and partnerships to amplify the impact. Addressing persistent disparities and inequities requires identifying and addressing systemic barriers to sanitation access by targeting marginalised and vulnerable populations with tailored initiatives to ensure inclusive and equitable sanitation development. Ensuring sustainability and long-term impact calls for building local capacity and ownership for sanitation and hygiene initiatives, establishing sustainable financing mechanisms and resource allocation and monitoring and evaluating progress to ensure long-term impact. Integrating sanitation and public health strategies with other development initiatives involves aligning sanitation and hygiene efforts with broader development goals (e.g., education, healthcare, economic development), collaborating with different sectors and stakeholders to leverage resources and expertise and also addressing the intersections between sanitation, hygiene, and other development areas. Implementing these strategies is expected to accelerate progress towards universal access to sanitation and hygiene and reduce health disparities and inequities by ensuring lasting impact and sustainability. These strategies can help drive transformative change in sanitation and hygiene, ultimately improving public health, well-being, and quality of life.

Social Change in Indian Context:

In the Indian context, social change in sanitation and hygiene is influenced by:

Culture, particularly traditional beliefs and practices, addresses the deep-rooted cultural beliefs about purity, pollution, and cleanliness. Traditional practices like open defecation, manual scavenging,

and inadequate waste management. Traditions: social and religious norms, particularly caste, class, and gender, affect access to sanitation facilities. Religious beliefs are influencing attitudes towards sanitation and hygiene. Traditional festivals and customs impact waste management practices and significantly influence social life. Customary Practices resistant to change have been adopted in modern sanitation facilities, such as preference for traditional practices due to familiarity and comfort, fear of change, and perceived loss of cultural identity.

To address these influences, engaging with local communities and leaders is essential to understand the cultural and traditional context. We must develop culturally sensitive sanitation and hygiene programmes, leverage traditional practices and beliefs to promote positive change, encourage inclusive and participatory approaches to sanitation development, and address social and religious norms through education and awareness campaigns. By acknowledging the cultural, traditional, and customary factors, we can create adequate and sustainable sanitation and hygiene initiatives in India.

Obstacles to social change in sanitation and hygiene:

The barriers to social change in sanitation and hygiene are as follows:

Limited education and awareness of people result in a lack of understanding about proper sanitation and hygiene practices and a lack of knowledge about health risks associated with poor sanitation. Inadequate education on proper toilet uses and maintenance affects the adoption of modern sanitary practices. Deep-rooted cultural beliefs and practices hinder sanitation adoption. Besides these, social norms and taboos around sanitation and hygiene resist change due to fear of cultural identity loss. Moreover, adequate infrastructure and resources increase access to sanitation facilities and services. Inefficient waste management infrastructure exposed only the limited funding and resources for sanitation development

To overcome these obstacles, targeted education and awareness campaigns involving local communities to address cultural and social barriers are essential. Investment in infrastructure development and resource allocation for sanitation encourage inclusive and participatory approaches to sanitation development. Modern technology and innovation also lead to improvements in sanitation infrastructure and services. By addressing these obstacles, we can create an enabling environment for social change in sanitation and hygiene, ultimately leading to improved public health and well-being.

Implications:

The implication of improper sanitation and public health warrants specific measures like sustaining behavior change, addressing cultural and social barriers, improving infrastructure and resources, strengthening governance and accountability integrating sanitation, health, and education initiatives, community-led initiatives and participation, technology-enabled solutions for sanitation and health, inclusive approaches for marginalised communities, critical revisit of present policy to address limitations, people's participation and community engagement, sanitation and public health education, effective use of mass media, documentaries, and awareness campaigns, inclusion of sanitation courses in secondary and collegiate education, involvement of SHGs/SAGs, community, PRIs, LSGs, departments, and ministries, collaboration with WHO/WASH and international organisations,increased funding and resource allocation ,improved infrastructure and technology,addressing properly the cultural and social barriers for promoting sanitation. Strengthening governance and accountability and integrating sanitation, health, and education initiatives would go a long way in creating a people-based, awareness-oriented, public health-conscious society. Implementation Strategies include community engagement and participation, capacity building and training, funding and resource allocation, monitoring and evaluation, policy advocacy and reform, collaboration and partnership building, and continuous learning and improvement.

Future Directions

The future directions to make sure people-based sanitation and public health involves universal access and use of toilets that safely contain excreta

Universal access to toilets that safely contain excreta and elimination of open defecation should be prioritised by governments, ensuring progress is equitable and in line with the principles of the human right to water and sanitation. It demands a concurrent supply of sanitation facilities and services to ensure toilet adoption and sustained use and enable scale. Sanitation interventions should ensure the coverage of entire communities with safe toilets that, at a minimum, safely contain excreta and address technological and behavioural barriers to use. Shared and public toilet facilities that safely contain excreta can be promoted for households as an incremental step when individual household facilities are not feasible. Everyone in schools, health care facilities, workplaces and public places should have access to a safe toilet that, as a minimum requirement, safely contains excreta. Accordingly, it ensures universal access to secure systems throughout the sanitation service chain.

Moreover, the selection of safe sanitation systems should be context-specific and respond to local physical, social and institutional conditions. Progressive improvements towards safe sanitation systems should be based on risk assessment and management approaches (e.g. Sanitation Safety Planning). Sanitation workers should be protected from occupational exposure through adequate health and safety measures. Sanitation should be addressed as part of locally delivered services and broader development programmes and policies. Sanitation should be provided and managed as part of a package of locally delivered services to increase efficiency and health impact. The sanitation interventions should be coordinated with water and hygiene measures, as well as safe disposal of child faeces and management of domestic animals and their manure to maximise the health benefits of sanitation. The health sector should fulfil core functions to ensure safe sanitation and protect public health. The health authorities should contribute to coordinating multiple sectors to develop sanitation approaches and programmes and increase sanitation investment. Health authorities must contribute to the development of sanitation norms and standards. As such, sanitation should be included in all health policies where sanitation is needed for primary prevention to enable coordination and integration into health programmes. Overall, sanitation promotion and monitoring should be included within health services to maximise and sustain health impact.

Sum Up

Sanitation, public health, and social change are intricately linked in contemporary society. The policy implications of this nexus are far-reaching, and solutions require a multi-faceted approach. Key pathways include: Sanitation is a fundamental public health and well-being right. Invariably, social change is crucial for sustainable sanitation and public health outcomes. The policy frameworks must integrate sanitation, public health, and social change strategies as community-led initiatives. Education and awareness campaigns are needed to ensure behaviour change. Addressing the cultural and social barriers is expected to promote inclusivity towards success. Collaboration between governments, international organisations, and civil society is necessary for effective policy implementation. Above all, continuous monitoring, evaluation, and learning are required to adapt to evolving challenges. By doing this, sanitation and public health become a people-centric movement for which social education and awareness are sine-qua-non to ensure and create an inclusive society in the Indian context by breaking cultural obstacles resulting in people-led sanitation with government participation. Accordingly, sanitation is a fundamental human right that fosters community-led initiatives that lead to social change.

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SANITATION AND GENDER: CHALLENGES AND OPPORTUNITIES

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Abstract

Sanitation is an essential indicator of development, an important determinant of growth, and a significant development goal. The gendered dynamics of sanitation underscore the close inter-linkages between gender, culture, attitude, poverty, human rights and sustainable development. India can only benefit from demographic development if half of the population lives in healthy and unclean surroundings due to a lack of safe water and sanitation access. Poor water and sanitation facilities have many other serious repercussions. Gender oppression is a socially constructed oppression, producing an ideological representation of differences often perceived as natural. The salience of this issue demands a critical understanding of the ground reality of sanitation related to women in India. In this context, the analysis of the article is based on a comparative study of the secondary data borrowed from the data of NFHS-3, NFHS-4 and NFHS-5 and Census of India, 2001 and 2011. The paper suggests that only by a combination of education, social awareness, campaigns and effective legal implementation can the deep-rooted attitudes and practices against women be eroded, and women can handle the issue of sanitation with dignity. The use and management of water resources, sanitation, and health are the sole responsibilities of women in Indian society. As a result, through socialisation, women know how to educate children on hygiene matters and are also aware of the impact of poor sanitation on health. The knowledge of women related to sanitation can be an opportunity for Indian society to achieve the target of VIKSIT BHARAT @2047.

Key Words: *Sanitation, Gender, Women, India.*

Introduction

Sanitation is an essential indicator of development, an important determinant of growth, and a significant development goal. The gendered dynamics of sanitation underscore the close inter-linkages between gender, culture, attitude, poverty, human rights and sustainable development. India can only benefit from demographic development if half of the population lives in healthy and unclean surroundings due to a lack of safe water and sanitation access. Gender oppression is a socially constructed oppression, producing an ideological representation of differences often perceived as natural. Poor water and sanitation facilities have many other serious repercussions. Sanitation is intrinsically linked to conditions and processes relating to public health, environment quality, culture and behavioural patterns of individuals.

Access to adequate sanitation signifies crossing the most critical barrier to a life of dignity and fulfilment of basic needs. Poor sanitation epitomises the ugly face of society, which is not only offensive to human dignity and human rights but also creates an appalling social condition. Though several steps have been taken to improve the situation of sanitation, the reality of the ground is bleak, and society has yet to realise its importance. As per general perception, sanitation is associated with either health or environment, but it is closer to socio-cultural aspects and behaviour patterns of individuals. In every society, several beliefs and rituals are linked to sanitation and hygiene, but unfortunately, in the wave of LPG, nowadays, behavioural patterns are not conducive to it. Even though people are well aware of the importance of sanitation in their lives and society, their perceptions and lifestyles do not conform to it.

Although the problem of sanitation affects men and women equally, the conditions worsen for women. Without access to proper sanitation facilities, many women become 'prisoners of daylight', using only the night as privacy. Night-time trips to fields expose them to the risk of not only physical attack and sexual violence but also socio-cultural threats. The gendered dynamics of sanitation underscore the close inter-linkages between gender, culture, attitude, poverty, human rights and sustainable development.

The concept of sanitation was earlier limited to the disposal of human excreta by cesspools, open ditches, pit latrines, bucket systems, etc. Today, it connotes a comprehensive concept, which includes liquid and solid waste disposal, food hygiene, and personal, domestic, and environmental hygiene. Proper sanitation is essential not only from the general health point of view but also has a vital role in our individual and social lives. Sanitation is one of the primary determinants of quality of life and human development index. Good sanitary practices prevent contamination of water and soil and thereby prevent diseases. Therefore, sanitation has expanded to include personal hygiene, home sanitation, safe water, garbage disposal, excreta disposal, and wastewater disposal. The World Health Organization defines the term 'sanitation' as "Sanitation generally refers to providing facilities and services to dispose of human urine and faeces safely. The word 'sanitation' also refers to maintaining hygienic conditions through services such as garbage collection and wastewater disposal."

Water and sanitation are critical determinants of human survival and dignity. Individual health and hygiene largely depend on adequate water availability and sanitation. There is, therefore, a direct relationship between water, sanitation and health. Consumption of unsafe drinking water, improper disposal of human excreta, improper environmental sanitation and lack of personal and food hygiene have been major causes of many diseases in India and millions of lives are still claimed every year, and human development is held back on a massive scale. Women are responsible for health, hygiene, sanitation and other productive activities at the household level. Lack of access to water and sanitation directly affects women's health, education, employment, income and empowerment. The gendered dynamics of water and sanitation underscore the close inter-linkages between poverty, gender and sustainable development. Therefore, access to water and sanitation – as human rights – has gained growing attention globally over the last few years.

The debate on the right to water and sanitation has been moving on since the early 1970s, and access to water for personal and domestic use is now recognised as a fundamental human right and not simply as a need. Indeed, since the Mar del Plata Conference (1977) during which it was declared that "all people, whatever their stage of development and their social and economic conditions, have the right to have access to drinking water in quantities and of a quality equal to their basic needs", the international community as a whole has become very active in issues related to the management of water and a fortiori to the right to water. The international community increasingly recognises the desperate situation of much of the world: the lack of access to safe drinking water and sanitation. Several high-level conferences have made significant advances in furthering the links between access to water and sanitation and human rights, gradually calling attention to the duties and responsibilities of governments and other concerned actors.

On 20 December 2006, the United Nations General Assembly declared 2008 the International Year of Sanitation (IYS). The overall aim of the Year, officially launched on 21 November 2007, was to create a favourable context for policy-makers and governments to commit more significant resources to sanitation for the poor and vulnerable, stressing the attendant positive impact on health. On the occasion of the launching of the IYS, it was declared that: "everyone and that means ALL people in the world, has the right to a healthy life and a life with dignity. In other words, everyone has the right to sanitation". The IYS offers a unique opportunity to place sanitation in the spotlight and contribute to better defining the human right to sanitation, particularly in emergencies.

The World Health Assembly 1978 in Alma Ata adapted four critical strategies for attaining health for all. One of these key strategies was "Promoting healthy lifestyles and reducing risk factors to human health that arise from environmental, economic, social and behavioural causes" (Nath, 2017). The right to water and sanitation is a human right, equal to all other human rights, which implies that it is justifiable and enforceable; hence, society has a greater responsibility to concentrate all its efforts on implementing and fully realising this essential right. The adoption of the Millennium Development Goals (MDGs) in 2000, particularly Goal No. 7, which aims "to reduce by half the proportion of people

without sustainable access to safe drinking water by 2015", has been an essential catalyst in generating debate on the right to water and sanitation. The Millennium Development Goals have been valuable in galvanising international support around specific poverty reduction targets, including water and sanitation. They have generated broad and high-level political commitment to water and sanitation by putting them on the international agenda. Integrating the rights to water and sanitation within MDG monitoring and policy-making can help to make progress towards the MDGs more inclusive and sustainable while promoting equity, accountability and policy coherence.

The new targets under the SDG-6 Water Goal address many of the MDG programme shortcomings. Specifically, the SDG scope is expanded to include hygiene, water and sanitation concerns beyond the household to non-domestic settings, such as schools, health facilities, and workplaces.

For sanitation, the priority of the SDGs is to eliminate open defecation. The next step is to strive to achieve universal access to essential drinking water, sanitation and hygiene. The next step would be for countries to progressively increase the number of people whose services are safely managed. The final essential element would be gradually eliminating inequalities in access to services. The targets of SDG 6: Ensure availability and sustainable management of water and sanitation for all. By 2030, achieve universal and equitable access to safe and affordable drinking water. By 2030, gain access to adequate and equitable sanitation and hygiene for all and end open defecation, paying particular attention to the needs of women and girls and those in vulnerable situations. It is heartening to write that the sanitation problem is gradually improving in Indian society. The figures in Table 1 present the gradual development of improved sources of drinking water, which include piped water, public taps, standpipes, tube wells, boreholes, protected dug wells and springs, rainwater, and community reverse osmosis (RO) plants, etc. The comparative figures of NFHS-3, NFHS-4 and NFHS-5 highlight the improving situation, but Indian society has yet to get satisfactory data. Availability of safe water is still a dream for many people even though access to safe water is a fundamental human right, as per the resolution of the 29th Session of the UN Committee on Economic, Social and Cultural Rights, November 2002. To protect human health and to prevent sickness and mortality, community water supply needs to be reliable, in sufficient quantity, of adequate quality and readily accessible to all segments of the consumers (Nath 2017).

Table 1: Percentage of households with improved source of drinking water

State/UT	NFHS-3	NFHS-4	NFHS-5
INDIA	87.9	89.9	95.9
A. & N. Islands	NA	94.3	96.4
Andhra Pradesh	94	72.7	96.7
Arunachal Pradesh	85	87.5	94.2
Assam	72.4	83.8	86.4
Bihar	96.1	98.2	99.1
Chandigarh	NA	99.2	99.2
Chhattisgarh	77.9	91.1	95.6
D. & N. Haveli	NA	77.5	96.4
Daman and Diu	NA	89.4	96.4

Delhi	92.1	80	99.5
Goa	80.1	96.3	98.2
Gujarat	89.8	90.9	97.5
Haryana	95.6	91.6	98.6
Himachal Pradesh	88.4	94.9	96.4
Jammu and Kashmir	80.8	89.2	92.3
Jharkhand	57	77.7	86.8
Karnataka	86.2	89.3	95.6
Kerala	69.1	94.3	94.9
Lakshadweep	NA	91.5	93.2
Madhya Pradesh	74.2	84.7	88.9
Maharashtra	92.7	91.5	93.8
Manipur	52.1	41.6	77
Meghalaya	63.1	67.9	79.2
Mizoram	85	91.4	95.7
Nagaland	62.8	80.6	91
Odisha	78.4	88.8	90.8
Puducherry	NA	95.4	99.9
Punjab	99.5	99.1	98.8
Rajasthan	81.8	85.5	96.4
Sikkim	77.6	97.6	94
Tamil Nadu	93.5	90.6	98.6
Telangana	NA	77.9	98.7
Tripura	76.1	87.3	88.5
Uttar Pradesh	93.7	96.4	99.2
Uttarakhand	87.4	92.9	95.5
West Bengal	93.7	94.6	97.5

Source: International Institute for Population Sciences (IIPS) and Macro International. 2007. National Family Health Survey (NFHS-3), 2005–06: India: Volume I. Mumbai: IIPS; International Institute for Population Sciences (IIPS) and ICF. 2017. National Family Health Survey (NFHS-4), 2015-16: India. Mumbai: IIPS and International Institute for Population Sciences (IIPS) and ICF. 2021. National Family Health Survey (NFHS-5), 2019-21: India: Volume I, Mumbai: IIPS.

In most developing countries, the three most important environmental health problems affecting most of the population are contaminated water supply, inadequate sanitation and untreated solid wastes (Sekhar and Nazrul 2006). The problem of open defecation in India is becoming significant because of the lack of toilet facilities, as the figures in Table 2 indicate. Further, there are wide variations across different regions of India during NFHS-3, NFHS-4 and NFHS-5.

Table-2:Percentage of households with toilet facility

State/UT	NFHS-3	NFHS-4	NFHS-5
INDIA	44.6	61.1	82.5
A. & N. Islands	NA	84.7	96.5
Andhra Pradesh	42.4	61.3	85.3
Arunachal Pradesh	80.6	90.8	98.7
Assam	76.4	88.9	95.9
Bihar	25.2	33.5	61.7
Chandigarh	NA	97.8	98.3
Chhattisgarh	18.7	41.3	85.9
D. & N. Haveli	NA	60.6	91
Daman and Diu	NA	93.6	91
Delhi	92.4	96	99.4
Goa	76	89.1	96.7
Gujarat	54.6	71	81.9
Haryana	52.4	89.8	96.8
Himachal Pradesh	46.4	85.7	93.6
Jammu and Kashmir	61.7	79.3	94.4
Jharkhand	22.6	30	69.6
Karnataka	46.5	65.8	83.1
Kerala	96.1	99.2	99.8
Lakshadweep	NA	100	100
Madhya Pradesh	27	42.8	76.2
Maharashtra	52.9	71.2	87.6
Manipur	95.6	98.7	99.7
Meghalaya	71.3	92.4	96.2
Mizoram	98	99.1	99.9
Nagaland	85.6	98.3	99.7
Odisha	19.3	35	71.3
Puducherry	NA	69.1	91.4
Punjab	70.8	92.9	97.3
Rajasthan	30.8	54	78.7
Sikkim	89	99.7	99.7
Tamil Nadu	42.9	61.7	81.5
Telangana	NA	69	88.2
Tripura	96.7	97.9	99.1
Uttar Pradesh	33.1	45.8	78.4
Uttarakhand	56.8	82.9	93.8
West Bengal	59.6	74.9	89

Source: International Institute for Population Sciences (IIPS) and Macro International. 2007. National Family Health Survey (NFHS-3), 2005–06: India: Volume I. Mumbai: IIPS; International Institute for Population Sciences (IIPS) and ICF. 2017. National Family Health Survey (NFHS-4), 2015-16: India. Mumbai: IIPS and International Institute for Population Sciences (IIPS) and ICF. 2021. National Family Health Survey (NFHS-5), 2019-21: India: Volume I, Mumbai: IIPS.

It is distressing to note here that as per the Census of India, 2011, a majority of households (53 per cent) in India have no toilet facility; the proportion of households without any toilet facility is much more significant in rural areas (74 per cent) than in urban areas (17 per cent). Table 3 presents the percentage of households without toilet facilities. Within India, there are significant geographical differentials; most of the households (78 per cent) in Jharkhand and Odhisa have no toilet facility; the

situation in these two states is worse, closely followed by Bihar (77 per cent), Chhattisgarh (75 per cent) and Madhya Pradesh (71 per cent). The proportion of households without any toilet in the state of Lakshadweep (2 per cent) is better, followed by Kerala (5 per cent), Mizoram (8 per cent), NCT of Delhi and Manipur (11 per cent each). Comparative analysis of the Census of India-2001 and 2011 indicates improvement in the situation. To turn the tide, the World Toilet Organization declared November 19 as "World Toilet Day", which has been held every year since 2001 to promote awareness regarding the importance of toilets for a healthy life.

Table 3: Availability of Latrine Facility: 2001-2011

Percentage of households having No Latrine		**State/UT**
2011	**2001**	
53	*64*	*INDIA*
49	47	Jammu & Kashmir
31	67	Himachal Pradesh
21	43	Punjab
12	21	Chandigarh
34	55	Uttarakhand
31	56	Haryana
11	22	NCT of Delhi
65	71	Rajasthan
64	69	Uttar Pradesh
77	81	Bihar
13	37	Sikkim
38	44	Arunachal Pradesh
24	29	Nagaland
11	18	Manipur
8	11	Mizoram
14	19	Tripura
37	49	Meghalaya
35	35	Assam
41	56	West Bengal
78	80	Jharkhand
78	85	Odisha
75	86	Chhattisgarh
71	76	Madhya Pradesh
43	55	Gujarat
22	56	Daman & Diu
45	67	D & N Haveli
47	65	Maharashtra
50	67	Andhra Pradesh
49	63	Karnataka
20	41	Goa
2	11	Lakshadweep
5	16	Kerala
52	65	Tamil Nadu
32	50	Puducherry
30	47	A & N Islands

Source: Census of India- 2001,2011, Office of the Registrar General and Census Commissioner, India, New Delhi

The issue of sanitation was an integral part of Indian culture. 'Cleanliness is next to Godliness' is the central ethos of Indian traditional values. Cleanliness of body, mind and soul was supreme in Vedic times. Some realised that worship and meditation were difficult without clean surroundings and healthy bodies. Therefore, healthy sanitary methods were practised to keep the environment healthy, as well as clean drinking water and fresh air. The philosophies of the ancient sages also extended to the care of the human body, our habits, and our modes of life. In '*Arthashastra*', Chanakya prescribed a series of policies and punishments to *maintain a swatch* and *swatch* empire. To Chanakya, healthy water, sanitation and hygiene were vital. As per the cultural values of Indian society, external and internal purity and cleanliness are the stepping stones to spiritual life.

Although India's cultural foundation recognised the relevance of sanitation, a significant drop could be witnessed in its importance in recent times. Lack of sanitation is one of the world's biggest challenges today. The sanitation crisis claims more lives through disease than any war claims through guns. This silent global crisis constitutes an affront to human dignity on a massive scale, causing widespread damage to human health and child survival prospects; social misery, especially for the women, the elderly and the sick; depressed economic productivity and human development; and pollution to the living environment and water resources. Poor sanitation can also have a ripple effect when it hinders national development because workers are suffering from illnesses and living shorter lives, producing and earning less and unable to afford education and stable futures for their children. Sanitation lies at the root of many other development challenges, as poor sanitation impacts public health, education, and the environment. Without sanitation, girls are more likely to drop out of school or are vulnerable to attacks while seeking privacy.

Mahatma Gandhi had realised early in his life that the prevalent poor state of sanitation and cleanliness in India, particularly the lack of adequate toilets in the then largely rural India, needed as much attention as was devoted toward attain*ing Swaraj*. He said that unless we "rid ourselves of our dirty habits and have improved latrines, *swaraj* can have no value for us". Along with the struggle for India's independence, he led a continuous battle for sanitation, cleanliness, and efficient management of all categories of waste throughout his public life.

For Mahatma Gandhi, sanitation was more important than independence. He made cleanliness and sanitation an integral part of the Gandhian way of living. Remembering his contributions to sanitation issues, Prime Minister of India, Hon'ble Shri Narendra Modi, launched the *Swachchh Bharat Abhiyan* throughout the length and breadth of the country as a national movement on October 02, 2014. The *Swachh Bharat Abhiyan* is the most significant cleanliness campaign by the Government of India. The *Swachhta Abhiyan* has become a national movement by inviting people to participate in the drive. A sense of responsibility has been evoked among the people through this movement. *Swachh Bharat Abhiyan* has become a '*Jan Andolan'* and is receiving tremendous support from the people. India has shown a high commitment to sanitation, and several programmes have been initiated.

Lack of sanitation obstructs the right to life and health, and it also hampers the right to education as girls are often forced to miss school or even drop out of education due to lack of sanitation facilities in their schools, education of children, especially the girl child, is also significantly impacted by poor sanitation. Sandwiched between the problem of sanitation and the traditional patriarchal mindset of people, girl children suffer a lot. The social response and attitude towards the girl child shows a grim picture of the status of women (Jha 2009). The neglect of girl child and discriminatory behaviour against her leading to excess female mortality has been widely documented in several studies (Visaria 1971, Miller 1989, Das Gupta 1987, Kishor 1995).

India has shown a high commitment to sanitation with increased support to India's rural sanitation flagship programme, the Total Sanitation Campaign (TCS).To promote urban sanitation and recognise excellence in performance in this area, the Government of India has instituted the *Nirmal Shahar Puraskar*. This bi-annual exercise recognises cities' sanitation initiatives. The deteriorating

situation is expected to improve with several other programmes, including the *Swachh Bharat Abhiyan* to Clean India, the National Rural Drinking Water Programme, and *Namami Gange*, which aims to conserve the River Ganga. It is only by a combination of monitoring, education campaigns and effective legal implementation that the deep-seated attitudes and practices against women and girls can be eroded, and women can handle the issue of sanitation with dignity. Providing safe water and sanitation to the community is a fundamental precondition for improving health and alleviating poverty.

In this context, a newly emerged branch of Sociology, the Sociology of Sanitation, can play a significant role in creating awareness and socialising individuals in a particular way so that they can teach sanitation-sensitive behaviour. Sociology helps examine behavioural patterns, cultural attitudes, and geographical influence towards sanitation. Sociology of sanitation intends to study the social, cultural, political, economic, historical, ecological, environmental, technological, spiritual, medical and other possible institutional as well as structural dimensions of issues related to sanitation by applying the concepts, approaches, theories and methodological perspectives embedded in sociology. Additionally, it is only by a combination of education, social awareness, campaigns and effective legal implementation that the deep-rooted attitudes and practices against women can be eroded, and women can handle the issue of sanitation with dignity. The use and management of water resources, sanitation, and health are the sole responsibilities of women in Indian society. As a result, through socialisation, women know how to educate children on hygiene matters and are also aware of the impact of poor sanitation on health. The knowledge of women related to sanitation can be an opportunity for Indian society to achieve the target of VIKSIT BHARAT @2047.

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MANUAL SCAVENGING PRACTICES IN INDIA: SELECTED EVIDENCE AND ISSUES

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Abstract

According to the laws of India (The Employment of Manual Scavengers and Construction of Dry Latrines (Prohibition) Act of 1993 and the Prohibition of Employment as Manual Scavengers and their Rehabilitation (PEMSR) Act of 2013), the practice of manual scavenging is prohibited, and the employment of manual scavengers is punishable with fines and imprisonment. However, manual scavenging work has been practised across India even after seventy-six years of Independence and thirty years of law enactment. Both men and women are being engaged in this degraded work even today. Evidence and data show that manual scavenging is practised in India even today. The practice of manual scavenging replicates the caste hierarchy. The dignity of the lower castes is not considered and valued. The Government authorities have kept denying the truth and employing the 'lower castes' workers as 'manual scavengers'. The illiterate lower castes workers have no choice other than doing this. The researcher has analysed manual scavengers in India regarding their size, deaths, and other related issues. The researcher also provided an inter-state comparison of selected issues.

Keywords*: Manual Scavengers, Dry Latrines, Safai Karmachari, Bombay High Court, Rehabilitation of Manual Scavengers, dignity*

1) Introduction:

The Indian society has been divided into various religions and castes. The 'Hindu' religion has various wings of castes, which have hierarchy nature, viz., 'Brahmin', 'Kshatriya', 'Vaishya' and 'Sudra'. Many authors have explained the nature and characteristics of each social group. Some authors have classified the 'Sudras' into two groups- 'Sudras' and 'Ati-Sudras'. The 'Ati-Sudras' were 'Untouchables'. This social group (the 'untouchables') again have various castes. Some of the major 'untouchables' castes in 'Maharashtra' are 'Mahar', 'Mang', 'Chambhar', 'Chambhar' etc. These 'untouchables' had been placed at the lowest bottom in the social order.

The 'Scheduled Castes' (or the untouchables) were being treated as inferior by imposing severe social and economic evils. They were denied access to any resources or means of production. This situation continued for hundreds of years. During the British period, some efforts were made to develop the 'untouchables'. After 1927, Dr Ambedkar conducted various agitations against the evils of the caste system. After that, the social and economic transformation gradually began. In the later phase, after 1935 (Simon Commission), the 'untouchable' castes were identified as the 'Scheduled Castes'. [Ghurye :1961; Guha Ranjit :1982 ; Kamble N.D.: 1982 ; Ketkar S. V. :1909 ; Kroeber : 1950]. The caste hierarchy has established the occupational hierarchy. The lower castes as 'untouchables' were given degraded types of work. There exists a rigid caste system in rural India even today. This could be found even in urban areas, especially in the case of occupational patterns. The caste-based occupation can be seen in many parts of rural and urban India. The social mobility of the untouchable was not possible due to caste-based occupation. The caste system influenced the social, economic and cultural relations in India. (Ghurye G.S.: 1961; Jadhav Praveen: 2008; Karade Jagan:2009). Manual scavenging was also an occupation imposed by the caste system in India. Manual scavenging work is nothing but cleaning human excreta manually. Manual scavenging work was practised in all parts of India. Both men and women did this work.

The sanitation workers involved in manual scavenging were living in misery and vulnerability. Manual scavenging work has been practised since the ancient period. After the Independence, this type of work continued in many parts of India. According to 'The Employment of Manual Scavengers and Construction of Dry Latrines (Prohibition) Act, 1993 and 'The Prohibition of Employment as Manual

Scavengers and Their Rehabilitation Act, 2013', the practice of manual scavenging in India is prohibited. The Act 1993 has declared that the employment of manual scavengers is punishable by fines and imprisonment. The Act 2013 also stated that manual scavengers are unlawful. Further, the Act recognises a constitutional obligation to correct the historical injustice and indignity suffered by manual scavenging communities by providing extensive rehabilitation assistance to them and their families. (NCSK:2022).

Unfortunately, manual scavenging work has been practised across India even after seventy-six years of Independence and thirty years of law enactment (Act-1993). This could be found in almost every state of India. Both men and women are engaged in this degraded work even today. They are living with caste inferiority and lower dignity. The Census of India (2011) also stated that manual scavenging has been practised in India. According to it, the total number of manual scavengers was recorded as around 1.8 lakh in India; amongst them, the state of 'Maharashtra' (63,713) had the highest number of manual scavengers. The Census of India has revealed that, with rare exceptions, the manual scavengers belonged to the Scheduled Castes. The present study is carried out to explore the present position, size and death of manual scavengers in various states of India. The researcher used selected states and analysed manual scavengers in India.

2) Objectives of the Study:

2.1 To study the manual scavenging practice in India

2.2 To explore the evidence of the practice of manual scavenging in the states of India

2.3 To study the size of the population of manual scavengers and the deaths of manual scavengers in India.

2.4 To give the logical analysis of the manual scavenging practice in India

3) Review of Literature

Gautam Rajneesh Kumar et al. (2017) studied manual scavenging in India. According to the authors, manual scavenging has been practised across India. The large majority of the manual scavengers belong to 'Scheduled Castes', which is nothing but the practice of the caste system in India. Pathak Bindeshwar (2018) has pioneered work in the sociology of sanitation. The author has analysed the sociology of sanitation concerning 'Sulabh' the organisation. According to the author, the Sulabh organisation has longed from 1970 to 2018, from minor to big organisations. This could build around 5 lakh toilets across India.

Walters Vicky (2019) has studied the educational position of sanitation workers in India. The author has analysed the academic position of 'safai' workers as unsatisfactory. The government's strategies and policies are not upgrading the position and quality of education among the children of sanitation workers. Further, the author has opined that there has been a problem in the social mobility of these children since the life of the 'safari' workers is influenced by the traditional caste system. Wankhede Asang (2021) has argued that the law has prohibited manual scavenging, and this sanitation work has been practised. The author has opined that there has been insufficient legal doctrine and legal defects; the prohibition of manual scavenging work has become conditional. Katiyar Shi Prakash (2022) has studied the policy measures of the government of India for the removal of manual scavenging. According to the author, manual scavenging has been practised in India despite the law's prohibition. Further, the author has pointed out that the district magistrates from various parts of India have claimed manual scavenging does not exist. However, the author has argued that government policies were not effectively used to eliminate the manual scavenging practices in India. Raj Nihal et al. (2024) studied the saga of manual scavenging in India. According to the authors, manual scavenging is practised in India due to a lack of technological progress and a lack of will from government administration. Further, the authors have argued that the caste system is the basis of manual scavenging work.

4) Research Questions:

4.1 Is there a prohibition of manual scavenging in India in reality?

4.2 Is there any evidence of the practice of manual scavenging in India?

5) Methodology

The present study is based on secondary data. The main intention of this article is to explore the manual scavenging practice in India in the recent period. For this, the researcher has used various government reports and data regarding manual scavenging. The researcher also referred to published books and research articles. In addition, the researcher selected evidence of manual scavenging from various articles published in newspapers and news bulletins. The researcher also used data from the Census of India, the Ministry of Social Justice and Empowerment, the Ministry of Housing and Urban Affairs, and other government authorities. The data of non-government organisations is equally important in this analysis. Hence, the researcher selected data published by Safai Karmachari Andolan, Print, and other organisations.

6) Result:

The sanitation and manual scavenging work were assigned to lower castes based on caste hierarchy. The manual scavengers were belonging to the 'Scheduled Castes'. The significant castes involved in this work are 'Bhangi', 'Balmiki', 'Mehtar', 'Halalkhor', 'Ghasi', 'Metaria', 'Chuhra'etc. In the case of the state of 'Maharashtra', this work is being done by the castes as 'Bhangi', 'Mehtar', 'Matang' and 'Mahar'(BARTI-Report). In almost all the government authorities, such as 'Municipal Corporations, 'And Indian Railways', the manual scavengers were from the lowest castes, as defined by the Hindu Caste system. The low dignity work was given to low castes. This could be found almost everywhere across India. Since manual scavenging was inhumane and not dignified, the government of India prohibited this work by making a law. Act of 1993 has given a clear meaning to 'manual scavengers' and has prohibited such work. The manual scavenger has been defined by Section 2 (1) (g) of the Prohibition of Employment as Manual Scavengers and their Rehabilitation Act (MS Act 2013). According to the Act, "Manual Scavenger" means a person engaged or employed by an individual or a local authority or a public or private agency for manually cleaning, carrying, disposing of, or otherwise handling in any manner, human excreta in an insanitary latrine or in an open drain or pit into which the human excrement from insanitary latrines is disposed of, or on a railway track or in such other spaces or premises, as the Central Government or a State Government may notify before the excrement fully decomposes in such manner as may be prescribed. The expression "manual scavenging" shall be construed accordingly.**"**

Indian railway has been the largest employer of manual scavengers. According to Salve Prachi (2016), "the government authorities have been consistently denying the practice of manual scavenging in India, but it is the fact that this practice is widespread across India and Indian Railways are the largest employer of manual scavengers". Further the author has argued that, "almost all of the manual scavengers were belonging to the lowest of Hindu castes (Scheduled Castes). The authorities hire them on contract; hence, they do not appear on their registers or rolls". Therefore, the authorities can claim that manual scavenging is not practised; in reality, it is being practised.

According to the surveys conducted by the government of India (2018), the government has identified around 58,098 manual scavengers in India. The highest number of manual scavengers were found in the state of 'Uttar Pradesh' (32473), followed by the state of 'Uttarakhand' (4988), the state of 'Maharashtra' (6325), the Rajasthan (2673), the state of 'Assam' (3921), the state of Andhra Pradesh (1793) and the state of 'Karnataka' (2927). There was an insignificant size of manual scavengers identified in other states of India.

According to Balinga Linah's (2023) report, the Mumbai Municipal Corporation has practised manual scavenging in Mumbai. According to the author, "Mumbai city has long coastal roads, metros and big malls, but on the other side, the city also has a practice of manual scavenging in the year 2023

(April). This violates the act, i.e. 'Prohibition of Employment as Manual Scavengers and their Rehabilitation Act, 2013'. The authority of Mumbai Municipal Corporation is doing this violation of this act". No special safety measures were provided to these labourers. The manual scavenger labour was paid Rs. 400 per day, less than the minimum wage, around Rs. 731 per day. Manual scavenging is practised in many parts of Maharashtra, especially in urban areas. The labour force does this work without any safety measures, which has resulted in the death of the labour force. According to Gokhale Omkar (2024), 81 deaths were reported in Mumbai and Thane city due to manual scavenging in 2020. The labour force was at higher risk of death since they were not provided sufficient safety measures. The government of Maharashtra compensated the family with Rs. 10 lakh as per the 'Manual Scavengers and Their Rehabilitation Act, 2013'. More interestingly, the government of Maharashtra submitted an affidavit in the Bombay High Court (2024) stating that all the districts of Maharashtra declared their district free of manual scavenging. In an order by the Bombay High Court, the court advised implementing the law banning manual scavenging in Maharashtra. The directions have been forwarded to Maharashtra's municipal corporations and local bodies. According to Sharma Nidhi (2023), nearly a third of India's 766 districts have not overcome the dangerous and unhygienic practice of manual scavenging. The available data shows that 520 districts of India have been declared as manual scavenging districts, but still, 246 districts have not given any declaration in this regard. This indicates that manual scavenging has been practised in large parts of India.

Manual scavenging is hazardous, especially in 'septic' tanks. The 'septic' tanks can create 'methane gas, which is dangerous for humans without 'oxygen' gas. In the recent, there have been increasing incidents of deaths of sanitation workers while working in the septic tanks. This shows that there has been practice of 'manual' scavenging in India. According to Fathima Azeefa (2023), a significant number of deaths have been registered in most of India's states during the last five years, i.e. 2018-2023. This also has been supported by the 'Safai Karmachari Andholan' (SKA), a non-governmental organisation working for the welfare of Safai Karmchari in India. According to SKA (2023) and Fathima Azeefa (2023), the data about the death of labourers in the 'Safai' work of sewer and septic tanks was given in the 'Loksabha'. The authors write that "the data was tabled on June 25 by Minister of State for Social Justice and Empowerment 'Ramdas Athawale', while answering questions raised by two members of 'Lok Sabha'. The Minister-Mr. Athavale replied that nine deaths were registered in 2023 of "cleaning workers" due to "hazardous cleaning of sewer/septic tanks. These deaths were from three states, namely 'Maharashtra' (5 deaths), 'Gujarat' (3 deaths) and Jharkhand (1 death). According to Loksabha data, 339 deaths were registered during the last five years, i.e., from 2018 to 2023. All these deaths were recorded as 'cleaning workers'. Further, the Minister, Mr Athawale, also said, "no report of people currently engaged in manual scavenging in the country".

The data which was tabled in the 'Loksabha' can be analysed with the help of Table No. 2. According to the data, the highest number of deaths of safari karmachari was recorded in the state of 'Maharashtra' (54) during the last five years, followed by the state of 'Tamil Nadu' (51) and the state of 'Uttar Pradesh' (46). There were 44 deaths of safai karmachari were registered in the state of 'Haryana'. These four states have registered the highest number of deaths of safari workers in comparison to the other states of India. The states of 'Delhi' (35), the state of 'Gujarat' (28) and the state of 'Karnataka' (23) also have registered comparatively moderate numbers of deaths of safari workers. Other states have registered an insignificant number of deaths. However, these deaths also matter on the grounds of humanism and the welfare of the workers. All the deaths registered were in the urban areas of the states. The rate of urbanisation and the deaths of the safari workers can be linked. According to the data of the Ministry of Housing and Urban Affairs (2024), in terms of the absolute number of people living in urban areas, the state of 'Maharashtra' was leading in the country with an urban population of around 50.8 million persons, with was comprising of 13.5 per cent of the total urban population of India,

Followed by the state of 'Uttar Pradesh' (44.4 million persons) and the state of 'Tamil Nadu' (34.9 million persons).

The government authorities have declared that there is no practice of manual scavenging in India. However, according to Safai Karmachari Andolan (2023), "this statement is false and misleading. There has been a significant size of deaths of workers during the work of sewer and septic tanks; this fact shows that there has been practice of manual scavenging. The government should accept the fact of the practice of manual scavenging in India and should give directions to stop the deaths of 'safari' workers". Further, the SKA organisation also has pointed out that the safari workers belong to backward castes.

7) Discussion:

The researcher analysed manual scavenging practices in India using selected evidence and government data. Finally, the researcher arrived at a particular interpretation, which can be given below.

i) There is a practice of manual scavenging in India.
ii) All the manual scavengers (considering rare or exception cases) belonged to the 'Scheduled Castes.'
iii) The castes involved in manual scavenging are 'Bhangi', 'Balmiki', 'Mehtar', 'Halalkhor', 'Ghasi', 'Metaria', 'Matang' and 'Mahar'
iv) Indian laws (Act of 1993 and Act of 2013) have prohibited manual scavenging, but it is still practised.
v) Government authorities have consistently denied the practice of manual scavenging.
vi) Indian Railways and Municipal Corporations are the two important government establishments where manual scavenging is practised.
vii) The state of 'Uttar Pradesh' has the highest number of manual scavengers
viii) There have been increasing cases of death of manual scavengers while working in the septic tanks
ix) Manual scavengers are working on contracts and not on the register.
x) The practice of manual scavenging replicates the worst position of the caste system. The government authorities are not taking any initiative to introduce mechanisation. The dignity of the lower castes is not considered and valued by the authorities. The illiterate lower caste workers have no choice other than to do this.
xi) The practice of manual scavenging can be stopped by mechanisation of the work.
xii) The awareness about the concepts of 'humanity', 'dignity', 'equality', 'humanity', 'social justice', 'morality', 'ethics', 'rights', 'duties' and others must be created among the government authorities.

8. Conclusion:

The sanitation work has come from the ancient period. Manual scavenging is the most inhuman and indignity work. These types of works were assigned to the lower castes (Scheduled Castes) by the 'Hindu' caste system. The government of India has prohibited manual scavenging work by enacting the law (1993 and 2013). According to the law, the employment of manual scavengers is punishable with fines and imprisonment. However, there is evidence that manual scavenging is practised in India. Although the government authorities do not accept the practice, manual scavenging is practised. The government administration should strictly implement the Act of 1993. The sanitation workers should be treated with dignity. They should be given modern equipment, which helps them work smoothly. Besides that, the government authorities and officers should have knowledge of caste hierarchy and its indignity related to caste-based occupation. The government can take the help of NGOs to create awareness about the Act. For the humanity and dignity of labour, It is essential to prohibit manual scavenging in India.

Table No. 1
Total Number of Identified Manual Scavengers and Deaths in India

Sr. No.	Name of the State	Total No. of Manual Scavengers (2018)	Name of the State/Union Territory	Total No. of Registered Death (2023)
01.	Andhra Pradesh	1793	Andhra Pradesh	12
02.	Chhattisgarh	03	Chhattisgarh	01
03.	Bihar	131	Delhi	35
04.	Gujarat	105	Dadra, Nagar and Haveli	03
05.	Kerala	518	Gujarat	28
06.	Jharkhand	192	Haryana	44
07.	Karnataka	2927	Jharkhand	04
08.	Maharashtra	6325	Karnataka	23
09.	Madhya Pradesh	510	Maharashtra	54
10.	Odisha	230	Madhya Pradesh	06
11.	Punjab	231	Odisha	02
12.	Rajasthan	2673	Punjab	07
13.	Tamil Nadu	398	Rajasthan	07
14.	Telangana	07	Tamil Nadu	51
15.	Uttar Pradesh	32473	Telangana	07
16.	Uttarakhand	4988	Uttar Pradesh	46
17.	West Bengal	68	Uttarakhand	01
18.	Total	58098	West Bengal	08
19.			Total	339

Source: (1) Loksabha Discussion on 25th June 2023, cited Ministry of Social Justice & Empowerment (2024)and (2) Fathima Azeefa (2023)

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SANITATION: ISSUES, CHALLENGES AND FUTURE DIRECTIONS

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Abstract

This paper highlights the importance of the creation of qualitative sanitation infrastructure and the use of a participatory approach in the planning, Implementation, and monitoring of Sanitation Projects. Further, it focuses on the necessity of efforts to change the sanitation-related behaviour of the community. It discusses the relationship between water and sanitation. This paper strengthens further the definition of sanitation by the World Health Organization (WHO) where they clearly indicate that the creation of sanitation facilities only to dispose of human excreta and liquid waste safely and hygienically is not enough, and focus should equally be given on ensuring effective use of sanitation facilities. The Paper indicates the necessity of understanding the close relationship between sanitation and indicators of Human Development, i.e., health, income, school attendance, education, drinking water quality, nutrition, etc. It may play a crucial role in planning and undertaking development work in Aspirational districts in the Country. The paper also focuses on behavioural aspects of sanitation. The author conducted the mixed method empirical study in four different villages with different characteristics from four different tehsils of the Dharashiv (Osmanabad) district of Marathwada, Maharashtra. The theoretical framework was based on the germs theory of disease, the theory of community participation, the theory of change for sanitation, and the Functionalist theory, among others. The respective village community, along with their elected representatives, all have played an important role in completing this study successfully.

Keywords: *Household Toilets, Leach Pit & Septic Tank Toilets, Squatting Pans, Water Seal, Open Defecation Free, Menstruation, Behavior Change.*

Introduction:

'Sanitation' is a very complex, broad, and relative term. For some people, it is merely cleanliness and hygiene, while for some, it is just toilets and bathroom construction. However, sanitation considers the creation of qualitative infrastructure for drinking water and solid and liquid waste management. The consistent use of these facilities and safe disposal of human excreta and solid-liquid waste is key for sanitation. Controlling vectors of diseases, personal and domestic hygiene, and house and food hygiene are the key components of sanitation.

Despite some improvements, the progress of SDGs in the water and sanitation sector remains insufficient. If the global community works at the current speed, 2 billion people will still live without safely managed drinking water, 3 billion without safely managed sanitation and 1.4 billion without basic hygiene services in 2030 (SDG 2024). The SBM (Gramin), which was launched on 2nd October 2014, has contributed a lot towards achieving India's SDGs. The Dharashiv (Osmanabad) district declared the 14th Open Defecation Free (ODF) district of Maharashtra in February 2018. Rural Maharashtra was declared ODF right away in April 2018. Finally, rural India was declared ODF on 2nd October 2019. The four villages Hasegaon Kej, Ambehol, Undeargaon, and Wangi (BK) studied by the author were declared ODF as well. However, the study reveals that these villages still face sanitation-related issues, and there are certain challenges which need concrete steps to overcome.

Research Questions Addressed in the Paper:

1. What is the sanitation coverage and ODF status of the study area?

2. What are the perceptions and behaviour of the community of the study area towards sanitation?
3. What menstrual hygiene management practices are being used in the study area?
4. What strategies and approaches are needed to be adopted to improve the overall sanitation scenario?

Objectives of the Study:

1. To assess the coverage of drinking water and sanitation facilities and the ODF status of the study area.
2. To understand the perception and sanitation behaviours of people in the study area.
3. To study the menstrual hygiene management practices of the study area.
4. To suggest appropriate strategies and approaches to achieve the sanitation SDG goals for further directions.

Methodology:

This paper is based on "An Empirical Study of Sanitation Praxes with Special Reference to the Dharashiv (Osmanabad) District of Maharashtra." The author conducted the study in four villages in the Osmanabad district from four different sub-revenue divisions. The author used a pragmatist worldview and mixed method design for the study to overcome the disadvantages of using either quantitative or qualitative methods alone. All four villages for the study were selected by using the purposive sampling method. The criteria are like Geographical area of the village, the distance of the village from district headquarters, the population of the village, the proportionate population of Hindu, Muslim, and Dalit communities in the villages, River sub-basin in which village is located, Annual Rainfall, Probability of drought, significant work done under "Sant GadegeBaba Swachta Abhiyaan and SBM (Gramin) were used for final selection of the villages for study.

A stratified sampling method was used, and 227 (15%) households out of 1482 households were studied from these four villages. It includes the households of SC/ST, general, landless, small, and marginal farmers households, and women-headed households. Information from secondary sources was also used for the study. Questionnaires were used to collect quantitative data, while qualitative data was collected through natural observations, transect walk of open defecation area and Focused Group Discussions (FGDs). The secondary data available from the SBM division at the district and tehsil level was also used for the study. It took almost ten months to collect all the data. The collected data was analysed by using SPSS software. The author was well connected with PRI members after the finalisation of villages for study. He frequently visited the villages and village stakeholders to establish a good rapport with them and to explain the necessity of this study. He systematically received help from the tehsil and district-level officers to avail the necessary secondary data. The effective and active participation of respondents made the entire data collection process easy.

The Review of Literature and Gaps:

The literature review helped author in becoming familiar with existing knowledge in sanitation sector and its limitations. The most importantly, it helped author in understanding the existing theories that are driving the sanitation field and to avoid the duplication of work.

Literature review was useful to know the behavioural patterns of the community towards sanitation. Author could analyse the significance of the research and finalize his own and unique approach of the study with help of literature review.

There is a great history of sanitation in India. Dr Saifullah Khan, in his article "Sanitation and Wastewater Technologies in Harappa / Indus Valley Civilisation", has focused on ancient sanitation in India. His article gives evidence of the durability, adaptability to the environment and sustainability of ancient wastewater technologies and their management. A sophisticated and scientific approach to city planning was utilised during the Indus Valley civilisation. Sanitation in independent India can be

divided broadly into three major phases. The first three decades after independence, where no adequate attention was given to rural sanitation, is known as the first phase. From the mid-1980s till 1999 hard, sanitation activities were focused on subsidies to poor households, known as the second phase, while from 1999 onwards is known as the intensive engagement third phase, where programmes like TSC, NGP, NBA, and SBMG were introduced" (Dhaka SACOSAN-VI 2016).

The modern age of sanitation started in Europe between the 16th and 19th centuries. The book "Excreta Disposal for Rural Areas and Small Communities" (Wagner and Lanoix 1958) was the first book published by the World Health Organisation (WHO) that discussed excreta disposal and involvement of rural families and their responsibilities in solving the problems related to excreta disposal. The role of the health department in the provision of funds, materials and labour was clearly mentioned to encourage people to build the latrine. People were expected to learn new habits. However, the most important gift of this book is "F-Diagram", showing the routes of transmission of diseases from the humane excreta". This diagram is the core of the sanitation sector and is being used by all sanitation professionals.

UNICEF study clearly indicates that there are one crore viruses, ten lakh bacteria, 1000 parasite cysts and 100 parasite eggs in one gram of excreta. One person, on average, may defecate 250 to 400 grams. This figure gives the idea of the necessity behind the safe disposal of human excreta. The contamination of water and soil occurs due to unsafe and unsanitary disposal of human excreta, which further leads to flies and mosquitoes of certain species laying their eggs and brewing on such sites. Domestic animals, rodents, and other vermin also get attracted, which spreads the faeces and the potential for disease. In addition, it sometimes creates intolerable odour and sight (WHO 1992).

Women using open fields and the sides of roads or railway tracks for OD are more vulnerable, and chances of getting raped are double in their cases when compared with women using a home toilet" (Apoorva Jadhav 2019). An estimate by the Government of India (GOI) says that as many as 180 Crore productive man-days worth 1200 Crore are lost in India per year because of poor sanitation. Every single US$ invested in sanitation gives a return of 5.50 US$ in terms of lower health costs, more productivity, and fewer premature deaths (WHO 2012). Indians generally do not prefer the low-cost, affordable toilets with simple designs promoted by the government.

In most cases, people do not use government-constructed toilets because they are afraid that poor-quality toilets may collapse at any time. Many people enjoy open defecation, and many of them say that open defecation offers them the opportunity to do morning walks. Some people think that eating and defecating under the same roof is not good behaviour (Tariff 2016). Identifying the factors preventing people from using the toilet is an important step in sanitation because sanitation interventions cannot be implemented successfully without changing the behaviour of the community to stop open defecation and to wash hands after defecation and before meals with soap (Behaviour Change Toolkit: For International Development Practitioners).

Human attitude, behaviour change, adequate policy, proper implementation of existing laws, quality construction of toilets, community acceptance of toilets, community participation, availability of water for toilet use, the use of suitable material, awareness of the right to sanitation, use of appropriate ODF verification criterion, proper O and M system, cleanliness; safety, privacy, prestige, pride; gender specific, caste inclusiveness, etc. are the key areas of sanitation where attention is needed. (Sharnangat & Kale 2018). According to them, Sanitation is not an issue for individuals; the entire community is affected by poor sanitation. Hence, there is a need for demand-driven and people-centric sanitation interventions. 100% toilet construction is not enough to become an ODF community.

Julie Horan, the author of the book "The Porcelain God: A Social History of Toilet", made a statement in her book that the "Toilet is the seat of life". In support of her statement, she has quoted the example of Charles V, whose life started with a toilet as his mother gave him birth while she was on

the privy. Another example was Elvis, the great actor and singer of America and cultural icon of the 20th century, who died on 16th August 1977 when he was in the toilet.

It is very interesting to know that the London Bridge, which is a historical and recognizable landmark of London city, was constructed for wise men to go over and fools to go under. Originally, there were public latrines serving 138 houses on the London Bridge. The comparison made between the present London Bridge may help to understand the approaches and strategies used by London city administration to change the sanitation situation of London.

Health is a fundamental right that helps achieve fairness and justice for human beings (WHO). Enjoying the right to health is impossible without ensuring the right to drinking water and sanitation, and enjoying the right to life is not possible without ensuring the right to health. The "UN General Assembly" and the "Human Rights Council recognised the human right to safe drinking water in 2010 (UN 2010), while the human right to sanitation was explicitly recognized in 2015 (UN 2016). The right to water and sanitation ensures safe, sufficient, and affordable water, sanitation, and hygiene facilities for human beings. It assures physical and affordable access to sanitation to everyone in all spheres of life. The states are duty-bearers to ensure water and sanitation rights are equal without any discrimination.

There is extreme need of understanding the cleaning habits of the local communities, their cultural differences, and their beliefs of people with design of their toilets from different countries (Melda Genc 2009).

Research Findings and Discussion on Sanitation Issues and Challenges:

The following are some of the issues and challenges that existed before the sanitation sector.

The Indian Constitution Indirectly Recognised the Right to Sanitation:

Indian Constitution does not exclusively recognise the right to sanitation. It is recognised indirectly in different forms by the Supreme Court (SC) and High Courts (HC). Both SC and HCs have interpreted the fundamental right to life under Article 21 of the Constitution to include the right to sanitation. Sanitation is a part of the Directive Principles of State Policy (DPSP) in Part IV of the Constitution. However, the Directive Principles are not enforceable, and no individual can approach a court against the government for its failure to implement the provisions under the Directive Principles.

Sanitation' is a Very Complex, Broad, and Relative Term:

For some people, it is merely cleanliness and hygiene, while for some, it is just toilets and bathroom construction.

The study group formed by WHO in 1986 defined sanitation as "The means of collecting and disposing of excrete and community liquid wastes in a hygienic way so as not to endanger the health of individuals and the community as a whole" (WHO, 1987a). However, WHO, in its guideline on Sanitation and Health (2018), defined Sanitation again where equal importance is given to the provision of facilities and services for the safe disposal of human excreta and the sustainable use of these facilities. However, in many projects as of today, focus is being given to the creation of sanitation facilities and not on using sanitation facilities effectively.

Layman not Adequately Aware:

The messages like the total cost of the toilet (Rs.12,000 per toilet) are prominently given to the layman, but core messages are not disseminated effectively to them. The layman is not aware of the benefits of effective implementation and use of sanitary facilities and services. They don't know that effective sanitation may reduce malnutrition and the spread of tropical diseases, protect health, and extend human life spans. They hardly know that 80% of common diseases occur due to the presence of different organisms and their transmission from one host to another through various media. Layman is not aware that he/she is a rights-holder towards sanitation, and they can claim their rights from the respective states, which are duty-bearers.

Sanitation Facilities are not Provided to Every Household:

Osmanabad was declared the 14th ODF district of Maharashtra on the 1st of February 2018, while rural Maharashtra and rural India were declared ODF in April 2018 and on the 2nd of October 2019. This study was conducted after all these declarations were made. However, the study reveals that 89% of households have their own toilets, 6% of households are dependent either on community toilets or public toilets and the remaining 5% of households either have no toilets or toilets are not usable. The secondary data shows that roughly 92 households per village and 108 households per GP are still without toilets.

A similar toilet model was constructed on different soil profiles.

The bearing capacity of soil, self-supporting properties, and infiltration rate of soil are key factors in designing toilets. Wet clay soil expands, and dry clay soil shrinks. It is more impervious as well. While silt and fine sand are comparatively permeable and infiltration rate may be high.

The possibility of groundwater contamination is high where pores soil is available, and groundwater is close to the bottom of the toilet pit. In the study area, a similar model of leach pit toilet is used to construct 62.10% of toilets on Murom, 23.6% of toilets on black cotton soil and 9.30% of toilets on soft rock, and 0.6% of toilets on sandy soil. Because of these reasons many toilets are suffering from quality issues.

Toilets not Constructed with Determined Dimensions and Material:

The determined diameter and depth of circular toilet pits and the length and width of rectangular toilet pits play an important role in their functioning and durability. It accommodates the volume of human waste generated over the period of two to three years and gives enough time for the decomposition of excreta as well. The toilet with circular-shaped pits lasts longer compared to square or rectangular pits. All the leach pit toilets in the study area are provided with circular pits. However, more than 27% of households can't share the dimensions of their toilet pit.

Rural Pans made of different materials are used in 33% of toilets, while 23.20% of toilets are provided with a 20 mm water seal. It is causing more water consumption per toilet. Almost 65% of households are not aware of either squatting rural pan or water seal because they were neither discussed at the time of material selection nor during the construction of toilets. Toilets are constructed by contractors only. The timely availability of rural pan in the local market is a big issue. Manufacturers produce only general pans that are in demand in the market.

Miraculous Speed of Toilet Construction:

As per 2011 Census data, there were 296,494 rural households in Dharashiv (Osmanabad) district. There were 229,582 toilets when Osmanabad was declared ODF on 1st February 2018 (NDTV Report of 5th February 2018). As per the SBMG records, there were only 7.38% ODF villages in the district up to 2015 -2016.

That means only 3004 households were with toilets in the district. This figure increased 13.65% ODF villages in 2016- 2017, means by this time the 5555 households of the district were provided with household toilets. Surprisingly it has achieved the milestone of 100% coverage on first February 2018. Means 221,023 household toilets are constructed in the period of 12 months in the district.

Single Leach Pit Toilets & Septic Tank Toilets are Promoting Manual Scavenging:

There are 58.67% single Leach Pit toilets, 22.96% twin Leach Pit toilets and 14.29% Septic Tank toilets in the study area. All single-leach pit toilets and Septic Tank toilets need periodic emptying and transportation of the faecal sludge to the treatment plant for its subsequent reuse or disposal. Faulty design, faulty workmanship and poor quality of toilet construction led to improper decomposition of faeces in the toilet pits. The faeces remain wet even at the time of emptying the pits. Due to certain religious rituals, more than 58% of households in the study area call lower caste people to empty their toilet tanks.

As much as 94% of Grey Water gets Converted into Black Water:

Wastewater contains 94% grey water and 6% black water. Black water is much more dangerous than grey water. It needs special treatment, which is costly. Grey water can be reused and treated easily. Treating black and grey water separately is always beneficial and cost-effective. In the study area, 43% of households drain their grey water in open gutters developed by GPs. Further, 4% of households, especially those having septic tank toilets, directly discharge their outlets in the same gutters. Thus, 94% of grey water converts into black water, which makes the situation worse.

Lack of Menstrual Hygiene Education and Facilities:

Lack of menstrual hygiene education is a great issue in the study area. Nobody speaks openly about menstruation, as it is considered taboo. Menstruating women are prohibited from using bathrooms and toilets. Menstruating women of joint families are prohibited from entering the kitchen and Pooja Ghars. They are kept in separate rooms and not allowed to participate in religious functions or any other public functions. Menstruating women cannot enter the cowshed or cannot touch cows in their households. She even cannot share the room with her husband during the menstruation.

As many as 54 % women of study area uses pads and 38% women uses cloths during their menstruation. However, the non-availability of closed and safe spaces for changing, washing, and drying the menstrual material, frequent events of water scarcity, lack of enough facilities for Scientific disposal of menstruation material etc. are some of the issues and causing the infection.

Water is Focused Compared to Sanitation:

Even though, WHO published its first ever book on sanitation in 1958, the global community was mostly focussing on drinking water and not on sanitation, till 34th World Health Assembly, which was held in 1981.This trend can be seen even in the present time.

Lack of Capacity Building of Masons:

Building the capacity of different stakeholders especially the Mason is big challenge. Because most toilets are constructed by untrained masons, most of them were familiar with the construction of toilet rooms but not with the construction of circular pits, the fitting of water seals and rural squatting pans. Most contractors participated in Some training sessions for masons, but they had never worked in the field. This has created quality issues for toilets. Gram panchayat was responsible for implementation, but they lacked the trained personnel to facilitate qualitative toilet construction.

Lack of Behaviour Change towards Sanitation:

The study shows that 77.5% households of village Ambehole, 92.30% households of village Hasegaon Kej, 100% households of Undargaon and 98.10% of Wangi (BK) households have stopped the open defecation practice. However, most of them defecate in the open when they are engaged with agriculture-related work and are working in the fields. They also hesitate to defecate in toilets where toilet construction quality is very poor. Some people think that defecating in toilets causes difficulties in meeting their friends and performing their morning walk. They can do this while defecating in the open. Thus, the people of the study area spend as many as 1.5 years of their life in defecation only.

Poor Convergence between Policy makers and Implementors:

As per the Constitutional provisions in India, the respective states and local governments are responsible for regulating sanitation. The legislative competence lies with the state government, and they can adopt laws relating to sanitation. However, the major sanitation implementation related responsibilities are vested with the local governments like Z.P., Panchayat Samittee, Gram Panchayat, Municipality and Municipal Corporations. In present time Centre government has been playing an important role in developing the sanitation policies, programs, and guidelines with model designs. Implementing same model not possible.

Climate Change and its Impact:

Climate change has been impacted the temperature, rainfall patterns, the natural process of infiltration, evaporation, evapotranspiration, and runoff generation of study area. Per capita per year

freshwater availability of study area is went down below 1000 cubic meters and suffering from high water scarcity. It is part of drought prone area as well.

40% drinking water sources of the study area are perennial and well protected; while 18.2% drinking water source are neither perennial nor protected. 27.7% drinking water source are perennial but not protected, and 11.5% sources are well protected but not perennial. It is further impacting the drinking water supply of respective villages.

76% households of the study area receive their drinking water from piped water supply schemes and remaining 24% households are dependent on other water supply sources. Providing 55 LPCD drinking water throughout year is not possible for any GP, on account of different reasons. Ultimately it is increasing the burden of women where 46.7% women have to their domestic water supply.

Future Direction

Awareness Generation and Localisation of Sanitation SDGs

According to the 73rd Amendment of the Indian constitution, the village-level Gram Panchayat is responsible for the planning, implementation and O and M of the village-level WASH facilities. GPs are expected to approve documents like action plans, investment plans, MOUs, annual budgets, and contract documents. GPs play an important role in coordinating with different stakeholders and in making finance available for village-level WASH interventions. However, most of the GP members and Sarpanches are not aware of this act, which affects the overall participation of the GP in sanitation-related interventions. All GP members should be trained in this law to facilitate active GP participation. The issues like poverty, hunger and health are closely associated with water supply and sanitation. Improvement in water supply and sanitation facilities helps to eradicate poverty, reduce hunger and improve the health of the people. Very rarely are Sanitation SDGs discussed at the village level. Communities are not effectively engaged in sanitation work. So, in many cases, the community thinks that sanitation is a government program and the community has nothing to do with it. The awareness generation and localization of sanitation SDGs may help to improve the sanitation situation and achieve NOLB status.

Basin Wide Integrated WASH Management

Water supply and sanitation are interdependent. No sanitation is possible without a water supply, and safe drinking water is not possible without adequate sanitation. There is a need to work together in an integrated manner through convergence so that both water supply and sanitation may go hand in hand. The river basin should be used as a planning unit so that water security and water safety interventions can be undertaken using the ridge-to-valley approach. The community is given the driving seat, and the government plays the role of facilitator in the entire process. It helps the community own sanitation interventions, bring changes in behaviour, and work towards sustaining water supply and sanitation interventions in the village.

Good Governance in the WASH Sector

Good governance facilitates rules, practices, and processes for implementing political, institutional, and administrative decisions. There is a need for integration in policy formation, development of legal frameworks, planning, coordination, funding and financing, capacity development, data acquisition, monitoring, and regulation, etc., for the WASH sector. Community participation in WASH governance is a need of time. State institutions work effectively in a responsive and accountable manner in good WASH governance. They work openly and transparently and provide information so that stakeholders can play an important role in WASH-related decision-making.

Elimination of Inequalities

It is seen worldwide that increased access to adequate, equitable, safe, and affordable WASH facilities has significantly decreased poverty. However, inequalities are continuously increasing in the WASH sector. Richer people control water resources and generally have better WASH access than poorer people. Rich people prefer septic Tank toilets that involve high construction and O&M costs.

Poor people, when comparing themselves with such toilet owners, assume that toilets are only for the rich and not for the poor. These inequalities can be seen in urban-rural communities among different castes, cultures, and genders. There are still Inadequate sanitation facilities for women, third gender, and physically disabled people. Gender-specific toilets are not being provided in the required number. Urban areas receive 135 LPCD of drinking water, while rural areas hardly get 55 LPCD of drinking water. There is a need to eliminate all these inequalities.

WASH Facilities for Everyone Forever

This principle states that WASH facilities should be provided in each household of the community/ village, every public/ private institution, every educational institute, and clinic in a sustainable manner. It covers all principles that are adopted in SDGs (Agenda 2030), i.e. NOLB, WASH governance and Sustainability. It advocates for the development and management of the WASH facilities as a programme and not as a separate project. It focuses on outcomes and not on outputs only, where local stakeholders/ community can plan, implement, monitor, and do the O and M of all village-level WASH facilities. It includes ensuring water safety and water security, which means that both the quantity and quality of the water are important.

Use of Theoretical Framework in WASH Programmes

The empowered community, enabling public sector and technically sound WASH market are three important pillars of the Change theory. Change theory refuses the modernisation theory, which expects the community to accept the program and to work. Change theory demands community participation in all stages of the programme and increases the people's feeling of ownership. It promotes community participation in the planning, implementation, and monitoring of the WASH program.

The Theory, like Diffusion of Innovation, may play an important role in making WASH interventions successful by using change agents for spreading new ideas, messages, and behaviours in communities. There are few individuals and groups in each society who pick up new ideas and innovations quickly than others. These early adopters, like local natural leaders, influential individuals, peers, celebrities and sometimes children, can be used as change agents to promote desired behaviours of sanitation.

Effective use of Nature Base Solutions (NBS)

There is a need to address all the issues and challenges of the sanitation sector, which are discussed above. Some innovative ideas are to be used effectively. NBS play a crucial role in sanitation by utilising natural processes like plant filtration, microbial activities, and soil infiltration to remove contaminants from wastewater, improving water quality, biodiversity enhancement and carbon sequestration through the construction of wetlands, green roofs, and soil infiltration systems.

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SOCIOLOGY OF SANITATION AND SCAVENGING: ISSUES, CHALLENGES AND CONCERNS

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Abstract

Savaging is a devaluing profession India has forbidden for years as per law. However, scavenging involves a severe socioeconomic issue that must be studied holistically. Manual scavenging cleans streets, dry latrines, septic tanks, gutters, and sewers; however, due to India's hierarchical social order, the lower castes, communities and subcastes conduct most of the manual scavenging. Though the government wants to abolish manual scavenging, most are engaged in contractual manual scavenging; the public opinion of manual scavengers is negative and lacks political and party priorities. The development strategy ignores their housing and working situations; given these circumstances, scavengers' conditions must be assessed and evaluated. Furthermore, the studies were undertaken by sociologists and others to conceptualising the term 'Sulabh International', 'sociology of sanitation and scavenging'; however, ameliorating the community's situation is seriously disadvantaged because of caste structure and associated occupation, which is considered 'degraded.' Against this backdrop, this article discusses the issues and challenges of sanitation workers in India under the guise of the U.N. and several commission committees and their contributions.

Keywords: *Scavenging, Scavengers, Caste, Sanitation, Safai Karmachari, Commission*

Introduction

Scavenging remains a severe socioeconomic problem that not only demands enough funding but also needs a dramatic change of mental approach and change of 'value level'! The manual scavengers clean public streets, dry latrines, septic tanks, gutters, and sewers, but the cruel legacy of India's hierarchical social order is that the castes, communities and sub-castes do most of the manual scavenging are victims of the caste system and degraded occupation. This sad situation is appraised by the government's wish to end this practice, but the employees are kept through contract, enhancing their sufferings further. Moreover, the public's view of manual scavengers is gloomy, and a lack of political will hinders scavenger conditions. No political party prioritises this section of the society. The development strategy ignores their needs, especially their housing and working conditions. Given these circumstances, evaluating and examining sanitation scavengers' conditions is essential. This paper examines scavenging and scavengers' socioeconomic and employment status vis-à-vis various efforts done by different commissions and committees, including the United Nations. Besides, religion, caste and sub-caste are essential to understanding the aspects and nuances of the 'sociology of scavenging and sanitation'. The number of people who do scavenging, their labour conditions, and the risks they face are full of occupational hazards. This situation needs to be studied in an integrated manner, but not in isolation from their status and situation, their social relationships, work environment, and the effects of anti-scavenging programmes.

Against this backdrop, this article discusses and examines the state of sanitation workers and their predicament in India under the pretext of various commissions, committees, and contributions of the United Nations. They have to earn their income by managing a profession that has been outlawed for many years in India owing to its depreciating nature.

Religion, Caste and Sub-caste of Scavenging

In Uttar Pradesh, Hindu scavengers were called Balmikis and Dhanuk, while Muslim scavengers were called Lalbegi and Hela. In many Andhra Pradesh regions, lower castes are involved in manual scavenging, according to Prasad (2007). As per official data, scavenging scheduled caste

communities in Andhra Pradesh include Relli, Madiga, Mala, and Yanadi, while in Odisha, Hadi, Hari, and Domes. These scheduled castes and sub-castes are the lowest in the caste hierarchy. Manual scavengers are perceived as third-graded people via the prism of their work, exposing them to society's caste order. Upper caste and non-scavenging scheduled castes and other communities consider this job lower castes' responsibility, further isolating them from society. Scavengers are humiliated and discriminated against under the pretext of their identity as carrying brooms, sticks and cleaning equipment. Scavenging is a caste-created and inherited vocation and is regarded as a humiliating, dirty, and dishonoured vocation in India. Scavengers are frequently seen as permanently filthy, which governs their entire interaction. Even other designated castes are graded by custom and public opinion in varied levels of acceptability. Still, scavengers have been labelled untouchable due to their dirty employment and unsanitary services, and for them, scavenging is a type of modern slavery, and human dignity is degraded. The issue of manual scavenging in India induces reactions from disbelief and disgust to despair. It is generally believed to be a social practice rather than an occupation rooted in India's caste system (Khurana et al. 2009: 2). The caste system humiliates and shames scavengers deemed inferior and excluded from normal society.

Indian scavenging situation is complex and widespread. A denial of actually shared universes causes social isolation and ghettoisation, as with scheduled castes, especially scavengers. Unfortunately, birth in these caste cultures remains profane because of social rank. Indian caste segregation and exclusion are perfect. There is a social system of superiority between castes and limits on social and cultural exchange. Isolated castes have public and mental civic liberties and their livelihoods and activities. Indian scavengers are long-term victims and ostracised. Their insufferability makes them unpopular with all castes, especially Dalits. Their misery, shame, and abuse are unmatched in any society except India. Scavengers are always second-class citizens, and it claims that the importance of functional position is hard to prove.

Sanitation is essential to any society, including India. Hence, scavengers are vital. Are scavengers less critical to society than other "clean" professionals? Scavengers are more essential prerequisites to society despite their lower salary and respect. Scavengers amongst scheduled castes are the lowest class in Indian society and are considered untouchable; in caste-based culture, born scavengers stay that way for centuries. This community is the lowest socioeconomic class. The practice of untouchability is the burden of social disabilities on people born in specific castes. Dalits are forced to work in polluted and degrading occupations like manual scavenging and septic tank cleaning (Barbour et al., 2007:75).

Indians consider scavenging a polluted vocation, even though it is immoral, and they see its practitioners as insensible. The caste inequality has left groups manually scavenging from social and economic justice. Harsh Mander states, "The practice of manual scavenging is determined by caste, class and income boundaries. One of modern India's great stigmas is the approved failure to eradicate 'manual scavenging', the most humiliating surviving practice of untouchability in the country" (The Hindu 2020, February 16). Scavenging influences the process and its parts. Scavenging brings society cleanliness. Unhealthy conditions will develop and cause social issues without scavengers for a few days. Thus, essential integration, based on harmony, is required to clean society through scavenging. Scavenging castes claim to be a cooperative community of several social groups. One reason lower-class Indians engaged in scavenging, especially in cities, was economic need.

Additionally, scavenges are addressed by using different nomenclature and terms. However, all these concepts have similar connotations for the conceptual requirement, as per the classification by different bodies described below, which use sanitation workers, scavengers, Safai Karmchari, and manual scavaging interchangeably.

Concepts and Classification of Scavengers

1. **Safai Karamchari:** "A Safai Karamchari is a person engaged or working for any sanitation work, other than domestic work" (Prohibition of Employment as Manual Scavengers and their (Rehabilitation Rules, 2013: 3). In this paper, the word 'Safai Karmchari' was used interchangeably for sanitation workers and scavengers.
2. **Sanitation Worker:** "Sanitation workers are those who clean, maintain, operate, or empty sanitation technologies at any point in the sanitation chain" (Dalberg Advisors, 2017). This includes toilet cleaners and caretakers in residential, institutional, and public settings, those who empty pits and septic tanks and handle faeces, sewer and manhole cleaners, and sewage and faeces waste treatment and disposal site workers (World Bank et al., 2019:2).
3. **Manual Scavenging:** Cleaning human excrement of India's roadways and dry latrines by hand is humiliating and unlawful. They clean public and private latrines and transport faeces to dumping grounds and disposal locations with a broom, tin plate, and basket (Sadangi, 2008**:** 225). Scavenging is the manual cleaning, transportation, and disposal of liquid excreta in *bahaau* toilets, sewers, or septic tanks (Employment of Manual Scavengers and Construction of Dry Latrines (Prohibition) Act, 1993**:** 2). This article considers scavenging—sweeping, toilet cleaning, rubbish cleaning, and medical waste cleaning—unclean. Manual scavengers try adapting to Indian society's evolving social structure as sanitation workers. Thus, while unsure of their caste and class, they see themselves as sanitation workers, not manual scavengers.

Employment Scenario

Research on manual scavenging fails to address current scavenging issues. Privatisation has affected sanitation jobs for years. Thus, the government and local bodies are responsible for sanitation and employ only certain scheduled castes for scavenging through the customary rights system. Most of the Safai Karmis spending over twenty years in the public and private sectors are temporary. Compared to fourth-class government employees, they are underpaid and denied health coverage. Besides other parts of the country, Scavengers in Uttar Pradesh are primarily unemployed and not all are government workers. Most labour in the private sector is without rules and regulations daily. All scavengers face poor working conditions and unstructured work. The contractual nature of their position makes them vulnerable. Their pay varies. The sanitation worker faces discrimination and untouchability like manual scavengers, which is still their way of life. Cleaners have been dehumanised.

Caste strongly influences occupation. This ongoing relationship causes social marginalisation and financial hardship for the entire community. Scavenging is still done manually and cheaply in India. The safety of those in this field is uncertain. Western countries handle sanitary waste more mechanistically and with protective gear. Another concern is that sanitation personnel must clean sewer lines manually when equipment fails. A sewerage job is dangerous. Even if the government focuses on harmful sanitation efforts, 'manual scavenging' persists in India. According to 'The Wire' "There are over five million people employed in sanitation work of some sort, with two million of them working in high-risk conditions" (The Wire, November 24 2018). When workers enter the manhole, noxious gasses can cause significant health problems and even death. Thus, a system and strategy to address septic tank workers' issues would be strict to find. In his study, Kurien, C. T. (1984) refers to illiteracy and lack of competence limiting career options for the Indian scavenging community. Poor housing and food shortages plague them, resulting in little development. It hinders rights distribution and living levels. Sachidanand (2004) critically examined the Bihar scavenger training and rehabilitation in Patna and Darbhanga. He emphasised training issues for scavengers. Scheme implementation and monitoring are lacking. Training in many skills is poor. Skills taught to scavengers could not help them find work or become self-employed. The majority of scavengers were unemployed after training. Self-

employment presented challenges with bank financing and raw material shortages. Rehabilitation seems hopeless without appropriate monitoring. He also notes that women scavengers have not been empowered despite a decade of training and rehabilitation programs. Karbhari, D. (2004) studied in Madhya Pradesh and argues that the Indian government and NGOs have worked to liberate and rehabilitate manual scavengers into other jobs. He critically evaluated how the state and NGOs have failed to implement the rehabilitation project. The training centres for manual scavengers, especially those run by non-governmental organisations, lack infrastructure, making implementation difficult. The equal period training was held at community halls, open spaces, temple verandas, electric stores, and garages, which lacked chairs, proper environments, and necessary infrastructure. Scavengers received only basic employment information throughout their training.

Apart from the above, these crucial issues and challenges are how the concept of scavenging has evolved in India with different conceptual classifications and categorisation, which is discussed as the 'Sociology of Sanitation and scavenging'.

Sociology of Sanitation and Scavenging in India

(i) Manual Scavenging Act 2013:

The Manual Scavenging Act 2013 seeks to remedy manual scavengers' and their treatment and elevate their labour. As the act outlaws manual scavenging without suitable equipment, its implementation deserves proper examination. Almost a decade after its implementation, hundreds of manual scavengers have died in sewers and manholes, and no one has been held responsible or convicted. "According to NCSK, 123 people employed in hazardous forms of manual scavenging lost their lives while at work since January 2017." However, officials involved in the exercise admit that even this number could be a gross underestimation, considering the lack of data (Indian Express, 2017)[1.] The Employment of Manual Scavengers and Construction of Dry Latrines (Prohibition) Act, 1993 and Prohibition of Employment as Manual Scavengers and their Rehabilitation Act, 2013, define a manual scavenger as "a person engaged or employed, at the commencement of this Act, or at any time after that, by an individual." (The Employmentof Manual Scavengers and Construction of Dry Latrines (Prohibition) Act, 1993, p. 2-3).[2] According to Paul,

"Manual Scavengers are people employed for manuallycarrying human excreta from public and private toilets. It is done b y removing the bowels from the dry toilets with the help of brooms, tin plates, and plastic buckets, disposing them to places allocated for their dumping. It is evidently one of the worst forms of assault that can be contemplated on the dignity of a human being and is generally identified as a profession for the lower castes." (Paul, 2013:1). Scavengers are castes, the removers of the night soil, and cleaners of drains and latrines, and they belong to well-defined groups in Indian society. In India, all such people are included under the general vocabulary 'the scavengers' (Raksha, 2012: 47). Scavengers refer to Safai Karmacharis, who have worked in sanitation for at least three generations and are currently called sanitation workers.

(ii) United Nations, Committees and Commissions on Manual Scavenging:

Manual Scavengers' concerns have been raised in international venues, including the U.N. Global discrimination based on occupation and descent, which was discussed by the Sub-Commission on the Promotion and Protection of Human Rights Special Rapporteurs in 2009. This Special Rapporteurs' report on proposed principles and guidelines for "Effective Elimination of Discrimination Based on Work and Descent" is a significant step toward changing work, descent, and caste discrimination practises. Manual Scavengers' concerns have been raised in international venues, including the U.N. Global discrimination based on occupation and descent, which was discussed by the Sub-Commission on the Promotion and Protection of Human Rights Special Rapporteurs in 2009. This Special Rapporteurs' report on proposed principles and guidelines for "Effective Elimination of Discrimination Based on Work and Descent" is a significant step toward changing work, descent, and caste discrimination practises. It has called on national and local governments to end manual scavenging

and other harmful employment practices. It has urged the government to comply with international norms and pass and implement laws guaranteeing decent work, proper wages, and human and labour rights for affected people. Nearly 705 million rural South Asians defecate openly. In rural India, 74 million people defecate openly. Numerous people lack basic sanitation. In 2007, the U.N. "Committee on Elimination of Racial Discrimination" annual report expressed significant concern over manual scavengers' plight. According to the resolution, this committee was concerned that many Dalits were forced to work as manual scavengers. The Indian government has been concerned about manual scavenging and sanitation worker conditions since independence. The 1949 Scavenger's Living Conditions Enquiry Committee investigated Bombay scavengers. Many commissions and advisory bodies have attempted to address this issue since then. The government established a "Scavenger's Living Conditions Enquiry Committee" in 1949 under S.G. Barve to examine and investigate the living standards of manual scavengers in the province and offer ways to improve their working conditions and minimum salaries. The Barve Committee suggested giving scavengers wheelbarrows and better gear. The group sought to end manual scavenging "head loads". This committee reported to Bombay's administration in 1952. Pandit Govind Ballabh Pant chaired the 1956 Ministry of Home Affairs-created Central Harijan Welfare Board (CHWB). After reviewing the working conditions and living standards of sweepers and scavengers in India, the board suggested centrally supported manual scavenger schemes. CHWB suggested improving sweepers' living conditions and increasing municipal expenditures to upgrade scavenger quarters. It also advised giving them quarters in different areas rather than a restricted region. CHWB formed the Malkani Committee (1961) to recommend better and more humane working conditions and residential arrangements for sweepers and scavengers. The committee advocated mandating minimum salary payments to manual scavengers. This was good for their social mobility and salaries, slightly improving their quality of life. The committee examined three manual scavenging aspects. It advised setting pay according to the Minimum Wage Act. Second, to improve manual scavengers' working circumstances, the committee advised stopping hauling night soil as head or trash load and introducing the state as a facilitator to foster social mobility among manual scavengers and wheelbarrows. Private and public latrines must have containers. Thirdly, housing colonies and quarters were constructed in various places to avoid scavenging ghettoisation. Quarters were upgraded to develop self-respect among scavengers, especially youngsters. The National Labour Commission nominated Bhanu Prasad Pandya to chair the 1968–69 Committee on Conditions of Sweepers and Scavengers to inspect their working conditions. It received little central or state attention. The task group estimated four lakh Indian scavengers in 1989 using NSSO numbers. However, they advised state-level surveys to provide a more accurate assessment of facts as programmes and schemes were undertaken. Basu committee identified proper and systematic conversion of dry toilets into pour-flush latrines as the "central problem". The committee also criticised earlier rehabilitation attempts as insufficient. National Round Table Discussion (NRT), 2012 raised awareness of manual scavengers' predicament, focusing on rehabilitation and alternative livelihoods. The NRT outlined effective legal rights and dignity programmes for manual scavengers. It asked them to develop concrete initiatives that could inform policy to support manual scavengers. Statistics show that more women than males do manual scavenging. Bezwada Wilson highlighted it and noted that manual scavenger census data was erroneous. He believed civil society should include manual scavengers.

The Barve committee recommended wheelbarrows and quality equipment. The goal was to end head loading, where manual scavengers dumped night soil on their heads. Scavengers worked in 'sub-humane' conditions, according to the Kelkar committee. This included lugging night soil on their heads in dangerous containers and living in isolation. The Central Advisory Board for Harijan Welfare oversaw scavengers and sweepers' working and residential conditions. The board appointed a Malkani committee to suggest humane working conditions, better living arrangements for sweepers and scavengers, and acceptable compensation and leave.

The first review committee on the living circumstances of manual scavengers was founded in 1949 based on all these committees' efforts, guidelines, and suggestions. The Central Advisory Board for Harijan Welfare recommends ending the practice "no later than the end of the three five-year plan" in 1965. The committee said night dirt on heads should be banned. The committees advised improving scavengers' working and housing conditions. This included wheelbarrows and leak-proof containers to better their working conditions.

Besides efforts by the United Nations and different committees and commissions, sociologists have done several studies to offer a theoretical framework for investigating the issues of scavenging communities. Socioeconomic position, working and housing conditions, untouchability and social discrimination, social and vocational mobility, health, and unsafe sewage work conditions are discussed to outline this analysis.

(iii) Studies and Framework by the Sociologists:

Akram (2015) provides extensive descriptions of sanitation. He tries to understand sanitation's societal impact, which refers to sanitation deficiency. He depicts sanitation culture scarcity and assesses Indian sanitation programmes. Scavenging is emphasised as 'sanitation reforms and social movement'. He blamed caste, religion, and ethnicity for India's sanitation issues and critically assesses that caste-based division of labour has produced and maintained a social practice in which cleaning toilets or human excreta is caste-specific, creating an unsanitary atmosphere. The author mentioned the sewer system. Sarcasm in sewer construction is still a caste issue in India. It strengthened caste-based work division. Sulabh's significance in public sector sanitation was also highlighted by referring to the scavengers' untouchability-related suffering described here. Nagla B.K. (2015) mentioned manual scavenger, Usha Chaumar. The author describes the humiliation and misery the lady manual scavenger felt and her only desire to avoid this nasty job. She left this nasty job and is now a key sanitation employee at Sulabh International. 'Sanitation, Health and Society' briefly mentions scavenging, and 'Social Structure and Sanitation' analyses scavenging and the problem of scavengers. The author's reason for scavenging the major is that sanitation labour requires minimal talent. Further, Saxena (2015) emphasises sanitation's cross-disciplinary approach and all-inclusive framework. Social deprivation, cleanliness, ecology, water, gender equality, and public health are important in sanitation. The author explores sanitation scientifically utilising sociology. He details India's sanitation evolution, which covers almost all sanitation aspects and emphasises social ecology management, operation, and maintenance. It includes 'greater hygiene' and scientifically derived people's ability to meet their primal physical, biological, psychological, philosophical, social, and economic needs and entitlements. This analysis critically examined and documented the experiences and discourses of the "Sociology of Sanitation" worldwide and in South Asia, particularly India. Scavenging is also discussed as 'Ramification of Cultural Practices, Caste and Sanitation in Rural and Urban India'. In this context, the author claims that scavenger refers to animals, and scavengers are caste-untouchable in India. Further, it mentioned that scavenging is a family occupation, and they also lack fundamental rights due to their culture of acceptance. The sociology of sanitation has not been empirically studied and grounded in social realities; however, no empirical research has covered all aspects of sanitation sociology, including scavenging.

Future Direction

Based on the above analysis and argument, scavenging is an integral part of society and social realities; the sociology of sanitation recognises many thematic characteristics related to scavengers or sanitation workers in the country. However, vast diversities exist in India regarding scavenging, as different parts of the country have different practices, research, and academics—the practices of exclusion and the studies must be based on sanitation and scavenging in India. Social science research focuses on scavengers' discrimination, untouchability, health status, working and living conditions, socioeconomic situations, and occupational mobility. Further, it recognises the relationship between

caste and discrimination, even though the quantity of research on scavenging issues is fewer than on untouchability and discrimination. Manual scavenging and sanitation sociology must be the main focus, in addition to action sociology, for ameliorating the socioeconomic conditions of the scavenging communities.

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SOCIO-CULTURAL CONSTRUCTION OF SANITATION: PERCEPTIONS AND PRACTICES

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Abstract

This paper investigates how sanitation in India emerges from within this socio-cultural construction and, more importantly, how gender, caste, and other cultural norms shape perceptions and practices related to sanitation. For the present study, a qualitative methodological approach is adopted. A wide range of sources, such as academic journals, government reports, policy documents, and case studies, will be studied for secondary data analysis. This paper explores how socio-cultural contexts shape sanitation practices and their implications for public health. Traditional gender roles are a decisive factor in responsibilities and access to sanitation, placing the burden more strongly on women in most cases. Further, inequalities in sanitation access have been worsened by caste-based disparities, 'low-lying' areas having the worst facilities, which place these communities at more significant health risks.

Cultural norms and practices also decisively mould attitudes toward sanitation, affecting individual behaviour and public policy. The current study brings to the fore some lapses that characterize existing sanitation policies, especially those related to the socio-cultural dimensions. It offers recommendations that could engender more inclusive and culturally sensitive approaches. By bringing together knowledge from a wide array of secondary data sources, this research contributes to a better understanding of the socio-cultural dimensions of sanitation. It offers valuable implications for policy and practice in developing equitable sanitation solutions.

Keywords: *Socio-Cultural Construction, Sanitation, Gender, Caste, Cultural Norms, Public Health, Indian society*

Introduction

The elementary determinant of public health and individual dignity is sanitation, which is crucial in health outcomes. The impact is immense on social development, economic growth, and general well-being. However, in India, sanitation goes beyond mere technical considerations related to infrastructure. It embodies a deep, rooted socio-cultural framework. Sanitation in India is closely articulated with caste, gender roles, and cultural values, which determine and then influence access to satisfactory facilities, how sanitation is carried out, and policy implementation. It is often overlooked in discussions on public health, which remains oriented toward traditional infrastructural development, and the social-cultural factors that affect sanitation behaviour need to be considered. The present study explores the emergence of sanitation in India within a specific socio-cultural context, with particular reference to the influence of gender, caste, and cultural norms on shaping perceptions and practices related to sanitation.

Even with the best intentions of the Indian government through visionary programs such as the Swachh Bharat Mission (Clean India Mission), sanitation remains one of the glaring challenges, mainly impacting the vulnerable. Access to good sanitation remains severely restricted for women, Dalits, and the economically less privileged, both in slums within urban centres or rural settings. Deficiencies in access to sanitation are not so much about a lack of infrastructure but symptoms of more profound social inequities. Sanitation in India is therefore constructed as an issue of social justice where basic hygiene and clean amenities have unequal access based on gender, caste, and levels of socio-economic status. This paper will further dig into the inequalities by looking at how socio-cultural norms and practices surrounding sanitation are shaped by and contribute to systematic disparagement.

The Significance of Sanitation

Sanitation is the core part of human development and is one of the most important determinants of public health. Poor sanitation facilities often lead to several critical health issues, particularly the spread of contagious illnesses such as cholera, diarrhoea, and typhoid fever. These diseases

predominantly affect deprived and marginalized groups. According to the World Health Organization, around 500,000 deaths of children under five years of age every year are attributed to diarrheal diseases because of inadequate sanitation. The problem goes beyond having enough toilets; it includes insufficient access to sanitation, education in hygiene, and safe waste disposal. For India, where urbanization is at its fastest pace, but rural poverty is worse, the inadequacy of these sanitary facilities leads to serious public health concerns. However, the effect of a lack of sanitation goes way beyond health, as the advantages of good sanitation are more comprehensive social benefits and human rights issues.

Access to sanitation facilities in India remains quite uneven. According to the National Sample Survey Office, large parts of rural India continue to practice open defection despite government schemes to build toilets for all. Women and children are the most vulnerable since they are upped dangers of rape and harassment for forced defecation in open areas. In addition, exclusion based on caste curtails access to sanitation facilities among Dalits and other marginalized groups. The paper contends that most of the gaps remain in sanitation because its understanding is socio-culturally essential to address these structural inequalities, as it ensures a better understanding of how sanitation practices and policies interact with social hierarchies.

Research Objectives

This study seeks to address the following objectives:

1. To explore the role of gender in shaping sanitation practices and access: How do traditional gender roles influence responsibilities for sanitation and hygiene? What are the specific challenges faced by women in accessing sanitation facilities?
2. To examine caste-based disparities in sanitation: How do caste hierarchies influence access to sanitation infrastructure? In what ways are Dalit communities marginalized in terms of sanitation?
3. To analyse how cultural norms shape sanitation behaviours: What role do cultural beliefs about purity and pollution play in determining sanitation practices? How do these norms affect public and household sanitation behaviours?
4. To assess the implications of socio-cultural dynamics for public health and sanitation policy: How do gender, caste, and cultural norms contribute to poor health outcomes? What policy recommendations can be made to address these socio-cultural barriers?

Significance of the Study

This research study has significant implications for intellectual discourse and policy deliberations on sanitation in India. In focusing on the socio-cultural nature of sanitation, this research goes beyond questions of mere infrastructure to place at the heart of inequalities in sanitation issues of gender, caste, and cultural norms underpinning practices. It may provide ways to construct more effective and equitable policies by considering the lived reality of excluded groups. This research contributes to the continuing debates on social equity, human rights, and public health in India. It answers those with a stake or interest in all citizens' fundamental rights and needs, especially the vulnerable ones.

Literature Review

Sanitation is more than a health matter; it is a social construct that reflects and reifies more inclusive structures. In the Indian context, the relationship between sanitation and social inequality stands out, especially if one looks at it from a gendered, caste-based, and class-conscious viewpoint. While it may be argued that inadequate sanitation infrastructure only results from economic underdevelopment, this paper argues that it finds its deepest roots within the socio-political structure of Indian society. Inequalities in sanitation present more enormous structural disparities in Indian culture, positioning sanitation as the platform for analysing social stratification. In India, sanitation facilities are distributed unevenly, reflecting social hierarchies. The development and allocation of sanitation

infrastructures tend to favour higher castes and more affluent groups while leaving marginalized communities to suffer from inadequate and unsafe sanitation conditions.

Gender and Sanitation

Gender exerts considerable influence on access to and experiences with sanitation. According to traditional gender roles, women are mainly responsible for household sanitation, such as waste management, water gathering, and keeping themselves and others clean. The plight of women and girls is the negative aftermath of poor sanitation due to the lack of gender-sensitive facilities, thus deteriorating health, education, and personal safety.

Investigations by Bharadwaj and Patkar (2004) on menstrual hygiene in India report that a shortage of sanitation facilities in schools and public spaces negatively impacts girls' school enrolments and academic outcomes. Lack of privacy and safe spaces for menstrual hygiene management result in more frequent absences among girls, thereby impeding their education outcomes. Moreover, women face more pronounced risks of harassment and violence due to open defecation in rural areas where sanitation infrastructure is scarce.

The World Health Organization explicitly describes a problem with access to sanitation as representing a significant differential disadvantage to women, particularly during gestation and recovery from childbirth, thus exacerbating risks related to maternal health. Gender-sensitive factors amplify the critical need for sanitation policies that meet the specific needs of women, such as separate restroom facilities for both sexes and sanitary means for managing menstruation.

Sanitation is viewed most often through a gendered lens within the framework of India's socio-cultural aspect. More traditional gender roles have thus usually been represented by women maintaining the cleanliness of their homes, including fetching water and managing waste. This sets an incredible burden on women apart from limiting their access to sanitation resources. The lack of privacy, particularly concerning menstrual hygiene management, is an essential aspect of women's challenges living in both rural and urban settings. In many rural locations, social norms against menstruation prohibit women from accessing communal or home toilets when they are menstruating, making them more susceptible to unsafe and unhygienic practices that affect their health negatively. Furthermore, the absence of women-friendly public toilets in cities and towns often restricts women's mobility, limiting their access to education, employment, and other opportunities.

There are different needs for sanitation among women and men. Yet these differences largely get overlooked in sanitation policies. Just a year ago, the Swachh Bharat Mission was booming nationwide, building millions of toilets. Yet, its efforts have almost ignored what is specific to women's needs-infrastructure that disregards their demands for privacy and safety as well as management of menstruation. This does not directly address key drivers of gender disparities in access to sanitation. The health risks of urinary tract infections, on the other hand-reproductive health issues, underscore the stark need for gender-sensitive sanitation solutions. This study, therefore, will explore the role of gender norms and gender roles as defined by society in the practice of sanitation, focusing on how these norms create exclusions for women.

Caste and Sanitation

The determinants affecting sanitation practices within India are strongly linked to caste. However, traditionally, it has been obligatory for people from lower-caste backgrounds, primarily Dalits, to occupy positions related to manual scavenging and sanitation-related labour. This historical precedent of caste-driven inequity continues with contemporary sanitation practices, where Dalit populations are disproportionately exposed to inadequate sanitation environments.

The connection between caste and sanitation lies in purity and pollution in their base. Dalits, as victims of the dirtiest of mostly polluting nature-are ritually "impure" in the eyes of higher castes, and the social stigma still affects a lot in the distribution and availability of sanitation facilities. Research work by scholars like Gopal Guru (1993), Vivek Kumar (2005), and Sukhdeo Thorat (2009) has shown

the marginalization of Dalit people in access to public facilities, especially in a rural setting, wherein frequently they find insufficient amenities.

Such disparities based on caste are readily evident in slum areas mainly inhabited by Dalits and other disadvantaged groups in urban spaces. These places often lack appropriate sanitary facilities, leading to poor waste disposal, open drains, and limited access to clean water. The intersection of caste interactions with spatial exclusion compels added health impacts of inadequate sanitation on such groups to perpetuate intertwined cycles of poverty and marginalization.

Caste remains an integral part of the Indian fabric, drastically influencing the distribution of goods, services and opportunities. Regarding sanitation, the incidence of caste discrimination is also very high. Historically, for example, Dalits have always been relegated to the lowest rung of sanitation employment, including manual scavenging, the process of manually removing human excreta from dry latrines. Notwithstanding the ban, manual scavenging continues to exist in many areas of India, symbolizing the deep-rooted caste-based oppression that continues to prevail in the country. Dalits are excluded not only from respectable livelihood opportunities but also from proper sanitation. In many rural villages, Dalit populations are restricted to separate hamlets in villages, often without appropriate basic infrastructure like proper toilets and clean sources of water. This exclusion perpetuates the hierarchical nature of the casts and also leads to extensive health inequalities.

This links Dalits and sanitation-related labour, further exacerbating their marginalization. People from higher castes often refuse to share sanitation facilities with Dalits. The driving factors behind this are purity and pollution-related beliefs. Whenever public and communal toilets exist, they are usually inaccessible to Dalits. They are, therefore, forced to go for open defecation, thus increasing their vulnerability to health hazards. Sanitation policies have had further deficiencies in not addressing the exclusions based on caste system roots, which have been persistent in sanitation access in rural and urban settings.

Cultural Norms and Sanitation

Cultural beliefs and practices greatly influence India's attitudes toward sanitation. Perceptions and notions about purity and pollution, largely influenced by religion and social myths, remain the basis for determining sanitation behaviour in many rural areas. In India, relief actions are often determined by location and approach according to cultural requirements, which might also have caste-based restrictions on using specific toilets and where they can be located.

In most areas, this brings on feelings of revulsion regarding excreta becoming sullied and dirty, leading to hate at toilet installation within homes, especially for high-caste populations. Sanitation creates social constraints continually preventing toilets from being constructed near human settlements; openly, they defecate, even in light of governments' efforts. Such attitudes are often not amenable to change, even where better sanitation infrastructure is available.

Moreover, cultural perceptions of menstruation significantly influence the availability of sanitation for women to use. Women who menstruate are generally deemed "impure," which helps circumscribe their access to shared household sanitation facilities, primarily in more conservative societies. This denies them access to basic sanitation while menstruating but also enables more significant gender inequalities.

Among Indians, cultural values and practices are essential influences on sanitation behaviour. Notions of purity and pollution function in religious and social traditions and steer individual attitudes to sanitation. These beliefs have much to do with placing toilets, determining if they are constructed within residences or in particular areas, and influencing access to public facilities for specific groups. In many regions, it is not uncommon for households classified under the so-called high castes to not have toilets in their house because handling human excreta is considered an untouchable job. Such aversion perpetuates open defecation even after toilets have been constructed and provided to people through government schemes.

Cultural restrictions surrounding menstruation and defecation considerably affect the use and maintenance of toilet facilities. For example, in some societies, women are not allowed to use the same toilets as men during their periods; this could force them to relieve themselves publicly or on designs installed some distance from their dwellings. Cultural beliefs at issue have placed heavy burdens on women but also sustained social inequality through the denial of safe and sanitary sanitation. Therefore, this research seeks to understand how cultural beliefs that pervade purity, pollution, and functions of the body impact sanitation practices and policies and how these play into the persisting sanitation crisis in India.

Sanitation, Policy and Public Health

The public health outcomes of inadequate sanitation are better known, particularly concerning cholera, diarrhoea, and typhoid infections. According to UNICEF reports, India is the leading nation in causing mortality in children below five years because of diarrhoea-which is directly attributed to inadequate sanitation and unsafe water for drinking.

The complex interplay of socio-cultural factors like gender and caste aggravates the aforementioned public health risks. The sanitation-related diseases are far more prevalent for the deprived segments, particularly in villages and slums, owing to limited access to clean water and toilets. Most importantly, the care burden of those suffering from sanitation-related illnesses on women is presented to be the solitary largest source of amassing gendered inequalities.

Although India has achieved qualitative steps regarding sanitation access due to programs like the Swachh Bharat Mission, those initiatives must address the socio-cultural barriers to fair sanitation. According to scholars such as Heller (2018), there is a tendency towards top-down, technocratic approaches in sanitation policies, neglecting the grassroots realities in everyday life, especially by women and lower caste populations. These policies are very light on investment in infrastructure, such as the construction of toilets, without focusing considerably on the socio-cultural factors that hinder their practical usage.

For instance, while the Swachh Bharat Mission has brought about many increases in toilet coverage, there needs to be a reflection of correspondingly high usage rates, especially in the country's rural space. Partly, this gap in correlation can be explained by the cultural taboo relating to the location of toilets and the fear of being seen using them. A more inclusive approach will be one where facilities are built alongside attending to cultural and social norms that keep such facilities unused.

B. K. Nagla on Culture and Sanitation

B.K. Nagla is one of the finest sociologists in India; he observes that sanitation is not purely a technical or infrastructural matter but is much more deeply related to social and cultural practices. He argues that the Indian structure of society, with all its hierarchic features, especially the caste system, influences sanitation practices. As Nagla reminds us, historically, sanitation has revolved around concepts of purity and pollution, where notions of 'impure' dirty work and elimination practices have been relegated to lower-caste groupings, particularly to Dalits. This does not only maintain the structure of oppression based on caste but also creates socio-economic walls that keep people out of sanitation resources.

Nagla's work underlines that the association of Dalits with sanitary work, like the age-old manual scavenging, is a testimony to how these communities were historically marginalized. Even in modern India, where policies like the Swachh Bharat Mission try to construct better sanitation, only caste structures map and decide who will enjoy well-sanctioned, healthy sanitation facilities. With this social context still in the air, sanitation policies that only target infrastructure cannot successfully solve the issue (Nagla, 2020).

The second dimension for Nagla is the gendered aspect. It points out the role played by women, particularly in rural areas, in managing household hygiene, which is further complicated by the existing taboos in cultures related to menstruation. That limits women's access to sanitation facilities and

exposes them to health risks. Nagla suggests any meaningful intervention in improving sanitation must be inclined to the socio-cultural dimensions, where caste and gender have a role in moulding access and behaviour.

Theoretical Framework

Drawing on two critical sociological perspectives, social construction theory and structural violence theory, this study on the sociocultural construction of sanitation in India devises a framework to understand how gender, caste, and cultural norms and values intersect in sanitation practices, access, and policies in Indian society. Using this theoretical framework, this research will examine systemic inequalities about sanitation, such as the impact on poor and marginalized communities, including women and lower-caste groups.

The Social Construction of Reality: Framework by Berger and Luckmann

In their famous book, "The Social Construction of Reality", published in 1966, Peter Berger and Thomas Luckmann helped provide insight into the theoretical sense of how sanitation is constructed in the Indian mind as a social phenomenon. Berger and Luckmann posit that reality is socially constructed through the interactions of persons with the society in which they function. Thus, this process creates norms, institutions, and practices, legitimises, and perpetuates.

In the Indian context, sanitation is constructed not simply as a functional need but as an issue bounded by social structures and cultural beliefs. According to Berger and Luckmann, institutions such as caste and gender roles serve as frameworks that define and regulate sanitation practices. These institutions are reified- meaning they are treated as objective realities even though they are socially created. Thus, work in sanitation is given to Dalits or women's access to sanitary facilities is refused during menstruation; it seems the most natural, unproblematic practice.

Berger and Luckmann demonstrate how this occurs through three mechanisms:

1. Externalization: People externalize their beliefs and practices and generate the material and social world. It is very well represented in India by the way the creation of caste-based roles led to externalizing the role of cleaning their surroundings. Thus, it becomes impossible to relate to the 'abject'.
2. Objectivation: The reality is thus externalised as an objective and independent fact. For example, this institutionalized the manual scavenger role for lower castes, who were found more suited for 'natural' reasons.
3. Internalization: People internalize this objectified reality in the sense of forming consciousness and actions. This is clearly illustrated in how the lowest castes have generally aligned themselves to the role of working in sanitation and how the higher castes perceive sanitary activities as "beneath" them.

This theoretical framework explains why sanitation remains stratified along caste and gender lines in India. Even as modern policies aimed at uplifting sanitation infrastructure strive to address the root causes of these issues, internalized beliefs about purity, pollution, and gender roles remain significant barriers to change.

Caste and the Cultural Logic of Pollution

Indian society is very much related to the concept of purity and pollution, something sociologists like B.K. Nagla and anthropologists like Louis Dumont have explored extensively. In terms of this cultural logic, human waste pollutes extensively, and handling it is regarded as degrading. Historically labelled "untouchables," the Dalits have, over time, been consigned to handling human waste as part of the larger structure of caste-based oppression (Nagla, 2020).

The religious and social practice reproduces the framework that governs the strict separation of those who handle waste and those who utilize sanitation facilities. Spatial segregation of Dalit communities within rural villages and urban slums chimes with profound prejudice. The concept of

"objectivation" used by Berger and Luckmann, wherein the division of labour related to sanitation is considered a natural adjunct of the caste system, though socially constructed, holds.

Gender and Sanitation: Social Control through Taboos.

This, in turn, also heavily impacts the socio-cultural construction of sanitation in India to a large extent, as cultural views about gender also play a crucial role. On the one hand, women in particular, especially in rural settings, face additional barriers in accessing sanitation services not only due to such societal expectations around privacy, modesty, and purity but also because menstruation remains heavily stigmatized in Indian society, as women are typically excluded from using shared household toilets during such periods in light of perceived impurities.

Berger and Luckmann describe an internalisation process in which women internalize cultural taboos and change their behaviour accordingly. For example, they may practise unsafe sanitation practices like open defecation or indulge in makeshift structures for menstrual needs. These practices are not a product of a simple lack of infrastructure but are deep-rooted in the social norms that govern women's lives.

Intersection of caste, gender, and sanitation

In the case of the intersectional disadvantage of caste and gender, Dalit women have been denied sanitation access based on caste discrimination, and their denial has been based on gender pretext in exclusion from sanitation. B.K. Nagla summarizes that Dalit women are doubly marginalized: they are forced into degrading sanitation work on account of their caste. They are denied access to safe and hygienic sanitation due to their gender. This is an example of Berger and Luckmann's argument that social roles and realities are, in effect, socially constructed: individuals have multiple overlapping social positions that concretize lived experiences.

Structural Violence

Structural violence, or a type of violence introduced by Norwegian sociologist Johan Galtung in the 1960s, refers to violence wherein social structures or institutions harm people by preventing them from fulfilling their basic needs. Unlike direct violence, which is always acted out physically, structural violence is ingrained in the very fabric of society: its laws, policies, and norms lead to systematic harm. This framework particularly applies to the study of sanitation because it elucidates how institutional and systemic inequalities contribute to poor sanitation outcomes for the marginalized.

Structural Violence in Sanitation through the Lense of Caste: How do we understand through structural violence that issues in sanitation starkly reflect the exclusion of Dalit communities, along with other lower-caste groups, from access to adequate sanitation infrastructure? Such historical links between Dalits and the works of sanitation, especially manual scavenging, constantly impact how sanitation is allocated and lived in post-colonial India. Many Dalit communities are relegated to living in their areas with inadequate sanitation, often on the outskirts of villages or slums in urban set-ups, leading to poor health outcomes and further socio-economic exclusion.

Structural violence theory reveals that this marginalization is not an after-effect of personal prejudices but has been institutionalized through policies that have either failed to address or de-prioritized the sanitation needs of lower-caste groups. For example, government sanitation programs are unavailable to these communities due to a lack of political will or directly entrenched caste biases within the local governance structure. In this context, some communities suffer because of inadequate sanitation facilities—open drains, no toilets, or inefficient waste management systems—to capture the structural violence and its underlying cues to reinforce caste inequalities.

Structural violence is gendered in matters of sanitation. For instance, in rural areas, women do not access private, safe sanitation facilities and, therefore, are compelled to indulge in open defecation. This exposes them to high risks, including sexual harassment, physical assault, and health problems like UTIs and reproductive health issues. According to structural violence theory, the absence of gender-

sensitive sanitation policies—such as the provision of menstrual hygiene management facilities—serves to perpetuate women's marginalization.

In this respect, the absence of sanitary facilities designated for women in rural and urban contexts is a manifestation of gendered structural violence. It affects their health and safety but also their prospects for education and economic development because it also has implications on their health while keeping them away from school on certain days they menstruate-Girls end up leaving school if there are not enough toilet facilities available. Similarly, women who spend more time fetching water or searching for a safe location to defecate have little spare time for work or education and, thus, are less socio-economically mobile.

Other forms of structural violence inherent in sanitation are through cultural norms about purity, pollution, and privacy. It is the cultural reluctance that runs very rampant around many parts of India, where people avoid building toilets within houses and upper-caste groups, in particular, owing to the perception of being impure and, therefore, should not be managed within the domestic space. This cultural mindset fuels open defecation practice and is riskier for women and lower-caste groups who, socially ostracized in many places, are not allowed access to communal or public toilets.

The structural violence theory clarifies how norms of purity and pollution are not merely individual beliefs but embedded through social practices and policies that enforce exclusion. For instance, toilet facilities for public use are built. Still, members from other lower castes are not permitted to use these toilet facilities as they are forbidden to share them with "impure" people. Again, women may not use the public toilet due to their aversion to relieve themselves outside the house, as they might be ridiculed or bullied.

The combination of intersectionality theory and structural violence theory will form the basis of a rich framework for the socio-cultural construction of sanitation in India. Such a definition would allow us to see how social identities intersect in complex ways to provide novel forms of discrimination. Structural violence, however, refers to how institutions systematize harm through policies and social structures.

Together, these frameworks allow for a holistic consideration of how gender, caste, and cultural norms influence the practice and policy of sanitation. It also considers ways in which deprived communities are socially excluded regarding access to sanitation and the broader public health implications of such dynamics. An integrated theoretical approach opens the way to a more trenchant critique of extant sanitation policies, compelling the need for intersectional and culturally sensitive solutions regarding the systemic inequalities embedded in India's sanitation system.

Methodology

The methodology is based on a qualitative literature review. The paper shall highlight how insights derived through research are founded upon interpretations through academic and policy documents related to sanitation in India. Through a thematic approach, the study will discuss how the trends relating to gender, caste, and cultural norms impact sanitation practices in keeping with the theoretical frameworks of intersectionality and structural violence. The methodology applied in this study was a qualitative literature review, where studies focusing on the intersections of caste, gender, and sanitation were analysed in India. Through thematic analysis, the themes found include the types of exclusion based on caste while obtaining access to sanitation facilities, the division of sanitation responsibilities based on gender, and the cultural stigmatization of menstruation. All these themes were analysed within the framework of Berger and Luckmann's theory of social construction and Nagla's sociological insights.

Discussion

The traditional roles assign the significant burden of keeping houses clean to women. This places them at a disadvantage and subjects them to poor conditions. Thus, unequal distribution of household duties has severe social and health consequences for women. Women, especially in rural

India, are usually responsible for maintaining the house, collecting and disposing of waste, and ensuring cleanliness (Bharadwaj & Patkar, 2004). Women are generally disproportionately concentrated in sanitation facilities in general, especially when they are not private or safe enough. Even though women and girls across the globe face more challenges related to water, sanitation, and hygiene infrastructure, gender-sensitive policies usually lack attention. For example, there is a lack of focus on specific sanitation needs for women, such as menstrual hygiene management, within more significant initiatives, such as the Swachh Bharat Mission (Pfadenhauer & Rehfuess, 2015). The risk of sexual assault is even higher among women and girls, and cultural taboos against menstruation are taken as additional limiting factors to proper sanitation (WHO, 2015). As a result, absenteeism in school is higher among girls, which denies them better opportunities for education and economies of the country (Bharadwaj & Patkar, 2004).

India's caste-based hierarchies lead to these groups being, across all historical periods, systematically excluded from proper sanitation facilities because of discrimination and the actual structural barriers introduced across the years. Despite such legislative efforts to end manual scavenging, Dalits and other sidelined castes continue to be forced into degrading sanitary work while being deprived of proper facility use. Rural Dalit communities are often on the periphery of villages, with either no sanitation facility or ones in such bad condition that they are unusable. This segregation in society, combined with health inequality, also creates social stratification. Even in urban slums, which are the core cluster of Dalit and other lower castes' dwelling places, sanitation infrastructure is relatively unavailable, thus further putting them at a socio-economic disadvantage (Narain, 2014).

Cultural norms and beliefs about purity, pollution and religious segregation of appropriateness greatly influence the sanitation practice across India. In particular, the phenomenon of open defecation and caste-based segregation of sanitation facilities is perpetrated through such beliefs. The attitude toward purity and pollution in India, based on deeply rooted religious and social beliefs, guides sanitation management issues. In most cases, higher-class households are against building toilets within their compounds because they regard body excreta as unpure (Kumar, 2015). This contributes significantly to open defecation in regions where government programs have constructed toilets (Spaargaren & Oosterveer, 2010). Cultural norms further demand that only certain persons be authorized to use sanitation facilities and where they are installed, thus debarring lower-caste persons from using community toilets because of their association with "impurity" (Khurana, 2019). Sanitation taboos surrounding menstruation prohibit women from accessing proper sanitation facilities around their menstruation periods, thereby continuing their exclusion (Pfadenhauer & Rehfuess, 2015).

Poor public health results directly because of the persistence of inappropriate access to sanitation facilities, clean water, and adequate hygienic systems for waste management due to the interplay between caste, gender, and cultural norms. The most direct implication of the lack of access to proper sanitation facilities is felt in rural and marginalized urban areas. Poor sanitation is associated with the rise of infectious diseases like cholera, typhoid, and diarrheal diseases (Narain, 2014). These diseases have serious impacts on low-income or lower-caste populations who often reside in areas of poorly envisaged infrastructure of sanitation (UNICEF, 2014). Women and children are most vulnerable to these health risks due to both sociocultural as well as biological factors (WHO, 2015). The gendered division of labour leads to women's sanitation management responsibilities, which also exposes women to health risks in the instance of pregnancy and menstruation (Bharadwaj & Patkar, 2004).

The current policies of sanitation in India, like the Swachh Bharat Abhiyaan (Clean India Mission), contest themselves upon an infrastructure-related top-down approach and do not possess any significant socio-cultural barriers that could prevent people from marginalized communities from accessing and utilising. While India has done well in programs like the Swachh Bharat Abhiyaan that guarantee access to sanitation, the agendas of the programs are all on the development of toilets and infrastructural development rather than focusing on socio-cultural aspects that can inhibit their proper

utilization (Heller, 2018). For example, many toilets have gone unused because of cultural prohibitions against the act of defecation and menstruation and also due to caste exclusions that prevent Dalits and other socially marginalized sections of society from using shared facilities. This gulf between the politics of delivery and social realities constrains the effectiveness of sanitation programmes: this can be understood by observing that rates of open defecation continue to prevail without a reduction in significant numbers, particularly in rural areas (Spaargaren & Oosterveer, 2010). There is an urgent argument for scholars that policy-making pays attention to the intersectional and culturally sensitive approach because the unique problems of women and lower castes induce varied effects (Van Vliet et al., 2011).

Sanitation construction in Indian society is deep and embedded within social understanding, cultural assumptions, and institutionalized inequalities about caste and gender. It is closely tied to societal structure and maintains hierarchical power systems and resource access.

Conclusion

The structure of sanitation in Indian society is socio-cultural, with elements of caste-based discrimination, gendered exclusion, and cultural beliefs regarding purity and pollution. Therefore, from B.K. Nagla's analysis and Berger and Luckmann's theory on social construction show that the problem of sanitation appears to be not just an infrastructural issue but rather the manifestation of larger structures in society that define and perpetuate inequality. This study draws from the theoretical frameworks developed by B.K. Nagla, in his sociological analysis of sanitation, and Berger and Luckmann's theory of The Social Construction of Reality, establish that sanitation is more than just an infrastructural issue in India. It reflects social inequalities shaped by historical and cultural forces that continue exclusion and marginalization for some communities.

Indian caste hierarchies are perpetuated through its sanitation practices. Dalit communities have always been relegated to traditional manual scavenging and other forms of degrading sanitation work. This exclusion continues to be perpetuated, strengthening the structures of spatial segregation and enhancing social inequalities. Even though there are several legal frameworks in place which care to end discrimination based on caste, sanitation policies and programs continue to fail at dismantling these entrenched structures, and the marginal groups, especially the Dalits, continue to be deprived of adequate infrastructure for sanitation. Third, purity and pollution cultural norms-combinations are also prevalent among the upper caste groups and continue to perpetuate open defecation but restrict the utilization of the same sanitation facilities by members of the lowest castes. Taboos around menstruation further isolate women by limiting their time and access to sanitation facilities.

Applying Berger and Luckmann's theory of socially constructed reality, sanitation can be understood as a social construct. How social realities are constructed is proposed through externalization, objectivation, and internalization. Reinforcing social roles, caste and gender, sanitize sanitation work, usually by leaving it to Dalits or by denying women access to sanitation facilities, a process that seems to naturally and inevitably assign such tasks to some and deny them to others. B.K. Nagla's view summarises in the insight that "structure" is engaged in the form of inequality embedded in sanitation practices. However, he continues, citing the absence of disassociation from traditional historical association with sanitation work and the gendered character of the distribution of both disease burdens and household sanitation management, being two main contributors to the inequities observed in access and outcomes in sanitation.

The study pushes it home further, stating that there needs to be an understanding of the deeper socio-cultural context in which sanitation in India is framed so sanitation in India can be understood fully. On the one hand, several government schemes under the Swachh Bharat Mission have achieved tangibly pertinent success in upgrading sanitation infrastructure; however, more enormous social inequalities- hospitality to access and use- have yet to be ignored entirely in this scholarship package. Unless such initiatives address the socio-cultural dimensions of caste, gender, and cultural beliefs, they

will not yield equitable results. Effective policies on sanitation will have to be intersectional, accounting not only for differential issues but also for those that cut across class and gender for particularly disadvantaged groups, including the situation of members of lower castes and women. Only when such is thus recognized and confronted can there be significant and sustainable developments in sanitation?

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SOCIAL DETERMINANTS OF HEALTH, HYGIENE AND SANITATION

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Abstract

World Health Organization defines health not as the absence of disease but as a "state of complete physical, mental, and social well-being." The sociological perspective on health assumes that a functioning society depends on healthy people and controlling illness. Although many believe that science alone determines illness, the sociological view points out that society also determines health and sickness. Social and cultural determinants of health, hygiene, and sanitation must be dealt with in consensus on ethical principles- universalism, justice, dignity, security, and human rights. Poor nations suffer from inadequate health, hygiene, sanitation, hunger, and other poverty-related problems. In the poorest countries, half the children do not survive adulthood. The sociology of health and illness requires a global analysis approach because the influence of societal factors also varies worldwide. Diseases are examined and compared based on the traditional medicine, economics, religion, and culture that are specific to each region.

Several social determinants of health, hygiene and sanitation include social, economic, political, educational, environmental and spiritual. All these social determinants interact and overlap. They also complement each other to form the whole person. Similarly, a change in one factor affects another. The health status of a society is intimately related to its value system, philosophical and cultural traditions, and social, economic and political organizations. Each aspect profoundly influences health, which in turn influences all these aspects. Hence, it is only possible to raise people's health status and quality of life if such efforts are integrated with a broader effort to bring the overall transformation of society. Good health and good society go together. This is possible only when supportive services such as nutrition, environmental improvements, and education reach a high level.

Social and economic conditions profoundly impact health, hygiene and sanitation. The health of the population is a matter of social concern. Society should promote health, hygiene and sanitation through individual and social means. Living healthy and long has been one of the primal urges of human beings. Sanitation is an essential condition for any human development. It is not only a problem of keeping clean but also an economic and social problem of raising production and promoting a good life. Mahatma Gandhi said, "Cleanliness is next to godliness". He also said, "Sanitation is more important than independence".

A sociological understanding of health, hygiene and sanitation considers structural and social factors rather than biological explanations of health and disease. It describes the complex relationship between structural characteristics and personal choices about health inequalities. This study has combined and analyzed the available secondary literature and presented a new way to think about the social determinants of health, hygiene and sanitation.

Key Words: *Environment, Health, Hygiene, Sanitation, Socio-cultural determinants*

Introduction

Over the last decade, health promotion has become a central feature of health policy at local, national and international levels, forming part of global health initiatives such as those endorsed by the World Health Organization. Moreover, there are apparent differences in health, hygiene, and sanitation patterns across societies over time and within particular types of society. These health, hygiene, and sanitation concepts visualize the importance of the social, cultural, political, and economic factors influencing human health and society. There has historically been a long-term decline in mortality within industrialized societies, and on average, life expectancies are considerably higher in developed rather than developing or undeveloped societies. Patterns of global change in health, hygiene and sanitation care systems make it more imperative than ever to research and comprehend the sociology of health and sanitation. Continuous changes in society, culture, economy, environment, technology and insurance can affect the way individual communities view and respond to the medical care available. These rapid fluctuations cause health, hygiene, and sanitation issues within social life to be very dynamic. Advancing information is vital because as patterns evolve, the study of the sociology of health and sanitation must constantly be updated (Behera and Agrawal 1995: 03).

Health

Health is not just a matter of personal choice, nor is it only a biological issue; patterns of well-being and illness are deeply rooted in society's organisation and people's socio-cultural life. Health is a social issue borne out by evidence demonstrating that health standards have varied over time and from one society, culture, and country to another. A sociological understanding of health considers structural and social factors rather than biological explanations of health and disease. It describes the complex relationship between structural characteristics and personal choices about health inequalities. Health is a social issue because personal well-being depends on society's technology as well as its distribution of resources. Culture shapes definitions of health and patterns of health care.

Historically, human health was poor by today's standards. Health has improved dramatically due to technological development, industrialization and medical advances. A continuum of health inequality exists in most countries from high to low, where the poorest groups of people have the worst health status, and each group above it has progressively better health, with the most socio-economically advantaged group having the best health status. People who share a class position typically share similar life chances. WHO defines the social determinants as 'the conditions in which people are born, grow, live, work and age and inequities in power, money and resources that give rise to them' (WHO 2014-xiii).

Health is too important to be left solely to doctors. Health is related not only to access to technical solutions but also to society's nature. Once someone is sick, access to quality health care can save a person's life. However, it is not the lack of medical care that causes illness. Life expectancy figures are crude indicators of population health and mask significant health inequalities among social groups within a country. A social gradient of health exists, where the lower a person's position in the social hierarchy, the poorer their health (Marmot 2015:37). A continuum of health inequality exists in most countries from high to low, where the poorest groups have the worst health status. Each group above it has progressively better health, with the most socio-economically advantaged group having the best health status.

The social model logically implies that any attempts to improve the community's overall health must address living and working conditions such as poverty, employment opportunities, workplace health and safety, and cultural differences (Germov, 2022). WHO has defined health as a state of 'complete physical, mental and social well-being and not merely the absence of disease and infirmity'. Implied in this definition is the 'physical, mental, social well-being', which is of prime importance for maintaining an optimum level of health.

The practice of public health has been dynamic in India, and many hurdles have been witnessed in its attempt to affect the lives of the people of this country. Since independence, major public health problems like malaria, tuberculosis, leprosy, high maternal and child mortality, and, lately, human immunodeficiency virus (HIV) have been addressed through concerted government action. Social development, scientific advances, and health care have decreased mortality and birth rates.

The causes of health inequalities lie in the social, economic, and political mechanisms that lead to social stratification based on income, education, occupation, gender, and race or ethnicity. The lack of adequate progress on these underlying social determinants of health has been acknowledged as a glaring failure of public health. The Ministry of Health needs to form stronger partnerships with other agents involved in public health because many factors influencing health outcomes are outside their direct jurisdiction. Making public health a shared value across the various sectors is a politically challenging strategy, but such collective action is crucial. Health is a very complex issue, which in turn is closely related to hygiene and sanitation.

Hygiene

Hygiene generally refers to the set of practices associated with the preservation of health and healthy living. The focus is mainly on personal hygiene, which looks at the cleanliness of the hair, body,

hands, fingers, feet, clothing, and menstrual hygiene. Improvements in personal knowledge, skill and practice that modify an individual's behaviour towards healthy practice are the focus of hygiene promotion. Safe hygiene practice includes a broad range of healthy behaviours, such as washing hands before eating and after cleaning a child's bottom and safe faeces disposal.

The exercise of proper personal hygiene is one of the essential parts of our daily life. Many people in rural areas may need help understanding excellent or bad personal hygiene. Preventing infectious diseases, like diarrhoea, trachoma, and many others, is highly possible through proper personal hygiene. You need to learn the appropriate personal hygiene practice and use this to prevent and control crucial public health diseases that are prevalent in your locality. Personal hygiene is a concept that is commonly used in medical and public health practices. It is also widely practised at the individual level and home. It involves maintaining the cleanliness of our bodies and clothes. Personal hygiene is personal, as its name implies. In this regard, personal hygiene is a condition that promotes sanitary practices to the self. Everybody has their habits and standards that they have been taught or learned from others. Generally, personal hygiene is employed to prevent or minimize the incidence and spread of infectious diseases. Cleanliness and hygiene are the same. The term cleanliness should not be used in place of hygiene. Cleaning, in many cases, is removing dirt, waste or unwanted things from the surface of objects using detergents and necessary equipment.

Hygiene aims to improve the health of an individual. Good hygiene practices help to prevent the spread of diseases. The difference between hygiene and sanitation may seem like semantics, but the two words are not interchangeable. On the contrary, they have different meanings and scopes, although the main goals are alike and equally important. Sanitation refers to providing facilities and services to safely dispose of human waste, including waste management systems such as sewers and latrines. On the other hand, hygiene refers to personal cleanliness and healthy habits that prevent the spread of disease, encompassing everything from washing your hands to brushing your teeth to cooking food properly.

Sanitation

Sanitation refers to formulating and applying measures designed to protect public health. It also refers to safe conditions, including a clean and secure water supply, clean and safe ambient air, efficient and safe animal, human, and industrial waste disposal, food protection from biological and chemical contaminants and adequate housing in clean and secure surroundings. Practically, sanitation is any system that promotes proper disposal of human and animal wastes, acceptable use of toilets and avoiding open space defecation. Inadequate sanitation is a significant cause of disease worldwide, and improving sanitation is known to significantly benefit health in households and across communities (Pathak. 2015).

According to UNICEF, sanitation refers to a process whereby 'people demand, effect, and sustain a hygienic and healthy environment for themselves by erecting barriers to prevent the transmission of disease agents. Such an approach is needed not only to avoid disease and to promote health but also to lay the foundation for sustainable development. According to Prof. Bindeshwar Pathak (2015), sanitation should be included as a discipline in sociology because the core problem areas embodying sanitation, like social deprivation, hygiene, ecology, water, public health, poverty, gender equality, the welfare of children etc., require sociological intervention also being intertwined with spiritual and philosophical knowledge. Joshi (2006) rightly points out that technically, sanitation implies more excellent personal and domestic hygiene, but the reasons for practising locally perceived notions of sanitation are not always related to cleanliness. They may often be deeply influenced by reasons unrelated to either cleanliness or hygiene. Lack of safe sanitation leads to multiple adverse outcomes. It can cause illness and disease, particularly among children, such as diarrhoea, worm infections and stunting. The impacts of poor sanitation disproportionately affect the most vulnerable and disadvantaged, particularly women and people living with disabilities. Universal access to safe

sanitation will be expensive, but inaction brings even more significant costs. Lack of sanitation results in greater recurrent and preventable healthcare costs, lost income and educational opportunities, loss of productivity, and environmental pollution (UNICEF., 2020).

Types of Sanitation

Different types of sanitation relate to particular situations, such as ***Basic sanitation***, which refers to managing human faces at the household level. It means access to a toilet or latrine—***onsite sanitation***, which means the collection and treatment of waste at the place where it is deposited. ***Food sanitation*** refers to the hygienic measures for ensuring food safety. Food hygiene is similar to food sanitation. ***Ecological sanitation*** is the concept of recycling the nutrients from human and animal wastes into the environment. ***Housing sanitation*** refers to safeguarding the home environment. ***Environmental sanitation*** controls environmental factors that form links in disease transmission. This category includes solid waste management, water and wastewater treatment, industrial waste treatment and noise and pollution control. Sanitation continues to represent one of the most severe and significant problems threatening the world population. The importance of sanitation resides in its interconnection with numerous other problems. Poor sanitation has a direct effect on economic growth. Consequently, its improvement could lead to consistent savings in healthcare costs, reduced days lost at work, time saved from increased convenience and reduced lost income.

Social Determinants of HHS

There are large numbers of studies linking social class to the incidence of disease. Income, occupation and education, which are significant components of most measures of social class, are also generally positively correlated with the status of human health, hygiene and sanitation. Diseases also have been shown to affect people at various social levels differently. Social class differences in mental illness, infant mortality, and maternal mortality are all related to social class. Social class differences have also been observed in the family structure and medical and health services utilisation.

Economic Stability

Incomes and financial stability affect our health, hygiene, and sanitation. When people have higher, more stable incomes, they are able to spend money on things that improve their health, hygiene, and sanitation. On the other hand, when people are chronically worried about being able to meet household expenses, their bodies may be flooded with unhealthy levels of stress hormones. This toxic stress response contributes to high blood pressure, heart disease, and even cancer.

Housing Locality

The places where we live shape our lives, including and especially our health, hygiene and sanitation. Sometimes, seeing how homes and housing localities affect health is accessible. It's not hard to connect housing to health when lead is in the water, mould is in the air, or crumbling staircases cause injuries. It can be less apparent how housing costs affect health, hygiene and sanitation. When housing is expensive, it's harder to pay medical bills, join sports leagues, or eat well, which opens the door to chronic disease and other health problems.

Neighbourhood Environment

When thoughtfully planned, amply resourced, and carefully maintained over time, neighbourhoods support healthy, thriving communities. When we don't invest appropriately in the built environment, it can undermine health in many ways. For example, when an area is poorly lighted, people may be less likely to walk to everyday destinations. Less physical activity can mean more health problems. The slum environment badly affects health, hygiene, and sanitation.

Social Capital

People's relationships and interactions with family, friends, and community members can significantly impact their health, hygiene, sanitation and well-being. When people have strong social support and can turn to others for advice or help, it can be easier to resolve life's problems. When people

are disconnected from others, there are fewer opportunities to talk, walk, or laugh together. Without these experiences, physical and mental health can decline.

Education: Access and Quality

Educational opportunities form part of the foundation of health, hygiene, and sanitation. Learning opportunities in childhood, adolescence, and adulthood influence people's skills, employment, and incomes. Educational quality affects access to environments and resources that promote good health. When good schools anchor neighbourhoods, families are more connected, which builds well-being.

Conclusion

Social status may be inherited, but in modern society, it is achieved based on occupation, income, type of housing and neighbourhood, material possessions, etc. There are large numbers of studies linking social class to the incidence of disease. Income, occupation and education, which are significant components of most measures of social class, are also generally positively correlated with health status. Diseases also have been shown to affect people at various social levels differently. Social class differences in mental illness, infant mortality, and maternal mortality are all related to social class. Social class differences have also been observed in the family structure and medical and health services utilisation.

We can conclude that health, hygiene, and sanitation are important in our lives and for the nation. Hygiene and Sanitation are both important to the health and well-being of all people on earth. Without personal hygiene and clean sanitation systems, maintaining public health is not possible. Personal hygiene and sanitation are important ways of promoting good health and preventing diseases.

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RURAL SANITATION IN INDIA: ACHIEVEMENTS AND CHALLENGES

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Abstract

Sanitation is the hygienic means of promoting health through the prevention of human contact with the hazards of waste and the treatment and proper disposal of Sewage & wastewater. Hazards can be either physical, microbiological, biological or chemical agents of disease. Most read. Individual Health and hygiene largely depend on adequate availability of drinking water and proper sanitation. There is, therefore, a direct relationship between water, sanitation and health. Improper disposal of human excreta, improper environmental sanitation and lack of personal and food hygiene have been major causes of many diseases in developing countries Like INDIA. In this context, the Central Rural Sanitation Programme (CRSP) was launched in 1986, primarily to improve the quality of life of rural people and provide privacy and dignity to women. The Swachh Bharat Mission was launched on Oct 2, 2014, by the Prime Minister of India to eradicate the practice of open defecation across the country. The rural component of the Mission, Swachh Bharat Mission – Grameen (SBM-G), has since demonstrated unprecedented progress. As of September 2019, all states and union territories reported their rural areas open defecation-free (ODF) ahead of the target deadline of Oct 2 2019 – a befitting tribute to Mahatma Gandhi on his 150th birth anniversary.

The key instrument in leading the sanitation revolution, which made India ODF, has been people's participation, transforming the Mission into a Jan Andolan (a people's movement). Having achieved these outcomes, there is a need to sustain the gains made under the Mission and ensure that the health and hygiene benefits continue to be realized. Toilet usage behaviours must be continuously reinforced, and universal safe solid and liquid waste management must be achieved. State Governments must also ensure that any new households and households that may have been left behind are facilitated to build a toilet. This can be achieved through a robust and inclusive strategy for central and state governments, district administrations, Panchayati Raj institutions, and civil society to work in unison toward achieving ODF Plus. ODF Plus entails sustaining ODF behaviours, and every village has access to solid and liquid waste management. In this context, the present paper discussed Rural Sanitation in India: Achievements and Challenges.

Keywords: *Environmental health, open defecation, sanitation, clean India, sustainable development goals, Swachh Bharat*

Introduction:

Sanitation is the hygienic means of promoting health through the prevention of human contact with the hazards of waste as well as the treatment and proper disposal of Sewage & wastewater. Hazards can be either physical, microbiological, biological, or chemical agents of disease. Most read. Individual health and hygiene largely depend on the availability of drinking water and proper sanitation. There is, therefore, a direct relationship between water, sanitation and health. Improper disposal of human excreta, improper environmental sanitation and lack of personal and food hygiene have been major causes of many diseases in developing countries Like INDIA. In this context, the Central Rural Sanitation Programme (CRSP) was launched in 1986, primarily to improve the quality of life of rural people and provide privacy and dignity to women. The Swachh Bharat Mission was launched on Oct 2, 2014, by the Prime Minister of India to eradicate the practice of open defecation across the country. The rural component of the Mission, Swachh Bharat Mission – Grameen (SBM-G), has since demonstrated unprecedented progress. As of September 2019, all states and union territories reported their rural areas open defecation-free (ODF) ahead of the target deadline of Oct 2 2019 – a befitting tribute to Mahatma Gandhi on his 150th birth anniversary. (Swachh Bharat Mission: Govt. in)

The key instrument in leading the sanitation revolution, which made India ODF, has been people's participation, transforming the Mission into a Jan Andolan (a people's movement). Having achieved these outcomes, there is a need to sustain the gains made under the Mission and ensure that the health and hygiene benefits continue to be realized. Toilet usage behaviours must be continuously reinforced, and universal safe management of solid and liquid waste management must be achieved.

State Governments must also ensure that any new households and any households that may have been left behind are facilitated to build a toilet. This can be achieved through a robust and inclusive strategy for central and state governments, district administrations, Panchayati Raj institutions, and civil society to work in unison toward achieving ODF Plus. ODF Plus entails sustaining ODF behaviours, and every village has access to solid and liquid waste management. (WHO:2018)

India is working toward this long-term vision of ODF Plus. This is necessary for India to sustain its achievement towards the Sustainable Development Goal (SDG) 6, especially SDG 6.2. With the creation of the Ministry of Jal Shakti, the Government of India has made a significant move towards institutional integration of the water sector. The new central programme, Jal Jeevan Mission, will provide water supply to every household by 2024 and focus on source sustainability, which will give a significant impetus to the sustainability of the gains achieved by the Swachh Bharat Mission – Grameen. In consultation with State Governments and other stakeholders, this ten-year sanitation strategy for rural areas in India, prepared by the Department of Drinking Water and Sanitation (DDWS), Ministry of Jal Shakti, Government of India, lays down the framework for achieving this long-term vision. The strategy is intended to guide local governments, policymakers, implementors and all relevant stakeholders, including the people of rural India, in the planning for and achieving ODF Plus. In this context, this paper highlights the Rural Sanitation in India: Achievements and Challenges.

Concept of Sanitation and Hygiene:

The concept of sanitation was earlier limited to disposing of human excreta by open ditches, pit latrines, bucket systems, etc. The concept of sanitation was expanded to include personal hygiene, home sanitation, safe water, garbage disposal, excreta disposal, wastewater disposal, etc. Today, it connotes a comprehensive concept, which includes liquid and solid waste disposal, food hygiene, and personal, domestic, and environmental hygiene—hygienic toilets in countries where modern sanitation used to be the privilege of a few well-to-do citizens. Hygiene is embedded in wide and complex social values and sentiments. Hygiene is linked with concerns about privacy and intimacy, neatness, social prestige, convenience, respect and being civilized. Unhygienic, in contrast, refers to poverty, shame, disgust and invaded intimacy. Sanitation refers to formulating and applying measures designed to protect public health. It also refers to safe conditions, including a clean and safe water supply, clean and safe ambient air, efficient and safe animal, human, and industrial waste disposal, food protection from biological and chemical contaminants and adequate housing in clean and safe surroundings. Practically, sanitation is any system that promotes the proper disposal of human and animal wastes, proper use of toilets, and avoiding open space defecation. Inadequate sanitation is a major cause of disease worldwide, and improving sanitation is known to significantly benefit health in households and across communities. (Jain:2015)

Sociology and Sanitation:

Sociology is the study of man and society. Sociology studies man's behaviour with his fellow beings in a social surrounding. It studies the collective behaviour of man and its origin, developments, organization, and institutions. Sociology is a social science that conducts various investigations and research to find facts from a general understanding. Sociology enables us to understand the relationship between man and his actions in society. It enhances the knowledge of social action. Sociology is a vast subject that includes almost everything in society that human beings deal with. We can mention some significant social institutions, such as family, caste, religion, education, health, politics, industries, etc., that human behaviour encompasses as a part of society. Sociology has developed rapidly since World War II, resulting in increased specializations within sociology. Recently, the importance of sanitation in human society forced social scientists to improve the sociology of sanitation as a specialized study in sociology. According to Prof. Bindeshwar Pathak (2013), sanitation should be included as a discipline in sociology because the core problem areas embodying sanitation, like social deprivation, hygiene, ecology, water, public health, poverty, gender equality, the welfare of children etc., require

sociological intervention also being intertwined with spiritual and philosophical knowledge. (Bindeshwar Pathak:2018)

Importance of Rural Sanitation:

The concept of sanitation broadly includes liquid and solid waste disposal, personal and food-related hygiene, and domestic and environmental hygiene. Most of the people still defecate in the open space, most of the villages lack waste disposal and drainage systems, and many in the 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. In India, where a significant portion of the population resides in rural areas, ensuring proper sanitation practices and facilities is vital for the overall well-being and progress of the nation. Access to clean water, hygienic toilets, and waste management systems are essential to rural development. SBM Rural and SBM Gramin, i.e. Swachh Bharat Mission Rural and Swachh Bharat Gramin, are key initiatives of sanitation by the government to uplift the lives of people living in the country's rural areas.

Role of Government Bodies regarding Sanitation:

All Indian cities became sanitized, healthy & loveable and ensured good public health & environmental outcomes for all their citizens, focusing on hygienic and affordable sanitation facilities for people with low incomes. The responsibility for providing sanitation facilities in India is decentralized and primarily rests with local government bodies - Gram Panchayat in rural areas and municipalities or corporations in urban areas. The state and central governments have a facilitating role that involves framing enabling policies/guidelines, providing financial and capacity-building support and monitoring progress. In the central government, the Planning Commission, through Five Year Plans, guides investment in the sector by allocating funding for strategic priorities.

Measures to improve sanitation in rural areas:

The Environmental Hygiene Committee, 1948: Recommended that 90 per cent of the country's population be provided with a water supply and sanitation facilities within forty years, for which the national programme was to be initiated.

- Introduction of sanitation programme in the health sector, 1954: National Water Supply and Sanitation Programme
- The Government launched the programme as part of the First Five-Year Plan (1951-56).
- The first five-year plan provided Rs. 6 crores for rural water supply and sanitation programmes. By the end of the seventh five-year plan period, 25 percent of the rural population was expected to have sanitation facilities.
- Transfer of Rural Sanitation Programme to the Department of Rural Development from the Ministry of Urban Development, 1985

Programme to construct one million sanitary latrines in houses of SC/ST, 1986:

The programme was launched under Indira Awaas Yojana and provided 2,50,000 additional latrines to health centres, schools, Panchayat Ghars, and Anganwadis under NREP (Nat. Rural Employment Prog.) and RLEGP (Rural Landless Employment Guarantee Prog).Rural sanitation was included under the Minimum Needs Programme (MNP) in 1987.

Central Rural Sanitation Programme (CRSP):

The 'Rural Development Department', the Government of India initiated India's first national programme on rural sanitation, the 'Central Rural Sanitation Programme (CRSP), in 1986. The CRSP interpreted sanitation as the construction of household toilets and focused on promoting a single technology model (double pit pour-flush toilets) through hardware subsidies to generate demand. However, the programme could yield few benefits due to several limitations. There are critics related to the scope and design of the programme. An often-quoted criticism of the programme is its silence on motivating behaviour change to end open defecation and use toilets. A centrally sponsored Rural

Sanitation Programme launched in 1986. The CRSP is implemented in different states and union territories to improve sanitation facilities by constructing sanitary latrines for individual households. The programme provided a 100% per cent subsidy for the construction of latrines for SCs/STs and landless labourers and a subsidy as per the rates prevailing in the states for the general public. The program's objectives included: (1) To improve the quality of life of the rural people and provide privacy and dignity to women. (2) To provide sanitary latrines to the SCs/STs, landless labourers and people below the poverty line. And (3) To provide clean, healthy, and environmentally acceptable disposal of manure to create good sanitation and consequently improve health standards. (Ministry of Rural Development, Govt. of India:2008)

Total Sanitation Campaign (TSC):

The Government of India launched the Total Sanitation Campaign (TSC) in 1999 to achieve universal rural sanitation coverage by 2012. The responsibility for delivering on programme goals rested with the local government (Panchayati Raj Institutions-PRIs), which had a significant involvement of communities. The state and central governments had a facilitating role that was framing enabling policies, providing financial and capacity-building support and monitoring progress. The main objectives of the TSC were: bringing about an improvement in the general quality of life in rural areas; accelerating sanitation coverage in rural areas to provide access to toilets to all by 2012; motivating communities and Panchayat Raj Institutions to promote sustainable sanitation facilities through awareness creation and health education; providing sanitation facilities and promoting hygiene education/sanitary habits in rural schools and anganwadis by March 2013; encouraging cost-effective and appropriate technologies for ecologically safe and sustainable sanitation, and developing community managed environmental sanitation systems focusing on solid and liquid waste management.(Govt:2007)

Nirmal gram puruskar:

2003-Nirmal Gram Puruskar, reward for 100% sanitation. In October 2003, elected local representatives of Gram Panchayats were involved in promoting collective community action through sanitation. Nirmal Gram Puraskar (NGP) was instituted for this purpose. NGP awards were given to districts, blocks, and Gram Panchayats that have achieved 100 per cent sanitation coverage of individual households and 100 per cent school sanitation coverage and are free from open defecation and a clean environment. In this, an amount ranging from 50,000 to 5,00,000 is given. On Feb 24 2005, former President of India, Dr APJ Abdul Kalam, gave away NGP awards to 40 Gram Panchayats from six States for open defecation-free status. Total Sanitation Campaign closed in 2012 after striving for 13 years to achieve universal rural sanitation coverage. In 2012, Nirmal Bharat Abhiyan took a community-led and people-centred approach, IEC, solid and liquid waste management. This programme emphasized a new approach to awareness by linking it with the current sponsored schemes of Gol. NBA programme has been initiated with a clear-cut strategy to make grassroots institutions focal points and integrate planning and implementation of sanitation. Brand Ambassadors are identified to undertake nationwide campaigns on water, sanitation and hygiene issues to create awareness. (National Urban Sanitation Policy, Ministry of Urban Development, Govt.)

National Rural Health Mission (NRHM):

The Government of India, Ministry of Health and Family Welfare, launched the National Rural Health Mission (NRHM) in 2005. It recognizes the importance of health as a contributor to social and economic development and adopts the synergistic approach by relating health to the determinants of good health. It brought a strategic shift in the health structure and arrangements in India. It has made provisions for several new initiatives. It has new strategies, goals, and core strategies, and the plan of action of NRHM promises converging sanitation and hygiene under NRHM.

National Urban Sanitation Policy:

The government launched the National Urban Sanitation Policy in 2008 and identified 100 per cent sanitation as a goal during the 11th Five-Year Plan. The ultimate objective was for all urban dwellers to have access to and be able to use safe and hygienic sanitation facilities and arrangements so that no one defecates in the open. The states were expected to prepare their strategies, and the cities were expected to prepare model city sanitation plans. This policy aims to transform urban India into a community-driven, totally sanitized, healthy, and livable city and town. (Govt:2010)

Swachh Bharat Mission:

Swachh Bharat Abhiyan, abbreviated as SBA or SBM, is a national campaign by the Government of India, covering 4,041 statutory cities and towns, to clean the streets, roads, and infrastructure of the country. The campaign was officially launched on Oct 2 2014, at Rajghat, New Delhi, by Prime Minister Narendra Modi. It is India's biggest-ever cleanliness drive, and 3 million government employees and school and college students participated in this event.SBM aims to eradicate open defecation by 2019, thus restructuring the Nirmal Bharat Abhiyan, by constructing 12 crore toilets in rural India at a projected cost of 1.96 lakh crore. The programme has also received funding and technical support from the World Bank, corporations as part of corporate social responsibility initiatives, and state governments under the Sarva Shiksha Abhiyan and Rashtriya Madhyamik Shiksha Abhiyan schemes. Ninety billion was allocated for the mission in India's 2016 Union budget. The government and the World Bank signed a US$1.5 billion loan agreement on Mar 30 2016, for the Swachh Bharat Mission to support India's universal sanitation initiative. The" Swachch Bharat Swachch Vidyalaya" campaign was launched by Smriti Irani, Minister of Human Resource Development. (https//www.waterforpeople.org)

The Sanitation Situation in Rural India:

While cities may have advanced sewage systems and sanitary amenities, rural India is a striking contrast. A large proportion of the rural population lacks access to adequate sanitary facilities. The practice of open defecation continues, leading to a horde of health hazards, particularly for women and children. The sanitation crisis concerns more than convenience; it concerns dignity, health, and quality of life. The sanitation crisis is more than simply convenience; it's about dignity, health, and quality of life. Here are a few interesting data on the sanitation problem in rural India -

- Even though they have access to toilets, roughly 73% of rural households defecate publicly.
- Almost 12.5 million homes lack access to a drainage network.
- Nearly 54% of rural women, including teenage girls, spend an estimated 35 minutes a day obtaining water, which equates to a loss of 27 days' pay over a year.
- Nearly 62% of rural Indian families can access clean, safe drinking water.

The WHO-Unicef Joint Monitoring Report (2012) revealed that 65% of rural India continues to practice open defecation. According to the 69th Indian National Sample Survey (NSS) conducted in 2012, almost 60% of rural households did not have access to any form of latrines. Although the numbers in the 76th round of NSS (2018) showed improved access to latrines (71.3%), the survey notes that 3.5% of rural India has never used a latrine. In other words, more than 31 million Indians do not use latrines due to insufficient clean water, lack of privacy, maintenance expenses, and infrastructural inadequacies. (WHO:2018)

Two-thirds of the world's population without access to essential sanitation services live in rural areas (RA), which are also home to 92 Percent of people who practice open defecation. This problem significantly affects women and is a barrier to gender equality. Despite these figures, rural sanitation remains an invisible problem for many States, which, with a few exceptions, fail to recognize (and even ignore) their human rights obligations to ensure that sanitation is provided (Rosas and Lomena, 2022). The Government of India, under Rural Sanitation, has set itself a target to achieve universal sanitation coverage in the country by 2022. As per the 12th five-year plan objectives, 50% of the GPs will attain

Nirmal Gram status by 2017. In 25 years (up to March 2019), the Gram Vikas WASH model has been implemented in more than 1,400 villages, covering nearly 90,000 households. The villages are financed primarily through the government's sanitation and rural drinking water schemes, and Gram Vikas has mobilized private resources to fill in gaps. (https//www.worldbank.org)

One of the objectives of SBM-G is to create a significant positive impact on gender and promote social inclusion by improving sanitation, especially in marginalised communities. **According to the NITI Ayog 2020 report**, SBM has successfully achieved the target of making India open-defecation-free (ODF) by constructing over 109 million household and community toilets in 603,175 villages in 706 districts across the country. (NITI Ayog:2020)

Challenges of rural sanitation in India:

Health and Hygiene:

Rural sanitation is pivotal in promoting good health and hygiene among the population. Access to clean water sources and sanitation facilities reduces the risk of waterborne diseases such as diarrhoea, cholera, and typhoid. Inadequate sanitation facilities contribute to the spread of illnesses, particularly among vulnerable groups like children and the elderly. By focusing on rural sanitation, India can enhance public health, reduce healthcare expenses, and improve the quality of life in rural communities.

Women's Empowerment and Safety:

The lack of proper sanitation facilities poses a significant challenge for women in rural areas. The absence of safe and private toilets compromises their dignity and exposes them to various safety risks. Women and girls face discomfort and humiliation, especially during menstruation, leading to social stigma and barriers to education. By prioritizing rural sanitation, India can empower women, ensure their safety, and enable them to participate more actively in education, employment, and community development.

Environmental Sustainability:

Rural sanitation is closely linked to environmental sustainability. Open defecation and improper waste management pollute water sources, contaminate soil, and contribute to environmental degradation. Sustainable sanitation practices, such as constructing eco-friendly toilets, promoting waste segregation, and encouraging composting, can mitigate these issues. By embracing environmentally friendly approaches, India can protect natural resources, conserve ecosystems, and build a greener future for rural communities.

Economic Development:

Improved rural sanitation creates a favourable environment for economic development. Access to proper sanitation facilities enhances productivity, reduces sick leave, and increases overall efficiency in rural areas. Healthy individuals are better able to engage in agricultural activities, pursue livelihood opportunities, and contribute to the local economy. Furthermore, better sanitation facilities attract investments, encourage tourism, and promote entrepreneurship in rural areas, leading to overall economic growth and poverty reduction.

Socio-cultural aspects:

For implementing any programme related to sanitation, the social element is one of the most critical issues in making it sustainable. Sanitation is mainly regarded as a socio-cultural issue rather than techno-economic. There are still many people in rural areas who, due to a lack of adequate knowledge, cannot correlate sanitation and health. This is also evident from the observation that many people have their vehicles and good houses, and children are enrolled in good public schools but need household toilets. This is simply due to a need for more health and sanitation awareness. However, other groups of people need more funds to afford to construct a toilet. Such families need financial support from different agencies to have their household toilets. In India, most of the people use water for ablution. Therefore, pour-flush or water-borne toilet designs are socio-culturally more acceptable. However, there should be a minimum water requirement to flush human waste to make it sustainable

even in water-scarce areas. A dry toilet or any other toilet design where water is prohibited is difficult for many people to adopt. Such toilets are only sustainable in some rural areas.

Health and economy:

Since sanitation is directly linked with the preventive measures for all the water-borne diseases that account for over 80% of sickness in rural areas, it is a sustainable means to improve health and, consequently, the productivity of a family or community. So far as sanitation in household toilets is concerned, it is always a one-time expenditure with almost nil recurring costs. However, several people under BPL need help to afford to pay any amount for the construction of toilets. The same may be the case with some people in the category who are APL and unable to bear the cost of a bathroom. The economic aspect is more important than the social aspect. The toilets should also be adequately designed to check for any waste handling that results in possible infections.

Sanitation and health:

1. **Diseases:** Poor sanitation is linked to transmission of diseases such as cholera, diarrhoea, dysentery, hepatitis A, typhoid and polio and exacerbates stunting. Inadequate sanitation is estimated to cause millions of diarrhoeal deaths annually.
2. **Socio-economic impact:** Poor sanitation reduces human well-being and social and economic development due to impacts such as anxiety, risk of sexual assault, and lost educational opportunities.
3. **Malnutrition:** Poor sanitation also contributes to malnutrition. Open defecation perpetuates a vicious cycle of disease and poverty. The countries where open defecation is most widespread have the highest number of deaths of children aged under five years, as well as the highest levels of malnutrition and poverty and significant disparities in wealth.
4. **Impact on livelihood:** A World Bank study estimates that inadequate sanitation accounts for a loss of $53.8 billion (as estimated for 2006) in India, which includes economic losses recorded from tourism, access time, water use, and health-related economic impacts. This pushes many into poverty, which leads to poor nutrition and further risk to health. Also, it prevents them from accessing health services.
5. **Demographic dividend:** India is experiencing a demographic dividend phase. This dividend depends on keeping our population healthy, and sanitation is an important aspect of this.

Better sanitation impacts in various ways:

Better water and sanitation facilities directly translate to better health outcomes. The availability of clean and safe sanitation facilities considerably reduces the spread of diseases, improving overall public health. Whether it is about taking a bath during regular days or using the toilets during their cycles, women and girls benefit from private, secure toilets, which enhance their safety and dignity. Apart from being suitable for the people, it is also good for the environment. Eco-friendly sanitation solutions reduce pollution, save water, and promote responsible waste management. Better sanitation can lead to higher agricultural productivity, reduced healthcare costs, and a healthier and more productive workforce. When children have access to proper sanitation facilities in schools, their drop-out rates will drastically decrease. Water, sanitation, and hygiene (WASH) are crucial for a country's health, well-being, and socio-economic development. India has made significant progress in addressing the challenges related to WASH, particularly in the last few decades. In collaboration with various stakeholders, the government has implemented several solutions to improve access to clean water, proper sanitation, and hygiene practices. These efforts have resulted in multiple positive outcomes, including improved health outcomes, increased economic productivity, and better living standards for the people. Reducing the spread of intestinal worms, schistosomiasis and trachoma, which are neglected tropical diseases that cause suffering for millions; promoting school attendance: girls' school attendance is mainly boosted by the provision of separate sanitary facilities; potential safe recovery of water, nutrients and renewable energy from wastewater and sludge; and potential to increase overall

community resilience to climate shocks, for example through safe use of wastewater for irrigation to mitigate water scarcity.

Root causes of the lack of sanitation in India:

1. **Not enough focus on urban areas:** There are different types of problems in urban and rural areas. Most schemes focus only on rural areas despite the fact that open defecation is not only a rural phenomenon, considering India contributes 46% of global open defecation in urban areas.
2. **Population rise**: Population increase, rising incomes, and industrial growth are also responsible for poor sanitation. With the rise in migration towards urban cities, it became difficult to manage household waste, especially from urban slums. According to the 2011 census, 31.16% of the Indian population resides in urban areas. In 2017, the number increased to 34%, according to the World Bank.
3. **Lack of Effective and efficient monitoring:** Municipal bodies and their funds are not effectively monitored. Municipalities have become new temples of corruption, where allocated funds are not properly used.
4. **Poverty:** Many people in rural India live in poverty and cannot afford to build or maintain toilets.
5. **Lack of infrastructure:** In many rural areas, basic infrastructure, such as sewage systems, is lacking, making it difficult to build and maintain toilets.
6. **Top-down approach:** The mistake of the programmes adopted thus far has been the need for more local involvement. This has led to various issues, such as slow implementation, misplaced priorities of local government, and complete dissatisfaction of the communities.
7. **Poor urban governance:** A major factor in the growth of slums and poor sanitation is the use of rigid, often outdated urban planning regulations, which are typically bypassed by slum dwellers to meet their housing needs. Further, due to a lack of proper planning, only 30% of the generated wastewater and generated sewage gets treated before being let into rivers and streams.
8. **Access to clean water**: Access to clean water is necessary to maintain basic hygiene and sanitation, which can lead to a lack of safe and clean toilets.
9. **Cultural beliefs:** In some areas, cultural beliefs and practices may discourage the use of toilets and lead to open defecation.
10. **Natural disasters:** Natural disasters such as floods and droughts can damage or destroy toilets and make their maintenance difficult.

Improvement in Rural Sanitation:

- Generating Awareness: NGOs run massive awareness programs to educate rural populations about the need for sanitation and hygiene. They hold seminars and health camps and engage local leaders to spread the message successfully. A few NGOs have been operating awareness campaigns for decades, reaching millions across India with the message of sanitation and clean toilets.
- Constructing Toilets: One of the most conspicuous tasks of NGOs is the construction of toilets and other necessary sanitary infrastructure. They design and install toilets appropriate for local conditions, frequently incorporating community members in the construction process to establish a feeling of ownership. Some NGOs have successfully built thousands of toilets in rural regions, increasing sanitation and eliminating open defecation.
- Further increasing political will and administrative commitment by identifying and creating local sanitation champions at the district level—for example, through exposure visits and evidence-based advocacy—and addressing key institutional bottlenecks, such as supporting the state to formulate a state-specific sanitation policy.
- Provide technical support to selected districts to demonstrate that sanitation can be delivered at the district scale and in a sustainable manner and develop district-wide approaches tailored to a particular state. She is supporting the strengthening of state governments' institutional capacity to roll out the successful models to other districts, eventually covering the entire state.

- The study covered WSP's work in eight states (Bihar, Haryana, Himachal Pradesh, Jharkhand, Madhya Pradesh, Maharashtra, Meghalaya, and Rajasthan) between 2002 and 2013. This saw varying levels of success, with the experience in Rajasthan proving particularly pertinent in informing the three-step pathway as well as the creation of local champions and government decision-makers being willing to try something new; success factors included the ability to demonstrate progress by starting work in locations that were not the poorest, so households had some resources to invest in sanitation. The sanitation sector in the state is not fragmented among multiple development actors. Further details about what we learned can be found in the newly published learning note.
- Technology Implementation: NGOs are embracing technology to enhance project administration and monitoring. They follow project progress via data-collecting technologies, mobile applications, and GPS, ensuring that resources are appropriately spent. In real time, NGOs sometimes employ cutting-edge technology, such as smartphone applications, to monitor toilet building and maintenance requirements, sanitation behaviour change programs, etc.
- Collaborations: NGOs partner with government agencies, corporations, and international organizations to pool resources and expertise for a more significant impact. Some NGOs that work at a global level collaborate with local NGOs and financial institutions to provide access to safe water and sanitation in India.
- Capacity Building: NGOs empower local communities by providing training in toilet building, maintenance, and waste management. This ensures that sanitation solutions are sustainable. Some programs encourage skill development in other ways, simultaneously boosting women's employment and sanitation. For example, some teach rural women to become masons so they may construct toilets in their communities.
- Monitoring and Evaluation: Strict monitoring and assessment methods ensure the success of sanitation programs. NGOs utilize data to measure the effectiveness of their projects and make required improvements. NGOs use a sophisticated monitoring and evaluation methodology to track the development and effect of sanitation projects across India.
- WASH Institute: WASH Institute is dedicated to improving water, sanitation, and hygiene education for everyone. Their initiatives aim to improve sanitation practices in rural and urban communities, promoting health and well-being. The Ministry of Drinking Water and Sanitation has designated the WASH Institute as a national essential resource centre. It has been giving technical assistance to ensure the successful implementation of pilot programs under the "Swachh Bharat Mission".
- Strengthen self-help groups (SHGs) in the sanitation sector: SHGs are a financial intermediate committee of 10-20 members, mainly comprising women with the same socio-economic background. They are present in South and Southeast Asian countries and engage with formal financial institutions to help unbanked households access financial services. SHGs usually work towards empowering women, developing leadership abilities among low-income people, increasing school enrolments, improving nutrition, and promoting birth control. Working through SHGs makes mobilization and communication more accessible, as they hold regular weekly meetings where trained female community mobilizers repeatedly deliver a uniform set of messages across the community.

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SANITATION POLICIES AND MARGINALISATION

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Abstract

Globalisation has accelerated the rate of economic growth encompassing all continents in the world. However, it raised some questions about the development of society. Development in the post-global world is uneven, resulting in inequality, discrimination and exclusion of some sections of the society. This is not only restricted to an economic imbalance in the world but also results in environmental degradation, health deterioration, and raising questions about a livable society and sustainable development. Considering these challenges, societies have developed sustainable development programmes. The sanitation programs are being presented on the table of all nations. Since 1986, India has introduced sanitation policies to achieve sustainable development. The National sanitation policies focus on solid waste management, open defecation-free settlements, wastewater management, sanitary and safe disposal, etc. The government has set goals for sanitation to be achieved with the cooperation of NGOs and civil society. However, the government's sanitation policies have negative implications. While achieving these goals, it resulted in regional and society-level marginalisation of some sections of the society at global and local levels. The underdeveloped and developing countries are victims of universal sustainable development and sanitation programs. The squatter settlements, poor people settlements, and inner cities are used for waste management and as dumping grounds worldwide. Rural areas are used to achieve sustainable urbanisation and sanitation in cities. It is crucial to determine who is paying for the development and sanitation that are enabled. This research paper is based on secondary sources, using social exclusion, marginalisation and capitalism as conceptual frameworks.

Keywords: *Sanitation Policies, Exclusion, Manual Scavenging, Globalization, Human Rights*

Introduction:

According to the Indian Constitution, state and local governments regulate sanitation in India. State governments can enact sanitation legislation. While the state government has legislative authority, the Constitution envisions local governments (panchayats, municipalities, and businesses) taking on significant sanitation-related tasks. Part IV of the Constitution contains the 'Directive Principles of State Policy' (DPSP), which includes sanitation. More specifically, it can be understood as part of Article 47, which states that the government must increase the standard of living. Sanitation is clearly an important aspect of maintaining a reasonable standard of living. Article 48A also includes sanitation, which makes it the state's responsibility to 'guard and develop the environment'.

More than two billion people worldwide lack access to basic sanitation facilities, even though the value of sanitation for societal and personal well-being has been recognised for more than a century (UNICEF, 2020). Among them, almost 25% of them urinate outdoors, posing significant risks to public health. In underdeveloped nations, particularly South Asia and Africa, progress has been sluggish despite requests for sanitation to be recognised as a fundamental human right and the sustainable development goals (SDGs) proven linkage between sanitation and human development.

India ranks 112th out of 166 countries, scoring 63.4, lower than the regional average of 67.2. Over 732 million people live in India out of the over 2 billion people who need access to adequate sanitation (Water Aid 2017). Not unexpectedly, due to inadequate sanitation, India has the highest rate of wasting and stunting in the world. About 150,000 Indian children under the age of five perished from diarrhoea in 2017, and one major contributing factor is poor sanitation (Dadonaite Eds., 2018). India's GDP is impacted by poor sanitation by 6% (World Bank, 2011).

Equality does not imply treating what is unequal equally. As explained by the UN Human Rights Committee, equal enjoyment of rights does not mean identical treatment or the same treatment in every instance. (Human Rights Committee, 1994). The principle of equality demands that everyone

benefits from adequate services as defined by the content of the human rights to water and sanitation. For example, equality allows different tariff systems among households as long as services are affordable to all. Likewise, pit latrines might be acceptable in a rural settlement but inappropriate for a densely populated urban area due to the risk of groundwater contamination. (UN Special Rapporteur on HR, 2014)

Sustainable development objectives are significant characteristics that the United Nations has mandated that countries accomplish by 2030. According to the UN, India has yet to make progress toward the 17 SDGs by 2023. According to reports, several countries may fail to meet the majority of the SDG targets. India is likewise similar in this regard, particularly in terms of health and sanitation targets, namely SDG 3: Good Health and Well Being and SDG 6: Clean Water and Sanitation. India has accomplished significant milestones in terms of clean and safe drinking water, but this has not been reflected in overall health outcomes, particularly in water-borne infectious diseases such as diarrhoea, which result in deaths. This has been a peculiar situation in India, despite the country's declared significant success in the Swachh Bharat Abhiyan, or Mission Clean India, and the Jal Jeevan Mission or Mission, to provide safe drinking water.

The importance of sanitation is summed up in the United Nations' Sustainable Development Goal 6: "Ensure the availability and sustainable management of water and sanitation for all." To date, sanitation challenges have been concentrated on infrastructure and facility construction, environmental conservation to reduce water and soil contamination, and negative health outcomes associated with inadequate sanitation. (Yamauchi, Nakao, Harada, 2022). By examining the socio-cultural configuration of the sanitation service chain, cultural cognition on the "pure" and "impure" forms the basis of sanitary and hygienic practices, creating stigma and, in some cases, marginalising specific groups such as sanitation workers. Thus, sanitation is characterised as a "total social phenomenon" consisting of religious, legal, moral, political, economic, and aesthetic aspects.

Data from Sustainable Development Report, 2023 (Sachs et al, 2023) reveals that India has significant hurdles in SDGs 3 and 6, despite substantial progress in these goals. In the case of SDG 6, "major challenges" remain in two of the five indicators: anthropogenic wastewater that is treated and population that uses basic sanitation. "Significant challenges" are only found in freshwater withdrawal; "challenges remain" in primary drinking water services; and "goal is achieved" in scarce water use represented by imports.

The main objective of this paper is to review and assess India's progress and challenges in implementation of the contemporary sanitation policies for achieving SDG-6: "ensure availability and sustainable management of water and sanitation for all".

The following are the research questions:

Q.1. To what extent do marginalised groups face challenges in accessing the benefits of sanitation schemes and programmes?

Q.2. How does the Swachh Bharat Mission (SBM) discourage the involvement of the most marginalised populations in planning, implementation, and monitoring?

Evolution of Sanitation Policies in India

The evolution of India's sanitation policy provides valuable insights for developing effective strategies that will eventually contribute to the country's transition to ODF on a sustainable basis. India has had five national sanitation policies since 1986. India's public sector prioritises the elimination of open defecation (OD). To attain this goal, India implemented its first national sanitation strategy [Central Rural Sanitation Programme (CRSP)] in 1986, and the Swachh Bharath Mission-Grameen (SBM-G) as a flagship programme on sanitation.was started in 2014.

In 1947, the Indian population of 300 million individuals had less than 1% sanitation coverage. These data remained stable for an extended period, with the 1981 census reporting that rural sanitation coverage in India was barely 1% and urban sanitation coverage at 27% (Government of India, 2014).

Although water supply and sanitation were added to the national agenda in the first Five-Year Plan in 1951, the urban sanitation sector was neglected for an extended period, with little investment made in it.

1. The National Water Policy was drafted in 1987 to harmonise with the International Drinking Water Supply and Sanitation Decade Programme (1981-1991), recognise the need for sanitation services in both rural and urban regions, and establish targets for their delivery. Another significant milestone in the early growth phase was the 74th constitutional amendment in 199327, which acknowledged the duties of ULBs in this regard.
2. The Employment of Manual Scavengers and Construction of Dry Latrines (Prohibition) Act, passed in 1993, was a significant advance in the urban sanitation sector. However, because the same was not enacted in most states, the Prohibition of Employment as Manual Scavengers and Their Rehabilitation Act of 2013 was passed, requiring local governments to provide sanitation-related infrastructure such as community latrines to replace dry latrines.
3. Recognising the significant link between sanitation and health, the National Health Policy of 2000 emphasised the importance of improving sanitation and other critical development indicators that directly impact public health. The Valmiki Ambedkar Awas Yojana (VAMBAY) recognised the need for sanitation and included it in urban slum dwellers' dwellings by building community toilets for the underserved people.
4. The Jawaharlal Nehru National Urban Renewal Mission (JNNURM), which was launched in 2005, aimed to offer essential amenities to the urban poor, such as improved housing, water supply, and sanitation. JNNURM thus sponsored infrastructure projects such as water supply and sanitation, sewage, solid waste management, and other urban infrastructure. With the implementation of the JNNURM, the government's focus shifted from infrastructure creation to service delivery in urban areas. As a result, the Ministry of Urban Development (MoUD), Government of India, launched the Service Level Benchmarking (SLB) program, which includes water delivery, wastewater treatment, solid waste management, and stormwater drainage. Thus, benchmarking was acknowledged as a key method for performance management and accountability in service delivery.
5. The tenth Five-Year Plan (2002-2007) placed a strong emphasis on water and sanitation. Urban sanitation became extremely important after the MoUD issued the country's first comprehensive National Urban Sanitation Policy (NUSP) in 2008. NUSP's vision was to transform all urban areas into community-driven, completely sanitised, healthy, and livable cities and towns that ensure and sustain good public health and environmental outcomes for all citizens, with a particular emphasis on developing hygienic and affordable sanitation facilities for the urban poor and women. To achieve urban sanitation goals, the NUSP established a framework that required each state to develop a State Level Sanitation Strategy and cities to approve a City Sanitation Plan (CSP).
6. Prohibition of Employment as Manual Scavengers and their Rehabilitation Act 2013: ULBs' responsibility to prohibit manual scavenging and provide sanitation infrastructure
7. The Atal Mission for Rejuvenation and Urban Transformation (AMRUT), 2015, aimed to offer essential utilities (e.g., water supply, sewerage, and urban transportation) to families and create amenities in cities that would improve the quality of life for all, particularly the poor and disadvantaged.
8. Swachh Survekshan 2014–2019 The goal is to foster competition among metropolitan regions in order to improve city sanitation and cleanliness performance.
9. National Policy on Faecal Sludge and Septage Management (FSSM) (2017) The goal is to establish the framework, priorities, and direction for the statewide implementation of FSSM services in all ULBs, guaranteeing safe and sustainable sanitation for every household, street, town, and city.
10. SMART City, 2015 have the goal of fostering sustainable and inclusive cities that provide fundamental infrastructure (including appropriate water and sanitation), a reasonable quality of life for their residents, a clean and sustainable environment, and the implementation of smart solutions.

Issues of Sanitation Policies

The Politics of Sanitation in India looks at how India's environmental issues have led to millions of people being forced to live in illegal settlements devoid of fundamental urban facilities like sufficient sanitation. Two things are to blame for this. The first is the remnants of the colonial city, which include unequal access to sanitary facilities, an inability to control urban expansion and the spread of slums, and insufficient financing for local administrations. The second is the character of the post-colonial state, which has been dominated by coalitions of interests accommodated by the use of public funding to deliver private goods rather than serving as a vehicle for socio-economic reform. (Nagla, 2020)
Sanitation has been a priority in India since ancient times. (Dutta, 2017) Sanitation is a system that includes not only latrines but also facilities for treating and disposing of human waste. Sanitation facilities cannot function on their own and must be managed socially. Decision-making is heavily influenced by socio-cultural factors, and sanitation must be recognised as a critical issue. The socio-cultural context must also take into account the health benefits of sanitation improvement, which are one of sanitation's key contributions. Sanitation is a system that hygienically separates humans from potentially dangerous excreta and encourages proper treatment and disposal.

The current sanitation ecosystem in India falls short of addressing inclusion and equity despite policy attention at international and national levels. While India has made significant physical progress in sanitary infrastructure development over the last decade, it still faces ground realities that are driving massive social inequities in access to water and sanitation. These disparities have a different impact on marginalised groups such as women, adolescent girls, transgender people, and people with disabilities in terms of access to water and sanitation, and they serve as hurdles to chances for them. The number of individuals without access to adequate water and sanitation in cities is growing as urbanisation outpaces public services. There is a significant disparity between service supply in official and informal sections of cities. People in informal communities frequently lack access to basic hygiene and sanitation services.

Many practical sanitation solutions fail because they fail to take into account cultural and social views, as well as caste dynamics. As a result, fostering behavioural change among all castes and groups in India is critical for effective sanitation programs. Thus, caste-based exclusion can be found in community sanitation, where lower caste members are excluded from planning and decision-making processes, resulting in an unequal distribution of resources. Lower castes' specialised demands are not fully addressed, and they face additional barriers to getting sanitary facilities. This exclusion can result in unequal distribution of sanitary amenities among different caste groups, with lower caste communities frequently obtaining inadequate or inferior sanitation infrastructure. As a result, these communities may confront increased difficulty accessing clean water, a lack of bathrooms, and insufficient waste management systems.

Importantly, Sulabh International, founded in 1970 by the sociologist and pragmatist thinker Dr. Bindeshwar Pathak's initiatives in the area of Sociology of Sanitation have enormously contributed to eliminating untouchability and social prejudice against human scavengers, a segment of Indian culture who are forced to clean and transport human excreta manually. Sulabh International is well-known for achieving cost-effective sanitation, scavenger liberation, social transformation, environmental pollution avoidance, and non-conventional energy development. Pathak stated the Sulabh is not about community toilets only; it's a social revolution, freedom from detestable social customs of discrimination based on caste and creed, end of shameful practice of defecation in open places, eradication of the inhuman practice of manual scavenging and liberation of scavengers engaged in this occupation end of spread of contagious diseases and epidemics, boost to non-conventional energy sources, enormous employment opportunities, educational institutions including multiple schools and vocational training centres, a toilet museum in the heart of national capital of India, mention in United Nation's World Development Reports, multiple national and international awards, presence in

thousands of cities, and invitations from various countries to design and develop the sanitation system for respective nations.

Given the enormity of the task, urban sanitation received little policy attention. Sanitation projects created exclusively for urban areas were scarce. The Integrated Low-cost Sanitation (ILCS) system, introduced in the 1980s, was the first to focus on metropolitan areas. However, its scope was limited. It targeted exclusively Economically Weaker Section (EWS) households, assisting them in converting existing dry latrines into low-cost pour flush latrines and building new toilets for them if they did not already have one.

To meet its commitment to the global Sustainable Development Goals based on the principle of 'Leave no one behind', the government must prioritise marginalised people in program and policy studies. Those who are left behind frequently experience various marginalisation, including poverty, precarious living circumstances, and restricted access to basic water and sanitation facilities.

Urban sanitation in the Indian policy sphere got focused attention only after the mid-2000s with the commencement of a slew of programmes such as Jawaharlal Nehru National Urban Renewal Mission (JNNURM), followed by National Urban Sanitation Policy (NUSP), Swachh Bharat Mission (SBM), Atal Mission for Rejuvenation and Urban Transformation (AMRUT) and the National Policy on Faecal Sludge and Septage Management (FSSM), and the Ministry of Social Justice and Empowerment Government's National Action for Mechanized Sanitation Ecosystem (NAMASTE) scheme for welfare of Sewer and Septic Tank Workers.

Manual Scavengers and Sanitation Policies

The scavengers are defined as a *'person engaged in or employed for manually carrying human excreta or any sanitation work'.* It is an occupational category. The perspective, therefore, is that scavengers are a functional community recruited from different social groups who perform these occupations. Scavengers were deprived of their human rights; therefore, their stigmatised caste-based traditional occupational hereditary leads to close use of opportunities in education, dishonour culturally among other upper castes and untouchable castes. There are four factors which operate in combination to deny human rights and dignity to scavengers; they are inequality, discrimination, exclusion and stigmatisation, which conjointly contribute to the utter marginalisation of scavengers in India. (Singh & Gadkar, 2004; Franco, 2004). The Central Government statistics show that there are still 3.43 lakh scavengers in the country (India Together, 2007; Ramaswamy, 2005). In other words, the country's one hundred sixty-five million Dalits continue to face caste-based discrimination in housing, education, economic opportunities and access to justice.

Historically, when one initially looks at the manual scavenging community in India, it is entirely observed that over the generations, inhuman work has been done exclusively by Dalits across the country. There are very few sociological or anthropological studies available on the nomenclatures of scavengers such as *halakhot, chakras, hari, Mehtar, albeit, hella, Hadi, Valmiki, that, or media* etc. though the preceding account reveals some perspective to historical speculation on what it led to the emergence of hereditary occupational class with a fixed role and status Indian society known as *`bhangi`* or *`Mehtar`*. The practice of manual scavenging expanded phenomenally under the British rule that, both legitimised and systemised by setting up army cantonments and municipalities. After the British period, manual scavenging has been prevalent in a rampant manner through the sprawling urbanisation process. However, there is no evidence that urbanisation has improved the status of manual scavengers in India.

Importantly, manual scavenging as an old phenomena and its continuous change over era of globalisations and privatisation fostered contractualisation, casualisation and unregulerization of daily-wage services. The focus is on new forms of exclusion in the public and private sectors rapidly, in collaboration with government agencies, contractors, subcontractors, and private employers. These

problems concern the insecurity of jobs, unhealthy conditions and the sheer crisis of social reproduction for such workers.

Social scientists and sociologists depict the colonial social history and address the plight and persistence of scavenging communities in the Indian context through different historical epochs. India Exclusion Report 2016 stated the socio-economic status of vulnerable and oppressed people in India who suffer multiple forms of denials and exclusions from a range of public goods. Having defined the discourse of the vulnerability of the poor, the report focused on different sets of people who live even today in high marginalisation and exploitation: manual scavengers, urban poor people, urban street children, rural women, and girls with disability. Charmaine (2014) articulates the right-based entitlement criterion in the Informal Economy Monitoring Report to Policy and Advocacy Recommendations in National and State Social Security and Welfare Policy for the rag-pickers/waste collectors of Pune. The national-level survey conducted on the Socio-economic Caste Census (SECC) also covered in detail the apathy of the economic deprivation of the scavenging scheduled castes and groups for many reasons.

According to the National Commission for Karmacharis, the reasons for the unsatisfactory progress of various schemes appear to be inadequate attention paid by the state governments, which routinely deny the existence of manual scavengers. Part of the reason why such rehabilitation schemes failed is the state's complicity in the whole process. Many government offices and buildings still have dry latrines, and municipalities employ manual scavengers to clean these latrines. In addition, the National Center for Advocacy Studies, Pune (NCAS) shows in a report titled 'Manual Scavengers in Jharkhand', with support based on the government`s act, 'The Employment of Manual Scavengers and Construction of Dry Latrines (Prohibition) Act'-1993. The report sought that the act became a failure in all the states of India due to the unconscious efforts by civic officials, politicians, civil society bureaucrats of government and constant changes or delayed declaration of concerned headed authorities of commissions, committees, programmes, policies or acts on Safai-Karmachari/ Safai kamgar since post-independence India. Even after sixty years of independence, India still has close to three lakh people working as manual scavengers in provinces. Particularly in the state of Maharashtra, there are a total of 64,785 identified manual scavengers under the resurvey of 'National Scheme of Liberation and Rehabilitation of Scavengers and their Dependents' as shared in the Monsoon Session, 2005 (NCAS, 2007, pg.10 Parliament Digest, NCAS Publication).

Conceptualizing Globalization, Marginalisation and Exclusion

The concept of social exclusion is broadly synonymous with another concept, 'marginalisation', and is related to other ideas. While critically conceptualising the globalisation and marginalisation process, the paper seeks to map the consequences for India's deprived and marginalised castes or communities. The effects were adverse as most of the Dalits, with special reference to scavengers and sweepers in India, have been excluded from the globalised essential force of science and advanced technology, erosion of characteristics of the welfare state and grown passivity in labour laws and social security. These external forces and consequences of globalisation or development create livelihood insecurity, incapability of basic survival, mandatory exclusion from citizenship rights, the right to education, under-represented political rights, and human rights violations.

Poverty is one of the factors contributing to exclusion but does not necessarily bring it about, and poverty is also a consequence of a series of political and social exclusions. Most authors have argued that poverty studies have concentrated on a lack of access to material resources. Still, the concept of social exclusion provides a framework to look at the social relations of power and control, the processes of marginalisation (the definition of marginalisation is the process whereby some people are pushed to the margins or edges of society by poverty, lack of education, disability, racism and so on) and exclusion, and the complex and multifaceted ways in which these operate (Abrahamson, 2004).

Although there has been research on sanitation in India, it has yet to be appropriately analysed from the standpoint of policy planning, according to the literature review. However, there is limited literature on urban sanitation from the perspective of inclusion in the Indian context. In particular, research from the point of social science perspective has yet to be done on urban policies with specific reference to the Swachh Bharat Mission's (SBM) design or the policy instruments used to carry it out. In essence, poor sanitation is a policy issue that can be helped by public policy academic framework for designing policies.

David Ray Cox (2003) argues that 'marginalisation cannot be quantified', nor even defined in a precise sense, because what it signifies is a situation in which a section of the population is pushed to the margins of society, for whatever reason. As a result, the human rights of these people are not sufficiently respected; the principles of equity and equality, however defined, are disregarded, society is fragmented, and many people suffer from insecurity and poverty, which is almost invariably identified with a situation of marginalisation. Cox further argues that initially, the nature of marginalisation, similarly, its widespread occurrence, impacts current trends in globalisation and the resulting weakness of the nation-state, as well as the links between social development processes and marginalisation, particularly the potential of social movements, within the context of civil society, which contribute to a reduction in marginalisation in the modern world. Explaining the level of global, national and local context, India is confronted with highly competitive and extremely unequal sets of social systems in which significant numbers of people would have to suffer marginalisation and exclusion. Cox reiterates that social exclusion comes at the forefront of capturing the level of marginalisation, wherein the socially excluded are persons who ostensibly have no significant role in society. They tend to be excluded from the regular productive systems within society and are problematic consumers of the benefits of society as a result, mainly of their economic situation. They may also belong to some minority group within society.

Cox highlighted the marginalisation of the many links between the state and globalisation; there are several interrelated ways in which globalisation adversely affects the state's roles and strengths. It means changes in the functioning of states affect marginalisation. First, globalisation has been marginalising some states. The second and related implication of globalisation is the increasing degree of inequality within states. The third reason shows the imposition on states of the economic rationalist ideology, which emphasises liberalisation and privatisation. These policies also appear to have exerted an unfair and uneven burden on low-income people. All of these situations tended to increase the degree of marginalisation within countries. In other words, marginalisation results from poorly planned or managed social development that reflects parallel and interactive global, state, and local initiatives. And ultimately, this situation of marginalisation always leads to the formation of social movements.

Thorat (2008:1-6) delineates the concept of Isolation and Exclusion of untouchables as a unique feature of prior Hindu social order because it provides no social and economic rights to deprived castes and gives multiple privileges and rights to the higher castes. To put it in brief, it is a general governance system and a system of production, organisation, and distribution based on three interrelated elements. These include fixed rights, unequal and hierarchical (or graded) division of social and economic rights across castes and provision of solid instruments of social and economic ostracisation to sustain the rigid system with philosophical justifications in the Hindu religion. The caste system was primarily based on the principle of economic inequality and exploitation.

As far as market-based caste discrimination is concerned, Thorat argues Dr. B.R. Ambedkar's standpoint on the continuation of the discriminatory working of the markets, including the labour market and private education, housing services may not, in practice, enable them to use these opportunities. Ambedkar suggested a complementary remedy of `Equal and Fair Opportunity' to ensure fair access to employment, capital assets, and social needs like education and housing canalised through market and non-market channels. It recognises that 'group-based exclusion' generates detrimental

outcomes for excluded groups. Exclusion results in deprivation and poverty in so far as it involves the denial of equal rights to persons from these groups. In the Indian context, given the multiple forms of exclusion associated with group identities like caste, ethnicity, gender, and religion in various spheres of economy, polity, society and culture. Thus, social exclusion and discrimination have been standard features throughout the modern industrial period until globalisation.

Implications of Swachh Bharat Mission/ Abhiyan

Under the Swachh Bharat Mission (SBM) or Clean India Mission, sanitation discourse is at the centre stage of the nation's development strategy. The Swachh Bharat Mission sought to engage all people in a collective quest to clean homes, workplaces, villages, cities, and surroundings. The SBM policy aimed to construct toilets to end open defecation and accomplish Sustainable Development Goal 6.2. The program's technical approach to solving a social problem couched in the language of development hides social justice concerns regarding fair toilet access.

The goals or objectives of SBM included:

1) Bring about an improvement in the general quality of life in rural areas by promoting cleanliness and hygiene and eliminating open defecation,
2) Accelerate sanitation coverage in rural areas to achieve the vision of Swachh Bharat,
3) Motivate communities to adopt sustainable sanitation practices and facilities through awareness creation and health education,
4) Encourage cost-effective and appropriate technologies for ecologically safe and sustainable sanitation,
5) Develop community-managed sanitation systems focusing on scientific Solid and Liquid Waste Management systems for overall cleanliness in rural areas and
6) Improving sanitation, especially in marginalised communities, will significantly improve gender equality and promote social inclusion.

With much enthusiasm and hope, the Indian government introduced the Swachh Bharat Mission (SBM) in 2014. However, SBM fell short of the standards. It has been noted SBM's objectives are misguided, emphasising private sanitation services over those that add value for the general population. Around 57% (626 million) of the world's 1.1 billion individuals who practice open defecation live in India. According to the 2011 census, national sanitation coverage is 46.9%, whereas rural sanitation coverage is only 30.7%. The figures for the marginalised, such as rural Dalits (23%) and tribals (16%), are substantially lower. There are several explanations behind India's high rate of open defecation. Furthermore, SBM ignores the organisational and regulatory instruments and their synergy in favour of financial and information tools to accomplish its purpose. In addition to news pieces, academic articles, government agency videos, and other pertinent materials, the article is based on a critical review of government documents.

There are different ways in which the SBM scheme under sanitation policy initiatives by the union government invites criticism as it does not prevent manual scavenging:

1. Ahmed (2022) stresses that open defecation is the norm in India's rural regions. The government deserves credit for influencing public opinion in favour of Swachh Bharat. However, the omission of caste from India's rigorous social stratification and other socio-economic drivers from policy design explains the disparity between the National Family and Health Survey (NFHS) data and the government's Open Defecation Free (ODF) claim. The issue indicates how the SBM mission's sole focus on toilet construction may perpetuate village class and caste disparities. The rush to get ODF designation diverts resources from other sectors and disproportionately affects marginalised groups. The current government administration organised the bureaucracy to oversee toilet building, including directing non-health officials to join the task force. Government officials were frequently pressured to make unverified ODF declarations about their regions. However, locals play an equally vital part in this situation because they were responsible for constructing the latrines. The federal government asked

communities to build the toilets before receiving government incentives. The weight of SBM rests on the lower castes, who are pushed into building latrines with their money and ridiculed by officials and upper castes for not contributing to the country's 'development. However, due to inadequate waste treatment facilities, individuals must return to manual scavenging, jeopardising their dignity and health. 2. According to various studies, officials and upper-caste Hindus utilised coercive measures on lower castes, such as withholding government privileges and threatening fines, to obtain the ODF tag for their hamlet. Because the intervention's messaging was based on 'the development narrative', people who did not build latrines in their homes were chastised for not contributing to the growth of their town. The rural poor frequently used their money to build latrines, and they were only entitled to payment if the entire ward in the hamlet had done the same. Dalits bear the additional burden of withholding subsidies and fines, a type of caste-based discrimination. Regarding access to waste treatment facilities, an absence of water and centralised sewage, pit latrines and septic tanks remain obstacles for manual scavengers. In a nutshell, unless caste and other socio-economic variables of toilet access are considered in India's policy design and execution, open defecation will persist, further marginalising the lower castes.

Conclusion:

This paper concludes that while improving India's sanitation is a significant step toward eliminating manual excrement cleaning by some of the country's most vulnerable communities, sanitation investment alone is insufficient to address these communities' social and economic isolation. The government's failure to help citizens transition away from manual scavenging will hinder efforts to improve sanitation. It is crucial to take action against local officials who employ manual scavengers, as this undermines the importance of upgrading sanitation methods in their communities.

Assessing the policy design of SBM, the SBM's strategy for financing individual home toilets needs to be corrected. While the government should subsidise the building of temporary private sanitation facilities, which primarily improve the private profit for those who can build and maintain them, sanitation is a public utility that deserves public investment. Instead, the government should maximise the value to the general public. The main issues facing the populace, such as a shortage of land, homelessness, water access issues, gender inequality, poverty, migration, etc., are not addressed by this strategy. The problem associated with policy goals and tools is that the SBM is merely a poorly designed conditional cash transfer scheme. Sanitation is a collective action problem. Individuals might not internalise the positive externalities and internalities of proper sanitation. More importantly, even if they do internalise them, they need more resources to construct and maintain toilets.

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TOILETS AND THE FIVE TRIBES IN THE STATE OF MAHARASHTRA

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Abstract

This paper is based on the Maharashtra Association of Anthropological Sciences (MAAS) benchmark survey, Pune. This household survey included questions related to the facility of toilets in their individual houses. So, the first five households having the highest number of dwellings with toilet facilities are selected for this study. It is essential to know how they used the toilets against their cultural practices of a traditional setup. We are, here, interested in only the five tribes that have the highest number of houses with toilet facilities in relation to sanitation. So we choose these tribes as Konkana (196), Thakar (174),Mahadev Koli (259), Gond (169) and Madia (144). To understand the characteristics of the five tribes, we have analyzed the tribe by factors such as use and other use of toilets, health attitude through child mortality indicators, Exposure to the outside world through economic activity, and literacy rates. Some of the significant findings of this study are as follows:

The tribe Kokana seems to be highly progressive, having the highest percentage of toilet use, followed bythe tribe Mahadev Koli and Thakar. The Kokana tribes have, comparatively, the highest child mortality rate (280) per 1000 live births, and they have the highest percentage of toiles use (53.6).It shows that the family attitude towards child health is not related to the use of toilets among theKokana. The Madia has the lowest use of toilets (4.1) and also has the lowest literacy rate for males (45.1) and females (34.2), indicating that they disfavour the use of the toilets.

Finally, the sanitation perspectives indicate that the best tribe is Mahadev Koli, followed by Thakar, Konkana, Gond, and Madia. Although the interaction levels of each of the tribes differ, their toiletuse is justifiable in their cultural milieu.

It is interesting that the Gond seems to have a better health situation, but their sanitation perspective is poor, similar to Madia's. This indicates that these two tribes need basic attention todevelop a better understanding of sanitation perspectives in the modern world.

Keywords*: Tribes, Toilets, Mahadev Koli, Health*

This paper is based on the benchmark survey conducted by the Maharashtra Association of Anthropological Sciences (MAAS), Pune, during the period of three months starting from November 2005 to January 2006. It was for the significant Adivasi Utthan Karyakram project of their Centre for Tribal and Rural Development in Maharashtra. The area of this work had seven districts with nine tehsils. They are as follows: 1. Raigad- Karjat; 2. Thane- Jawhar and Mokhada; 3. Nandurbar-Dhadgaon and Akkalkua; 4. Amrawati-Dharani; 5.Gadchiroli-Etapalli; 6. Yawatmal-Zariand Jamani; 7. Ahmednaga-Akole. The total survey covered about 250 villages with a population of 148427 and 28608 families. This survey had three major sections: Population, living style and education, Health, Farming, food securityand migration. The data of this survey was published by the journal in Marathi titled as

`HAKARA' (MAAS: 2007). This household survey included questions related to the facility of toilets in their individual houses. So, the first five households with the highest number of dwellings with toilet facilities were selected for this study. It is essential to know how they used the toilets against their cultural practices of a traditional setup. This survey does not inform on how the tribe households got toilets to their houses, whether it is through the government scheme or they themselves built their houses. In the ethnographic studies on their original cultural practices of housing construction, the tribes do not have toilets in their houses in the state of Maharashtra (Kurane: 2022). During the survey, the question asked about the use of toilets by individuals and for what purpose. The central focus of this paper is to trace the characteristics of the first five tribes having the highest number of houses with toilets. This study describes the attitude of the tribes in relation to toilet use, family size, health through child mortality, literacy andeconomic activities. In short, how does the tribe's toilet use reflect their socio-cultural status?

'It is a micro-theoretical approach that focuses on understanding how meaning is generated through social interaction. This perspective assumes that meaning is derived fromeveryday social interaction and, thus, is a social construct.' (22 Jan 2020: https://www.google.com/search?). The characteristic represents the social construct through the processes of social interaction.

Objectives

The objectives are defined on the premise that the toilets would mean good health to the tribe if they had the proper use of them. If the toilets are not used properly, it will lead to the Bad health to the tribe. The tribe uses toilets if they have better exposure to the outside world through economic activity. Thus, the objectives of this study are as follows:

*Select the best five tribes out of fourteen that have a toilet in their houses.

*Understand the characteristics of the five tribes: toilet use and other toilet use; health attitude through child mortality indicators; exposure to the outside world through economic activity and literacy rates.

*Discussion and conclusion

Methodology

As mentioned above, this paper is based on the published data from the benchmark survey of28608 tribal households in the state of Maharashtra. It analyzes this data using descriptive statistics.

Limitation of the study:

As per the national efforts to have a better hygienic situation in India from a sanitation perspective, the intention of this study was to find what the problem could be in remote areas like tribal areas. For the purpose of this work, the tribal regions of Maharashtra state were chosen. It is the characteristics of tribes having houses with the highest number of toilet facilities that create better hygienic conditions in the tribal areas. For the purpose of the study, only the first five tribes with the highest number of houses with toilet facilities were selected. The analytical interpretation is based on the actual number reported in the benchmark survey. The percentages or demographic indicators are used to understand the comparative characteristics of the tribes.

Analysis to select five tribes (Please see Table 1)

Let us look into the available data and select the first five tribes having the highest number of houseswith toilets. After seeing Table 1, we find five tribes to be chosen for this study: Kok: Ana, Thakar, Mahadev Koli, Gond and Madia.

Table-1. Toilets and Its use by the Tribes of Maharashtra States

Tribe of Maharashtra State (1)	**Houses with Toilets(%)-(2)**	**Toilets in of Use %houses) (3)**	**Other use of Toilet: Bathing (% of houses) (4))**	**Other use of Toilet: Storage, etc. (% ofhouses) (5)**	**Toilets with No Use(% of houses) (6)**
1.Kokana	**196**	**105(53.6)**	**12(6.1)**	**31(15.8)**	**48(24.5)**
2. Katkari	57	8(14.0)	5(8.8)	38(66.7)	6(10.5)
3. Thakar	**174**	**56(32.2)**	**45(25.9)**	**32(18.4)**	**41(23.5)**
4. Warali	41	10(24.4)	3(7.3)	11(26.8)	17(41.5)
5. Dhorkoli	21	8(38.1)	1(4.8)	8(38.1)	4(19.0)
6. Mahadev Koli	**259**	**101(39.0)**	**38(14.7)**	**42(16.2)**	**78(30.1)**
7. Bhill	135	26(19.3)	11(8.1)	28(20.7)	70(51.9)
8. Pawara	31	5(16.1)	1(3.2)	6(19.3)	19(61.4)
9. Kolam	136	30(22.1)	78(57.3)	11(8.1)	17(12.5)
10. Pardhan	20	4(20.0)	12(60.0)	2(10.0)	2(10.0)
11. Gond	**169**	**28(16.6)**	**81(47.9)**	**12(7.1)**	**48(28.4)**
12. Korku	53	10(18.8)	18(34.0)	7(13.2)	18(34.0)
13. Madia	**144**	**6(4.1)**	**43(29.9)**	**14(9.8)**	**81(56.2)**
14. Others	1	1(100)	-------	--------	------
Total	1437	398(27.7)	348(24.3)	242(16.8)	449(31.2)

***Source**: Based on the primary data from the `Hakara' Quarterly Journal of Marathi LanguageJanuary-June 2007, N0.1 & 2, p.82.*

The table shows that fourteen tribes were found in the benchmark survey in the seven districts of nine tehsils. We are, here, interested in only the five tribes that have the highest number of houses with toilet facilities for sanitation. So we choose these tribes by putting them in bold letters and they are selected as Konkana (196), Thakar (174), MahadevKoli (259), Gond (169) and Madia (144). A house with a toilet is the better choice, so the highest number of homes that have that type of selection would lead us to understand those tribes from a sanitation perspective with reference to their socio-cultural and demographic aspects of life. `Experience is another name for history… it is generally recognized that experience aids our judgement, enabling us to make wiser choices and better decisions. At all times, in good times as well as in bad, we do, of course, have to plan for the future of our human affairs' (Toynbee: 1992, (Original 1966), p.3). This is how the tribal persons, in a historical sense, might have chosen to have toilets in their houses. Karl Popper expresses similar philosophical views with reference to history in his pro-naturalistic approach to understanding sociology (1957).

Table 1 also gives the behavioural aspects of toilet use by their types of use. Positive behaviour means an individual has a toilet facility in his house and makes proper use of it. The negative behaviour means the unexpected use of the toilet, indicating its improper use. In the present study, only Kokana (53.6 per cent), Mahadev Koli (39.0 per cent), and Thakar (32.2 per cent) reflect the better use of toilets. The Gond (16.6 per cent) and Madia (4.1 per cent) tribes use toilets less. Is it that the situation of the use of toilets is non-functional in relation to the development of a tribe? Do they have better cultural practices for keeping their houses and surroundings clean? Is it that the tribes do not require toilets? These queries indicate that there is a crisis in understanding the development of the sanitation aspects of the life of the tribe.

The behavior of the tribes toward toilet use (Please see Table 2)

The behaviour of the tribes toward the use of the toilet is put in the form of its proper use, and others use. In other uses of toilets, there are three categories- for bathing, storage and keeping vacant. Let us see column 2 of Table 2. It represents the number of houses having toilets, indicating the availability of toilets for the persons in the house. The figure in the bracket indicates the family size of the tribe. The family size varies from 4.3 to 5.5 among the five tribes.

Table 2 Toilets and their proper use and other uses by the five best tribes of Maharashtra state.

Tribe **(1)**	**Number of toilets in houses as a positive item (family size) (2)**	**Number of toilets in its proper use as a positive item (% of houses) (3)**	**Number of toilets for other use: bathing as a negative item (% of houses) (4)**	**Number of toilets for other use: Storage as a negative item (% of houses) (5)**	**Total number of toilets for other use (% of houses)**	**The number of toilets kept vacant is a negative item (% of houses) (6)**
Mahadev Koli	**259 (5.2)**	101(39.0)	38(14.7)	42(16.2)	80 (30.9)	78(30.1)
Kokana	196 (5.2)	105**(53.6)**	12**(6.1)**	31(15.8)	43 **(21.9)**	48(24.5)
Thakar	174 (5.1)	56(32.2)	45(25.9)	32(18.4)	77 (44.3)	41**(23.5)**
Gond	169 (4.3)	28(16.6)	81(47.9)	12**(7.1)**	93 (54.0)	48(28.4)
Madia	144 (5.5)	6 (4.1)	43(29.9)	14(9.8)	57 (39.7)	81(56.2)

It is also interesting to see that the highest family size (5.5) of the Madia tribe has the lowest number of houses with toilets (144)) and the lowest number of toilets used with 4.1 per cent. What do they then do with the toilet facility? It is noted that they keep the highest percentage of toiles vacant. The question then arises of whether Madia has good cleanliness and cultural practices. The highest number of houses with the use of toilets is 53.6 per cent, i.e.105, among the Kokana tribe, followed by Mahadev Koli (39.0), Thakar (32.2), and Gond (16.6). The other use of toilets is related to their socio-cultural set-up in the community.

There are three types of non-use toilets: bathing, storage, and vacant. The socio-cultural practices in their traditional set-up do not have toilets in their housing structure, as reflected through the ongoing project of ethnographic studies (Kurane: 2022). This might be the reason that they use toilets for other purposes. The question could be raised about why they did not have toilets in their houses. The first reason might be their changed social behaviour in the vicinity of other communities where they use toilets and are socially considered to have the better social status in that village. The second reason could be that.

The government scheme might have attracted them to have toilets free of cost or with subsidiary cost, and so they have gone for it to have toilets in their houses.

Table 2 indicates that the Kokana tribes have the highest percentage of proper use of toilets but have the lowest rate of other use (21.9). It is 6.1 and 15.8 per cent for bathing and storage, respectively. The highest number of toilets used for bathing is found with the Gond tribe (47.9), followed by the tribes Madia (29.9), Thakar (25.9), and Mahadev Koli (14.7). The highest number of toilets used for storage is found in Thakar (18.4), followed by Mahadev Koli (16.2, Kolkata (15.8), Madia (9.8) and Gond (7.1). If one looks at the total per cent of other use of toilets, it is seen that the Gond tribe has the highest per cent of it (54.0), followed by the Thakar (44.3), Madia (39.7), Mahadev Koli (30.9) and Kokana (21.9). The tribe keeping the toilets vacant are found from highest to lower number per cent of it the Madia (56.2), Mahadev Koli (30.1), Gond (28.4), Kokana (24.5) and the Thakar (23.5). This analysis of the use and other uses of toilets indicates that the tribe Madia is highly orthodox (having the most minor use of toilets and the highest number of vacant toilets), followed by the Gond (having the highest use of toilets for bathing). The tribe Kokana seems to be highly progressive, having the highest percentage of toilet use, followed by the tribe Mahadev Koli and Thakar.

Health attitude indicators (please see Table 3)

The health situation is depicted here by referring to statistical indicators, such as death due to malnutrition, mortality of children under age five, and infant mortality rate. These indicators aregiven in Table 3.

Table 3. Health attitude through child and infant mortality indicators

Tribes **(1)**	**Deaths due to malnutrition under age five years per 10000 children (U5DM)** **(2)**	**Child deaths rate under age five per 1000 live births (U5CDR)** **(3)**	**Infant mortality rate per 1000 live births (IMR)** **(4)**	**Number of toilets in its proper use as a positive item (% of houses)** **(5)**	**Total numberof toilets for other use (% of houses)** **(6)**
Mahadev Koli	4.0	132	154	101(39.0)	80 (30.9)
Kokana	6.6	280	110	**105(53.6)**	43 **(21.9)**
Thakar	4.4	185	204	56(32.2)	77 (44.3)
Gond	**0.0**	**56**	**28**	28(16.6)	93 (54.0)
Madia	8.3	107	54	**6(4.1)**	57 (39.7)

Source: Chaudhari N.R. Development crisis among the tribes of Maharashtra, AISC 2011, JNU, New Delhi, p.5. Note that the decimal points occur in column 1 due to the division of the number of dead children by the total number of children multiplied by 1000.

It is observed that Gond tribes have a better attitude towards health and make better use of health facilities. This is shown in Table 3. They have no child deaths due to malnutrition.

The child mortality under age five is 56, and the infant mortality is only 28. So it is interesting to note that although they use fewer toilets, their health situation is better than that of the other four tribes. This shows that Gond tribes have a greater awareness of health. The Madia tribes have the highest number of child deaths ((8.3) due to malnutrition, and they have the lowest percentage of toilet use (4.1). They have a comparatively relatively low infant mortality rate (54) and low child mortality rate (107) under age five. So they have better attitudes toward health, but they need to change their attitude toward childcare habits, which may be due to their cultural practices. So, **the low percentage of toilet use seems to be not related to health attitudes among the tribes Gond and Madia.**

The Mahadev Koli tribes have a smaller number of child deaths (4.0) due to malnutrition, but otherwise, their attitude towards health care is not so good, as indicated by child mortality under age five, which is 132 per 1000 living children, and the infant mortality rate is 154 per 100 live children. The Thakar tribes have 4.4 child deaths due to malnutrition, with quite high child mortality (185) per 1000 living children under age five. They also have the highest infant mortality rate (204) among the five tribes, and they have 32.2 per cent of toilets use. It shows the lower awareness of health among Thakars. The Kokana tribes have, comparatively, the highest child mortality rate (280) per 1000 live births, and they have the highest percentage of toiles use (53.6). It shows that the family attitude towards child health is unrelated to using toilets among the Kokana.

The exposure to the outside world through economic activity (Please see table 4)

The toilets to houses are related to the tribal people's exposure to the outside world. It creates contacts with the people outside their tribal world, and so their vision of life changes. This might be the reason why they would like to have toilets in their houses. For this purpose, the main activity participation rate and secondary work participation rates are important. Table 4 gives these rates, and in addition to that, the literacy rates for males and females are provided.

Table 4. The tribes' exposure to the outside world- Participation rates and Literacy rates

Tribes with the original rankof toilet use (1)	**Participation in the main activity (Farming) (2)**	**Participation in the secondary work (other than farming) (3)**	**Male literacyrate (4)**	**Female literacyrate (5)**	**Number of toilets in its proper use as a positive item (% of houses) (6))**
MahadevKoli	81.5	12.4	73.8	55.4	101(39.0)
Konkana	93.7	11.7	65.4	51.4	**105 (53.6)**
Thakar	76.0	29.5	55.1	41.9	56 (32.2)
Gond	88.5	12.3	67.7	54.8	28 (16.6)
Madia	N.A.	5.8	45.1	34.2	**6 (4.1)**

Source: Based on the primary data from `Hakara' Quarterly Journal of Marathi Language, January-June 2007, N0.1 & 2, pp.87, 75, 76, 70, and 77.

It is observed from Table 4 that the best sanitation perspective is found in Kolkata, with the highest main activity participation rate of 93.7 and the highest percentage of toilet use of 53.6, with quite high literacy rates for males (65.4) and females (51.4). Mahadev Koli also has quite a high participation rate in the main activity ((81.5), and they have a reasonable literacy rate for males (73.8) and females (55.4), indicating good exposure to the outside world. The highest participation work of secondary work (29.5) is found in the tribe Thakar. Their literacy rates for males (55.1) and females

(41.9) are comparatively lower than the tribe Mahadev Koli and Kokana. The Madia has the lowest use of toilets (4.1) and also has the lowest literacy rate for males (45.1) and females (34.2), indicating that they disfavour the use of the toilets.

Theoretical implication

Although data looks more quantitative type, the approach is qualitative as the domain of the study emphasizes the behaviour is more akin to the individual, indicating the togetherness of individuals in a group or in the aggregate, leading to tell us about the tribal behaviour in relation to sanitation. This is an attempt at the micro-macro view using structuration. The micro-view refers to an individual from a specific tribe, and his behaviour in its collectivity is the micro-macro view as analyzed for each of the tribes in the benchmark survey. The macro-view is the expected behaviour of the sanitation agency, and the agent is an individual of the specific tribe. Thus, the study has implications in the light of the theory of structuration.

Generally, the analysis of quantitative data is done by using percentage statistics. Still, here, we have the benchmark survey to trace the cultural behaviour of the individuals represented in each of the five best tribes that have houses with toilet facilities. So, the actual data represent the individual tribal (agent) and his presence in collectivity (total number of individuals) regarding sanitation (agency). It gives us the agent-agency structural perspective to specific positive or negative items as the social action. `we are almost always concerned with practices as they are seen from the external (`objective') perspective of the observer as well as the internal (`subjective') perspective of the practitioner engaging in praxis' (Kemmis: 2008, p.124). So, the benchmark survey analysis with actual numbers gives a better direction to frame the specific action. `Nevertheless, at least some of those who choose to depict the micro-macro relationship rather statically make it clear that they understand the dynamic character of the relationship.'

(Ritzer: 2011, p.551). This interactive relationship is reflected in the tabulated data on the specific tribe's various categories of positive and negative attitudes.

Discussion through Sociological Perspectives

It is interesting to note that the tribe named Pardhan (20 per cent), Kolam (22.1percent), Gond (16.6 per cent), Konkana (53.6 per cent) and Korku (18.8 per cent) are assimilating faster, as indicated by their percentages in the state of Maharashtra, using the same data to understand the assimilation of these tribes through situational development indicators (Chaudhari: 2010).

Generally, people think that the toilets are imposed on tribal people, but they do go for it when asked whether they need to have them in their houses. This is not the imposed activity, but ethnomethodologically, it is `methods employed by those under study in creating, maintaining, and altering their presumption that a social order actually exists out there in the real world' (Turner: 2009(original 1987) p.394). It is an interaction that reflects among them ethnomethodologically. So, it may not be an imposition but a behavioural change in their cultural milieu. So they had toilets in their houses. "Utilizing Heidegger's notions of mood and attunement to the world …that is, the user's mood in a phenomenological sense, is critical to their experience of using location-based social device… and the revealing of place that emerges from that usage. ….revealing of place can then be established based on the phenomenological orientation of the user to the device, application and world. The emphasis on orientation and attunement has implications for application design and research on user experience." (Italics-emphasis added. Evans: 2015). Thus, one should mind it saying that the toilets are imposed in tribal society, but it has interpretative tuning in the context of the understanding of tribal life.

Conclusion

The tribe's cultural configuration can be best drawn from the existing sanitation perspectives, such as indicating the situation of toilets in houses and their proper use. This study suggests that the structure drawn from the total number represented in the benchmark survey depicts the micro view in the behavioural set of the tribes. This view is more akin to phenomenological and ethnomethodological

understanding in sociology. Using these perspectives, one could reflect on ethnography through numbers. One could name it quantitative ethnography. Finally, sanitation perspectives indicate that the best tribe is Mahadev Koli, followed by Thakar, Konkana, Gond, and Madia. Although the interaction levels of each of the tribes differ, their toilet uses are justifiable in their cultural milieu.

It is interesting that the Gond seems to have a better health situation, but their sanitation perspective is poor, similar to Madia's. This indicates that these two tribes need basic attention to develop a better understanding of sanitation perspectives in the modern world.

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A SOCIOLOGICAL STUDY OF MENSTRUAL HYGIENE MANAGEMENT OF HIGHER EDUCATED FEMALES IN RURAL AREAS OF KOLHAPUR DISTRICT

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Abstract

Recently, menstrual hygiene management has become a global concern. In India, menstruation is considered as dirty and polluting. It is not only based on social stigma but also there are unsanitary practices which have serious health issues. Unhygienic practices may endanger women's reproductive health and well-being. An online questionnaire was employed for the current study. The study consisted of female respondents in higher educational institutes who were studying regular postgraduate courses and pursuing M.Phil or PhD degree courses. The paper focuses on Menstrual Hygiene Management in rural areas, demographic features of respondents, management of hygienic practices during menstruation and the factors affecting it, namely environmental, personal and physical, positive and negative perceptions of society towards menstruation. Evaluation of these factors provides a comprehensive understanding of myths of menstruation, the extent of social stigma and the problems faced by highly educated females, the need for government intervention and improving menstrual hygiene management.

Keywords: *Menstrual health, hygiene, education, Menstrual Hygiene Management, stigma.*

Introduction:

Menstruation is a unique phenomenon for females. It is one of the standard, natural processes. The onset of periods, or the menstrual cycle, is associated with physical and emotional changes in the female body. Due to the lack of scientific knowledge of menstruation, it is surrounded by sociocultural restrictions. Females residing in rural areas are usually much more vulnerable to sociocultural restrictions.

Hygiene during these days is of prime importance in a woman's life. Though menstruation is a natural process, it is linked with unscientific and illogical perceptions and practices which endanger a woman's reproductive health. Menstrual Hygiene Management is the management of hygienic practices during the menstrual process. As per the definition of WHO and UNICEF Menstrual Hygiene Management, 'Women and adolescent girls are using a clean menstrual management material to absorb or collect menstrual blood, that can be changed in privacy as often as necessary for the duration of a menstrual period, using soap and water for washing body is required and having access to safe and convenient facilities to dispose of used menstrual management materials. They understand the basic facts of the menstrual cycle and how to manage it with dignity and without discomfort or fear. (www.unicef.org downloaded date and time 28/02/2023, 05:00 p.m.)

There has been much research on menstruation among adolescent girls, but the concept of Menstrual Hygiene Management is vital for women of all ages. Adolescence is when menses start, which is very young, but the age while taking higher education is much more mature. Women who belong to low-income categories or in rural areas are less aware of hygienic practices and are vulnerable to Menstrual Hygiene Management. The concept of period shaming is not new as well. Menses are associated with social taboos, restrictions, and shame; it is a silent issue. It is a restriction on mobility and freedom to normal activities. For instance, eating a pickle, touching it, or storing powdered spices stored for a year, like turmeric powder and red chilli powder, are also prohibited. Entering into the kitchen and cooking food is also refrained. Performing spiritual activities like puja or other religious rituals, even touching or sitting anywhere in the house, is not allowed in many cultures still in India. Menstrual hygiene needs are not only specific and depressing to women and girls of reproductive age

but also require access to the same management of the menstrual period, a basic reproductive health right. (www.bmcwomenshealth.com downloaded date and time 10/03/2023, 16:57 p.m.)

Methodology:

Objectives of the study:

1. How do higher-educated females manage menstrual hygiene at educational institutes?
2. What factors contribute to higher educated females for Menstrual Hygiene Management?
3. What are the restrictions imposed on highly educated females during menstruation?

Study and Design:

The present research work is an empirical study. This study was conducted amongst 130 females at a higher educational institute in the Kolhapur district. The study's respondents were the students enrolled in PG courses and research scholars residing in rural areas. The data collection was conducted from 01st March to 10th March 2023. Random sampling was used to recruit participants or respondents. The respondent A Google form consisting of 43 questions was hosted to acquire responses. The questionnaire was advertised through social media handles like WhatsApp and Instagram. The median questionnaire completion time was 8 minutes and 53 seconds. All the questions were optional in the Google form as the subject taken to study was sensitive, and upon making it compulsory, the respondent might only fill out part of the form, which might cause problems in getting the filled forms.

Data Analysis:

One hundred thirty-three responses were submitted, and three were removed as they still needed to complete the form. The average mean age of the respondents is 24 years. The first-time menstruation mode is 14 years. Most participants lived in joint families (56.01%) and had an average monthly income of 17,500/The majority were single (82.6%), 15.2% were married, 1.5% were widows, and 0.8% were separated. The majority sample was enrolled in the first year of the master's programme (42.3%), (38.5%) were in the second year of the master's programme, 18.3% were enrolled in a PhD, and only one respondent was enrolled in an M.Phil. degree course.

Personal factors:

There was a question in the questionnaire to test the knowledge of the respondents about the reason behind menstruation; the responses received were that more than 60% stated that it was a natural part of their life, but nearly 40% said it is a compulsory thing that all women experience to become a mother, all women experience so we have to go through. Some also stated that it gets rid of infected blood in the body. The responses showed that though most of the respondents had a scientific perception of menstruation despite being engaged in higher education, some believed in irrational beliefs.

Another question was about with whom they were comfortable discussing these issues. More than 75% thought they discussed it with their mother, 47% with their sister, 57.6% with female friends, 15% with male members, specifically their husband or boyfriend, and only 4.5% with their faculty members or teachers. Even today, this issue is not openly discussed with same-sex persons.

Physical Factors:

Somebody raised a critical issue about what they experience during menstruation. The responses obtained are that 68.7% had backaches, leg cramps, acne, or stomach pain issues, 44.3% stated they were emotionally disturbed on those days, 38.9% had painful periods, 18.3% had a heavy flow, and 13.7% indicated that their periods are irregular. They also experienced skin infections, whereas only 8.4% had no bad side effects; they experienced a happy period.

Another critical issue was whether the respondents were aware of their reproductive health. The following table illustrates the responses.

Table No. 01.
Co-relation between consulting a gynaecologist with education
(Values in percentage)

Education	Consult a Gynaecologist					
	Always	Most Often	Sometimes	Rarely	Never	Total
MA/M.Com/M.Sc	6.9	39.2	292	14.6	0	89.9
M.Phil.	-	-	-	-	-	-
Ph.D.	-	3.8	5.4	0.8	-	9.9
Total	6.9	43.1	34.6	15.4	0	99.9

Source: Primary Data

From the above table, it is interesting to note that 43.07% of the sample means most of them are conscious about their health, and education positively impacts their health awareness. And there was not a single respondent who never consulted a gynaecologist.

The next and most important physical factor was that 71.8% of respondents' period pain affects their academic routine. There was also a question about how they manage it. A very shocking response was obtained that stated that more than 98% of respondents prefer to remain absent in those 3-5 days, and only 2% manage by taking painkillers or using other methods like using a hot water bag and gaining temporary relief. In the 21st century, we discuss the issues of women's development, women's empowerment, etc. This issue has to be at the topmost. It needs to be addressed because if females refrain from pursuing education every month due to their health, it has to be provided for them, which at least does not create a hurdle to their academic routine.

96.2% of respondents use Sanitary napkins for their menstrual products, whereas 7.6% still use cloth on their period days, which is shocking. 3.8% use period panties, 2.3% use menstrual cups, and 1.5% use tampons. As discussed earlier, some respondents had heavy flow and faced several other issues.

A question arises whether they change their menstrual products because sanitary napkins need to be changed every four hours. The following cross table will make clear whether there is any requirement to change it.

Table No. 02.
Whether or not they are required to change menstrual product and their reasons.
(Values in percentage)

Opinion	Reasons					
	No response	No dustbin	No replacement of required menstrual products	Feeling shy to change	Unsanitary facilities	Toilets too far away from class
Yes	6.2	20.8	6.2	3.8	30.0	0.8
No	16.1	3.1	4.6	3.1	6.9	0.8
Total	22.3	23.9	10.8	6.9	36.9	1.6

Source: Primary Data

Six respondents responded that two reasons made them not change the menstrual product even if needed. There were requirements to change, but the respondents hesitated to change for the following reasons. The most severe problem is unsanitary facilities; the majority of the respondents wanted to change but did not change due to sanitary facilities, followed by there are dustbins for disposal of their used menstrual products; there is also a problem of unavailability of the replacement of the menstrual product as they are not available in the educational institute as well. Only a few had a feeling of shyness about changing, and the toilets were far away from the class, which made it difficult for them to walk

through. In these conditions, females have to compromise their health due to unhygienic conditions which they are forced to face.

Environmental Factors:

A four-point Likert scale of always, sometimes, rarely and never was employed here. More than 50% of respondents responded positively that there is always enough privacy in the washroom and a separate bin to dispose of their used menstrual products. But if the washrooms need to be used, there must be proper latches and bolts, leak-proof washrooms that are not clogged, have the facility electricity, etc. Only one-third of respondents responded that they are consistently functional; the other times, some other problem persists.

About 60% of respondents complained that there is never enough water and soap for hand washing, which is of utmost importance as per the definition of UNICEF for Menstrual Hygiene Management. This makes it more difficult for females to maintain hygiene during menstruating days. More than 75% of respondents stated that the higher educational institute had no sanitary vending and disposal machines. This creates an excellent issue for females as hygienic napkins are unavailable. There are vending machines, but they are not functional, which is useless.

Sociocultural restrictions:

This section asked a few questions regarding restrictions society usually follows. The first question dealt with the respondent's intake of food rich in iron and omega-3 on menstruating days.

Table No. 03.

Intake of food rich in iron and omega-3 three during menstruation.

(Values in percentage)

Opinion	Reasons				Total
	Unavailability of such food	Not affordable	Availability but inaccessible to you	Any other	
Yes	-	-	-	-	60
No	9.3	9.2	16.9	4.6	40
Total					100

Source: Primary Data

From the given table, it can be proved that the majority of respondents do intake iron-rich food, but the remaining respondent's reason of unable to take such food is shocking. About half of the remaining respondents responded that there are food items at home, but they are inaccessible to them, as they are females, and there is a belief that women do not need such food and first think of the male members of the family. In today's times, they are still discriminated against regarding food. The health of male members in the family is essential as we live in patriarchal families, and it is women who do not allow their daughters or daughters-in-law to intake such iron-rich food. The other reasons are the unavailability of food and the fact that it is not affordable because of the low income and low purchase power of the respondent's family. Other issues were that the respondents lived away from the house or lived in the hostel, which was why they did not eat such healthy food.

The next significant issue was where the female respondents were allowed to enter and cook in the kitchen.

Table No. 04

Allowed to cook in the kitchen during menstruation and who imposes such restrictions

(Values in percentage)

Opinion	Person who restricts						Total
	No response	Mother	Grandmother	Father	Any other male member	Any other female member	
Yes	-	-	-	-	-	-	60
No	0.8	16.1	16.1	16.9	0.8	6.1	40
Total							100

Source: Primary Data

The following table cross-examines who imposes restrictions on them in their period days. The good news is that most respondents do not have the restriction of not entering the kitchen, but sadly, 40% of respondents agree that they are faced with restrictions in their families. These restrictions are imposed by nearly about a percentage of the older females in the family. Mothers and grandmothers play an equal role in imposing such restrictions. In contrast, one-third of them imposed the limits by the father, and only one respondent responded that any other male member's husband imposed such limits. And even the mother-in-law and sister-in-law are the ones who restrict the respondents. The female members of the family themselves are the ones who do not allow the female member to cook in the kitchen and work usually. This shows that women are responsible for the restrictions they face from the other older females in the family.

Another important aspect of culture is religion and religious rituals. In India, festivals are celebrated throughout the year. Every festival has some *pooja* or auspicious occasion. So, these days, women are strictly forbidden in such areas. The following table gives a glimpse of which religion restricts the respondents.

Table No. 05

Can you participate in puja or auspicious occasions and the respondent's religion during menstruation? (Values in percentage)

Opinion	Religion					Total
	Hindu	Muslim	Buddha	Jain	Sikh	
Yes	22.3	0.8	1.4	0	-	24.6
No	63.4	4.6	3.1	3.5	0.8	75.4
Total	85.7	5.4	4.5	3.5	0.8	100

Source: Primary Data

The majority of Hindu religion respondents had to face the restrictions, and the next religion is Muslim. There is only a single respondent who did not face the restriction, but the others had to abide by the religious virtues of the family; Buddha religion followers are on a 50-50 platform where nearly 50% were allowed, and the other 50% were not allowed, Jain population were 100% restrictive in religious matters, and only one respondent was Sikh by religion and even that particular responded was restricted to be a part of any religious occasion.

The majority of the respondents stated that sanitary napkins should be available at affordable rates, which would make it possible for every girl to use them. The next suggestion was that even males should be educated and that there should be a free discussion on these topics. Women should not be restricted from work, as this process is natural. The other suggestions included sanitary vending and disposal machines, which should be readily available.

Conclusion:

Menstrual Hygiene Management needs to be addressed as a top priority. After investigating the issue, it can be concluded that students face problems maintaining hygiene during those days in educational institutes. The institute should provide several facilities, government intervention is also needed, and most importantly, familial attention on females and their health should be appropriate. The assessed factors in this research need further in-depth study, which will give a clearer picture and comprehensive understanding of the concept, particularly in the Indian context.

Suggestions:

After looking at the issues, the following suggestions are recommended at the individual, familial, institutional, and governmental levels. They are as follows-

- At an individual level, females should have scientific knowledge and outlook towards menstruation.
- At the familial level, care should be taken of females in those days; they should be given rest and made to feel good. Intake of iron-rich food specifically should be included in their diet. It

is women who are in charge of giving life to a new member of the family, and a woman needs nutritious food not only during pregnancy and lactating periods but also during their menstruating days. At home, both girls and boys should be socialized equally, and boys should be sensitive to this period of a woman's life and taught to help females with such needs. These issues should be discussed in the family, including among male members. It should not be restricted to women only. Women should be sensitive to females as they are the ones who impose restrictions which are strict to be followed.

- At the institutional level, washrooms should have sanitary facilities. There should be soap and a sufficient water supply. Every washroom should have working sanitary napkin vending and disposal machines. Institutions should also grant students a period of leave because the data proves that females remain absent during those days so that their academic routine does not suffer.
- Sanitary napkins should be made at a low cost at the governmental level. There should be a sanitary napkin vending and disposal machine in every public washroom (Sulabh Shauchlay). Female employees should have a period of leave at all governmental offices. Taking leave or remaining absent on those days should be considered a fundamental human right.

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GHETTOISATION OF SANITATION WORKERS IN INDIA: A CASE OF SOCIAL DISTANCING

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Abstract

The "religion" and "caste" identity of people determined the ghettoisation in India. Sanitation workers belong to a well-defined group in the Indian social structure and are historically identified as lower castes or untouchables. The study aims to address the ghettoisation of sanitation workers in Mumbai. A total of 540 sanitation workers were interviewed in six municipal wards of Mumbai. The findings revealed that the majority of sanitation workers have migrated from various parts of India to Mumbai. Further, sanitation workers belong to lower castes and reside in ghettoised communities, particularly in labour colonies explicitly developed for them, which are unhygienic and located in the proximity of hazardous places. This study evidence the intersectionality of caste, migration, and ghettoisation of sanitation workers in Mumbai city. The study identifies the scope for exploring the research area of ghettoisation of sanitation workers and their contemporary socioeconomic and health challenges in urban areas of India.

Keywords: *Ghettoisation, sanitation, caste, migration, Mumbai, India*

Introduction

Ghettoisation is the discriminatory procedure employed by authorities to isolate, contain, and exploit a single ethnoracial group, resulting in their social and spatial segregation from the marginalised society (Slater 2020). In general, it can be defined as the spatially concentrated areas used to isolate people involuntarily, identifying them with the racial group, caste categories, occupation, religious and gender identity, economic class, and other ethnic minority people treated as inferior by the dominant group of people in society. In India, the ghettoisation process is mainly formed considering the social categories of the people, such as "religion" and "caste[1]. In India, caste is defined as a social group having two characteristics: the membership is confined to those who are born of members, and members are forbidden by an inexorable social law to marry outside the particular caste (Ketkar, 2021). The caste system is a four-story, closed-compartment building without any chance of vertical mobility. People from the Brahmin community were placed at the top of the ladder, followed by Kshatriyas, Vaishyas, and Shudras. Brahmins mainly had the right to knowledge and were allowed to perform religious duties. Kshatriyas were considered to be protectors, warriors, and rulers. The Vaishyas had the right to do business and accumulate wealth, whereas the Shudras were placed at the bottom to provide services to the above three castes. Even in the Shudra category, further subdivisions exist where each sub-caste is assigned to specific menial tasks or services, and most of the services are deemed impure or polluted by so-called societal standards. Some of the castes were traditionally designated to perform the left-out work, including removing the dead animals in villages, handling the dead bodies on the funeral ground, playing musical instruments in cultural events of other castes, cleaning roads/lanes in towns and removing or manually cleaning the human excreta. This work was considered to be the most polluting in society, and therefore, the group of people or their castes performing these tasks were known as 'untouchable' in Indian society. Over the period, untouchables were isolated in the villages, and most of the time, they were separated in the peripheral areas of villages. Isolating them in the peripheral areas

[1] Articles 341 and 342 of the Indian Constitution include a list of castes formerly known as the "untouchables," which are practically referred to as the "Scheduled Castes" for special entitlements in national parliament, state legislatures, municipality boards, and village councils, as well as jobs in the public sector and higher education.

of the village prohibited them from utilising the public amenities, including a common water facility, accessing religious places, participating in public markets and socialising with the villagers. These people were vulnerable to the natural calamities and disease due to social distancing. They were the first to be attacked in the conflicts as they used to reside in the area surrounding the main village. Historically, the caste system has been justified as the means of division of labourers to decentralise work among the community. However, countering the theory of division of labour, scholars like Ambedkar reiterate that society defends the caste system, saying that nothing is wrong in having the caste system as a division of labour to participate in economic development, whereas it is not "merely a division of labour; but it is also a division of labourers" (Ambedkar, 2013). He explained that no civilised society would accept the division of labour accompanied by the unnatural division of labourers into watertight compartments. ."

In India, evidence revealed that untouchables used to reside in rural areas and were engaged in providing all necessary services to society, including maintaining cleanliness and sanitation (Ambedkar 1990). Over the period, people engaged in sanitation work mainly migrated in large numbers to urban places from the countryside. Additionally, the period can be divided into three broad phases. The first phase started during the Mughal Empire period when prisoners of war were forced to perform sanitation and menial work. And were forced to migrate to the Mughal ruling areas for the same (Shaymlal, 1992; Khudshah, 2005). In the second phase, British colonisation laid down the foundation for industrialisation, developing transportation facilities, including railways and other small and large industries, establishing army cantonment, and providing associated services. Industrialisation accelerated the growth of urbanisation, and urbanisation increased the demand for migration. Escalating urbanisation requires the demand for labour in towns to provide essential services, and therefore, the lower caste people were forced to migrate to urban areas. For the first time in Indian history, the British government institutionalised sanitation work, and mainly, the lower caste population was recruited officially to carry out the sanitation work (Ramaswamy, 2011; Khudshah, 2005). In the third phase, they migrated to the big cities for employment during the 19th century. People assumed that the urban areas were better places for employment and improving livelihood standards. This has been recognised as one of the important sources of coping mechanisms, accumulation of economic resources, and adaptive strategies for the marginalised people in India (Members of the Advisory Committee ILO 2020). Particularly in the nineteenth century, people moved from place to place like never before. This movement was at the local level and a long-distance settlement for some seasons. It was voluntary and forced migration in search of survival and livelihood. Studies have also documented caste-based migration in India, where a particular social caste people migrated to urban towns to provide the required essential services. Lower caste people who migrated to the urban areas were engaged in menial work, particularly in cleaning and sanitation (Shaban, 2008; Keshri & Bhagat 2012; Kadam, Gawde, and Darokar 2023). It was also highlighted that these people were doing manual work and resided in isolated areas in urban spaces (Ayyar, 2013). Even the government authorities were least bothered about their settlements, and they were eventually ghettoised in the urban areas based on their social castes. In this paper, we aim to explore the phenomenon of ghettoisation in India by examining the case of sanitation workers in Mumbai, a metropolitan city in India. Through this case study, we seek to elucidate the complex interplay of caste, migration, and development in perpetuating spatial and social segregation in India. The pieces of evidence will provide inputs to the urban development and rehabilitation of sanitation workers in India.

Materials and Methods

The primary survey which was conducted with MSW workers engaged in waste collecting into the garbage compactors (waste collectors) and street sweepers in 6 out of 24 municipal wards in MCGM. A group of workers was selected as the comparison group with more or less similar socioeconomic characteristics but not exposed to street sweeping or waste collection (Gordis, 2014).

The non-exposed comparison group of workers includes back-office personnel, peons and 'D' class employees at various municipal offices. Considering their socioeconomic characteristics, we have selected them as the comparison group workers, which represent the general population. The sample size was determined using the prevalence of major morbidity found among MSW workers in the Indian context. The cross-sectional study conducted with SWM workers in Kerala reported that the prevalence of major morbidities varies from 30% to 47%. The prevalence of eye disease (30%) was the lowest among major morbidities; therefore, the expected prevalence of morbidity was considered to be at least 30% for the sample estimation (Jayakrishnan et al., 2013). The determined sample size was calculated using the formula Cochran gave (Cochran, 1977).

The determined sample size for a group was 180 workers, and therefore, three groups of workers were **540** workers. The survey was carried out by employing a multistage stratified systematic sampling design; at the first stage, 24 municipal wards were arranged in the ascending order of percentage of slum population in respective wards. Then, it was stratified into three strata with low, middle and highest slum populations. Each strata includes a total of eight wards, and out of eight wards, we randomly selected two wards - as the representatives of other wards in that strata for our sample selection. Finally, 90 workers systematically (30 waste collectors, 30 street sweepers and 30 compare groups) were selected from each ward with the help of a listing provided by MCGM. The inclusion criteria for workers in the survey were at least five years of working experience in the SWM department of MCGM. The interviews were conducted according to the availability of workers at their workplaces from March to September 2015. The statistical software was used for the primary data entry (CSPro 6.0) and statistical analysis (STATA 13).

The descriptive statistics on demographic and socioeconomic characteristics of the study group by type of occupation. The mean age of workers working in municipal corporations was found to be more or less similar among waste collectors (36 years), street sweepers (37 years) and the comparison group workers (38 years) (Table 1). Similarly, the mean years of working of waste collectors (10 years) and street sweepers (10 years) were found to be similar to the comparison group workers (11 years). The majority of waste collectors (60%) and street sweepers (60%) have less than ten years of schooling than the comparison group workers (9%). More than three-fourths (78%) of waste collectors, followed by street sweepers (86%), belong to the scheduled castes compared with the comparison group workers (52%). The prevalence of substance use was found to be high among workers; for instance, 47% of waste collectors followed by street sweepers (44%) consumed alcohol compared with comparison group workers (22%). The majority of the comparison group workers belong to the rich standard of living index compared with the waste collectors (19%) and street sweepers (31%).

Discussion

The history of sanitation work is as old as civilisation. Manual cleaning and maintenance of open defecation areas were practiced everywhere in society. Castes working in sanitation work belong to a well-defined group in the Indian social structure. India has taken various initiatives to eradicate and prohibit the practices that force people to perform menial work, i.e. Demanding, Dirty, Dangerous, and Drudgery (Ministry of Law and Justice 2013). However, the policy and programme need to show satisfactory progress considering the sanitation workers. These practices stigmatise menial work, which is more prevalent in the rural part as social stratification was a base of Indian society. People were suggested to migrate to the urban areas where discrimination based on social categorisation was less practised. However, migrated people were dependent on employment opportunities in the destination places. Due to low educational attainment and inadequate working skills, people were inclined to adopt the occupations available in the urban areas. The majority of the migrants with poor socioeconomic status were left with the option of sanitation work in urban areas.

This study is the first in nature which addresses the migration pattern of sanitation workers and their ghettoisation in the destination places. We interviewed 540 sanitation workers in six municipal

wards of Mumbai in 2018, and we applied the scientific research methodology. The sanitation workers were interviewed during working hours at the workplace. The survey was conducted only after the ethical approval from the municipal corporation. Along with this, 100 households of deceased sanitation workers who died before retirement were visited to understand their causes of death. The findings of the study suggested that the majority of sanitation workers have migrated from various parts of India to Mumbai. For instance, about 40 per cent of sanitation workers reported that their birthplace is different from that of Mumbai and Maharashtra state. At the same time, more than 60 per cent of sanitation workers in Mumbai were in Maharashtra state only (Graph 1). This demonstrated that people from different states migrated to Mumbai and engaged in sanitation work, and the majority of them belonged to the lower caste people. Previous studies conducted in different cities support the finding that the majority of sanitation workers in urban areas migrated from other states in India (Darokar, 2009; Salve, Bansod, and Kadlak, 2017).

Employment and income mainly determine the living arrangements of people in urban areas. However, the study highlighted that sanitation workers' precondition for socioeconomic development defines their residential settlements in Mumbai. The sanitation workers initially resided in the slums or peripheral areas of the city. Over time, these residential places developed into ghettos because of the homogeneous nature of the population and their socioeconomic and occupational characteristics. In Mumbai, sanitation workers have been residing in identified labour colonies explicitly developed for them, and workers have settled in unhygienic and hazardous places. The social mapping demonstrated that their housing settlements were in the proximity of local railway stations, fish markets, abattoirs, transit camps near landfill/dumping grounds, red-light areas (residential areas of women prostitutes), surrounded chemical refineries and unnotified slum areas. Social mapping from the study illustrated that the sanitation workers were isolated in hazardous residential places in Mumbai, particularly in labour colonies such as *Ramabai* colony, aside from Chembur station exposed to the railway track as well as one of the biggest fish markets in Chembur. Similarly, a *Bapti*st labour colony at Grand Road is close to the red-light area of *Kamathipura*, a transit camp near the Deonar dumping ground and a labour colony near the Deonar abattoir, etc. Besides these, many sanitation workers live in slum areas in Mumbai. The qualitative inputs also highlighted the systematic residential segregation: "*Basically, the Bapti colony was constructed as the residence apartment for municipal officials, but due to proximity of the red-light area of Kamathipura, officials rejected housing societies and then that society was allocated to our sanitation workers. Now, more than 70 per cent of sanitation workers residing here belong to the second to the third generation of sanitation workers. I don't know how many more years this will continue," says 38-year-old sanitation workers.* This input evidences that sanitation workers are unknowingly trapped and systematically segregated in some kind of ghettos in India. In this proximity, sanitation workers are relegated to live here together for generations with no socioeconomic and occupational mobility. The study further revealed that 8 out of 10 sanitation workers reported that they were second or third generation sanitation workers recruited through the Preferential Treatment.[2] Scheme of the government (Graph 2). Their family members are also affected from enjoying the public facilities provided by the government, including schools, health centres, public parks and a healthy environment. These residential areas are the main sources of regular supply of sanitation workers from the same social groups without any additional provisions. The findings of the study supported the arguments that sanitation workers were isolated and segregated while considering their residential facilities in the city. Their ghettoisation is visible in Mumbai city. Further, these ghettos are also exposed to different health risks (endemic and pandemic) because of their engagement in

[2] *Under the preferential treatment scheme of government sanitation workers can nominate his kin (wife, son/brother, unmarried or widowed daughter/sister, or any other dependent) to the post of sanitation workers after his retirement, death or permanent disability.*

sanitation work and, at the same time, exposure to the proximity of these hazardous areas. The recent pandemic situation is one of the alarming examples of the situation. For instance, maintaining the social distancing protocols of COVID-19 was impossible in closed settlements while utilising the common household amenities in transit camps and residential colonies. Likewise, most of the slum settlements in Mumbai have common access to water and toilet facilities in the slum areas. The previous studies evidence that sanitation workers are among the most vulnerable front-line workers during medical and natural calamities in any country (Manecksha 2011; Ayyar 2013; Sharior et al. 2023; Salve and Jungari 2020). These workers are not only vulnerable at the workplace, engaging in risky jobs, but at the same time, living in the proximity of hazardous surroundings. The risk is also extended to their family members. The health of sanitation workers deteriorates residing in this hazardous environment, and long working years tolls higher deaths and increases the burden of morbidity and disability among sanitation workers. It was evident that sanitation workers have a higher prevalence of different work-related morbidity, and they die premature deaths due to communicable diseases in India (P. S. Salve, Bansod, and Kadlak 2017). The residential segregation leads to socioeconomic isolation and has a significant impact on the health and demography of sanitation workers. The majority of the time, public facilities, including educational institutions, health facilities, public parks and other public amenities established by the government, are out of the reach of sanitation workers. The deprivation from enjoying social life affected the holistic development of the young generations of sanitation workers, and this discriminatory social order resulted in poor socioeconomic development. Previous studies illustrated that residential segregation based on ethnic identities causes poor demographic and health outcomes. The residential segregation of black people and white communities demonstrated significant differences in the demographic indicators and life expectancy among the black and white populations in developed countries (Hendi 2024; LaVeist 2003; Collins and Williams 1999; Williams and Collins 2001; Karbeah and Hacker 2023).

The social and health outcomes, including violence, substance use, occupation, mental health, and poverty, are affected by the residential segregation of people. Additionally, recent literature also provides evidence for residential segregation based on the religious identity of the people (Gupta, 2015). However, this phenomenon is not much studied through the lancet of socioeconomic development of people. The people from different religions in India have ghettoisation in urban areas. For instance, the residential segregation of minorities also existed in India. Muslim communities are also ghettoised in urban areas of India (Gupta 2015). In cities like Mumbai, Muslims mainly resided in slum areas with poor socioeconomic conditions. In conclusion, the negligence of governing authorities resulted in the social exclusion of people with ethnic and social identities in India. The shred of evidence shows that sanitation workers have been ghettoised for generations, and, because of poor education, living standards, health deterioration, poverty, and fewer employment opportunities, affected the holistic development of sanitation workers in India. The non-availability of empirical evidence restricts us from establishing and drawing causal inferences and analysing the intensity of the socioeconomic challenges of people residing in the ghettoised communities of India. The study identifies the scope for exploring the research area of ghettoisation of sanitation workers and their contemporary socioeconomic and health challenges in urban areas of India.

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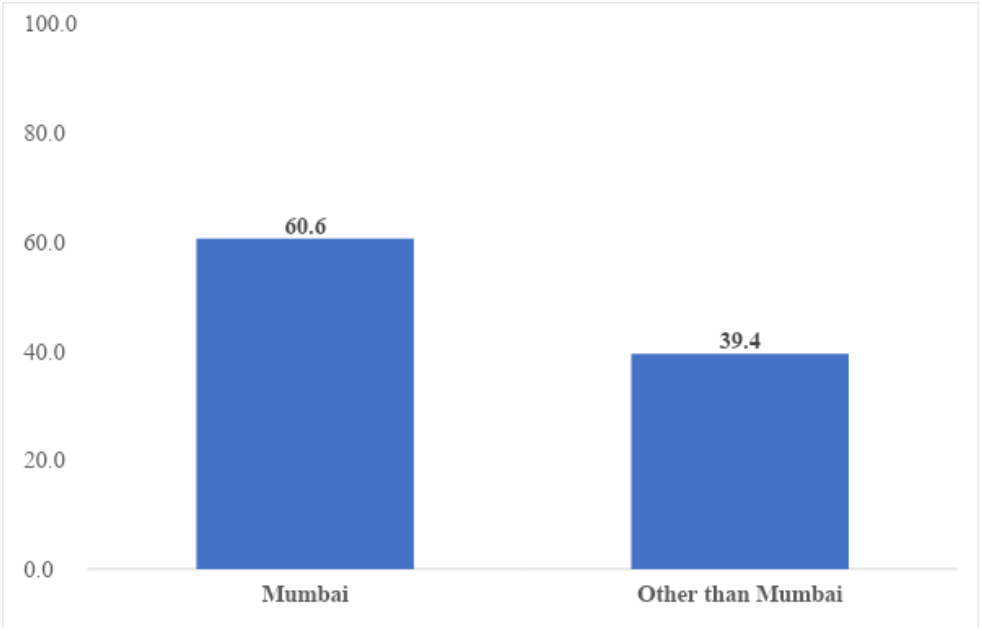
Graph 1: Place of Birth of 540 employees



Graph 2: Preferential treatment received by deceased sanitation workers?

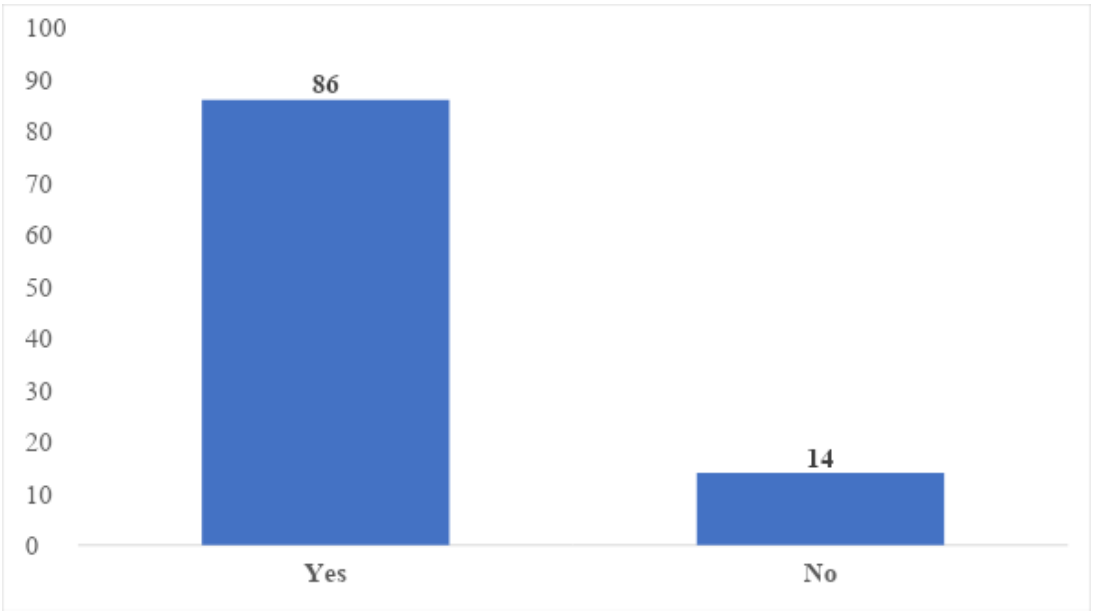


Table 1. Demographic and socioeconomic characteristics of study groups by type of occupation.

Characteristics	Type of workers		
	Waste Collectors	**Street Sweepers**	**Comparison Group**
Age	*p< 0.001$*		
19 - 34	53.3	45.6	34.4
35 - 58	46.7	54.4	65.6
Mean age ± SD	*36 ± 8.6*	*37 ± 9.1*	*38 ± 7.4*
Year of working	*p< 0.01*		
Less than 10 years	67.8	60.0	51.1
Above 10 years	32.2	40.0	48.9
Mean years of working ± SD	*10 ± 7.9*	*10 ± 8.5*	*11 ± 6.5*
Years of schooling	*p< 0.001*		
Non-literate	10.6	14.4	0.0
Less than 10 years	49.4	45.6	8.9
Above 10 years	40.0	40.0	91.1
Mean years of schooling ± SD	*8 ± 3.7*	*8 ± 4.1*	*12 ± 2.2*
Marital status	*p< 0.04*		
Currently married	92.2	88.3	95.6
Other*	7.8	11.7	4.4
Caste	*p< 0.001*		
SCs/STs	78.3	85.6	51.7
None of above	21.7	14.4.	48.3
Mean net salary ± SD	*₹12105 ± 4741.1*	*₹11487 ± 4007.1*	*₹16511 ± 3711.6*
Mean gross salary ± SD	*₹20809 ± 4188.9*	*₹21219 ± 4624.8*	*₹22391 ± 3982.4*
Substance use			
Smoking	17.8	11.7	11.1
Alcohol	47.2	43.9	21.7
Tobacco	46.1	46.1	34.4
Job satisfaction	*p< 0.001*		
Good	17.2	17.8	30.6
Average	58.9	65.0	61.1
Bad	23.9	17.2	8.3
Body Mass Index	*p< 0.05*		
Underweight	6.1	6.7	1.1
Normal	61.1	58.9	50.6
Overweight	32.8	34.4	48.3
Mean BMI ± SD	*23.52 ± 3.4*	*23.62 ± 4.4*	*25.14 ± 3.4*
Standard of Living Index	*p< 0.001*		
Poor	46.1	37.2	16.7
Middle	35.0	32.2	33.9
Rich	18.9	30.6	49.4
Total	**N=180**	**N=180**	**N=180**

***$** P-value of chi-square, SCs-scheduled caste, STs Scheduled Tribe, OBC-Other Backward castes, Other*-not married and widowed/widower, ₹- Rupees, ± SD - Standard Deviation.*

GLOBAL ORGANISATIONS, LOCAL IMPACT: THE ROLE OF INTERNATIONAL NGOS IN ADVANCING SANITATION PRACTICES

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Abstract

Sanitation practices in Low-income and developing countries are heavily compromised as they lack the industrial base and financial capabilities. The human development index, too, is low, hence the involvement of International Non-Governmental Organisations (INGOs). Several INGOs have played crucial roles in developing sanitation standards in low-income or developing countries. This paper delves into the complexities of the functioning of selected INGOs. It touches on their role in involving the local population, governmental bodies, and other collaborators in the sanitation process. The focus of the paper is on the role played by these INGOs, taking into account their achievements and the objections they face in this arduous undertaking. This paper uses real-life case studies in the sustainable development campaign.

***Keywords**: Health, International NGOs, Sanitation, Sociological perspective, WHO.*

Introduction:

Getting clean and drinkable water is a basic human right. So is the right to proper sanitation. But the reality is quite the opposite. As per the World Health Organisation's (WHO) survey in 2022, almost 43% of the global population still lacks access to safely managed sanitation services. This is a colossal number and a worrisome data. Local governments in certain areas cannot penetrate rock bottom and provide fundamental sanitation checks to the whole population. The reasons could be a lack of funds and resources or plain unwillingness. Here comes the role of international non-governmental organisations (INGOs), which have risen in this challenge to reform hygiene and cleanliness. Their part is, hence, extremely significant in raising sanitation norms across all the countries. This paper contributes to the broader understanding of the role of global civil society in addressing crucial public health issues, making it a valuable addition to the field of sociology.

Sanitation:

It's a big word with an even bigger meaning. In simple terms, sanitation refers to the collection, transportation, treatment and disposal of wastes produced by human beings. Appropriate sanitation practices lead to a healthy and disease-free community life. On the contrary, poor sanitation practices may lead to the spread of infectious diseases and several negative impacts on society. This problem is especially prominent in developing countries. An overpopulated country like India faces these challenges. Be it an urban or a rural setup, a shortage of proper sanitation facilities leads to increased health problems, risk for contagious diseases and poor physical fitness. The difficulty of poor sanitation is prevalent in urban areas where people reside in overcrowded regions; however, it gravely affects the population in informal settlements.

Habitually, the poor are the victims of poor living conditions, unsafe garbage disposals and inadequate clean water. They have no means to obtain knowledge or information about reducing the aftereffects of unsanitary practices. For that reason, their productivity is also minimised. They are unable to work and earn a decent living for their families; ultimately, they knock on the wrong doors of criminal practices, etc, to survive. Ultimately, life becomes a game of survival. In countries with advanced industrial setups, the disposal of human waste takes place through common waterborne sewages. To ensure that these systems function well, two things are essential: a large sum of money and a substantial quantity of water. Evidently, that is not possible in poorer countries where both money and water are scarce in number. Hence, there is a severe shortage of proper sewerage systems.

Role of INGOs: INGOs get involved in developmental activities related to sanitation, taking matters of awareness and education into their own hands. They handle concerns related to infrastructure and government awareness programs, too. Their nature of work is closely associated with the local population in order to figure out their exceptional requirements. This helps the INGOs to customise the solutions that encourage both sustainability and development. INGOs spread the knowledge of the importance of cleanliness and sanitation to the local public. For example, the international NGO- World Toilet Organisation. The WTO is an international NGO dedicated to improving toilet and sanitation conditions worldwide. They advocate for sanitation issues and coordinate events like World Toilet Day to raise awareness. A clean and safe toilet ensures health, dignity and well-being — yet 40% of the world's population does not have access to toilets. World Toilet Organization is a global non-profit committed to improving toilet and sanitation conditions worldwide. They entitle people from society to responsibility through awareness, education, and looking for local alternatives.

One of the primary roles of INGOs is to raise awareness about the importance of sanitation and hygiene. For example, WaterAid, an international NGO dedicated to providing clean water and sanitation, has launched numerous campaigns to educate communities about the health risks associated with poor sanitation. Through these efforts, INGOs help to shift societal norms and encourage behaviour change at the grassroots level. Kal Raustiala, the author of *Does the Constitution Follow the Flag?* Wrote, nongovernmental organisations (NGOs) play an increasingly prominent role in international environmental institutions, participating in many activities—negotiation, monitoring, and implementation- that are traditionally reserved for states. These activities have received extensive attention from observers of international affairs (Raustiala 719) [1].

Often, INGOs get involved in providing the required infrastructure for upgraded sanitation facilities. Infrastructure involves several buildings, such as building toilets, waste management systems, and water supply facilities. A notable example is the work of the Bill & Melinda Gates Foundation, which has funded innovative sanitation projects in several countries, including the development of low-cost, sustainable toilets that can be used in areas without access to sewage systems. Sophie Harman writes, "Philanthropy and global governance are interlinked, having a history of establishing international organisations, developing some of the first international welfare programs, and acting as a tool of US hegemony in the world.' The Bill and Melinda Gates Foundation (BMGF) is an extension of the legacies left by US philanthropists such as John D. Rockefeller and Andrew Carnegie. However, the BMGF exists in a post-globalisation world that encompasses global-policy-making goals, public-private partnerships, global information exchanges, prominent nonstate for-profit and not-for-profit actors, the cult of celebrity, and a myriad of new and old international institutions" (Harman, 349) [2]. INGOs often work in collaboration with governments and international organisations to determine sanitation policies. Their real work experience gives them a focussed vision of what works and what doesn't, allowing them to promote policies that are both useful and unbiased. For example, the partnership between UNICEF and local governments in South Asia has led to considerable policy changes that give importance to sanitation in national development goals.

Along with the construction of buildings, INGOs also focus on capacity-building. Capacity-building is a development method of improving the public's skills, tendencies, capability, and competence in health and cleanliness awareness. Communities are taught proper cleanliness habits right from the basics to improve their living conditions and fight against diseases. For example, the International Federation of Red Cross and Red Crescent Societies (IFRC) organises several programs for instructing the public on sanitation and hygiene. These members of the society, in turn, become the chiefs or local leaders of their communities who educate the others. This process ultimately leads to the majority of the population gaining information and skills to live in clean and sanitised surroundings. Richard Steinberg and Walter Powell write in their book, "Any society has a multiplicity of tasks and an accompanying variety of ways to accomplish them. Some tasks are undertaken by individuals, others

by organisations, formal and informal. Organisations are multidimensional, and these dimensions vary widely from organisation to organisation" (Steinberg and Powell, 1) [3].

The influence of INGOs on sanitation is irrefutable. However, these organisations have to overcome many challenges on a daily basis. The problem of keeping project work going on regularly is a big one. The projects at INGOs are usually carried out with foreign financial aid, and as the money is limited, the organisation fails to continue the work. They cannot keep up the developmental work. INGOs also face resistance from local governing bodies, local politics, cultural boundaries and management issues. Making sure that the organisation's work is viable and continuous is a crucial aspect of their work. A number of times, it so happens that projects don't sustain, leading to a relapse in the community's progress. After all, sanitation is an expensive affair. The solution to this issue is getting the local leaders and philanthropists involved. This is what Plan International does; its aim is to improve children's rights and provide equality to all, especially girls. Child empowerment is their central goal, and they focus on getting the local leaders involved for a better success rate.

Cultural rituals and principles could also act against the INGOs, causing a hindrance to their work. In such cases, the local governing bodies also cannot sideline the local cultural beliefs, although some of them could purely be superstitious. The local bodies, too, have to assume authority and come to a conclusion. In situations such as these, the members of the INGOs have to be patient and address the issues sensitively. They should engage in a dialogue with the locals in order to educate them and build their trust.

I am considering two case studies of INGOs to understand and comprehend their roles in this paper. The studies include the motives of the selected organisations and their key achievements.

Case Study 1: Bangladesh and BRAC

Earlier, BRAC was known as the Bangladesh Rehabilitation Assistance Committee and later became known as the Bangladesh Rural Advancement Committee. Currently, it is just known as BRAC. This is one of the world's largest INGOs, founded in 1972. Up until 2001, BRAC worked in Bangladesh and later started working internationally. Currently, they have developmental projects in eleven different countries in South Asia and Africa. Their headquarters is located in Dhaka, Bangladesh, and they operate from their associate offices in the US, the UK, and the Netherlands.

BRAC has been in the limelight of educating the public about sanitation. They have had the leading edge when it came to developmental programmes for the general public. Their solutions are a mix of microfinancing, providing education, building, and overall development. BARC involves the local women to be the chiefs in promoting clean and safe hygiene practices. Overall, it has led to a huge decline in the spread of diseases. BARC has reached out to over a million members of the society who now have the means to clean sanitation. M. Shamsul Haque writes, "In recent years, while the significance of the state has diminished, the role of non-governmental organisations (NGOs) has increased in most developing countries. Although NGOs are often identified with powerless groups, they themselves have become powerful and influential, especially because of their external sources of financial support, cooperation, and advocacy. More specifically, NGOs have recently gained more prominence in comparison with government institutions" (Haque, 411) [4].

Case Study 2: Kenya and Sanergy

With its thoughtful name, Sanergy aims to resolve all sanitation problems by means of a circular economy. This circular economy includes three cyclical steps: Safe sanitation systems, Waste services and Upcycling to reuse products. The ultimate goal of this process will lead to cities having improved sanitation for their residents, which is both affordable and convenient. They also aim towards reducing landfills and becoming carbon-negative. They try to improve health and agricultural sustainability. They also act as a catalyst to improve economic growth by creating job opportunities for many workers.

Sanergy works in the unofficial settlements of Nairobi, Kenya, where proper sanitation is in dire need. Sanergy has partnered with local businessmen and developed a sustainable design to supply sanitation services in the target regions. By installing economical toilets that don't need water and building a supply chain that converts waste into useful products like fertiliser, Sanergy has advanced sanitation for countless people alongside generating commercially favourable circumstances.

In conclusion, INGOs play a vital job in promoting and thriving sanitation across the world. They have reached places where even the local governing bodies couldn't help their people. With assistance, backing, and great support, they develop structural facilities and capacity building and influence local administrative protocols. These organisations have left their mark on many parts of the world. They do face functional difficulties due to a lack of continued funds and socio-cultural obstacles. In order to boost and maximise their impact, INGOs should accommodate their current settings by gaining the community's trust and continued work. They have to keep a sensitive and helpful approach as well. As INGOs continue to develop and polish their strategies, their role in improving global sanitation practices will remain important in the journey for a healthy and safe world with fit individuals.

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UNHEARD VOICES: THE LIFE OF WOMEN WORKING AS SANITATION WORKERS/SCAVENGERS

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Abstract

This paper sheds light on the overlooked lives of women who work as sanitation workers and scavengers, roles often associated with men but where women play an equally critical, though largely unrecognised, role. Using a qualitative research approach, the study captures the personal stories of these women, offering a deep and empathetic look into their daily challenges. Drawing on interviews, focus group discussions, and direct observations, this research explores the socio-economic pressures that compel women into this work, the intense societal stigmas they face, and the physical and mental toll their jobs take. Viewed through a gender-sensitive lens, it questions the limitations of current policies meant to support these women, arguing for reforms that cater to their specific needs, such as improved working conditions, access to healthcare, and educational opportunities. By amplifying these women's voices, this paper aims to contribute to discussions on gender equality and social justice. It urges society to recognise the hardships faced by women sanitation workers and advocates for systemic changes that can empower them and create a more equitable future.

Keywords*: caste discrimination, manual scavenging, gender, human rights, social justice.*

Introduction

Women sanitation workers and scavengers remain largely invisible despite their significant contributions to society. The work they do is hazardous, unacknowledged, and deeply stigmatised, particularly within India's rigid caste and gender hierarchies. While sanitation work is often seen as male-dominated, women—especially from marginalised communities—perform a substantial portion of this labour.

This study aims to amplify the voices of these women and bring their lived experiences to the forefront. By examining the intersection of gender, caste, and labour, this research seeks to push for structural changes that can better address the unique challenges these women face.

In India, caste-based hierarchies have historically dictated who performs sanitation work, often relegating this labour to Dalit communities deemed to occupy the lowest rungs of society. While male sanitation workers are more visible, women who engage in equally challenging and stigmatised work often go unnoticed. This paper challenges their invisibility and highlights their lived realities, advocating for inclusive policies that cater to their specificneeds.

Research Objectives

The objectives of this research are both analytical and transformative, aiming to explore the conditions these women endure and to call for meaningful changes:

1. **Socio-economic pressures**: Understand the socio-economic factors, such as povertyand lack of education, that compel women into sanitation and scavenging work.
2. **Societal stigmas**: Explore the stigmatisation women face based on their work, caste,and gender, contributing to their marginalisation and social isolation.
3. **Health impacts**: Investigate the physical and mental health challenges these womenface due to the hazardous nature of their work and societal stigma.
4. **Policy shortcomings**: Critically assess the inadequacies of existing policies and support systems intended to protect women sanitation workers.
5. **Gender-sensitive reforms**: Advocate for policy changes that improve working conditions, healthcare access, and education opportunities for women in sanitationwork.

Methodology

This study adopts a qualitative research approach to capture the stories of women sanitation workers. Data was gathered through in-depth interviews, focus group discussions, and ethnographic

observations. Snowball sampling was used to identify participants, focusing onwomen engaged in sanitation work, primarily from marginalised caste groups in urban areas.
Interviews and focus groups were conducted in local languages to ensure participants felt comfortable sharing their experiences. Observations provided additional insights into thedaily realities of sanitation work, further enriching the data collected.

Findings

1. Gendered and Caste-Based Oppression

The findings reveal that women sanitation workers endure dual oppression based on their gender and caste. The majority of participants come from Dalit communities, reaffirming how caste hierarchies continue to force marginalised groups into sanitation work. Althoughmanual scavenging is legally banned, many women still engage in this dangerous and dehumanising labour. Women are discriminated against not only by those outside their castebut also within their own communities, exacerbating their social isolation and feelings of shame.

2. Socio-Economic Pressures

Poverty is a key factor driving women into sanitation work. Many are the primary breadwinners for their families, and sanitation work offers one of the few available means ofsurvival. Low wages, often lower than their male counterparts, further entrench their economic vulnerability, trapping them in a cycle of poverty.

3. Stigmatization and Social Exclusion

Women face severe stigmatisation, both at work and in their personal lives. Their labour is seen as "polluting," leading to social ostracism. This stigma extends to their families, limitingtheir ability to build relationships, find marriage partners, or integrate into their communities.

4. Physical and Mental Health

The hazardous nature of sanitation work causes chronic health issues, including respiratory and musculoskeletal problems. Mental health challenges are also prevalent, with many women reporting depression and anxiety stemming from the combined pressures of their work, societal stigma, and economic hardships.

5. Policy Shortcomings

Despite legal protections, women sanitation workers continue to face unsafe working conditions and lack access to basic rights like healthcare or protective equipment. The study
Found a significant gap between policy and implementation, with many women unaware of orunable to access government schemes meant to protect them.

Life as a sanitation worker…

- **Rajkumari** is a 35-year-old married Hindu woman belonging to Schedule Caste withValmiki as a sub-caste category. She resides in Seema Puri, Delhi, with her husband and twosons. She studied till class 12th, and she was married as soon as she turned 18. After gettingmarried to Mahesh, she started working as a manual scavenger, as this is the tradition in Mahesh's family, which is to be followed by her. Rajkumari's husband has been working as a manual scavenger. She collects human excreta from dry toilets present invillage households and carries it in a wooden basket on her head for disposal. She only got 10 rupees per month and some leftover food when she started this work. In 2007, she started getting Rs. 50 for the same. Since 2008, Rajkumari has been working as a sanitation worker in the Municipal Corporation of Delhi; she cleans roads, opendrains and human or animal excreta lying on roads or in open drains. The family has been doing it for two generations. Rajkumari shares her story of being discriminated against while working in a household where "*mujhse bas bathroom saaf karwatey they wo log, ek din maine galti se unki rasoi main Rakha jug uthakar paani le liya usme se, unhone mujhe ghar se bahar kar dia aur bole dubara mat ana yaha*"

(they wants me to clean their bathroom only, one day I had taken some water from thejug keeping inside their kitchen, I was thrown out of the house immediately and commanded to not to come again at their place). She explains all this with a warm smileon his face as she s*ays, "Adat si ho gyi hai beta ye sab jane ki to main*" (we are used to all these). Being part of a Valmiki community, Rajkumari's family faces discrimination at all levels. People treat them as untouchable. In school, her children face discrimination from teachers as well as from fellow students. Rajkumari wishes totake up some other job someday, which would allow her to earn more and live with respect. Rajkumari wants her children to get respectful jobs in the future. She has been an inspiration for other women in the community for the way she has educated her children.

- **Sanchita** is a 35-year-old married woman belonging to the Schedule Caste category with the Valmiki sub-caste. She lives in Rohtash Nagar, Shahdara, with her husband and four children (3 boys and one girl). She could study till class 8th and started working at the ageof 21 in place of her mother after the death of her mother. Her mother was a manual scavenger. She has been working as a manual scavenger for the past 14 years, though her economic condition still remains the same because of her low wage as she is a contractual worker. This occupation has been practised for the last five generations. Herfamily is interested in this profession because of a lack of education and other opportunities. Shecleans roads and open drains, and the human or animal's excreta is lying on roads or in open drains. Her husband, Anil, is 37 years old and is a labour-class worker. It is difficult for Sanchita to manage her household with low income as her children are growing, and soare their demands for better education and health care. Her contractual job does not giveher any kind of safety and other benefits. Sanchita and her family face discrimination at all levels. People treat them as untouchability and impure. They are not allowed to use common resources. She wishes to take up some other job someday, which would allow her to earn more and live with respect. Sanchita aspires to good education and employment opportunities for her children.

Discussion

The findings underscore the need for more than just economic reforms; they call for a rethinking of how caste, gender, and labor intersect to marginalise women in sanitation work.Tackling poverty alone is not enough—there must be concerted efforts to address the deep- seated social stigmas that perpetuate this cycle of exclusion.

Need for Gender-Sensitive Policies

Current policies are often gender-neutral, failing to account for the specific challenges facedby women sanitation workers. This study advocates for reforms that address their unique needs, including better working conditions, healthcare access, and mental health support.

Policies must also consider the dual burden of labour and domestic responsibilities that manywomen in this sector bear.

Conclusion

The conclusion of this research emphasises the urgent need for systemic changes that not only acknowledge the invaluable contributions of women sanitation workers but also work.

Toward empowering them in meaningful and lasting ways. These women, often from marginalised caste backgrounds and facing intense gender-based discrimination, take on some of the most hazardous and stigmatised work in society. Despite their essential role inmaintaining public health and sanitation, their contributions go unnoticed, and they remainoverlooked in policy conversations and societal discourse.

To bring about real change, we must address the deep-rooted structures that sustain their marginalisation. This research shines a light on how the intersection of caste, gender, and labour

creates specific challenges for women sanitation workers. These challenges not only limit their ability to rise economically but also result in severe social stigmatisation and exclusion. Their work is often viewed as demeaning, and many of these women are treated asoutsiders, even within their own communities. For meaningful progress, society's perception of sanitation work—and the people who perform it—must shift.

Systemic change should not be limited to improving working conditions; it must also involve rethinking how we value this work and the dignity of those who perform it. Many women sanitation workers find themselves trapped in cycles of exploitation, driven by a lack of educational opportunities, limited alternative employment options, and pervasive societal stigmas. They often work in unsafe conditions, face serious health risks, and are paid lower wages than men, with little to no access to healthcare, legal protection, or supportive services.Their emotional and mental health, which suffers due to social ostracism and internalised shame, is largely ignored by current policies.
The study calls for immediate action through the implementation of inclusive and gender- sensitive policies. There is an urgent need to ensure better working conditions, access to protective equipment, and fair wages for women in this sector. Equally important is providinghealthcare—both physical and mental—to help these women manage the risks and stresses associated with their work. Educational opportunities and skill-building programs are also crucial, offering them the chance to escape poverty and exploitation.

By amplifying the voices of these women, this research aims to ignite a broader conversation about the intersections of caste, gender, and labour. Their stories challenge policymakers, activists, and society as a whole to rethink the current social system that devalues not only their work but their humanity. The goal is to advocate for a more just and equitable system, where these women are no longer seen as mere victims of circumstance but as individualswho deserve recognition, respect, and the opportunity to live with dignity.

At the heart of this systemic change is the necessity to dismantle the caste-based hierarchies that continue to determine the roles of women from marginalised communities. Tackling gender inequality in sanitation work requires addressing the root causes of their oppression, which go beyond economic hardships and are deeply embedded in social and cultural normsthat perpetuate caste-based discrimination.

In conclusion, this research calls for a comprehensive approach to reform that considers the interconnected issues of caste, gender, and labour in the lives of women sanitation workers. Iturges a thorough re-evaluation of current policies to ensure they meet the specific needs of these women, and it advocates for wide-ranging social reforms that focus on empowering them. Only by recognising their work, improving their working conditions, and offering themopportunities for economic and social advancement can we begin to dismantle the entrenchedinequalities that have marginalised these women for far too long.

Recommendations

1. **Policy reform**: Create gender-sensitive and inclusive policies that specifically addressthe needs of women sanitation workers.
2. **Healthcare access**: Prioritise healthcare, including mental health services, for womenin this sector.
3. **Education and skills training**: Provide education and alternative livelihood opportunities to help women break free from the cycle of poverty.
4. **Public awareness**: Challenge societal stigmas through public awareness campaignsthat highlight the importance of sanitation work.

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HOUSEHOLD WASTE MANAGEMENT IN INDIA: THE EVINCED SCENARIO BY NATIONAL SAMPLE SURVEY

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Abstract

Waste Management in developing countries is crucial for public health, well-being, and sustainable development. India, a rapidly urbanising nation, faces significant challenges in managing the substantial amount of solid waste and has continuously urged discussion of issues inpopulation development and environmental debate in recent times. Unscientific collection, segregation, and disposal of solid waste results in health vulnerability to the population residing inthe proximity areas. However, the Government of India has taken policy and program initiatives to deal with the phenomenon. This study utilised the two rounds of the nationally representative National Sample Survey (NSS) data conducted in 2012 and 2018. The findings reflected that in India, 48.3 per cent of households dispose of their household waste in open areas, which has increasedfrom 38.6 per cent in 2012. While states like Goa, Sikkim, Tamil Nadu, and Tripura made progress,states like Nagaland, Chhattisgarh, Haryana, and Manipur faced a deterioration. On the other hand,
58.9 per cent of households reported no arrangement for waste collection, and around 20 states were found to have more than 50 per cent of households with no arrangement for household garbage disposal. The study highlights the need for a more comprehensive and programmatic approach and policy to address challenges related to solid waste management in India.

Keywords: *India, Household waste, National Sample Survey, Open area disposal, Waste disposal.*

Introduction:

India is experiencing unplanned and unattended urban growth. The unplanned growth of the urban areas causes multiple issues in the cities. The (UN et al., 2019) estimated that approximately 55 per cent of its population resides in urban regions, and it has increased at the rate of 2.4 per cent from 2010 to 2018. This process of urbanisation is accompanied by distinct sets of benefits and drawbacks. One of the most unavoidable issues that arise with rapid urbanisation is the management of household and solid waste (Gour & Singh, 2023). Effective waste management is a crucial component of modern society with significant implications for public health and well-being, as well as for the attainment of sustainable development objectives over time (Naira, 2023). A total of 62 million tonnes of Municipal Solid Waste (MSW) is generated on an annual basis in urban India (Lata et al., 2022). According to the Planning Commission Report, 2014, if infrastructure, programmes and policies are unable to manage the situation effectively, it is projected that MSW will increase to 165 million tonnes by 2031 (Tewari, 2021). The rural waste management situation is mainly overlooked compared with the management of solid waste in urban areas in the country. Similarly, peri-urban areas are also overlooked by their governing bodies, which are distinct from those in urban and rural areas (Chatterjee, 2014; Woltjer, 2014). These regions exhibit inadequate provision of sanitation infrastructure, facilities, and services. Due to the lack of a suitable regulatory body and unaccountability, these regions are frequently regarded as dumping grounds by the municipal administration (Saxena & Sharma, 2015). Furthermore, the insufficient and inconsistent waste disposal infrastructure in peri-urban areas is resulting in a cumulative impact on environmental deterioration. The disposal of waste materials in agricultural lands, water bodies, and roadside areas also poses a significant health hazard for the people residing in the proximity

areas. Despite the implementation of several government programs aiming at improving waste management in India, the management of solid and liquid waste has been neglected and has not received adequate attention as a significant public health concern (Vinti & Vaccari, 2022).

The inception of rural sanitation can be traced back to the year 1954 when the Government of India initiated the Rural Sanitation Programme as a component of the First Five Year Plan. In the 1981 census, the coverage of rural sanitation was found to be merely 1 per cent, which indicated a lack of significant impact on improvement. In 1986, the Government of India initiated the Central Rural Sanitation Programme with the primary aim of enhancing the quality of life for rural inhabitants and affording women greater privacy and dignity (Swachh et al. (SBM)/Total Sanitation Campaign (TSC), 2022). In 1999, the Indian government implemented the Total Sanitation Campaign (TSC) with the aim of enhancing sanitation coverage throughout the country, with a particular emphasis on rural areas. The TSC placed significant emphasis on the dissemination of information, education and communication strategies to promote sanitation. Later, in 2012, the "Nirmal Bharat Abhiyan" was initiated as a follow-up initiative to the TSC after a period of ten years. The aim was to achieve comprehensive coverage of rural regions through the implementation of enhanced and innovative approaches. In addition to this, the Government of India launched a "Swachh Bharat Mission" in 2014 with a primary emphasis on rural sanitation and cleanliness (CBGA & UNICEF, 2011).

Specifically, the principal goal is to achieve a state of cleanliness and eliminate open defecation (ODF) throughout the nation by 2019. The Government intends to enhance the quality of life of citizens by fostering cleanliness, hygiene, and sanitation practices in society. The government has made separate provisions to support this initiative. During the initial phase in 2014, the total budget allocated was Rs. 2851 crore towards rural areas and Rs. 1691 crore towards urban areas. The budget for SBM-G experienced a significant increase, whereas the allocation for SBM-U remained unchanged in the following quinquennium years. Between 2014 and 2018, a combined sum of Rs. 52166 and Rs. 9791 crores were allocated for SBM-G and SBM-U, respectively (Kapur & Baisnab, 2019; Kapur & Deshpande, 2018). Despite the policy programmes and special financial provisions, the situation of solid waste management has not improved much over the years. Waste management has been different across states and regions. Therefore, the present study aims to assess the trend and pattern of waste management practices in India.

Materials and Methods:

To understand the situation of waste management in India, we have analysed the two rounds of the National Sample Survey (NSS) data. The Ministry of Statistics and Programme Implementation (MoSPI) conducts continuous and extensive National Sample Surveys in India. The NSS provides the micro level of nationally representative data on employment and unemployment, household consumer expenditure, housing condition survey, domestic tourism, unorganised service sector, and agricultural and non-agricultural enterprises. The rounds of NSS that were included in this study were 69th and 76th, and they were conducted in 2012 and 2018, respectively. The 69th round of the NSS consisted of a total of 95,548 households (MoSPI, 2013), and the other hand, the 76th round had a total of 1,06,804 households in India (MoSPI, 2019). We have considered two variables: 1) place of disposal of household garbage and 2) arrangements made by any agency for the collection of garbage. The first variable further is categorised into 1.1 Dumping spots - Dumping spots include biogas plant or manure pits, household/individual dumping spots, and community dumping spots and 1.2 Open area dumping: Open area represents commonplace other than community dumping spots (Open area/street/open drain), others, and not known) and the second variable also categorised into 2.1 Any arrangement: Across India, if there was any arrangement of garbage disposal in a place by the panchayat or municipality or corporation and residents or groups of residents along with the others and not known and 2.2 No arrangement: this category is adopted as it is provided in both the NSS rounds. In the 69th round of NSS, which In 2012, the option of open area was not mentioned particularly, so we have considered

'others' and 'not known' available and categorised them as open area dumping for that round. In the 76th round conducted in 2018, the option of the open area was present as a 'commonplace other than community dumping spot (open area/street/open drain)'. We clubbed 'others' and 'not known' along with the options the options available and categorised them them as open area dumping.

Results:

The finding from the study demonstrated that more than half of the sample households throughout India do not have any arrangement. The finding (Figure-1) suggested that there has been an increasing trend of households not having any arrangement for garbage disposal, from 54.1 per cent in 2012 to 58.9 per cent in 2018. The trend is similar in the case of rural India, where households with no arrangement for garbage disposal increased from 68 per cent in 2012 to 80.4 per cent in 2018. However, in the case of urban areas, there has been a slight improvement of 6.6 per cent from 2012 to 2018 (Table 1). We also found that 38.6 per cent of Indian households used to dispose of

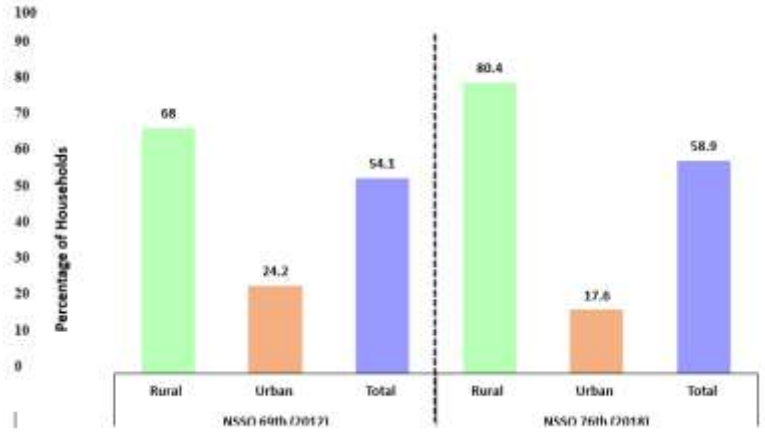

Figure 1: Household distribution with no arrangement for garbage disposal

Their garbage was in an open area in 2012, while an increase can be seen in 2018 (48.3%) (Table 2). For urban areas, a slight positive change has been observed in open-area garbage disposal with adecreasing trend, from 37.9 per cent in 2012 to 35.8 per cent in 2018 (Figure 2). In rural areas, however, the number of open-area garbage disposals has increased by more than 15 per cent. The overall trend highlighted has not changed for the case of open-area garbage disposal in India.

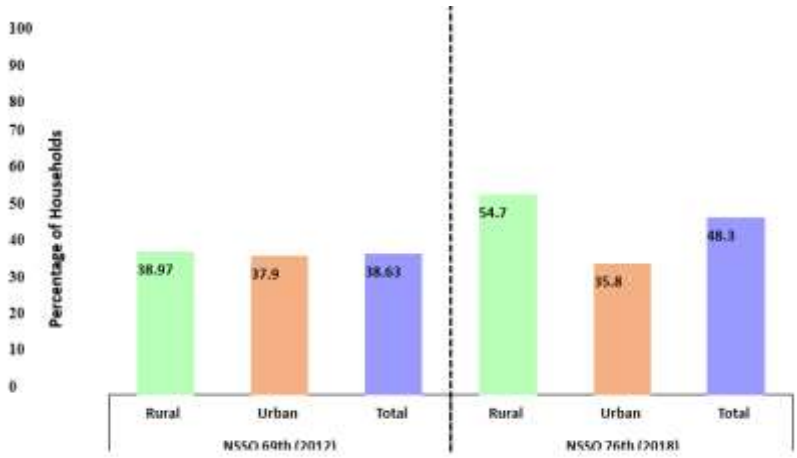

Figure 2: Household distribution with Open Area Garbage disposal

Overall, the 69th round shows that the states with the highest percentage of households with no arrangement for garbage disposal were Tripura (88.6%), Bihar (85%) and Kerala (84.1%) compared with other states in India. Furthermore, the rural areas of Eastern India, i.e. Tripura (92.9), followed by West Bengal (88.8%) and Sikkim (88.1%), had the highest percentage of households with no arrangement for garbage disposal. Moreover, in urban areas, Dadra & Nagar Haveli (77.9%), followed by Kerala (75.7%) and Tripura (68.9%), had the highest percentage of households with no arrangement for garbage disposal (Figure-3).

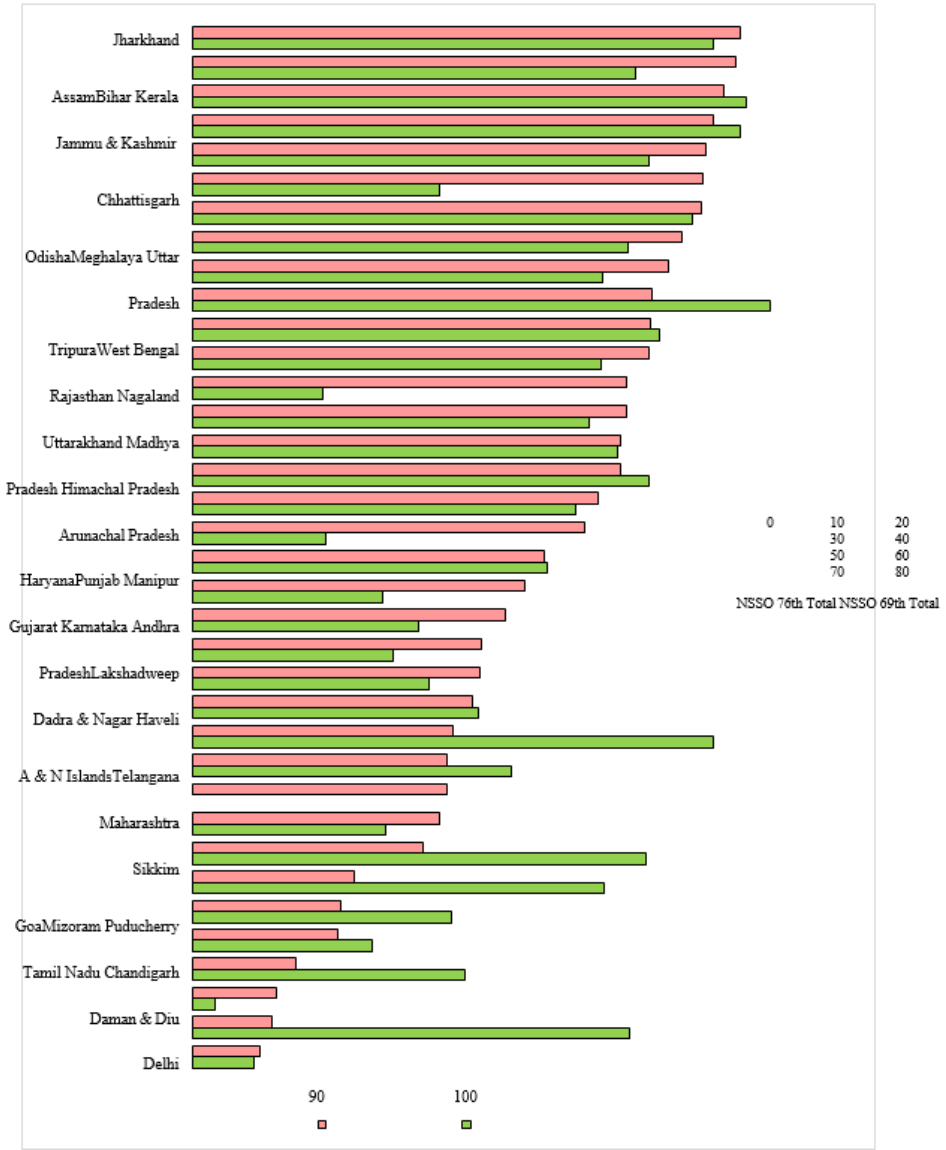

Figure 3: Household distribution with no arrangement for garbage disposal in states of India.

Likewise, the 76th round reported that states with the highest percentage of households with no arrangement for garbage disposal have shifted to Jharkhand (84.1%), Assam (83.3%) and Bihar (81.6%) in India. While considering the rural area, households with no arrangement for garbage disposal belonged to Jammu and Kashmir (98.3%), followed by Jharkhand (96.5%) and Chhattisgarh (95.6%). In urban areas, Kerala had the highest percentage of households with no arrangement for garbage disposal (70.1%), followed by Jharkhand (46.2%) and Assam (45.2%). The cluster with the highest percentage of households without any arrangements for garbage disposal in the 69th round was mainly

concentrated in the eastern and northeastern regions of India. Out of all the southern states, Kerala shows poor performance in arrangements for garbage disposal. On the contrary, states in the southern and western regions of India, like- Puducherry, Andhra Pradesh, Goa, Maharashtra and Daman & Diu, were in a better position comparatively, with fewer households without arrangements for garbage disposal.

Furthermore, there are significant variations in both rural and urban areas across the states in India. In 2012, states and union territories such as Sikkim (83.8 %), Dadra and Nagar Haveli (80 %), Daman & Diu (74.5 %), Arunachal Pradesh (72.1 %) had a higher percentage of households disposing of their garbage in open areas. On the other hand, Lakshadweep (9.9 %), Nagaland (10.2%), Delhi (19.6 %), and Chhattisgarh (21.5 %) were such states and Union Territories that had a lower percentage of households disposing of their garbage in open areas. But on average, in 2018, states from the eastern part of India, particularly Bihar (69.3%), had the highest number of households dumping garbage in open areas, followed by West Bengal (67.1%) and Orrisa (66.8%). It is worth mentioning that some of the states, e.g. Arunachal Pradesh and Sikkim, Goa, have shown major improvements in 2018.

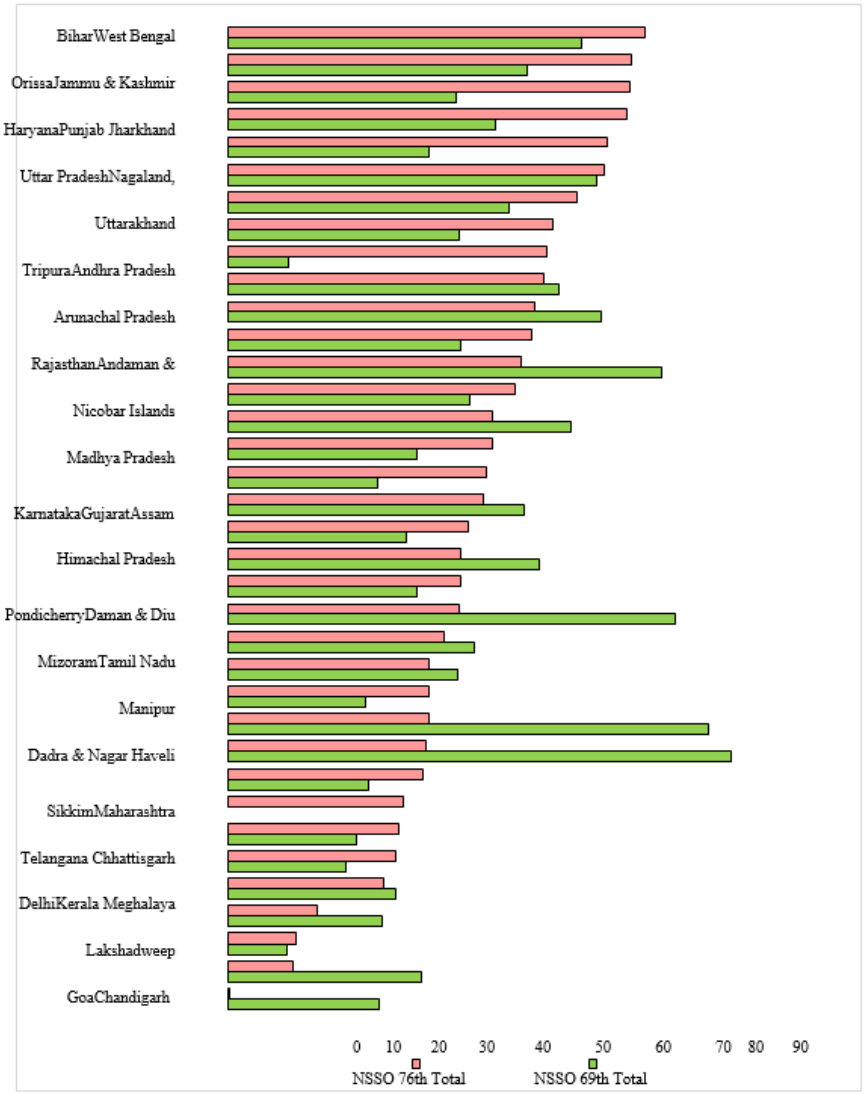

Figure-4: Household distribution with Open Area Garbage Disposal in states of India

Discussion:

The National Sample Survey data analysed in this study reveals the present scenario of waste management in India as well as the need for effective strategies to manage it, particularly in rural areas. The findings demonstrated that Indian households without any arrangement for garbage disposal had not been improved over the periods (S. Kumar et al., 2017). The rural part of India reflected the same scenario, where no arrangement was made by any local governing authority. More particularly, while considering the household disposal of waste, it was observed that more than one-third of Indian households dispose of waste in open areas, and it has increased by 10 per cent from one round to another (Nandy et al., 2015). Despite the significant effort of the government through different schemes, projects, rules and regulations, management initiatives, incentives and community awareness, the situation has not been satisfactory. The subnational-level analysis depicted a clearer alarming scenario of waste management in India. In the 69th round, states like Tripura, Bihar, and Kerala had the highest number of households with no arrangement for waste disposal compared to other states of India. The cluster of maximum households with no arrangement of waste disposal with the states of Tripura, Bihar and Kerala in the 69th round has been shifted to the cluster of Jharkhand, Assam, Bihar and Kerala in the 76th round of the survey. Surprisingly, despite being a socioeconomically developed and open-defecation state, Kerala showed poor performance in the management of garbage disposal compared to all the southern states. The previous studies also reiterate that Kerala is performing poorly in waste management due to poor organisation of door-to-door waste collections and a shortage of human resources in the waste management of India (Ganesan, 2017).

In terms of rural-urban disparities in management, we found that more than half of the surveyed households from rural areas were facing problems in assessing adequate waste disposal infrastructure, and substantially, they disposed of their garbage more in open areas than compared urban areas (Saxena & Sharma, 2015). On the other hand, waste collection is done differently in different cities (Biswas et al., 2021; A. et al., 2020). For instance, door-to-door collection takes place in residential apartment areas, whereas in slum areas san, sanitation workers collect it from community dustbins, which are finally dumped at the designated dumping sites in landfill areas. All Municipal Corporations in India spend a substantial amount of their financial budget on the Solid Waste Management (SWM) department in every city. For Instance, Mumbai municipal corporation spent ₹4,531 crore for SWM, which is nearly 10 per cent of the overall budget for 2023. It is more or less similar in other cities like Delhi, Kolkata, Bangalore, and Chennai. However, segregation of waste at the source is still the most challenging task for Indian Municipalities (A. Kumar & Agrawal, 2020).

Conclusions:

The study concludes that there is still a long way to go to achieve the goals of the Swachh Bharat Mission, especially in terms of improving waste management practices. In a developing country like India, where the majority of the households have no hygienic waste disposal management, dual burden diseases are prevalent, and 5 Mortality is still a remarkable concern and improvement of the country at full in the upcoming decade would be impeded. The Swachh Bharat Mission has made important strides toward its goals, but much pace still needs to be ensured regarding adequate accessibility to waste management services by every household that can maintain clean and healthy living environments. The states can strengthen the human resources and infrastructure availability in the solid waste management department of states performing poorly. The availability of waste collection vehicles and human resources as a working population need to be employed on a larger scale. The involvement of non-government organisations and agencies in the collection and segregation of solid waste may play a significant role in improving the situation.

Conflict of Interest:

The Authors declare that there is no conflict of interest.

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Appendix:

Table 1: Percentage distribution of households with no arrangements for household garbage disposal in the two rounds of the National Sample Survey

State /UT	NSSO 69th				NSSO 76th			
	Rural	Urban	Total	Sample size	Rural	Urban	Total	Sample size
States								
Andhra Pradesh	49.8	9.7	36.2	5819	62.4	8.4	44.1	3,863
Arunachal Pradesh	64.7	35.4	58.8	921	78.1	11	62.2	1,142
Assam	72.5	36.9	68	3084	90.1	45.2	83.3	3,600
Bihar	87.2	66.5	85	4380	89.6	17.9	81.6	6,993
Chhattisgarh	36.1	44.9	37.9	1776	95.6	12.2	78.4	2,125
Goa	70.5	56.2	63.1	288	65.7	0	24.8	239
Gujarat	50.4	16.6	34.7	3957	81.8	12.6	48	4,839
Haryana	24	13.8	20.3	1756	85.2	20	60.1	2,145
Himachal Pradesh	77.3	33.9	70	1330	73.3	16.6	65.6	947
Jammu & Kashmir	81.5	33.6	70.1	1944	98.3	19.3	78.8	1,713
Jharkhand	85.9	59.8	80	2086	96.5	46.2	84.1	2,565
Karnataka	43.1	13.8	30.8	4080	72.2	9.9	44.3	4,893
Kerala	87.7	75.7	84.1	3837	89.5	70.1	80	3,383
Madhya Pradesh	78.5	31.7	65.3	5384	87.1	10.5	65.7	5,908
Maharashtra	45.1	9.2	29.5	7818	63.5	6.4	37.8	9,294
Manipur	33.9	17.4	29.1	2095	58.6	35	50.9	2,242
Meghalaya	79.4	16.6	66.8	1248	90	13.3	75.1	1,292
Mizoram	56.1	22.5	39.7	1139	39.4	5.1	22.7	1,200
Nagaland	23.3	5.2	19.8	864	80.3	36.2	66.7	912
Odisha	83.7	37	76.7	3544	88.9	28.1	78	3,670
Punjab	71.1	30.6	54.4	2124	76.7	22.8	53.9	2,361
Rajasthan	71.5	38.5	62.7	4223	89.3	17.4	70.1	5,231
Sikkim	88.1	14.4	69.5	768	50.6	2.8	35.2	816
Tamil Nadu	63.7	16.6	41.7	5784	22.8	8.8	15.7	6,107
Telangana	--	--	--	--	67.2	6.6	38.9	2,950
Tripura	92.9	68.9	88.6	2112	79.8	39.6	70.4	2,256
Uttar Pradesh	72.4	31.9	62.9	11563	89.5	23.1	73.1	12,411
Uttarakhand	73.8	8.8	60.8	888	90.4	7.9	66.6	984
West Bengal	88.8	31.9	71.7	7288	92	27.1	70.3	7,788
Union Territories								
Andaman & Nicobar Islands	69.4	19.7	48.9	346	88.4	1.7	38.9	240
Chandigarh	2.4	3.3	3.3	288	0	13.4	12.7	192
Delhi	22.5	7.4	9.4	1854	15.6	10.1	10.2	1,615
Dadra & Nagar Haveli	81.4	77.9	80	180	85.8	14.8	40	192
Daman & Diu	77.5	65.7	67	192	5.1	13	12.1	192
Lakshadweep	43.6	44	43.8	180	50.7	42	42.9	144
Puducherry	40.6	20.1	27.5	408	44.1	6.9	22.2	360
Total	**68.0**	**24.2**	**54.1**	**95,548**	**80.4**	**17.6**	**58.9**	**1,06,804**

Table 2: Percentage distribution of households with open area disposal for household garbage inthe two rounds of the National Sample Survey.

State/UT	NSSO 69th				NSSO 76th			
	Rural	**Urban**	**Total**	**Sample Size**	**Rural**	**urban**	**Total**	**Sample Size**
States								
Andhra Pradesh	39.0	38.5	38.8	5,819	59.8	32.7	50.7	3,863
Arunachal Pradesh	73.7	65.8	72.1	921	50	45.6	48.9	1,142
Assam	28.5	37.6	29.6	3,084	40.4	37.6	40	3,600
Bihar	59.3	55.0	58.8	4,380	72.3	44.7	69.3	6,993
Chhattisgarh	14.3	48.4	21.5	1,776	22.2	52.1	28.4	2,125
Goa	36.1	28.5	32.2	288	28.7	0	10.8	239
Gujarat	45.2	53.9	49.2	3,957	57.4	27	42.6	4,839
Haryana	31.3	37.1	33.4	1,756	65.7	58.7	63	2,145
Himachal Pradesh	57.4	24.7	51.9	1,330	41.5	22.4	38.9	947
Jammu & Kashmir	50.4	26.3	44.6	1,944	74.3	42.3	66.3	1,713
Jharkhand	45.5	51.1	46.7	2,086	58.7	55.8	58	2,565
Karnataka	22.0	28.9	24.9	4,080	40.5	46.2	42.9	4,893
Kerala	28.1	27.9	28.0	3,837	25.1	26.8	26	3,383
Madhya Pradesh	25.5	46.9	31.5	5,384	48.0	33.8	44	5,908
Maharashtra	24.8	21.7	23.5	7,818	40.8	22	32.4	9,294
Manipur	23.1	22.6	23.0	2,095	30.4	40.1	33.5	2,242
Meghalaya	23.3	35.6	25.7	1,248	5.9	52.7	14.9	1,292
Mizoram	50.1	31.2	40.9	1,139	52.3	18.5	36	1,200
Nagaland	12.0	2.9	10.2	864	52.9	53.1	53.1	912
Orissa	38.2	36.3	37.9	3,544	71	47.4	66.8	3,670
Punjab	57.9	66.3	61.4	2,124	68.9	54	62.7	2,361
Rajasthan	37.4	47.7	40.2	4,223	54.6	28.9	47.8	5,231
Sikkim	85.6	78.5	83.8	768	37.8	22.9	33	816
Tamil Nadu	39.4	37.0	38.3	5,784	40.2	27.1	33.6	6,107
Telangana	--	--	--	--	28.5	30.2	29.3	2,950
Tripura	65.5	46.4	62.1	2,112	55.1	37.8	51.1	2,256
Uttar Pradesh	37.3	42.5	38.5	11,563	55.9	48.7	54.2	984
Uttarakhand	61.4	29.9	55.1	888	55.8	44.5	52.6	12411
West Bengal	54.2	39.4	49.8	7,288	78.9	43.4	67.1	7,788
Union Territories								
Andaman & Nicobar Islands	73.8	33.2	57.0	346	76.9	19.2	44	240
Chandigarh	29.9	24.9	25.3	288	6.5	0	0.3	192
Delhi	22.5	19.1	19.6	1,854	34.4	27.9	28	1,615
Dadra & Nagar Haveli	81.4	77.9	80.0	180	20.2	40.6	33.4	192
Daman & Diu	78.2	74.0	74.5	192	30.6	39.6	38.5	192
Lakshadweep	4.5	15.2	9.9	180	37.9	8.2	11.3	144
Pondicherry	65.6	12.3	31.5	408	46.8	33.1	38.7	360
Total	**39.0**	**37.9**	**38.6**	**95,548**	**54.7**	**35.8**	**48.3**	**1,06,804 s**

ROLE OF SANITATION AND HYGIENE TO COMBAT ANTIBIOTIC RESISTANCE

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Abstract

One of the most significant accomplishments of the 20th century was the discovery and clinical development of antibiotics such as penicillin and sulphonamide. The medical community believed that the fight against infectious diseases was won with the discovery of antibiotics. However, so many bacteria have developed antibiotic resistance to different antimicrobial drugs. Thus, the issue seems to be shifting in favour of the bacteria. The main reasons for antimicrobial resistance include the overuse and misuse of antimicrobial components and the lack of clean water, sanitation, and hygiene for humans and animals. Antibiotic-resistant bacteria could be spread to other individuals through poor hygiene conditions and proximity to each other. These resistant bacteria spread to humans and other animals through the environment (Water, Soil and Air). Antibiotic resistance develops when bacteria change to protect themselves from an antibiotic. Thus, we study the proteins/enzymes responsible for developing antibiotic resistance using microbial, biochemical and bioinformatics techniques. Microbial samples were collected from the nearby dump yard area, and then a screening of Streptomycin-resistant bacteria was carried out using the agar dilution method. However, along with finding new drug candidates or alternative targets for antibiotic resistance, we also need to focus on sanitation and hygiene awareness in rural and slum areas. As we know, a lack of sanitation and hygiene could lead to increased infectious diseases. Finding a cure will be more challenging if these disease-causing microorganisms develop antibiotic resistance. Hence, to minimize the risk of antibiotic resistance in rural and slum areas, awareness of sanitation, hygiene and proper use of antibiotics is needed.

Keywords: *Antibiotic resistance, microbial, biochemical and bioinformatics techniques, sanitation and hygiene*

Introduction:

Antibiotics are substances produced by bacteria or fungi that inhibit or kill other microorganisms' growth at low concentrations. "Antibiotics" refers to a broader range of entirely synthetic and semi-synthetic compounds (Fischbach & Walsh, 2009). Antibiotics are being used for therapeutic purposes and as a preventative precaution in various sectors, including animal farming and agriculture (Gajdács & Albericio, 2019). Bacteria have demonstrated an excellent adaptation capacity to their environment, including the development of various mechanisms of resistance to most traditional and novel antimicrobial agents, in order to be fit for survival (Alanis, 2005). Antimicrobial resistance is a natural phenomenon that happens when microorganisms do not give any response to antibiotics that they were previously susceptible to and that were effective in treating infections caused by these pathogens, as per the report of World Health Organization (https://www.who.int/news-room/spotlight/ten-threats-to-global-health-in-2019). Antibiotic resistance has emerged due to the extensive use of antibacterial drugs in medicine, food, and agricultural industries since the discovery of penicillin (Hawkey, 2008).

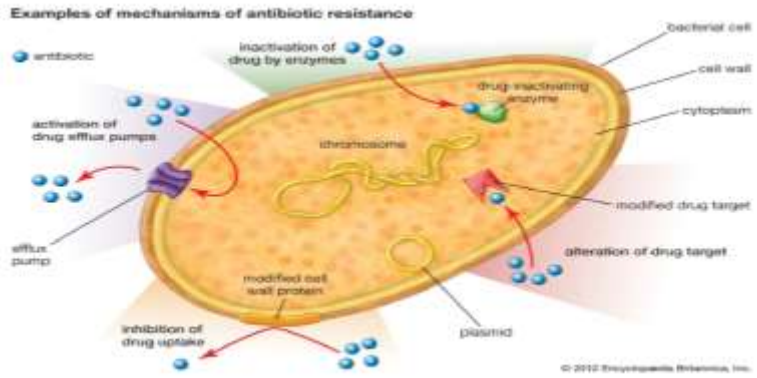

Fig. 1: Mechanisms of antibiotic resistance in bacterial cells (Encyclopedia Britannica, Inc., 2012).

The molecular mechanisms of antibiotic resistance can be classified into four general classes: i) activation of drug efflux pumps, ii) alteration of drug target, iii) inhibition of drug uptake and iv) inactivation of drugs by enzymes (Fig. 1). It has been reported that during the first 25 years following the introduction of the first antibiotics, resistance was primarily an issue among hospitalized patients. Further, researchers discovered that these bacteria could not only become resistant to these antibacterial medications but could also survive and grow in a hospital setting, primarily affecting susceptible patients who were more likely to become seriously ill from nosocomial infections (Kollef & Fraser, 2013). As per the earlier studies, resistance was initially seen in staphylococci, streptococci, and gonococci. In 1941, the first commercial antibiotic, penicillin, was released into the market, and a year later, penicillin-resistant *S. aureus* was discovered (Dodds, 2017).

In India, every nine minutes, one child dies from an antibiotic-resistant bacterial illness, and more than 50,000 infants are at risk of dying from sepsis because of bacteria and Fungi that are resistant to antibiotics (Subramaniam & Girish, 2020). As per the European Union/European Economic Area (EU/EEA) estimates, antibiotic-resistant bacteria cause around 6,70,000 infections annually, with about 33,000 deaths as a direct result (ECDC 2020, WHO 2022). It has been estimated that nearly 13–74% of *S. aureus* infections globally are because of MRSA (Methicillin-Resistant *Staphylococcus aureus*). Shahriar and co-workers in 2019 reported that, in the United States of America (USA), *S. aureus* is thought to have afflicted 119,247 people, leading to 19,832 fatalities (Shahriar et al., 2019). According to the World Health Organization's newest Global Antimicrobial Surveillance System (GLASS) reported in 2020, there is widespread antibiotic resistance among 500,000 individuals with recorded bacterial illnesses in 22 countries (WHO, 2020). The most commonly found antibiotic-resistant bacteria were *E. coli, S. aureus, S. pneumoniae*, and *K. pneumoniae* (Migliori et al., 2020). As per the most current anti-tuberculosis (TB) drug resistance surveillance data, 3.5% of TB infections and 18% of previously treated TB cases globally will develop MDR-TB (Migliori et al., 2020).

In such a situation, if infection control measures are not put in place or patients do not get the proper treatment, then the danger of developing a more severe illness will be increased or can cause death. If patients remain infectious for extended periods, this could increase the possibility of spreading the resistant microorganisms. Patients with antibiotic-resistant microorganisms are likelier to experience worse results because they have more risk factors that may require extended hospital stays (Friedman et al., 2015). The various factors or sources that can affect human health and cause antibiotic resistance issues in rural communities are soil, animal faeces, pond water, wastewater, and vegetable samples from rural communities and the environment.

Fig. 2: Antibiotic-resistant bacterial site near pond area (DOI: 10.13140/RG.2.1.2747.3121)

Antibiotic resistance (AR) can pose severe socioeconomic and ecological threats globally. However, the burden of antimicrobial resistance (AMR) in rural communities is sometimes underestimated because these places receive the least attention regarding health, education, and research (Brooks et al., 2023). AMR was found to be promoted by wastewater from different areas, such as hospital effluents, pharmaceutical production facilities, and agricultural operations. Because antimicrobial-resistant bacteria come from patients and animals (farm and poultry) to these waste materials, where microorganisms get stressful environments (antibiotics, heavy metals, pH, temperature, etc.) to grow, which makes them change genetically to become stronger than before, in such a situation, the development of AMR in wastewater should be considered as a threat to find out some countermeasure (Sambaza et al., 2023).

Another cause of antibiotic-resistant microorganisms in the environment is the excessive and inappropriate use of antimicrobial components in humans, poultry, and agriculture (Pattnaiket al., 2024). Various enteric pathogenic bacteria have been found in treated sewage and biosolids, representing many pathogenic microorganisms. For example, *Leptospira spp.*, *Salmonella spp*., *C. jejuni*, *E. coli*, *Y. enterocolitis*, and *Shigella spp*. are considered significant concerns that could cause disease in the general population. Whereas *B. cereus*, *Enterobacter spp.*, *Klebsiella spp.*, *C. perfringens*, *L. monocytogenes*, *P. aeruginosa*, *S. aureus*, and *Streptococcus spp.* are minor concerns and are thought to be opportunistic pathogens that only cause disease in sick or immunocompromised people (Al-Gheethi et al., 2018).

Generally, worldwide antibiotics have proven to be effective in a similar way. It has been observed that antibiotics reduce morbidity and death from food-borne infections and other infections connected to poverty in emerging nations with still-poor sanitation (Ventola, 2015). Using several antibiotics can change its effects depending on the quality of hygiene. However, in low- and middle-income countries, hygiene may significantly influence the persistence and spread of antantibiotic-resistantcteria within their populations. Moreover, improper sanitation conditions, hygiene, and access to clean water are present in low- and middle-income nations. Similarly, improved household sanitation is very much required, including removing waste materials from the floor, proper and timely disposal of waste materials, and cleanliness in public toilets provided with clean water and hand washing (Ramay et al., 2020).

Improved and effective hygienic practices and infection control strategies, such as immunization, can stop the spread of resistant bacteria and slow down the need for antibiotics for antibiotics. Water, sanitation, and hygiene practices can avoid infections in communities and households. Hand washing can decrease the risk of respiratory infections and prevent diarrheal

episodes. Therefore, maintaining cleanliness is essential to limit the spread of antibiotic resistance (Essack S., 2021).

Misuse of antibiotics and the issue of antibiotic resistance may result from a lack of knowledge about antibiotics and antibiotic resistance. It has been suggested that efforts should be made to raise awareness and alter community antibiotic usage behaviour, including television and essential health information providers like healthcare professionals (Ulaya et al., 2022). Thus, antibiotics should be used properly and timely, along with proper sanitation and hygiene, to control the antibiotic resistance problem.

Materials and Methods:

Collection of samples:

Soil sample was collected from nearby dump yard areas to get antibiotic (Streptomycin) resistant bacteria. Standard streptomycin antibiotic was purchased from a local pharmacy shop.

Isolation of bacteria:

Isolation of streptomycin-resistant bacteria was done by using the agar dilution method. The soil dilutions were prepared in distilled water from 10^{-1} to 10^{-9}. After dilution, 0.1ml of the sample was spread on nutrient agar plates containing streptomycin antibiotics. The sample was spread on culture plates by using a sterile glass spreader aseptically. Then, the petri plates were kept for incubation at 37^0C overnight. After incubation, plates were observed for the growth of microorganisms, and isolated bacterial colonies were picked and then sub-cultured by using the streak plate method to get pure culture (Barale et al., 2022; Parulekar et al., 2019; Mahmud, Md. S. et al., 2023).

Results and Discussion:

Using samples collected from a nearby dump yard area, primary screening of streptomycin-resistant bacteria was done using the agar dilution method.

Fig. 4 (a)

Fig. 4 (b)

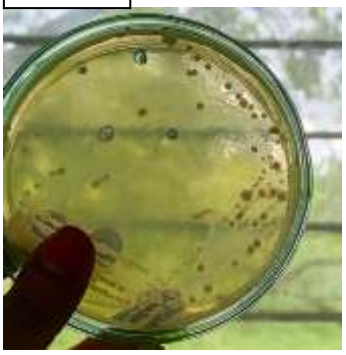

Fig. 4 (a) - Primary screening of streptomycin-resistant bacteria isolated using agar dilution method.
Fig. 4 (b) - Isolated streptomycin-resistant bacteria using streak plate method.

After the isolation of different streptomycin-resistant bacteria, the genetic sequence of isolated bacteria could provide information about the mutations and the targets for reversion of resistance using sequence analysis methods. Further, bioinformatics techniques provided the interactions between enzymes responsible for the streptomycin-resistant bacteria and streptomycin antibiotic (Parulekar et al., 2018; Paymal et al., 2023). This information will be used to screen the new drug molecules by using various bioinformatics methods, as explained in an earlier study (Parulekar et al, 2018; Barale et al., 2019; Jalkute et al., 2015).

Conclusion:

In the present study, we isolated streptomycin-resistant bacteria and studied interactions between the antibiotic and antibiotic-resistant bacteria. The collected samples from the nearby dump yard site showed streptomycin-resistant bacteria. Thus, in such areas, proper sanitation and hygiene must be maintained to prevent the spread of such antibiotic-resistant bacteria. Also, spreading

awareness about antibiotic resistance through programs, advertisements, and other possible ways to promote better health is necessary.

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POLICIES GOVERNANCE AND SANITIZATION: CRITICAL PERSPECTIVE

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Abstract

In the changing world, dramatic changes are taking place in the fields of science and technology, and they have been impacting the social and cultural lives of people around the globe. In recent times, the change in the democratic social order has been to bring change in the lives of people and the welfare of all by creating an egalitarian society. Countries of the World are connected through trade, commerce, services, technology and the mutual exchange of ideas for further development, impacting the culture of many groups and communities. We are living in a multicultural and plural society. However, these processes have created new inequalities in society's social and economic spheres. Inequalities in the financial sphere can be understood by categorising world countries as developed, developing, and underdeveloped, as well as by using theories of economic development, such as the development of underdevelopment, core and periphery, and so on. Cultural changes can be understood through changing culture in the everyday lives of youth and people. Despite the advantages and disadvantages of globalization, it has become inevitable for human development worldwide. The priority in the Globalization process is trade and commerce, but recently, the service sector has become part of the global agenda. In addition to this, globalization is also encouraging the exchange of ideas in cultural exchanges such as music, films, literature, and so on, and it has impacted many societies. However, it is uneven across the globe. Developed countries with high per capita income and Gross Domestic Product (GDP) have invested considerably in social and economic infrastructure, i.e., education, health, research, banking, and free trade. Ultimately, their standard of living has gone high. As a result, developed countries are becoming role models for others, such as underdeveloped countries of the world, for their developmental inspiration. In this paper, an attempt has been made to understand the concept of Sanitation and its importance from a sociological perspective, given the changing social order in India and its vision for a developed country.

Introduction

The nature of all human societies continuously evolves. As a result, new situations and conditions emerge, and researchers and academicians define and conceptualize them in the given context. The concept of change and development has also evolved through different periods of human history and has various causes and consequences. Democratic governance is a critical term that includes responsibility, accountability, responsiveness, and participation by the state and people for the development of society. In his book Theoretical Anthropology, David Bidney (1960) observes *the problem of man and the human world and further elaborates that man has always been a problem to himself. Throughout the ages, he has sought to understand himself and lead a harmonious existence in a society of men. Psychologically, man is a problem because he alone can reflect upon himself and his experiences. Man is also a rational animal because he can conceive concepts or meanings with universal significance*. As Malinowski, *in particular, has pointed out, culture enlarges the scope of human freedom through the invention of artefacts which enable man to increase the range of his activities as well as his efficiency and to control the forces of nature by adapting them to the satisfaction of human needs and desire*. It is also noted that in all cultures, whether primitive or civilized, there is a necessary tension between the spheres of natural and cultural liberty since every cultural system tends to prohibit some forms of activity which the average individual would fain gratify at one time or another. It is evident that in the past, different cultures have produced various kinds of civilizations worldwide. Some have advanced continuously, and some have been ruined /diminished because of human intervention or environmental issues, but sanitation was not the core issue. Indus civilization was one of the historically cited civilizations that paved the way for understanding human culture and society in the past and created consciousness about cleanliness and sanitation. The Enlightenment and French Revolution have made huge impacts on human life, and it has resulted in revolutionary changes in the social and economic order of the world. Slavery and feudalism have been abolished, and people around the globe are accepting democracy as a form of government that has been created. These changes have

enabled all who are capable of new impressions and fresh thought, some modification of former beliefs and hopes and new passion and vision to be accepted about change and development in society. People who sacrifice and save money for other purposes, i.e., children's education and good life, shall not be eaten away by unnecessary health complications because of sanitation issues.

Asian Development Bank report (2009) India's Sanitation for All: How to Make It Happen observes that providing environmentally safe sanitation to millions is a significant challenge. It raises apprehensions because the task is difficult in a country where introducing new technologies can challenge people's traditions and beliefs. This report examines the current state of sanitation services in India and offers six recommendations that can help critical stakeholders work toward universal sanitation coverage in India: scaling up pro-poor sanitation programs, customizing investments, exploring cost-effective options, applying proper planning and sequencing, adopting community-based solutions, and forging innovative partnerships. This empirical study helps us to understand the accurate picture of sanitation in India in a given context.

Ashish Saxena (2015) argues that excluding safe water and basic sanitation destroys more lives than any casualty. As an Instrumental exclusion, it reinforces the deep inequalities in life chances and lifestyles that divide countries and people based on spatial, wealth, gender, caste, and other markers for deprivation. His work emphasizes that sanitation is a buzzword for various development policies and planning, ensuring community participation. The compilation modestly attempts to broaden the horizon of sanitation beyond physical and environmental cleanliness and hygiene. It highlights that the social science academia needs to encompass sanitation discourse on diverse juxtaposed issues such as justice, empowerment, subaltern, multiculturalism, and social inclusion.

Akram, Mohammad. (2015) argues that conceptual and theoretical formulations are necessary for studying sanitation. It develops some postulates that lead us to the various visible and invisible dimensions of sanitation. It uses data from multiple national and global agencies and presents a paradigm for the Sociology of Sanitation. It examines how the sanitation situation prevailing in developing countries is not a replica of the sanitary environment prevailing in the Western industrialized nations. Lack of sanitation increases the disease burden and cost of healthcare and decreases human capabilities, causing substantial economic loss and social disparity. Denial of appropriate sanitation facilities denies aspirations and opportunities for liberty, equity, freedom and social justice. The worst victims of inadequate sanitation facilities in India are the people belonging to the socio-economically backward states. The members of socially disadvantaged groups witness multiple deprivations related to sanitation. However, irrespective of caste, class, religion or region, the women and children are the ultimate sufferers. The effort of the present author is to widen the sociological imagination related to sanitation by considering the gaps between the welfare agenda of democratic countries and the inadequate implementation mechanisms. It conceptualizes the notions of planning deficit, development deficit, and contestation deficit, and it deconstructs the discourses built on historical, cultural, and administrative worldviews.

B.K.Nagla (2020), a well-known sociologist, Observes in his article on sanitation that although sanitation is a core element of healthy family and community life and an important indicator of social development, it has yet to receive the sociological attention it deserves. Based on an analysis of both rural and urban areas cutting across diverse social groups, this article shows that sanitation in India is not only a rural but also an urban problem, particularly in the context of growing industrialisation, coupled with concomitant rapid urbanisation and expansion of cities. The article unveils the link between poor sanitation, especially the preference for open defecation among rural folks, and peoples' practices and perceptions deeply rooted in cultural norms. Ultimately, it is argued that it is not the resources but rather the beliefs, practices and customs of people related to health and the environment that matter in improving the sanitary conditions in India. He makes a unique contribution to the field of sanitation studies.

Sudhanshu Shekhar (2023) elaborates on occupational competence and division of labour in India, historically linked to social institutions of caste, class, and gender. Labour related to sanitation and waste disposal has perpetually been assigned to the most backward caste groups. The reality of the caste system and the hatred of upper caste groups from any physical contact with dirt and human waste or with people dealing with waste and sewage has had many implications for the state of sanitation and cleanliness in India. The national policy on sanitation and its flagship program, the Swachh Bharat Mission (SBM), in his view SBM, seems to ignore caste reality and the conditions of people involved in waste and sanitation-related activities in India. Good governance may help to reduce the exploitation of lower caste labour in sanitation, but the government is outsourcing such activities to private players/ contractors.

Conceptual understanding

At the outset, understanding the meaning and definitions of sanitation and related concepts in the present context is essential and necessary. To understand the nature and scope of any field of specialization within the discipline of humanity faculty or the subject. it is essential to understand the basic that concepts that evolved over a period involves a involved in analyzing the field. Since the issue of sanitation was severe in nature and scope in primitive and industrial societies of the world, it was initially defined as a pioneering effort in Western countries. The European Commission (hereafter E.C.) report 2018 defines Cleanliness as purifying the visible dirt in the production area using water, air and various chemical materials in the bakery sector. It also defines hygiene as cleaning an environment of all sickness factors that may cause health problems. The hygiene process involves all the precautions to be taken to reduce microorganisms.

Further reports define sanitation as creating a clean and hygienic environment and making it sustainable. The E.C. report also clearly defines the terms hygiene and sanitation. Hygiene is the purification of the environment from microorganisms that cause diseases; on the other hand, sanitation is the measure taken for cleaning and hygiene. Sanitation is the purification of foreign substances, microorganisms, drugs, cleaning agents, and all visible sources of pollution from the production environment.

The World Health Organization (WHO) defines "sanitation" as follows: "Sanitation generally refers to the provision of facilities and services for the safe disposal of human urine and faeces. The word 'sanitation' also refers to maintaining hygienic conditions through services such as garbage collection and wastewater disposal."

Oxford Advanced Learners Dictionary defines sanitation as the equipment and system that keep places clean, especially by removing human worth.

All these above concepts and definitions provide us with an understanding of the terms, but they have socio-cultural significance in practice. In the Indian context, in the past, the basis of social stratification (a division of Labour) was the caste system, which was based on unequal status and denied the freedom to practice the occupation of choice, which had enormous consequences on the social order in India. The fact of the matter is that lower caste people in India undertake maintenance of Public hygiene and sanitary work. Louis Dumont's (1966) concept of purity pollution provides a significant understanding of the issue.

World view of Nature and Scope of the issue of Sanitation

The man (human) is a social animal, and its survival is collective. Man can live alone but cannot survive in isolation. The second thing is that to survive, man has to be involved in productive activities through which he can satisfy his basic needs. He has to struggle with the existing social order and external environmental conditions to lead his life. All societies have a system of division of labour based on class, gender, race or caste in the Indian context to some extent today to maintain functional relations in the social order. The ultimate aim of human activities in society is to make society livable. Still, realities are peculiar in all societies, creating hurdles to developing homogeneity and reaching a

consensus for the goal. As a result, we can see differences and inequalities between different cultures and societies. However, after the end of the Second World War, attempts were made to address issues of development, humanitarian crises, and justice in international forums such as the United Nations and other developmental agencies. As a part of the development agenda, recently, In December 2006, the United Nations General Assembly declared 2008 "The International Year of Sanitation" in recognition of the slow progress towards the MDG sanitation target. The year aimed to develop awareness and more actions to meet the target. In 2010, the U.N. General Assembly recognized access to safe and clean drinking water and sanitation as a human right and called for international efforts to help countries to provide safe, clean, accessible and affordable drinking water and sanitation. In September 2015, the United Nations General Assembly adopted the 2030 Agenda for Sustainable Development. This includes 17 Sustainable Development Goals (SDGs). In 2016, the 'Sustainable Development Goals' replaced the Millennium Development Goals. Sanitation is a global development priority and is included in sustainable development goals. The target is about "clean water and sanitation for all" by 2030. It is estimated that 660 million people still lacked access to safe drinking water as of 2015. The goals build on the vital principle of "leaving no one behind" and emphasize a holistic approach to achieving sustainable development for all. Goal 1: No Poverty aims to end all its forms everywhere (eradicate extreme poverty currently measured as people living on less than $1.25 a day.) because poverty is the biggest form of social and economic deprivation of man. 2: Zero Hunger aims to end hunger, achieve food security and improved nutrition, and promote sustainable agriculture. Despite green revolutions and other developments in agricultural production, people were not guaranteed food supply 3: Good Health and Well-being aims to ensure healthy lives and promote well-being for all ages. The few people's Affordability and access to quality health services were limited 4: Quality Education Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all. Education is basic to human development so access quality and equity in education was important 5: Gender Equality is critical parameter to achieve gender equality and empower all women and girls is essential because half of the human population consists of women which cannot be ignored 6: Clean Water and Sanitation Ensure availability and sustainable management of water and sanitation for all 7: Affordable and Clean Energy Ensure access to affordable, reliable, sustainable and modern energy for all 8: Decent Work and Economic Growth Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all 9: Industry, Innovation and Infrastructure build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation 10: Reduced Inequality Reduce inequality within and among countries11: Sustainable Cities and Communities Make cities and human settlements inclusive, safe, resilient and sustainable12: Responsible Consumption and Production Ensure sustainable consumption and production patterns13: Climate Action Take urgent action to combat climate change and its impacts 14: Life Below Water Conserve and sustainably use the oceans, seas and marine resources for sustainable development 15: Life on Land Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss 16: Peace and Justice Strong Institutions Promote peaceful and inclusive societies for sustainable development, provide access to justice for all and build effective, accountable and inclusive institutions at all levels 17: Partnerships to achieve the Goals Strengthen the means of implementation and revitalize the global partnership for sustainable development. To realize all these seventeen goals, grassroots-level participation and coordination are essential, which is very critical because of the diversified nature of societies and communities across the world.

World Health Organization and Sanitation

WHO works with partners on promoting practical risk assessment and management practices for sanitation in communities and health facilities based on evidence and tools, including WHO

guidelines on sanitation and health, safe use of wastewater, recreational water quality and promotion of sanitation safety planning and sanitary inspections, and through communities of practice

Latest Key facts about Global sanitation Scenario

1. In 2022, 57% of the global population (4.6 billion people) used a safely managed sanitation service.
2. Over 1.5 billion people still lack basic sanitation services, such as private toilets or latrines.
3. Of these, 419 million still defecate in the open, for example, in street gutters, behind bushes or into open bodies of water.
4. In 2020, 44% of the household wastewater generated globally was discharged without safe treatment *(1)*.
5. At least 10 per cent of the world's population is thought to consume food irrigated by wastewater.
6. Poor sanitation reduces human well-being and social and economic development due to impacts such as anxiety, risk of sexual assault, and lost opportunities for education and work.
7. Poor sanitation is linked to transmission of diarrheal diseases such as cholera and dysentery, as well as typhoid, intestinal worm infections and polio. It exacerbates stunting and contributes to the spread of antimicrobial resistance (WHO-2024).

The benefits of improved sanitation extend well beyond reducing the risk of diarrhoea. These include:

a) reducing the spread of intestinal worms, schistosomiasis and trachoma, which are neglected tropical diseases that cause suffering for millions;

b) reducing the severity and impact of malnutrition;

c) promoting dignity and boosting safety, particularly among women and girls;

d) promoting school attendance: girls' school attendance is mainly boosted by the provision of separate sanitary facilities;

e) reducing the spread of antimicrobial resistance;

f) potential safe recovery of water, nutrients and renewable energy from wastewater and sludge; and

g) potential to increase overall community resilience to climate shocks, for example, through safe use of wastewater for irrigation to mitigate water scarcity.

Cultural Diversities and Development Strategies in India

India is known for its unity in diversity; diversity is its beauty, and unity is strength. Indian society witnesses all forms of culture, i.e. folk culture, mass culture and popular culture. All cultures play an essential role in a country's social and cultural life and its development policies. Cultural diversity provides resilience in every field of social life in India. Pundit Nehru's (1947) speech 'Tryst with Destiny' to the Indian Constituent Assembly in Parliament just before midnight on August 15, 1947, as India became free, is considered one of the greatest speeches of the 20th century. It gives a lively picture of the historical richness of India. It expresses his hope for an equally great, if not more excellent, future for India, forged by the sacrifices of Indian freedom fighters and the work of new Indian citizens, which inspires many even today.

India has made tremendous progress in all fields of life since its independence through planned development through the capitalist-socialist mixed model of development. India was inspired by the vision of social reformers like Dr Babasaheb Ambedkar, who was a humanitarian scholar and a strong supporter of social democracy in India. He was against caste-based social order and had a vision that all people's participation in the development process would prosper India. Mahatma Gandhi talks about Swaraj, meaning self-rule and self-restraint and not freedom from all restraint, which independence often means. According to him, Swaraj means the government of India by the consent of the people as ascertained by the most significant number of the adult population, male or female, native-born or domiciled, who have contributed by manual labour to the services of the state and who have taken the

trouble of having registered their names as voters. He finally says true Swaraj is to be obtained by educating the masses about their capacity to regulate and control authority.

In today's context, India is a developing country aspiring to become a developed nation in 2047, tentatively after 200 years of independence. Accordingly, union and state governments are making and implementing policies. However, the country has been facing persistent problems of poverty, social inequality, malnutrition, unemployment, and inflation since its independence. To overcome these problems, nations need proper planning and agenda given Sustainable Development goals to achieve them. It will automatically help us create a healthy environment conducive to human development. Government of India, specifically to address the issue of sanitation as an essential national issue ena, the National Urban Sanitation Policy in 2008, envisaging access to water facilities and sewerage and on-site sanitation facilities to 100 per cent of the urban population before the Millennium Development Goal Target 2015. The policy vision for urban sanitation was "All Indian cities and towns become sanitized, healthy, and livable and ensure and sustain good public health and environmental outcome for all their citizens with a special focus on hygienic and affordable sanitation facilities for the urban poor and women." However, very few cities have achieved this target because of illegal slums and the growing population. Still, cities consistently aspire to achieve the aim set in the policy.

In view of this, to bring social and economic equality in the development field, the Government of India established the Planning Commission of India in 1950, the National Institution for Transforming India NITI Ayog 2015, to plan national development plans. Ministries like Health and Family Welfare, Environment and Climate Change, Rural Development, and Urban Development have improved sanitation in India. Some of the programs developed and implemented by the Union and State government whose outcomes are excellent and positive but need to be strengthened further are as follows.

Government of India Integrated Low-Cost Sanitation Scheme-1980-81(ILCS), Central Rural Sanitation Programme (CRSP) was launched in 1986 Jawaharlal Nehru National Urban Renewal Mission2005 (JNNURM), Valmiki Ambedkar Awas Yojana-2006(VAMBAY), National Urban Sanitation Policy, 2008 (NUSP), National Action For Mechanized Sanitation Ecosystem (NAMASTE)2023-24, Swachh Bharat Mission –Urban:2014, Government of India Smart Cities Mission 2015, Atal Mission for Rejuvenation and Urban Transformation (AMRUT)-2015-2021,

Challenges and Conclusion

The sanitation situation in rural and urban India is improving with several initiatives at the government and local levels. Still, only some sectors indicate a long way to go to achieve total sanitation in rural and urban India. The situation in urban areas, particularly in dense, low-income and informal areas, is a growing challenge as sewerage is precarious or non-existent, space for toilets is at a premium, poorly designed and managed pits and septic tanks contaminate open drains and groundwater and services for faecal sludge removal are in some cases are unavailable or unaffordable. Inequalities are compounded when sewage is discharged into storm drains and waterways, polluting poorer, lower-lying city areas. The effects of climate change – floods, water scarcity dro, drought, and sea level rise are setting back progress for the billions of people without safely managed services and threaten to undermine existing services if they are not made more resilient. Traditional rural areas are congested and crowded, so there is a need for an independent policy to resolve issues in rural areas of the country.

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GENDER DISPARITIES IN ACCESS TO WATER AND SANITATION IN KARNATAKA, INDIA: A SOCIOLOGICAL PERSPECTIVE

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Abstract

This paper compares the gender gaps in access to water and sanitation based on an assessment of the data provided in the National Family Health Survey, NFHS-5, and United Nations reports on SDGs regarding the Indian state of Karnataka. It indicates vast discrepancies between male-headed and female-headed households, with the latter having lower access to improved drinking water and sanitation facilities, particularly in rural areas. The research also incorporates feminist theory, social constructionism, and intersectionality to make sense of such findings within broad systems of inequality that perdure at the societal and cultural levels. Case studies from Karnataka demonstrate the real-life implications for women's health, safety, and economic opportunities due to inadequate water and sanitation facilities. The study puts a premium on the need to protect women with gender-sensitive policies and programs that will help them improve their status and have better positions vis-à-vis equality of access to resources. More fundamentally, policies addressing the challenges women face, particularly in the most disadvantaged communities, are more likely to promote inclusive and sustainable development. In conclusion, it has been inferred from this study that attaining gender equality about access to water and sanitation facilities in Karnataka would be impossible to achieve without a multi-pronged strategy that combines economic empowerment, culture change, and focused intervention.

Keywords: *Gender Disparities, Water, Sanitation, Karnataka, Feminist Theory, Intersectionality*

Introduction

Background Information: The Significance of Access to Water and Sanitation in Gender Equality

Gender equality is inextricably linked to access to safe water and facilities for hygiene, which means its denial is depriving women and girls of their health, education, and productive time. Currently, 2.1 billion people worldwide do not have access to safe drinking water at home. 2.3 billion people have no basic sanitation facilities, and 1 billion practice open defecation.

The group of people who seem mostly affected by the lack of water and sanitation is women and girls, who are victims of special reproductive health needs as well as of traditional roles of water collection and household chores. Wasting time getting water does not allow enough time to study and engage in economic activities. In four out of five households where the source of drinking water is located far away, it is mainly women and girls who bear the burden of spending their time going to fetch water, putting them at significant risk to their physical health and lowering their available time for education or economic activities (Kayser et al., 2019). The Sustainable Development Goals (SDGs) reveal the interrelationship between the goals of gender equality and clean water and sanitation. Target 6.2 of the SDGs spells out the importance of equitable, safely managed sanitation and hygiene, paying due regard to the needs of women and girls (Kayser et al., 2019).

Besides, without proper sanitation facilities, a heightened risk of vulnerability to gender-based violence is likely. Often, there is a risk of harassment and assault of women and girls due to the distance they have to walk to a shared or a public facility; they can't afford to wait till morning for their relief. The fear will hinder their movements, with further limits encountered in potential opportunities that may be within their reach for either education or employment. In summary, access to water and sanitation is one significant step in realizing gender equality. It not only has health benefits but also empowers women by liberating time for education and productive economic activities while at the same time making them less vulnerable to acts of violence (Kumar et al., 2024). Gender-transformative WASH programming needs to be aware of these gender dynamics with an explicit goal of influencing vital social norms that perpetuate gender inequalities in the process.

Overview of Demography and Socio-Economic Context of Karnataka

Karnataka is a state in southern India characterized by a wide range of demographic and socio-economic features. According to the 2011 Census in India, the state had an approximate population of around 61 million individuals, making it the eighth most populated state in the country. The state occupies a total land mass of about 191,791 square kilometres, with a population density of about 319 people per square kilometre (Ningegowda, 2018).

Demographic Characteristics

The people of Karnataka are characterized by marked demographic diversity. The state's sex ratio is relatively balanced, with approximately 973 females per 1000 males. The state has a literacy rate of 75.36%; male literacy rates are 82.47%, and female literacy stands at 68.08% (Megeri & Kumar, 2018). Karnataka is currently encountering the two most vital trends of mortality and fertility decline associated with improved health facilities and living standards. The present transformation in the demographic structure places the state in the third stage of demographic transition, which embodies the indications of a mature population with birth and death rate declines (Rayappa, 1998).

Socio-Economic Context

Dynamism in the economy is crucial in Karnataka due to the contribution of the large sectors of agriculture, industry, and services. The state's Gross State Domestic Product growth rate has always been higher than the national rate due to the behavior of the industrial and service segments of the economy (Malleshappa, 2023).

Agriculture:

Agriculture is one such player that remains significant there and employs the state's major portion, especially rural areas. The state is affected by different social problems like water scarcity and farmers' distress, which has turned many regions into hubs of farmer suicides (Sangalad, 2012).

Industry and Services:

Shape Karnataka as the 'Info Tech' leader in IT and BT, with Bangalore being heralded as the IT capital of India. In addition, the state has a healthy manufacturing base in the sunrise industries of electronics, textiles, and automobile components.

Urbanization in Karnataka has been rapid; the urban population has increased manifold in the last few decades. As of 2011, the state's urban population is about 38.67% of the total population. The capital city, Bangalore, has a large share of this urban growth; urban primacy is very high in this city within the state (Eswar & Roy, 2018).

Regional Disparities

Although the economic condition has increased, regarding socio-economic development, crucial regional disparities could be understood within the state of Karnataka. Infrastructure, healthcare, and education lag in districts in the northern part, such as Raichur and Yadgir, compared to the better-developed districts, namely Bangalore and Mysore (Ramesh et al., 2016).

Karnataka's demographics and socio-economic setting indicate that it is a state of great potential and considerable challenges. Equity in regional development and inclusive growth will remain crucial to the state's further growth in the years ahead.

Statement of Research Objectives and Questions

Research Objectives of the paper are to

- Estimate the extent of the gender gap in accessing water and sanitation facilities in Karnataka using secondary data from NFHS and United Nations SDG reports.
- Find out the specific constraints women and girls are experiencing while gaining access to water and sanitation facilities in Karnataka's rural and urban spaces.
- Analyze the socio-economic impacts of inadequate access to water and sanitation on women's health, education, and economic opportunities in Karnataka.
- Understand different socio-economic groups whose impacts differ across the state.

Examine extant policies and projects on the provision of improved access to water and sanitation in the state of Karnataka towards their effectiveness in tackling gender disparities.

- Explain the findings of applying sociological theories of feminist theory, social constructionism, and intersectionality in a manner that gives better insight into the dynamics of gender involved in this access to water and sanitation.

Research Questions:

- What are the existing levels of access to water and sanitation facilities among men and women in Karnataka?
- What are the barriers that specifically disadvantage women and girls in accessing such facilities?
- What are the long-term social and economic impacts on women if denied access to potable water and sanitation?
- How can sociological theories, such as feminist theory, social constructionism, and intersectionality, explain gender disparities in access to water and sanitation in Karnataka?
- What cultural practices and social norms identify or are related to access to water and sanitation for women?

Through these objectives and questions, the research attempts to provide insight into the gendered dimensions of water and sanitation access in Karnataka for a more appropriate and effective solution in policy terms.

Literature Review

Overview of literature, both globally and nationally, about gender equality and access to water and sanitation.

The discussion in the literature on WASH services that affect and are affected by gender equality and time used by women and girls is extensive and multi-angled, providing evidence of significant global and country-level gaps. Access to safe water and adequate sanitation is a basic human right necessary for achieving gender equality. However, 2.1 billion people are at a serious risk of having no access to safe drinking water at home, and 2.3 billion lack basic services of safe sanitation. It is a situation that directly impacts women and girls because of their traditional roles in fetching water and attending to domestic chores. These activities mostly rest on women and girls, leading to serious health problems, such as spinal injuries and neck pains, among other physical ailments, including spontaneous abortions.

Furthermore, the time spent in this area reduces opportunities for education and productive economic activities, thus sustaining gender disparities. In many developing countries, inadequate sanitation facilities also have implications for gender-based violence. Women and girls face increased risks when they have to make long-distance travel for water or sanitation and become easy prey for harassers and assaulters. This, therefore, robs them of yet more chances for better education access and that of the economy (Kayser et al., 2019). It was cited, for example, in studies done in Ethiopia, India, and several camps of refugees that a history of sexual harassment and assault was attributed to that associated with poor sanitation facilities. Making WASH programs responsive to the needs of women has very definite, critical national implications. In India, for example, the involvement of women in water and sanitation management directly impacts women's health, economic status, and empowerment. The participation of female perspectives in the planning and realization of WASH programs will lead to their effectiveness and attainment of more excellent gender balance. In programs where women participate in the making of decisions and even leadership, there are better outcomes realized for WASH and, more so, an improvement in women's social status and a reduction in domestic violence cases. This approach is tailored to achieve the SDGs, in particular, SDG 5 (gender equality) and SDG 6 (clean water and sanitation), which identify these issues as interlinked and in need of integrated strategies that are transformative in regard to gender inequality (Crawford, 2020).

Empirical evidence from multi-country studies around the world also sustains the critical role that WASH plays in advancing gender equality. For example, one systematic review showed that WASH programs designed considering women's empowerment and gender-specific needs tend to perform better in health outcomes and social justice. Second, if WASH interventions that are more sensitive to gender reduce the labor burden and increase women's participation in economic activities, then they probably contribute to better health and well-being for the family.

In South Africa, for instance, a gendered analysis of water and sanitation policies observed that all-inclusive methods were critical in addressing women's unique needs and for gender equality. In this research study, the authors argue that access to water and sanitation is not a health issue alone but also a concern for justice and economic development. Relatedly to rural Brazilian communities, research shows that the poor state of water and sanitation facilities heavily affects the women's health and quality of life, thus establishing that policies regarding the same should address these gender-specific challenges (Silva et al., 2020).

The literature strongly and consistently supports the view that WASH programs require gender-transformative approaches. Gender-transformative approaches go beyond simply providing services to challenging and changing the social norms and power structures that uphold gender inequalities. By involving women's voices and addressing their particular needs, WASH programs could make an important contribution toward the attainment of broader gender equality objectives—discussion of relevant UN Sustainable Development Goals (SDG 5 and SDG 6).

The Sustainable Development Goals of the United Nations are an integrated set of global challenges with indicators responsive to the achievement of universal gender equality, access to safe water, and good sanitation. There is a common thread running between SDG 5 and SDG 6 in this regard—they, as such, touch issues that involve women and girls, who disproportionately carry the burdens of unserved or inadequately served water and sanitation services.

SDG 5 aims to achieve gender equality and empower all women and girls. This goal has encompassed some targets that directly work to fight gender-based discrimination and violence for women to participate and have equal opportunities in all aspects of life. Important landmarks are to end all forms of discrimination against all women and girls, eliminate all forms of violence, including trafficking and sexual exploitation, and recognize and value unpaid care and domestic work by offering public services, infrastructure, and social protection policies. It ensures greater empowerment of women and girls by enhancing access to education, health, and economic opportunities at the core of gender equality, says Yimbesalu & Zakus, 2019.

Sustainable development goal number six ensures that there is an availability and sustainable management of water and sanitation for all with targets. Access to clean water and improved sanitation is a principal human right and an indispensable factor for staying healthy, maintaining dignity, and ensuring overall well-being. This includes targets such as: By 2030, realize universal and equitable access to safe and affordable drinking water; progressively improve water quality, including reduction of pollution; ensure sustainable withdrawals and supply of freshwater, addressing water scarcity and substantially reducing those suffering from water scarcity; and dramatically increase water-use efficiency in all sectors while improving quality through pollution reduction. Finally, it seeks to partially improve the involvement of communities at local levels in the management of water and sanitation (Bangert et al., 2017).

Gender and WASH: Overlaps between SDG 5 and SDG 6

The overlaps between these two goals articulate the importance of gender-sensitive water and sanitation. Women and girls are primarily tasked with fetching water for use within their families. Water, safely and reliably provided, lightens the burden on women and, thus, results in improved health through contact with opportunities in both education and employment. Furthermore, making decisions

on water and sanitation management with the active participation of women results in effective and equitable solutions.

Gender perspectives in WASH need to be integrated to attain both SDGs 5 and SDG 6. This is about being gender transformative in all approaches and interventions toward reorienting harmful social norms and power structures as drivers of inequality. Some of the strategies include making WASH facilities safe and accessible for women, addressing gender-specific needs in the design and implementation planning of WASH programs, and increasing women's leadership in WASH at all levels of governance (Devaiah & Keerthiraj, 2021).

The linkage between SDG 5 and SDG 6 is solid. In fact, gender equality is both an instrument and an output of enhanced access to water and sanitation. Addressing women's and girls' particular needs and challenges imposed by water and sanitation is key to reaching broader gender equality and empowerment. Effective performance of these goals will require comprehensive, gender-sensitive policies and programs that secure equity in access to water and sanitation while promoting women's active participation and leadership qualities (Gaur et al., 2023).

Review of past research using NFHS data and UN reports

Reviewing previous studies that have used the NFHS data and United Nations reports, there is a revelation on differentials in gender in relation to access to water and sanitation within India. These studies indicate that poor provision of water and sanitation in the country disproportionately affects women and girls, thereby increasing gender disparities.

A study in Kolar district, South India, has used data from NFHS-4 to investigate WASH practices among adult women. The study found that despite all the efforts in the direction of gender equality, women still bearresponsible for household water procurement, more so in rural than urban areas. This affected not only women's health but also their opportunities for education and economic participation. Overall, as observed by Ramya, Reddy, and Kamath (2020),. This concurs with broader findings from NFHS-4, which estimated that households with improved drinking water sources and sanitation facilities stand at 89.9% and 48.4%, respectively, showing a wide gap in achieving universal access. It signified that there are overwhelming undesirable effects on female children and women, who are the key water collectors in homes where the water points are off the premises. This translates into considerable health burdens in the form of spinal damage and neck strains, and it takes away time that would have been spent on education and wage-earning activities. The study reiterated that alleviation of this gender-specific burden is essential for SDG achievement, particularly SDG 6 on clean water and sanitation and SDG 5 on gender equality (Kayser et al., 2019).

Chatterjee, (2019) et al. The study revealed substantial heterogeneity between constituencies where child stool was disposed of unsafely and where there was utilization of unimproved sanitation facilities. The findings suggest that monitoring at the parliamentary constituency level could thus be rendered more effective by accounting for local critical variability in WASH conditions. Gurung et al. (2023), in their study on the factors that shape access to improved drinking water and sanitation, drew from data from the Indian Human Development Survey. The results showed that improved drinking water was more likely to be accessible in urban households, those with married but uneducated heads of the household, and the forward caste families. Households with female heads who are currently married, have higher incomes, and are outside EAG had better access to sanitation. Further signified by these findings, this goes to show that there has to be some targeting of the policies aimed at improvement in access for the disadvantaged groups in these components (Gurung et al., 2023). One such study was conducted in 2022 by Roy et al., which scored WASH services using NFHS-5 data in the state of West Bengal. The overall results showed that only 33.69% had access to improved drinking water sources, 74.35% had access to hygienic sanitation services, and, clearly, there was a huge gap between urban and rural areas. This study recommended policy actions to increase access to WASH services for rural and disadvantaged populations.

Collectively, these studies have pointed out the critical need of the hour: gender-sensitive policies and programs are required to mitigate the disparities in access to water and sanitation in India. Access to basic sanitation and water services thus stands for public health and is a fundamental step forward for gender equity and the well-being transformation of women and girls.

Theoretical Framework

The theoretical framework basis of this research paper is laid on three major sociological theories: feminist theory, social construction, and intersectionality. These theories support a strong lens in the dissection of the gender disparities in access to water and sanitation in Karnataka, India.

Feminist Theory

Feminist Theory in Relation to Gendered Analysis about Access to Water and Sanitation. The theory explores how social structures and cultural norms perpetuate gender inequalities. It emphasizes recognition of the unique experiences of women and the structural barriers that impede access to resources. Feminist theory also criticizes the patriarchal systems that allocate the responsibilities of water collection and management mainly to women and girls, consequently curbing their educational and economic opportunities and endangering their health. This theory directs to the need for empowerment of women and their participation in decision-making regarding water and sanitation.

Feminist theorists argue that access to water and sanitation is not so much a problem of technology as it is enmeshed in power relations and gender norms. The burden of water collection, as well as the inadequate number of available sanitation facilities, always falls on women, which reinforces the notion of their inferiority in society. These can be redressed only if the patriarchal structures that sustain gender inequalities are challenged and transformed (Hooks, 2000).

Social Constructionism

As a guiding perspective, social constructionism enables an understanding of how established societal norms and shared values shape perceptions and actions with regard to water and sanitation. It is suggested that realities are constructed through the relationships and cultural practices in people's minds, hence affecting how resources are handled and accessed. It further explores the ways in which certain cultural beliefs and practices in relation to water and sanitation situations articulate the roles of the two sexes in acquiring water and maintaining sanitation.

This theory thus comes in handy when one looks at cultural norms that dictate the gender roles within rural and urban-inhabited Karnataka. For instance, the expectation that water fetching should be the role of women is social engineering that reinforces gender inequality. This can, therefore, be the shape of interventions meant to challenge such cultural constructions and, by so doing, change harmful practices to promote more equitable access to water and sanitation (Berger & Luckmann, 1966; Keerthiraj, 2019).

Intersectionality

Kimberle Crenshaw introduced the concept of intersectionality as a critical theoretical framework under which it is observed that different social identities like gender, caste, class, and ethnicity intersect to give different experiences of oppression and privilege. This is significant for analyzing the double disadvantages women from marginalized communities of Karnataka face.

This is how intersectionality can illuminate that gender inequalities in access to water and sanitation are also intersected with, making them even worse because of other forms of social unfairness. For instance, women living within the lower castes or economically disprivileged households may encounter more significant obstacles to accessing clean water and adequate sanitation. In this light, these intersecting oppressions mean that solutions must be multifaceted and responsive to the different needs of diverse women (Crenshaw, 1989).

Together, the intersectional analysis will give a clearer understanding of the divergent experiences of women in Karnataka and the targeted interventions that this research needs to implement in response to the specific barriers faced by different groups. This will ensure that policies and programmes encompass all and that they are treated justly in different social dispensations.

Application of Theories

This study employs the theories described above when analyzing the data on NFHS with UN reports to reveal the structural, cultural, and partially intersecting barriers that women in Karnataka experience in water and sanitation access. The framework of feminist theory draws upon these theories to guide one through understanding patriarchal structures and power dynamics, social constructionism in understanding cultural norms and practices, and intersectionality in ensuring a nuanced analysis of how different social identities intersect to impact access.

This theoretical framework will guide the analysis and interpretation of data within this research, focusing not on disparities but on really pulling beyond the surface to understand what causes them. It will also guide the development of recommendations informed by a clear understanding of gender dynamics and social inequalities.

Methodology

The methodology used in this study is qualitative. This research, therefore, draws on secondary sources to find out about gender inequality in using water and sanitation resources in Karnataka State, India. In the current study, secondary data has been used to permit in-depth analysis of existing information availed from various authentic sources like NFHS and UN reports, among others. The subsequent sections explain the methods adopted for collecting and analyzing the data.

Secondary Sources

NFHS Data: The NFHS encompasses detailed data relating to health and family welfare, with indicators concerning water and sanitation. The newest rounds of NFHS—NFHS-4 and NFHS-5—help draw valuable conclusions pertaining to differences in access to water and sanitation facilities across various regions and demographic groups in Karnataka. This data contains information about household access to an improved drinking water source, sanitation facilities, and related health outcomes.

Academic literature and policy documents:

Literature is reviewed comprehensively, encompassing sources with academic relevance, such as peer-reviewed journals and policy documents. These provide further views and insights into gender and WASH in Karnataka. Studies that have utilized NFHS data and other relevant research will be included, giving context and detail to the analysis.

Thematic and Content Analysis:

Thematic analysis shall be used to identify, analyze, and report patterns within the secondary data. It involves coding data in response to key themes related to gender equity in accessing water and sanitation. These themes could be informed by the content of the reports or from the available literature. Some possible important themes might be the burden of water collection on women, health impacts due to inadequate sanitation, and the intersection of gender with other social determinants such as caste and economic status. Content analysis is used to systemically categorize and interpret the textual data drawn from reports of NFHS, UN documents, and academic studies. It is a method that helps to quantify and analyze the contents' presence, meanings, and relationships of some words, themes, or concepts. The attention will be given to extracting meaningful patterns explaining how gender disparities manifest in access to water and sanitation services.

Comparative Analysis:

Comparative analysis is used to compare the findings from various sources and regions of Karnataka. This allows one to understand regional variations, best practices, and pinpoint areas that require improvement. Comparing data from urban and rural areas can reveal context-specific challenges relating to women in such setups.

Application of Sociological Theory:

The findings from this research are interpreted through the application of the previously described theoretical framework: feminist theory, social constructionism, and intersectionality. Turning to the empirical data and theoretical concepts presented here, this section attempts to provide deeper

insight into the root of gender inequality in water and sanitation access. For example, feminist theory will be used to tease out the patriarchal structures that put women at the helm of activities around collecting water for household use. At the same time, intersectionality will help unpack how multiple axes of identity—for example, gender and caste—come together in a way that impacts access.

Such qualitative methods applied and the use of secondary data sources would enhance the pursuit of an in-depth understanding of how gender dynamics are related to access to water and sanitation in Karnataka. This approach ensures the analysis will be rich with data, complemented by theoretical views and contextual understanding.

Analysis and Discussion

The NFHS-5, conducted by the MoHFW with the support of the IIPS, covers a wide spectrum of health and family welfare indicators, including access to water and sanitation facilities. It will be very useful in policy and program formulation because it captures data at national and state levels, thus allowing a deep exploration of regional disparities.

Access to Water and Sanitation Facilities by Gender (NFHS, Ministry of Health and Family Welfare, 2021)

Region	Area	Gender of Household Head	Access to Improved Drinking Water (%)	Access to Improved Sanitation Facilities (%)
India	Urban	Male-headed	95	88
India	Urban	Female-headed	91	84
India	Rural	Male-headed	85	75
India	Rural	Female-headed	80	68
Karnataka	Urban	Male-headed	96	89
Karnataka	Urban	Female-headed	93	85
Karnataka	Rural	Male-headed	87	78
Karnataka	Rural	Female-headed	82	70

The above table shows sharp contrasts in access to facilities related to water and sanitation, with differences based on the gender of the household head and whether the area is urban or rural—both for the nation as a whole and also for Karnataka.

Sociological Interpretation of the Findings

NFHS-5 data on access to water facilities in Karnataka mirror trends from all across the country of glaring gender gaps. These are continuing inequities that hurt women more than any other group, especially in rural areas. These inequalities can be understood through feminist, social constructionism, and intersectionality theories.

Feminist Theory: It articulates the patriarchal structures and gendered norms underpinning the respective distribution of resources. According to data, access to improved drinking wate,r and sanitation facilities is lower in female-headed households compared to their male-headed counterparts, whether in urban or rural areas. For example, in rural Karnataka, while 87 per cent of male-headed households have access to improved drinking water, only 82 per cent of female-headed households do. The same trend holds for improved sanitation facilities, with access being far lower in female-headed households—only 70 per cent compared to 78 per cent in their male-headed counterparts. These inequalities, in turn, reflect the deep-seated system of barriers faced by women through economic disadvantages and gender-biased social norms that assign more value to men's needs and views.

Social Constructionism: Social constructionism explains how social norms and values define roles and expectations for different genders. This expectation that women should be responsible for collecting water is socially constructed, furthering gender inequality. This norm is so deep-seated in many communities that it becomes very difficult to shift, affecting resource distribution and management. Challenging these norms will require a cultural change that values women's contribution and needs as much as others. For example, while 93 per cent of female-headed households in the urban parts of Karnataka have access to improved drinking water, this is still lower than 96 per cent for male-headed households—showing the underlying gender biases in resource distribution.

Intersectionality: Kimberlé Crenshaw coined the term intersectionality as a framework for understanding how various social identities intersect to produce singular experiences of disadvantage. Indeed, the data reflects that compounding obstacles exist in accessing better sources of water amongst women of low socio-economic status or women belonging to marginalized communities. For instance, access to improved drinking water in rural India is 80 per cent in female-headed households compared to 85 per cent in male-headed households. These intersecting oppressions call for multifaceted solutions that are sensitive to differing needs across different groups of women. In this regard, female-headed households face severe economic constraints, making the installation of improved water infrastructure unaffordable to them.

Policy and Program Implications:

The disparities witnessed here suggest that specific policy interventions will be useful in tackling the problems of female-headed households. Policies should attempt to:

- Provide economic support and subsidies for improving water infrastructure in female-headed households.
- Ensure programs for community water management are gender-sensitive, including women in decision-making.

NFHS-5 Data Shows Huge Gender Gap in Access to Water Facilities Across Karnataka and India. Economic support, cultural change, and more focused policy interventions are needed to bridge these gaps. Noting the socioeconomic and cultural reasons for these gaps, policy framers and implementers can adopt appropriate strategies to enable equal access to water for households of both genders.

Case Studies from Karnataka

Water Supply and Sanitation Sector of Karnataka.

According to Saleth and Sastry, a 2004 study examined the water supply and sanitation sector of Karnataka and found appreciable progress, both in terms of area coverage and consumption targets; however, there were wide variations observed in unsatisfied demand and future water requirements. Therefore, financial capacity and commitment towards reform were assessed, and even in this case, it was felt that sustained investment combined with policy adjustments would be needed to properly meet the sector's challenges.

Proposed Rural Water Supply and Sanitation System for Angadi Village

Shirodkar (2019) did a project on the evaluation of water supply conditions and environmental sanitation in Angadi village, Karwar district. In the research, water quality parameters and pollution indicators were considered with the intention of suggesting a proper water supply scheme for the village. It brought out the need to plan facilities that could ensure better sanitation and reduce environmental pollution, particularly in rural settings where access to potable water is always an issue (Shirodkar, 2019).

Community-Based Cross-Sectional Study in Sullia Taluk

Kaniambady et al. (2017) assessed the household-level drinking water handling and management practices and sanitary practices in Sullia Taluk. Most of the study households used

protected dug wells, although the cleaning of the water storage facilities was not done regularly in many of the households. Health education was thereby realized to develop better practices in water and sanitation to prevent associated diseases.

Gender Analysis in Livestock Production

Shreyansh, in 2018, examined the gender differences in livestock management activities within Karnataka State of India. From these findings, women were involved in activities mostly related to feeding and cleaning sheds, while the men handled income-generating activities. This study identified the need for capacity building by developing the potential of women to reduce these disparities, which would also lead to increasing their participation in decision-making processes about livestock matters.

Water, Sanitation and Hygiene Analysis in Koppal

Nimbannavar and Mane (2022) conducted a cross-sectional study in Koppal that assessed WaSH practices. While most households had a piped water supply and individual toilets, wide gaps existed in water treatment and sanitation management practices. The presence of solid waste around the household compound is one of the factors significantly associated with an increased occurrence of diarrheal episodes. This underlines the need for improved solid waste management and hygiene education.

Impact of Water and Sanitation on Women's Lives

Accessibility to water and sanitation has very deep consequences on the lives of women in low-income settings. The deprivation of proper facilities cuts across and makes more serious gender inequalities for women and girls, thereby impairing their health, safety, and opportunities for economics. On the other hand, one full study provides a conceptual framework to understand the health burden of water and sanitation insecurities on women by examining how these conditions restrict the abilities and function of women. The study identifies eight socio-cultural pathways—gendered relations in the household and gendered presentation of the body—that bring out the risks women face from inadequate WASH conditions. These pathways specify how gender norms and cultural practices burden women and expose them to various WASH-related diseases. They suggest that addressing the issues requires gender-sensitive policies and finance directly channelled to sanitary materials, as argued by Jalali in 2021.

Another study collects the available literature on the WSSCC and presents an empirical basis for stating that centring women's needs in WASH program design and implementation improves their life experience, potential, and opportunities. Women's experience has shown that with women's involvement in decision-making management, there are better results from water and sanitation projects, including enhanced women's empowerment (Fisher, 2008).

Another study is on the intersection of WASH and gender equality, where the intersectionality of the two SDGs—SDG 5 (Gender Equality) and SDG 6 (Clean Water and Sanitation)—is elaborated. It articulates the need to measure and address the specific burdens placed on women and girls, such as the time and physical burden of water collection and the safety risks associated with inadequate sanitation. The study also calls for more disaggregation of research and data by gender to best understand and alleviate such impacts (Kayser et al., 2019).

A study examining the personal impact of water scarcity on women's menstrual health finds that the water crisis is inextricably linked with a rise in bad practices in sanitation and hygiene. Women and girls most often have great difficulty accessing good sanitary hygiene where there is inadequate water, leading to increased morbidity and disease burden. The importance of this study is to address water scarcity with the aim of improving women's health outcomes.

On the other hand, a report posted concerning a study conducted in Punjab, Pakistan, indicates a significant relationship between access to safe drinking water and better sanitation and subjective well-being, particularly among women. In detail, findings suggest that there is much mental stress

among women associated with the bad sanitation infrastructure. Therefore, to improve life satisfaction and reduce stress, improved sanitation is necessary (Ammar & Kouser, 2023).

Inadequacies in sanitation have been studied in India to define the psychosocial stress that it poses among women in Odisha. In the case of a woman's life stage and her living environment, there was an identification of different stressors: most were environmental barriers, some were social factors, and a few were fears of sexual violence. This is why there is a need for context-specific, gender-sensitive sanitation interventions.

The magnitude of the impression of water and sanitation on a woman's life is multidimensional, embracing health, personal safety, economic opportunities, and general well-being. These issues have to be addressed through holistic, gender-sensitive policy choices at all levels and in the implementation of programs to ensure the necessities and views regarding women are at the centre of all WASH initiatives.

Conclusion

It reveals deep-rooted gender inequalities in access to safe water and sanitation in Karnataka, emphasizes how it impacts the life of women, and analyses the data of NFHS-5 that female-headed households, much in rural areas than urban, have access to less better drinking water and sanitation facilities compared to their male-headed households. These findings underscore the systemic barriers and socio-cultural norms that perpetuate gender inequalities in resource access. Viewed sociologically, the application of feminist theory, social constructionism, and intersectionality allows a more sophisticated understanding of how patriarchal structures, cultural norms, and the interplay between the identities of peoples exacerbate such issues. Feminist theory reveals patriarchal structures that dictate water collection as a woman's task, thereby limiting opportunities for women and ensuring a subordinate position. As social constructionism shows how societal norms dictate to gender roles, intersectionality refers to the interaction of multiple levels of oppression, multiplying the challenges women, mainly from marginalized communities, are exposed to.

In Karnataka, the case studies represent more real-life implications of inadequate water and sanitation facilities in women's lives related to health, safety, and economic opportunities. They called out the fact that gender-sensitive policies and programs are needed that do not just necessarily increase access to such services and resources but actually empower women in the direct means of participating in the management and decision-making processes related to their improvement and delivery. These disparities must be addressed on all fronts. Therefore, policies that bring economic support for infrastructure improvement in women-headed households, promote community water management that considers women's needs, and even challenge cultural norms through awareness and education campaigns would be brought to life once implemented. Policies then will enable theetter health, safety, and economic empowerment of women in a capacity that makes sense to encompass broader gender equality furtherInterventionserventions that address the needs and challenges of women in water and sanitation in Karnataka will bring the goal of achieving Millennium Development about water and sanitation closer. This will also support policymakers in developing strategies to ensure equity in access, leading to a fairer and more inclusive society.

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SANITATION ISSUES AND CHALLENGES: WOMEN VENDORS OF SANGALI CITY

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Abstract

Hygiene is a serious issue for women in India. Women have made progress in various fields. However, sanitation is a challenge for women, and if we look at the current state of sanitation facilities for women, we see a need for proper sanitation infrastructure. This lack still poses health risks to women, hindering their social and economic progress.

Maharashtra is the third-largest state in India by population. Women have made progress in various fields in Maharashtra. If we consider women in the field where they work, sanitation facilities distribution is uneven and inconvenient. Sanitation is at the root of many other development challenges. As a result, poor sanitation impacts public health and the environment. In India, you would instantly understand the need for clean toilet facilities. The lack of clean sanitation facilities has been a common cause of many diseases in India.

The title of my research paper is "Sanitation Issues and Challenges: Women Vendors of Sangali City". In this paper, as a researcher, I have focused on studying the working women community, particularly vegetable vendors who used to sell vegetables in the weekly market in Sangali, a city in Maharashtra. This empirical study is based on primary and secondary data, and 70 samples have been selected. The random sample method has been used to select samples. The result of this research study is limited to Sangali city. In this study, the researcher used the interview method to collect data.

The women's community has contributed to the country's economic development. However, this small sample study finds that the lack of proper sanitation and hygiene facilities at the workplace hinders women's work. They face improper sanitation and lack of clean water, which affects their health and sanitation. This research shows that the lack of proper sanitation and hygiene facilities is a serious problem for women, especially vegetable sellers.

This research study concludes that hygiene is a basic need for women in India. For this, it is urgent to improve sanitation facilities and access to clean water and to provide sanitation facilities in areas where women work, particularly vegetable sellers in the weekly markets of cities across the state and nation.

***Keywords**: Sanitation, Issues, Challenges, Women and Venders*

Introduction

Hygiene is a serious issue for women in India. Although women have made progress in various fields, sanitation is a challenge. The current state of sanitation facilities for women shows a lack of proper sanitation. This lack still poses health risks to women, hindering their social and economic progress.

Maharashtra is the third-largest state in India by population. Women have made progress in various fields in Maharashtra. If we consider women in the field where they work, the distribution of sanitation facilities is uneven and inconvenient sanitation is at the root of many other development challenges. As a result, poor sanitation impacts public health and the environment. In India, you would instantly understand the need for clean toilet facilities. The lack of clean sanitation facilities has been a common cause of many diseases in India.

The title of my research paper is "Sanitation Issues and Challenges: Women Vendors in Sangli City". In this paper, as a researcher, I have focused on studying the working women community, particularly vegetable vendors who used to sell vegetables in the weekly market in Sangli city of Maharashtra state. The study examines the challenges these women face regarding sanitation and sheds light on the importance of developing proper sanitation infrastructure in marketplaces. The empirical research is based on primary and secondary data. The researcher used the interview method in this study to collect the data.

Objectives of Research Study:

1) To examine basic sanitation facilities provided to women vegetable vendors in Sangli city,

2) To identify and understand the challenges faced by these women vendors regarding sanitation in their workplace.

Area of Study:

The study is Sangli City in Maharashtra state, where women vendors sell vegetables in the weekly market. Sangli City was chosen as the area of study to gain insight into the specific sanitation issues faced by women vendors in this region.

Sample:

For the research study, the researcher selected 70 women vegetable vendors from the weekly market in Sangli City. The researcher used the random sample method to ensure a representative sample. These women vendors sell vegetables and face the challenges of inadequate sanitation facilities.

Family Background of the respondent:

It is necessary to consider the family situation of women while studying the family background of vegetable sellers.

Table Number 01

Family Background of Women Vegetable Vendors

Sr. No.	Head of Family	Number of Respondents	Percentage
01	Self	40	57.15
02	Husband	30	42.85
	Total	70	100

Due to a lack of time, the researcher wants to discuss all the data in detail. The study finds that 57.15% of women vendors are head of the family, whereas 42.85% of their life partners are head of the family. The data shows that women vegetable vendors take socio-economic responsibility for the family. They are involved in the vegetable-selling business and earn the money to run the family. Hence, their good health is more important for themselves and their family.

Table Number 02

Classification by Marital Status

Sr. No.	Marital Status	Number of Respondents	Percentage
01	Married	30	42.85
02	Widow	25	35.72
03	Divorce	15	21.43
Total		70	100

The data shows that out of 70 women venders, 35.72% lost their life partners, so they are facing the problem of widowhood. Meanwhile, 21.43% are facing the problem of divorce. And 42.85% work with their life partners in the vegetable market.

Table Number 03

Monthly Income of the Family

Sr. No.	Family income	Number of respondents	Percentage
1	5000 -10,000	35	50.00
2	10,001-15,000	25	35.72
3	15,001-20,000	10	14.28
Total		70	100

50 % of families' monthly income is between Rs. 5000 and 10000, while 35.72% is Rs. 10,001 to 15,000. Only 14.28% of families belong to the income group of Rs. 15001 to 20,000.

Comparatively, 14.28 % of Families are getting more income because other family members support the women venders. Second, they have been involved in this business for at least two generations.

Challenges faced by women vendors

1. One of the significant challenges women vendors face is the lack of proper sanitation infrastructure in the green market area of Sangli city. The absence of clean and accessible toilets and urinals affects their ability to maintain hygiene while working.
2. The geographical distance between the green market and sanitation facilities, such as Toilets, Urinals, drinking water facilities, etc., is significant. These are the challenges for women vendors as they cannot access these facilities easily during working hours. The distance creates inconvenience and affects their overall health and well-being.
3. The lack of access to clean toilets has several negative consequences for women vendors. It leads to urinal infections, stones, and other health issues. These problems not only affect their physical but also impact their ability to work effectively.
4. Despite the provision of mobile toilets under the "**Swatch Bharat Abhiyan** scheme," the government has provided mobile toilets to maintain sanitation and hygiene among the public. Still, women vendors do not use them for various reasons. The primary reasons include the lack of cleanliness in the mobile toilets, a shortage of water, and an intolerable dirty smell. These factors discourage women vendors from utilizing the available sanitation facilities.

   A few Important Reasons Are:

   A.) Women vendors are not using mobile toilets because they are not clean: Local Municipal corporations fail to maintain cleanliness and hygiene.
   B.) More water in the mobile toilets.
   C.) Intolerable dirty smell in the mobile toilets.

Conclusion and Suggestions

- Contribution of women vendors to the economic growth of their facilities.
- Women vendors play a significant role in their families' economic growth. However, their health and hygiene are compromised due to the lack of proper sanitation infrastructure in the green market area. It is crucial to prioritize their well-being to ensure their continued economic contribution.
- Health and hygiene are serious issues for women vendors
- The study highlights the importance of addressing health and hygiene as serious issues for women vendors. The challenges they face regarding sanitation. They directly impact their overall well-being and ability to work effectively. Recognizing and addressing these issues is essential to improve their quality of life.
- Developing proper sanitation infrastructure and drinking water facilities in marketplaces is essential.
- Due to women vendors' sanitation challenges, developing proper sanitation infrastructure and providing clean drinking water facilities in marketplaces is crucial. They should improve their health and hygiene and create a conducive working environment.
- Call for action from municipal authorities and government.
- The municipal authorities and government need to take action to address the sanitation issues faced by women vendors. They should prioritize the development of proper sanitation infrastructure and ensure the availability of clean drinking water facilities in marketplaces. They will contribute to women vendors' overall well-being and progress in Sangali City.

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ISSUES AND CHALLENGES IN THE LIFE OF SCAVENGERS OF JAMMU CITY

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Abstract

As everyone in our country knows, the scavengers or Bhangis are placed at the bottom of society. In Dr Ambedkar's words, they are the 'lowest in the system of graded inequality'. They are known by different names in different states: Bhangi, Paki, Madiga, Balmiki, Chuhra, and Mehtar. They have been cleaning latrines and toilets and handling human excreta for centuries. They carried head load for years before modern tools came in and flush toilets became the norm. Jammu has had a history of dry latrines where manual scavenging continued till late. Many of the families involved in sanitation work and the cleaning of toilets have family members, from the second generation to the second generation, who were engaged in manual scavenging. They used to carry the head load and clean the rooftop dry latrines, which used to be a shared site, especially in the old city of Jammu. Bhangis have an occupation that has remained hereditary because their tasks are dirty, and they have to work in appalling conditions, especially during the rainy season. The removal of night soil and refuse and the Hindu society views the cleaning of toilets as a very degrading occupation which constitutes a permanent state of pollution.

Consequently, scavenger and Sweeper communities have been treated as untouchable, unapproachable and unseeable. As in other places, in Jammu city also, the scavengers face several issues and challenges. These include social identity, occupational challenge, untouchability, working conditions, stigma due to dirty occupation, education, poverty, operational space of their work, living conditions, conversion, alternate jobs, etc. Women have a dominant presence in this occupation, thus facing triple discrimination. The present paper brings out these issues and challenges in detail and also looks at many critical questions still looming large over the efforts and initiatives being undertaken for the change. For example, many toilets are being constructed, but who will clean them remains an important question. As it's a paid job, given a choice, how many people from other castes are ready to do this work? Have the Women from this community moved on to better, decent jobs? These and many other similar queries need to be addressed and are taken up. The present work uses case studies and other quantitative methods to explore into the lives of scavengers in Jammu city.

Keywords*: Scavengers, Bhangi, Graded Inequality, Untouchability, Stigma, Identity, Triple Discrimination*

'Dalit life is excruciatingly painful, charred by experiences. We have grown up in a social order that is inhuman. And compassionless towards Dalits.' (Omprakash Valmiki in Jonathan- A Dalit's Life 2007: vii)

'The Officer's wife asked my wife," What is your Caste?" My wife's face changed colour as soon as she heard the question. She looked at me. The atmosphere had been completely spoilt, like a fly had fallen into a tasty dish. Before my wife could say anything, I replied, 'Bhangi'. They lapsed into total silence when they heard the word 'Bhangi'. There was no communication between the two families during the rest of the journey. A wall had come up between us.' (Omprakash Valmiki in Jonathan- A Dalit's Life 2007:133)

In northern India, the scavenging castes are known by different names in different states, like Bhangi, Balmiki, Chuhra, Mehtar, Mazhabi, Lal Begi, and Halalkhor. Many scholars (Shyamlal 1992, 1999, Vivek 1998, Thekaekara, 2005) have described and specified the caste Bhangi engaged as manual scavengers and the historicity of the name Bhangi. Shyamlal (1992) explored the origin of the Bhangi and categorised the explanations into mythological, historical, and anthropological conversion and invasion. 'A caste of the removers of nightsoil and the cleaners of latrines belongs to a well-defined group in the Indian social order. Today, all such workers in India are included under the general nomenclature 'The Bhangi'.

In many places in India, Safai Karamcharis and scavengers are now treated the same, although one needs to understand the distinction between these two. Safai Karamcharis usually include persons engaged as Sweepers or sanitation cleaning workers in municipalities, government offices, and private institutions. They can be permanent or contractual employees working for these organisations. But they are only considered scavengers sometimes. They have been cleaning latrines and toilets and handling

human excreta for centuries. They carried a head load for years before modern tools came in, and flush toilets became the norm. Their inhabiting spaces are generally on the outskirts of villages and towns. Untouchability has been practised against them. They are considered the most untouchable of untouchables, even by other Dalits.

Jammu has had a history of dry latrines where the practice of manual scavenging continued till late. Many families involved in sanitation work and the cleaning of toilets have family members, from the second generation to the second generation, who were engaged in manual scavenging. They used to carry the head load and clean the rooftop dry latrines, which used to be a common site, especially in the old city of Jammu. In Jammu, the scavengers are known mainly by the term Bhangis or Chuhras. Bhangis have an occupation that has remained hereditary because their tasks are dirty, and they have to work in appalling conditions, especially during the rainy season. The removal of night soil and refuse and the cleaning of toilets are viewed by the Hindu society as a very degrading occupation which constitutes a permanent state of pollution. As a consequence, scavenger and Sweeper communities have been treated as untouchable, unapproachable and unseeable.

Historically, the caste system classified people by their occupation and status. Every caste was associated with an occupation, which meant that persons born into a particular caste were also born into the occupation related to their caste – they had no choice. Moreover, and perhaps more importantly, each caste also had a specific place in the hierarchy of social status so that, roughly speaking, not only were occupational categories ranked by social status, but there could be a further ranking within each broad occupational Category. (Shah et al., 2006)

Untouchability is an extreme and particularly vicious aspect of the caste system that prescribes stringent social sanctions against members of caste located at the bottom of the purity pollution scale. Strictly speaking, the untouchable castes are outside the caste hierarchy. They are considered to be so impure that their touch may severely pollute members of all other castes, bringing terrible punishment for the former and forcing the latter to perform elaborate purification rituals; in fact, notions of distance pollution existed in many regions of India, such that even the mere presence of the shadow of an untouchable person is considered polluting. Despite the limited meaning of the word, the institution of untouchability is not just to the avoidance or prohibition of physical contact but to a much broader set of social sanctions.

Traditionally, Shudras and Ati Shudras were denied access to formal education of all kinds, ranging from the ability to read and write to specialised technical training of all kinds. All over the subcontinent, several legends illustrate this fact and speak of aspiring Dalit students being discouraged or excluded from education purely on grounds of their caste identity. The most famous of these legends is that of Eklavya. Such stories are not just part of legends but also our recorded social history. The Caste Disabilities Removal Act of 1850 and the subsequent establishment of schools with government financial support provided opportunities to aspiring Dalit children for the first time in India. The demand by Dalit students for admission to schools increased, but the British administration, under pressure from the upper castes, was not enthusiastic about meeting them. To avoid conflict with the dominant castes, the British government opened 'special' government schools for the Dalits in a few places so that they would not come in contact with the non-untouchables. But these attempts attracted uppercase hostility as they went against the dominant order. (Shah et al., 2006)

Scavengers of Jammu City are a heterogeneous community comprising three religious groups: Christians, Hindus, and Muslims. They trace their origin, depending on the religious group they belong to, like the Christians (the convert Christians) who trace their origin to regions like Sialkot (in Pakistan) and consider themselves the natives; the Balmikis, who trace their origin to Punjab, but now have settled in Jammu since 1957 and the Muslims, who consider their origin in Sundarbani. These scavengers in Jammu city are known by various names like Bhangi, Chuhras, Jamadars, Balmikis, but now they identify themselves as Safaiwalas or by their religious identity like calling themselves, Christians or

Balmikis. As in other places, in Jammu city also, the scavengers face several issues and challenges.These include the question of social identity, occupational challenge, untouchability, working conditions, stigma due to dirty occupation, education, poverty, living conditions, conversion, alternate jobs and so on. Women have a dominant presence in this occupation, thus facing triple discrimination.

Because of their occupation, the scavengers have been shunned by society as polluted people. Although untouchability is illegal and should not be practised, these people still face social exclusion. They have no alternative, but to continue the dirty work. Although they perform a necessary task for the rest of the society, they are still trapped in the vicious cycle of poverty and exclusion. The living conditions in Jammu City have improved for them, but many of them still live in semi-Kachcha houses. Even where the homes and streets are Pucca, cleanliness and hygiene are missing in the colonies. They still live in colonies, which are almost segregated from the rest of the communities, especially in the context of people living with each other.

In Jammu, the Christian scavengers who talk of their conversion argue that untouchability remains to be the main reason for their conversion. As upper caste Hindus would not allow them to be part of any religious celebration and temple entry was also restricted, so they decided to convert to Christianity. For them, Christianity has opened up a lot of practices which they otherwise could not perform. Now, they have their church to go to, where they go for Sunday Mass and other religious occasions. Conversion is an ongoing process for these people. Although conversion has taken away some of the privileges that they could avail otherwise, like the benefit of reservation and scholarships to their children, the humiliation faced by them as Hindus was much greater, so they have given up on these facilities and have made a conscious choice of being Christians. On being asked whether they would come back to the Hindu fold if they are given financial benefits, reservation, and a lot more, they very clearly decline and respond positively about remaining as Christians.

The signs of existence of untouchability in subtle form are numerous in Jammu city. One such meaningful sign is the segregated colonies in which they live; there are identified localities which are their inhabitant places. One does not find these scavengers constructing their houses or living on rent in places other than the colonies where their fellow scavengers live. Some other signs include keeping them excluded from the places and gatherings where upper caste people participate more. Although there is no said rule or practice of not eating together and sitting with them, it is evident that they are not visible in most popular eating places; the reasons also include their economic background and social condition. Thus, the practice of untouchability, although abolished long ago, has not ceased to exist, though it does not have the same intense and visible form that it used to have in previous times.

With the change in the socio-economic conditions of the Jammu society and modernisation coming in, there has been an increase in the demand for domestic helpers who can share and help in performing household chores. The scavengers have made use of this opportunity, and to get a feeling that untouchability is now very less practised, they have entered the households of the upper caste people as domestic helpers. There are a good number of scavengers, especially women who are involved in private domestic households and do a number of cleaning chores. They performed the chores of cleaning the house, cleaning the vehicles, gardening, washing clothes, cleaning utensils, cleaning the bathrooms, and ironing the clothes. A couple of them also helped in the kitchen with the cooking chores. However, cooking and kitchen chores still remain the work that these people are kept away from. The most preferred job of the people who work there is cleaning bathrooms. There is a very clear-cut and said rule that anybody who cleans the toilets and bathrooms cannot do the kitchen work involving cleaning utensils. The majority of the people in Jammu City have flush toilet seats, but even to clean them, they are hired on a private basis as it is considered an unclean, dirty job. In order to overcome the humiliation of untouchability and to get the psychological and mental satisfaction that untouchability is no longer in practice, they started working in the upper caste households as helpers, but they were

prohibited in the kitchen work and preference for cleaning the toilets, again reinforcing the ideology of untouchability practised by the upper castes against the scavenger community, although in a less severe manner. There are households in Jammu city where the old practice of keeping separate utensils like cups, mugs, plates, and tumblers is still practised. Still, some have evolved a refined practice of giving them water in plastic bottles and then not taking those bottles back. Thus maintaining the status quo of keeping the articles they use away. But some of the scavengers do not see this as the practice of untouchability, but feel that it is a modern way and upper caste people are very kind as they even give their bottles away (they tend to even have ignorance about the fact that these bottles are disposable in any case).

Some of the case studies below give greater insight into the life conditions of the scavengers in Jammu and help us understand the different challenges faced by this community.

Inayat Masih

Inayat Masih is a retired Safai Karamchari. Sitting at his house in Bakshi Nagar, a Christian colony, it is a journey through the tough life of a person through his narration. He tries to count his years of life and, with a smile, says, 'around 80 years' He is one of those who came from Punjab in 1957. He is a Christian who goes regularly to church. Remembering his days in Punjab, he recalls that they would work on the land, and the missionaries came at the time of harvesting; they would pray for them and take donations. People would get so influenced by their prayers and their promise of a better life that they would get converted. He says his grandfather also was a Christian, so the religion has come through that. 'Life is much better now; we have seen tough times. When people from upper castes would call us by different names like Bhangi and Jamadar and would practice untouchability in all possible forms, nobody would offer us water or allow us in their premises, we had to stand outside their houses, and people would walk away from us.' He considers the work of a scavenger as the lowest in society, although he says it's not a disgraceful job but an important occupation. 'We have been deprived of many basic facilities, and it is now that my sons have Pucca houses; otherwise, most of our life has been spent in Kachcha houses.' On being asked about the kind of work he has done by him, he speaks after a deep breath, 'I have picked up nightsoil all through my working years. Basket which was used to put night soil and would be lifted on the head, was an integral part of our life. The stigma attached to this work was immense. Even now, people identify us and remind us of those days. To a query about moving out of this job profile, he takes a pause, thinks, and then says, 'very difficult for people who are already into this job…..*Jinhone Ekbar jhadoo pakad liya woh ise kabhi chhod nahin sakte*….. As it labels you, and then nobody is willing to give you another kind of job.' he is optimistic about the young and new generation as he feels 'if our children study and are able to achieve good grades, it would be possible for them to move out of this job.' He is hopeful of change, especially for the younger generation, with abrogation of Article 370.

Maya

Maya is 70 years old. She lives in Bakshi Nagar, a Christian colony. She has retired as a Safai Karamchari from Jammu Municipality. Her husband, Safai Karamchari, who is with the Municipality, died some years back. Maya was a Christian before marriage but became a Balmiki after her marriage; she continued being a Balmiki until recently, when she, her younger son, and his family converted to Christianity. Her marriage had taken place in a church. It has been only a decade since Maya and her family moved to this area. Before this, they were staying in another colony where they had a Kachcha house; now, they live in a Pucca house.

Maya narrates her life story with no regrets. 'I did what God had wanted me to do; the cleaning job gave me money to make both ends meet. Both my husband and I used to carry the nightsoil as a headload. People always called us by other names except our real names. Most of the time, people would address me as Jamadarni. We experienced extreme untouchability from the upper caste people; they would call us from a distance and speak to us from there. We were not given any containers for drinking water; we

used our hands while the upper caste people poured water from the top. We were not allowed inside the house; we would only go to the toilet, collect nightsoil with a spade in the basket and move off. We were considered inauspicious as if anybody going out to do some important work would see us; it was considered a bad omen.' When she was asked about the present times, she very optimistically said. 'Things are much better now. I saw bad times, but now my children, who are doing the same work, are facing better conditions. They don't have to carry nightsoil. The untouchability is practised less. There is no difference, especially in public places. Although I regret my children not studying, in any case, they had to do this job only.' On being asked about her recent conversion to Christianity, she recounts with faith, 'My younger son was not well. I tried all possible treatments and went to all places, including temples, but it was only the prayers in the church by the Father that healed him. So we all started having firm belief and faith in the Pentecostal Church.' Maya leads a retired life and spends most of her time praying and caring for her grandchildren.

Razia

Razia has been working as a Sweeper for the past five years. She works in the university on a daily wage basis. Her husband also works as a Sweeper in the same institution. She took up the job after her marriage, as the lack of resources to run a household made her take this decision. She has three daughters: the eldest is ten, the second is seven, and the third is four. She says that it was for the sake of the son that she kept having children and ended up having three daughters. Her family, which includes her mother-in-law, also believes that her family is still not complete; she still needs to have a son to complete it. Razia complains of a headache, which occurs very frequently. She has a perpetual backache. She does get a medical checkup done in the healthcare available in the institution, but the tests referred are beyond her means. The pressure to produce a male child is tremendous, but her health and financial resources do not permit her to take up the step. She cannot afford to take an off from her duties as this would mean losing on that day's salary in which she remains absent. Her husband also has a frequent complaint of a severe ache in his leg, needing a lot of medical attention. She has already spent a lot of money on his medical care, leaving her in debt, but she is still working every day to meet her needs. She doesn't think of changing her job, as she is not educated and knows well that it is not possible to pick up any other job once one gets into the Sweeper's job. She takes whatever used clothes and footwear is given to her. The other employees of the institution help her meet the needs of her children as she constantly needs help from wherever possible. She is educating all her three daughters and has admitted them in a private school. She wants them to be educated enough so that they don't need to take up a sweeper's job and can support themselves through better earnings and a better job. However, she finds the life difficult (mainly because she does a job which doesn't have a good status in the society) but is still hopeful of better times. For Razia, better times mean the day when she gets regularised at the same job.

Raja

Raja's case is unlike others; he is a specialised scavenger. He has been cleaning the private houses' septic tanks and those in the public area. Since the time he remembers, he is much sought after for his job. It is tough to communicate with him as most of the time, he is under the influence of alcohol. Given the kind of job that he does, it is necessary to be under the influence of some drug or alcohol. Raja considers himself to be a specialised person as his job cannot be performed by every scavenger. He says this with a sense of pride that he can easily solve the problems in cleaning septic tanks, like blocked pipe, pipes, et cetera, which otherwise is very technical work. There are problems that even engineers cannot resolve and locate, but he can find the problem in a couple of hours. The only prerequisite that he desires before he agrees to take up anybody's job is a bottle of liquor, and this is in addition to the payment that he gets for doing the cleaning job; he has a very untidy and unclean appearance, which might be a way of keeping himself oriented and ready for the unclean and inhuman

job he has to do. He is aware of the life risk involved in the job, but he still continues to perform the same as he says, *'hum nahin karenge to kaun karega'*

Ruby

Ruby lives in Balmiki colony, Gandhinagar. She does the household cleaning job in two houses. Her job includes cleaning bathrooms, sweeping and mopping floors, and sometimes washing clothes. Her husband is a Safai Karamchari with Jammu Municipality. She has two children who are studying in a private school. She is a Punjabi Balmiki who was married in Punjab but came with her husband to Jammu and, after having children, began doing the household cleaning work. On being asked about her experience related to household cleaning work, she narrates, 'Who would like to do this kind of a job out of choice, it is the difficult economic and social conditions that make us do this kind of work, the houses that I work for allow me to enter their bedroom also, as I have to clean them, but I can't work in the kitchen. I am not allowed to cook as I clean their bathrooms. The salary I get is insufficient, but I need to make both ends meet. They give used and old clothes to me, and they rarely give new clothes.' On being asked who their kitchen works, she replies, 'They have a separate helper who has no scavenging background, although she belongs to a Scheduled Caste family. She does the cooking and cleaning utensils. Even after working inside their bedrooms, we are still kept at a distance and are treated with untouchability. I would never want my children to do this job or take up cleaning jobs with the Municipality. I want my children to be educated and to do some other more respectful job'.

Mariam

Mariam is a frail-looking middle-aged woman involved in the scavenging work with Jammu Municipality on a contractual basis. She lives in a Christian colony, Residency Road, in a very poverty-stricken house whose condition speaks volumes about their living condition. The house is full of worn-out things, boxes and broken things. There are flies all around the house. Mice are running all over the place, and a stream of shrieks and screams welcomes one when anyone enters this house. This noise belongs to the seven children she has: four sons and three daughters. Her eldest child is a daughter in her late teens, and the youngest is a son, about five years old. Her husband is also a contractual sweeper with Jammu Municipality. Her mother lives with her to provide support in taking care of the children. Her eldest daughter is mentally challenged, and it is a tedious task to actually take care of her as she depends on other people for almost everything and every task. When asked about why she went on having so many children, she responds very dejectedly that every time she conceived and went for a medical check in order to terminate her pregnancy, doctors would refuse to terminate the pregnancy due to her poor health. She almost weeps while narrating her experience of painful and troublesome pregnancies where she had to work, look after her children and also cope with her weak and poor health. The contractual nature of her job does not allow her to take even a day off from her work schedule, as that means she will not get wages for the days she does not work. As the family size is large, it is not possible for her to send her children to school. So, none of the children have stepped into the area of education, which means that most of them will do the cleaning job or some similar job. Mariam's husband does not contribute anything to managing household expenditures or the children. Whatever he earns, he spends on drinking. He is never willing to either listen to or understand the importance and the need to limit one's family size through family planning methods. Mariam's worry is how to bring up the children without any financial support, but for her husband, more children means more hands to work who will earn money for the family. It would not be a surprise if these children soon land as child labour or the same cleaning and sweeping job.

Neelam

Neelam, who works with a private college, narrates how she was never a sweeper and would never think of cleaning toilets. But one day, when the college principal asked her to help in cleaning the College toilets because of a crisis, she agreed to do the job for the financial help it would bring in. Her presence in the college was because her husband was already doing the sweeping work there. Since

that day, she has been cleaning the toilets. This has resulted in other class four employees, including those who sweep classrooms and the peons of college, maintaining a distance from her, considering her untouchable in the unclean and dirty profession of cleaning toilets. None of the other co-workers were ready to share lunch with her or even sit and have a cup of tea with her. She has been experiencing both physical and social distance, which she is very uncomfortable with. As she had recently stopped cleaning toilets, she asked the college authorities to let her clean and sweep the classes. The College authorities did not agree to her cleaning the classes, and she has finally decided to quit the job.

From the cases cited above, the multidimensional issues and hardships faced by this community are reflected. Besides untouchability, the education of scavengers in Jammu City is another challenge this community faces. Most of them have school-going children, highlighting the fact that they have come out of the fear of sending their children to school, where they will be faced with challenging, humiliating situations because of untouchability. The entry of their children into schools, thus in the educational arena, also gives them the confidence to break the norm of remaining uneducated and having no rights to Education. But what is worth mentioning here is that schools, where these children go to study, are the ones which are identified as the schools catering to the children of scavengers; although this is very subtle, it is practised in their everyday lives. The convent schools where the children of other upper caste people also study would have separate sections for the scavengers' children. These are also sometimes known as Hindi medium students. Many scavengers send their children to government schools as the tuition fee is nominal and affordable. Some private schools catering to them are located within or near their colonies.

With mechanisation in this work as well, the Jammu Municipality has acquired garbage disposal vans, septic tank cleaning machines and other gadgets to make this work comfortable, hygienic and clean. The scavengers in Jammu city believe that more mechanisation will not change the nature of their job. They feel that the job of sweeping, cleaning drains and removing human excrement from the public and private toilets cannot become clean, even if more machines are brought in as it would only make it physically clean and hygienic, but the uneasiness and discomfort that their job causes in the mind and psychological problems encountered due to the stigma attached with the job cannot be taken away by the machines. The machines and vans are being operated and driven primarily by them only.

Another of the challenges faced by the scavengers of Jammu City is the issue of the salary paid for their work. Many of them feel that their work is very exclusive; nobody else in society can work in their place. Thus, they should be paid more for their work. They argue that the kind of job that they do is equal to any other job. Instead, it is a job without which the life goes out of gear. There have been times when Safai Karamcharis and the Sweepers have gone on strike, and the city's life has been thrown out of gear. They also talk of their being indispensable and irreplaceable as nobody else would like to do the kind of job they do, and this also becomes an important reason to give them a higher salary.

Most of them have a very positive attitude towards their occupation as they feel that if they do not perform this job, then who will do it? Many of them who have a permanent salaried job consider it a security as they firmly believe if they leave this job, their acceptance by society in other jobs will be very low. Thus, they think it is better to continue this job than move out. If given a chance, the perception about moving out is only if they are paid more than what they actually earn. They have very strongly and formally internalised the fact that anybody who once took up the job of Sweeper remains the Sweeper always, especially when he belongs to a scavenger's family.

Women in this occupation have a dominant presence across religions. They face triple discrimination of gender, caste and occupation. Women not just work and earn but also take part in decision-making in some of the families. Despite this, the community, being predominantly patriarchal, still prefers sons over daughters. Women enjoy a good status as remarriage and divorce are both allowed. There is intermarriage across religions among Christians and Hindus, and also the Mazhabi Sikhs. But Muslims do not allow intermarriage. Christians, Hindus, and Mazhabis marry in each other's

community as they trace themselves to the same ancestors. So, a good mix and blend of these two communities is visible in Jammu.

Although the community is heterogeneous, one of the essential reasons that has brought these people together is the struggle for identity arising from the permanent resident question. Before the abrogation of Article 370, the scavengers, who were brought from Punjab in 1957 and had been living in Jammu for more than Sixty years, did not have a claim to government jobs and other benefits as they were not considered permanent residents of the state. This led to a movement pressuring the government to give them permanent resident status. This even divided them into Jammu scavengers, who are permanent residents and Punjab scavengers, who are not permanent residents. The Balmikis have a thousand heartbreaking stories to narrate of their children, living in utter hopelessness at being denied the right to other jobs in the absence of citizenship. After the abrogation of Article 370, the Balmiki community of scavengers is now rejoicing as they have been given domicile rights. After the struggle their three generations faced, their children have a right to get admission to higher education and professional education, apply for the jobs they are eligible for, and have a right to own land and residence at places other than what they were allotted in 1957.

The slow change is visible in this community, but their mobility is deficient as they continue to perform their tasks, accepting them as their caste roles without any resistance. For Robert Deliege (1996), social realities are no longer what they were or what they were supposed to have been: high castes have changed, untouchables have changed, the society at large has changed, and castes, in particular, have also changed. In Jammu City, the most significant change for this community is gaining Domicile rights. Although they continue to do the unclean jobs, they are hopeful that with the opening of avenues, the change will come in. But then it remains to be seen whether they will be able to get out of the stigma that their occupation carries. Because of the Swachhata Mission and under Open Defecation Free Schemes, many public toilets have been constructed, but who is cleaning these toilets remains a very pertinent question that needs to be addressed. Many similar questions still need a lot of attention, not just for the scavengers of Jammu but across all other states as well.

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SANITATION ISSUES AND CHALLENGES AND PROSPECTS: AN ANALYSIS OF IN-MIGRANTS RICKSHAW PULLERS IN DELHI

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Abstract

This paper examines the sanitation-related challenges faced by migrant rickshaw pullers in Delhi, a significant yet marginalised segment of the urban workforce. Despite their crucial role in the city's transport system, these individuals often endure poor living conditions characterised by inadequate access to sanitation facilities, leading to serious health risks and social stigmas. The particular research highlights critical issues such as the scarcity of public toilets and socio-economic constraints that hinder their ability to maintain hygiene. Additionally, it explores the interplay amongst Migrants Rickshaw Puller's socio-economic conditions, associated challenges, accessibility and implications for public health policies and urban management. The study proposes prospects, emphasising the need for comprehensive government initiatives, innovative sanitation solutions, and policy reforms to improve this vulnerable population's living conditions. By fostering a more inclusive approach to urban sanitation, the aim is to enhance the overall quality of life for migrant rickshaw pullers and contribute to sustainable urban development in Delhi.

Keywords: *Migration, Sanitation, morbidity, Rickshaw Pullar*

Introduction:

Migrant cycle rickshaw pullers in Delhi represent a vital segment of the urban workforce, yet they face numerous sanitation-related challenges that significantly impact their health and quality of life. These challenges are compounded by inadequate infrastructure, social stigma, and policy neglect. Understanding these issues is crucial for developing effective interventions that can enhance the living conditions of these workers and improve their overall well-being. One of the most pressing sanitation issues for migrant rickshaw pullers is the lack of access to clean drinking water. Many workers reside in informal settlements where the public water supply is limited or contaminated. The absence of safe drinking water exposes them to a variety of waterborne diseases, which not only affects their health but also their ability to work consistently. In a city like Delhi, where the demand for clean water is high, the struggle for access often leads to the use of unsafe sources, further perpetuating health risks. Public sanitation facilities in Delhi are notoriously inadequate and usually poorly maintained. For many rickshaw pullers, the nearest public toilet may be miles away, and when available, these facilities are often overcrowded and unsanitary. This situation compels many to resort to open defecation, which poses serious health risks. The lack of clean and accessible toilets is a significant barrier to maintaining personal hygiene, contributing to the spread of diseases such as cholera and dysentery. The health risks associated with poor sanitation are particularly acute for migrant workers. The many rickshaw pullers are already vulnerable due to their low income and lack of access to healthcare. When sanitation issues arise, they become more susceptible to health problems, which can lead to increased absenteeism from work. This creates a vicious cycle: poor health limits their ability to earn a living, limiting their capacity to access better living conditions. Furthermore, many rickshaw pullers do not have health insurance or access to affordable medical care, making it difficult for them to seek treatment when needed.

A person's fundamental need is a toilet, which speaks to one's living level and general health. Rickshaw pullers must work long hours and spend much time outside their houses. They must so utilise Sulabh Complexes or public restrooms throughout the day. When no public restrooms are available, people take advantage of any open area or roadside to relieve themselves. Of all the respondents, 39% of rickshaw pullers said they use public restrooms near metro stations, marketplaces, or other crowded areas. An additional 23% take advantage of open spaces such as roadsides, forests, unoccupied land, and even the Yamuna River's banks. Just 20% of respondents said they used a flush toilet (a septic tank), and 18% of people utilise pit latrines. Most flush or pit latrine users in Delhi are long-term residents

who share leased apartments with their families and coworkers. Slum dwellers mainly utilise pit latrines, while homeless rickshaw pullers use public restrooms for laundry and bathing in addition to using them as latrines. It was discovered during the study that rickshaw pullers kept water bottles in their cars for sanitary purposes. Every bottle costs them two rupees. Some people also use the restrooms next to the night shelters.

The majority of individuals moving to Delhi are originating from underdeveloped rural regions. Severe poverty prompts impoverished individuals to relocate from rural to urban areas for improved living conditions, better employment prospects, and superior amenities. A significant portion of these migrants consists of unskilled or semi-skilled workers, and they gravitate towards informal or unorganised sectors due to factors such as overpopulation and the stagnation of agriculture in their places of origin. Many unskilled male migrants find employment in marginalised transportation sectors such as rickshaw pulling, construction projects, street vending, small-scale trading, and other menial services, as they often struggle to secure formal employment in Delhi.

Case Study: I "Rickshaw pulling- A Compulsion, Not A passion"
Rickshaw pullers mainly come from poor agricultural families and impoverished artesian households. The pauperisation of agrarian households generates rural outmigration, but it is not the only factor in rickshaw pullers' migration. They come to Delhi from diversified backgrounds and opt for this job for several reasons, as depicted in the following case studies.

Table: 1
Migrant And Non-Migrant Rickshaw Pullers

Status of Respondents	No of Respondents	Per cent
Migrant	431	95.8
Non-Migrant	19	4.2
Total	450	100.0

Source: Computed by fieldwork data from Delhi

The data collected from rickshaw pullers indicates that 95.8 per cent of them were migrants, while only 12.7 per cent were non-migrants. Migrant workers predominantly engage in rickshaw pulling as a livelihood, although some non-migrants also pursue this occupation due to a lack of specialised skills and limited employment opportunities. Out of 450 respondents, 95.8 per cent stated that they were born outside Delhi, while 4.2 per cent reported being born and enumerated in Delhi.

Analysis of the data reveals that the highest percentage of rickshaw pullers (43.3 per cent) originate from Bihar, followed by Uttar Pradesh (31.8 per cent) and West Bengal (13.1 per cent). Only 4.2 per cent of respondents were both born and enumerated in Delhi. Additionally, 2.4 per cent of the total sample population comprises individuals from Nepal who are engaged in rickshaw pulling in Delhi. People from Jharkhand, Madhya Pradesh, Rajasthan, and Haryana contributed approximately 7 per cent to the sample population. These states demonstrate a minimal contribution.

Table -2
Place of Birth of the Rickshaw Pullers in Delhi by Districts

Bihar			**Uttar Pradesh**			**Other States**			
Districts	**N*(1)**	**Per cent**	**Districts**	**N* (2)**	**Per cent**		**Districts**	**N *(3)**	**Per cent**
Samastipur	34	7.89	Bareilly	11	2.55	**Jharkhand**	Bokaro	2	0.46
Banka	26	6.03	Badaun	9	2.09		Dumka	2	0.46
Araria	21	4.87	Unnav	8	1.86		Dhanbad	1	0.23
Purnea	15	3.48	Varanasi	7	1.62		Hazaribagh	1	0.23
Darbhanga	14	3.25	Allahabad	6	1.39	**Madhya Pradesh**	Bhind	2	0.46
Sitamarhi	14	3.25	Bahrain	6	1.39		Chhattarpur	2	0.46
Begusarai	12	2.78	Bijnor	6	1.39		Morena	1	0.23
Madhubani	11	2.55	Bulandshahar	6	1.39	**Uttarakhand**	Hardoi	1	0.23
Khagaria	10	2.32	Barabanki	5	1.16		Haridwar	1	0.23
Saharsa	10	2.32	Etah	5	1.16		Nainital	1	0.23
Bhagalpur	5	1.16	Sitapur	5	1.16		Pitoragarh	1	0.23
Nawada	5	1.16	Ghaziabad	4	0.93	**Haryana**	Rohtak	2	0.46
Katihar	4	0.93	Gorakhpur	4	0.93		Panipat	1	0.23
Monghyr	4	0.93	Mainpuri	4	0.93	**Rajasthan**	Ajmer	2	0.46
Vaishali	4	0.93	Mathura	4	0.93		Kota	1	0.23
Nalanda	2	0.46	Pratapgarh	4	0.93	**Punjab**	Hosiarpur	1	0.23
Gopalganj	1	0.23	Aligarh	3	0.7		Patiala	1	0.23
Kishanganj	1	0.23	Bagpat	3	0.7	**Nepal**	Palpa	3	0.7
Muzaffarpur	1	0.23	Farrukhabad	3	0.7		Siraha	2	0.46
Patna	1	0.23	Gazipur	3	0.7		Gulmi	2	0.46
West Bengal			Hardoi	3	0.7		Syangja	2	0.46
Malda	38	8.82	J. P. Nagar	3	0.7		Mehteri	1	0.23
Bardhaman	6	1.39	Merrrut	3	0.7		Gorkha	1	0.23
Medinipur	5	1.16	Mirzapur	3	0.7	**N**	**All Districts (1+2+3)**	**431**	**100**
Jalpaiguri	3	0.7	Pilibhit	3	0.7				
Murshidabad	3	0.7	Shahjahanpur	3	0.7				
Birbhum	2	0.46	Saharanpur	3	0.7				
Coochbehar	1	0.23	Sultanpur	3	0.7				
Hooghly	1	0.23	Azamgarh	2	0.46				
			Gonda	2	0.46				
			Brabanki	2	0.46				
			Chandauli	2	0.46				
			Lakhimpur-Khedi	1	0.23				
			Mau	1	0.23				

Source: Computed by fieldwork data
N* No of Respondents

Moradabad	1	0.23
Rampur	1	0.23
Ajamgrah	1	0.23

Case Study 2 – Sudip Mondal, aged 35, journeyed from Kolkata to Delhi five years ago in search of employment. He had relocated to Kolkata from his native village, Gangadharpur of Maldah, at a young age with his family. His father had worked at a jute mill near Rishrah in the Hooghly district, and after his father's retirement, Sudip had taken up the same job. Unfortunately, the jute mill closed down due to labour strikes and lockouts, leaving Sudip no other option. Despite his initial hope for the mill to reopen, he could not find alternative employment in Kolkata.

Consequently, he decided to move to Delhi five years ago, hoping to secure a job in the factories in the NCR region. However, the lack of regular factory job opportunities led him to pursue his current occupation. Although he prefers not to reveal his job to his family in Kolkata, it is his sole means of earning money in Delhi. Sudip works as a rickshaw driver in the Okhla area, earning approximately Rs. 5000 to 6000 monthly. He expresses dissatisfaction with Delhi's harsh climate and housing crisis. He works nine to ten hours daily and has no fixed meal schedule. While he usually eats at a roadside dhaba, he occasionally prepares meals on makeshift stoves with his friends.

Sudip said, "If I eat breakfast at eleven instead of 8 a.m. and lunch at four in the afternoon instead of twelve, then I get gas. This causes me gastritis, and then I have less appetite. I get a fever three to four times a month. This is probably caused by working under the burning sun and drinking water right after returning from the sun."

Like many other rickshaw pullers, Sudip also sleeps on footpaths and sometimes luckily gets access to a rain basera or government night shelter. To get access to the rain basera, he must reach there as early as 8 o'clock in the evening and buy a coupon for getting a bed. During rainy days or severe winter days, he and some of his friends arrange for temporary night shelter with the help of plastic sheets. They must hire old blankets, pillows and mattresses for winter from nearby shops. To cope with the dull routine of a rickshaw puller, Sudip regularly drinks liquor and smokes bidis, though he knows that they are not good for his health. He badly misses his family living in Kolkata and wishes to visit them during Durga Pooja, but this is the time he cannot afford to miss out as it is an opportunity for extra income.

Urbanisation and industrialisation significantly impact a region's social dynamics. Cities are pivotal in shaping national progress and completely transforming the lifestyle. However, they also have repercussions on the rural economy, leading to an influx of unemployed individuals from rural areas seeking work in urban centres. While some can secure employment, others are compelled to take on low-paying jobs to survive.

Like many others, Rickshaw pullers have migrated from their villages to cities like Delhi primarily due to economic challenges. Factors such as limited agricultural land and low agricultural productivity contribute to the migration of young men from rural areas to urban centres. In a survey, rickshaw pullers cited various reasons for their migration. A significant portion (23 per cent) of rickshaw pullers are seasonal migrants, coming to Delhi during the agricultural lean season and returning to their villages during sowing and harvesting. Among the respondents, 23 per cent mentioned low wage rates and job irregularity in the agricultural sector as reasons for moving to the city, while 16 per cent reported not owning agricultural land. Additionally, 15 per cent have small, unproductive land

holdings, and 7 per cent have been compelled to leave their rural homes due to natural disasters such as severe floods or droughts that have devastated their lands and properties. Others have entered this profession due to loss of business or jobs, low wages, and natural calamities.

*"In Delhi, I plan to work as a rickshaw puller for a few months before heading back to my hometown in the winter. During the winter months, my family and I work on the farms and store grains for the rest of the year. Despite owning a small piece of agricultural land, it doesn't generate enough income to support my extended family, which includes my elderly parents, four young children, wife, and unmarried sister, who are all dependent on me. As the sole provider for my family, I have to seek work on other people's farms. When work is scarce during the off-season, I come to Delhi to earn a minimum of Rs. 4000 to 5000 per month," explained Jagat Ram (S.C.), a 33-year-old rickshaw puller from Badaun district, Uttar Pradesh***.**

Place of Living of Rickshaw Pullers:

Rickshaw pullers need help in obtaining proper housing. According to the survey, 51.8 per cent of them live in rented rooms, while 15.3 per cent sleep on footpaths. Additionally, 12 per cent reside in unauthorised colonies, and 3.8 per cent live under flyovers, staircases, and subways. Only 4 per cent have residences in the city, and 1.8 per cent live in night shelters. Migrant rickshaw pullers typically do not own residential property in Delhi. Instead, 52 per cent reside in rented rooms, and 11 per cent stay in contractors' rickshaw sheds. Among migrants, 16 per cent admitted to sleeping on footpaths, and around 4 per cent sought shelter under flyovers and subways. Only 3.5 per cent of them have their own house (not in Jhuggi-Jhopdi), and 11 per cent own houses in unauthorised "Jhuggi-Jhopdi" colonies.

Rickshaw pullers, unable to afford housing, seek shelter in open spaces such as under balconies, market areas, flyovers, and footpaths within each MCD zone. They face severe challenges during winter and rainy seasons. They prepare their meals using makeshift stoves and are sometimes provided accommodation by contractors or rickshaw owners in dormitory-style rooms with no privacy. Many also reside in rickshaw garages and sleep in their vehicles. Those who stay in Rain-Besara must sometimes pay charges and may only sometimes secure a spot with coupons.

Non-migrant rickshaw pullers who are permanent residents of Delhi have better accommodation facilities; they stay in pucca homes, though many of them cannot afford to have their own houses. Some have their own houses (about 16 per cent), not in unauthorised slums, whereas 36.8 per cent have their homes in the Jhuggi-Jhopdi colonies (J.J. colonies). These low-income colonies are generally found in the rural-urban fringe areas, and rickshaw pullers have to commute daily. Often, they have to travel 5 to 10 Km every day for work, and many of them travel by public buses.

Table: 3

Place of Residence of Rickshaw Pullers in Delhi by Migration Status

Place of Stay	Total	
	N	Per cent
Own house, not in Jhuggi-jhopdi	18	4.0
Own house but in Jhuggi jhopdi	55	12.2
Rented room	233	51.8
Contractor's rickshaw shed	49	10.9
Footpath	69	15.3
Railway station /bus stand	1	.2
Relatives/ Under Flyover Staircases, Subway	17	3.8
Rain Basera	8	1.8
Total	**450**	**100**

Source: Computed from field survey data

Subham Singh (39) lives with his family in the unauthorised colony of Yamuna Pusta. "*I have my own residence in Yamuna Pusta, where I live with my wife and three little kids. My house is kaccha; its roof is made up of plastic sheets, and during the rainy season, rainwater falls inside my room. Though I have electricity, the voltage remains very low, so I must pay Rs. 250 for the connection. Water scarcity is another problem, and every morning, my wife has to wait long in the queue to store water from the water tanks. Congestion and crime are part and parcel of my locality. Therefore, my wife, who works as domestic help in nearby houses, is trying to save money to change our residence to a better locality shortly."*

Om Prakash, a 25-year-old rickshaw puller, reported, "*I stay in a rented room in a low-income colony where I have to share a small and dingy room with five of my friends. We do not have time to cook, so we take our meals from a roadside dhaba and only occasionally cook meals in the room on a kerosene stove. The colony has shared public toilets, which always remain crowded and smell bad. Therefore, we choose open spaces instead of the unhygienic public toilets. Water scarcity and frequent power cuts are other problems that may not be solved soon."*

Accommodation Facilities and Challenges:

In the initial days, rickshaw pullers need help to afford proper accommodation. Hence, 33.3 per cent of the respondents reported needing an adequate room for sleeping. They live on roads or in rickshaw contractors' sheds, where fear of eviction and unhygienic living conditions are prevalent. Fresh migrants cannot afford to bring their families to Delhi; only those who have been plying rickshaws for a long time and have permanently lived in the city with their families. These rickshaw pullers generally have rooms on a rent basis or under their possession. Table 4 shows that out of the 450 respondents, 63 per cent live in single-roomed homes, about 3 per cent have two rooms, and only 1 per cent stay in 3 roomed houses. Migrant rickshaw pullers are the worst victim of the housing crisis; 33 per cent of them cannot afford to have, whereas 21 per cent of the non-migrant rickshaw pullers do not have rooms for the night. But those who have resided in Delhi for a long time have better accommodation facilities; at least they have four-walled rooms to live in. About 62.6 per cent of migrant rickshaw pullers live in one-roomed accommodation; often, they have to share their rooms with others and do not have privacy. Only a negligible proportion of them have more than one room. They mainly live in shanty and shabby rooms in slums without proper arrangements, amenities and facilities.

Table: 4

Room Arrangement of Rickshaw Pullers in Delhi (In Percent)

Room Arrangement	Total	
	N	Per cent
Without Room	150	33.3
1	284	63.1
2	13	2.9
3	3	0.7
Total	**450**	**100**

Source: Computed by fieldwork data

The number of people living in single rooms is a good indicator of the level of congestion that directly impacts health. Rickshaw pullers earn too little to rent a room for themselves and prefer to share it with others. Table 5 shows that 22 per cent of the respondents have replied that they share a single room with five people; 19 per cent stated that four people share a room; 16 per cent replied that at least six persons live in a single room where they sleep at night and 8 per cent of the respondents share their living room with seven or more people. Therefore, the data reveals the worst effects of overcrowding of rooms.

Table: 5
Persons per Room (In per cent)

Persons/Room	Per cent
1	4.3
2	10.0
3	13.0
4	19.0
5	22.0
6	16.0
7	8.7
8	3.7
9	0.3
10	2.7
12	0.3
Total	100.0

Toilet Facility: A toilet facility is also one of the necessities of human beings as it indicates the health condition and standard of living. Rickshaw pullers have to work for a long duration and remain outside their homes for a long time. Therefore, they must use public toilets or Sulabh Complexes during the daytime. Where they do not get public restrooms, they use any open space or roadsides for toilet facilities. Out of the total respondents, about 39 per cent of rickshaw pullers stated that they use public toilets near metro stations, market areas, or busy localities.

> *Jagat Ram, a 28-year-old rickshaw puller from the Badaun district of Uttar Pradesh, is not fortunate enough to have a room for his accommodation. He considers his rickshaw as his home, where he takes a nap when he does not get a passenger in the afternoons. He finishes his daily job of rickshaw pulling at around 11 o'clock in the night when the last metro leaves the Welcome station. After having his dinner from a roadside dhaba, he parks his rickshaw near the metro station and spreads an old bed cover on the footpath along with other rickshaw pullers. During rainy times and severe winter days, he and his friends arrange for a temporary dormitory facility with the help of plastic sheets in the rickshaw garage. He has to hire blankets and pillows from the shops during winter. He has complained about his chronic health problems, which occur due to hard work and inadequate rest.*

A visit to the site where he sleeps at night reveals a horrible picture. A smelly public toilet is just next to the site where he spends his night and occasionally cooks meals on shifting challahs. He further stated that he and other rickshaw pullers drink water from a nearby tap beside the public toilet. The living conditions of the houseless rickshaw pullers are no less miserable than those of beggars and vagabonds. Anyway, Jagat Ram does not bother with this suffering because he stays in Delhi only for a few months, and after that, he returns to his village, where he has a small agricultural land.

Approximately 23 per cent of individuals utilise open areas such as vacant lots, wooded areas, roadsides, and even the banks of the Yamuna River. Only 20 per cent of survey respondents use a flush latrine (septic tank), while 18 per cent use a pit latrine in their households. Those with either a flush or pit latrine are primarily permanent residents of Delhi and reside in rented accommodations with their families and coworkers. In slum areas, the majority of individuals use pit latrines, while homeless rickshaw pullers utilise public toilets for both using the restroom and for bathing and washing their clothes. The survey revealed that rickshaw pullers carry water bottles in their vehicles for toilet use, for which they have to pay Rs 2 per bottle. Additionally, some respondents use restrooms located near the night shelters.

Morbidity:

The survey revealed that over 90 per cent of the participants reported experiencing various health issues, with only 10 per cent describing themselves as being in good physical condition. Specifically, 18 per cent of the respondents had been affected by a cold and fever, 15 per cent experienced weakness and 10 per cent had recently recovered from Jaundice. Additionally, 11% of rickshaw pullers complained of chest or body pain, 9.3% had suffered from diarrhoea or dysentery, 9% had skin problems, 5% reported having asthma, and 5.6% were dealing with T.B. In addition to HIV/AIDS and Tuberculosis, they are also vulnerable to waterborne illnesses such as Jaundice and diarrhoea/dysentery due to limited access to clean drinking water, often resorting to drinking from leaky pipes and roadside taps. Their unhygienic living conditions and inadequate diet further increase the risk of tuberculosis. Symptoms such as physical weakness, fever, and respiratory issues are indicative of T.B. Individuals with compromised immune systems due to HIV are more susceptible to diseases like T.B., which can exacerbate their health. T.B. can be transmitted through sneezing and coughing, a concern for rickshaw pullers who often share living spaces with their colleagues or reside in overcrowded rooms.

Furthermore, poverty acts as a significant barrier to receiving proper medical care and rest, as rickshaw pullers are the primary breadwinners for their families. Those operating rickshaws for extended periods are particularly prone to various infectious diseases. Rickshaw pullers do not have enough money to access proper medical facilities during minor illnesses; they do not like to visit government hospitals where they have to wait long to consult a doctor. Moreover, doctors cannot pay enough attention to all the patients.

"*One day, I had a minor accident and went to Babu Jagjivan Ram Hospital to consult the doctor. It takes my entire day, and I could not earn anything that day,"* replied a young rickshaw puller from Bihar.

*"I go to the pharmacy and take tablets called Diclofen (Pain Killer tablet) that cost one rupee per tablet (less than two cents) whenever I feel body aches. I take one after dinner when I feel severe pain." (***Rampal Singh** (25) homeless, Migrant rickshaw puller from Bulandshahr, Uttar Pradesh*)*

Conclusion:

The increase in rickshaw pullers in Delhi can be attributed to unemployment, underemployment in agricultural and manufacturing sectors, closure of factories and mills, and limited opportunities in small and medium towns. Rural-to-urban migration is not the only contributing factor to this trend. Many migrants turn to rickshaw pulling as a quick escape from poverty, hoping to save money for other business opportunities in the future. While it provides an immediate source of income, in the long term, this profession perpetuates poverty by negatively impacting the pullers' health, self-esteem, and economic status. Access to clean drinking water and proper sanitation facilities are crucial for survival. Unfortunately, rickshaw pullers often lack access to safe drinking water and adequate sanitation, resorting to drinking water from public sources and facing challenges with unhygienic sanitation and inadequate public latrines.

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SANITATION, SOCIAL STIGMA, AND MARGINALIZATION: SWACHH BHARAT ABHIYAN'S ROLE IN REDUCING (OR REINFORCING) EXCLUSION

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Abstract

This paper critically examines the role of the Swachh Bharat Abhiyan (SBA) concerning finding a solution to the social stigma and marginalization that is attached to sanitation in India, the twin stigma attached to Dalits, women, and the urban poor. Using research studies, governmental and non-governmental organization reports, and media accounts, this paper addresses whether SBA has successfully dismantled deeply ingrained caste- and gender-based exclusions around sanitation or if such exclusions have been inadvertently strengthened through its design and implementation.

The paper will explore cultural taboos regarding menstruation and body privacy that limit women's access to safe sanitation, mainly in rural and slum regions. Using secondary data, the paper will evaluate SBA's achievement in improving sanitation infrastructure and behavioural change and criticize its capacity to address the underlying social structures that come with marginalization.

This paper is premised on a critical review of existing literature and case studies, arguing that SBA can be said to have achieved much in infrastructural improvements regarding physical sanitation but lags in the weakening of cultural stigmas and social hierarchies that define the praxis of sanitation in India. The paper concludes that such deeper issues of socio-cultural significance need to be addressed for any genuinely inclusive and sustainable sanitation reform.

Keywords: *Sanitation, Social Stigma, Marginalization, Caste, Gender, Swachh Bharat Abhiyan, Exclusion, and Manual Scavenging.*

Introduction

Sanitation is closely interlinked with the country's cultural, historical, and socioeconomic fabric, often a marker of social exclusion and marginality. Clean sanitation is, indeed, a fundamental human right. Yet, it eludes most inhabitants, especially the marginalized sections such as the Dalits, women, and people with low incomes in general, who are concentrated in the urban centres. Swachh Bharat Abhiyan (SBA hereafter), launched to make India open-defecation-free in 2014, is a landmark initiative that addresses both problems. However, analysis shows complete ignorance of social hierarchies that lay the foundation for sanitation practices.

This paper critically investigates the role of the SBA in dealing with stigmatization and marginalization practices related to sanitation, particularly regarding caste, gender, and socio-economic inequality. The researcher will show how effective the campaign is in disrupting exclusionary practices or how its design and implementation can reinforce them. It is well understood that it is gender and caste relations which define who is most disadvantaged by sanitation-related marginalization. It is a qualitative methodology of review and analysis of literature that rests on the theorem of intersectionality and draws upon the framework to analyze convergence in caste and gender inequalities in exacerbating marginalization in sanitation.

The analysis will argue that although SBA has developed considerable improvements in infrastructure, it still needs to address the socio-cultural factors perpetuating exclusion, such as caste-based divisions of labour and gendered taboos surrounding sanitation. That will be the final call for more inclusive and intersectional approaches for sanitation reform that consider not only structural inequalities but also the socio-cultural aspect of norms.

Literature Review

Socially structured practices of sanitation, enormously entrenched in the country's social structures with caste and gender hierarchies firmly existing today, ensure the continuation of exclusion and marginalization. Literature on sanitation - from books to articles talks highly of the Swachh Bharat Abhiyan (SBA). The prime points in the said literature are appreciative of the phenomenal achievement

while remaining critical of the limitations of this ambitious program. Many academic studies have fed this review of SBA's impact on reducing social stigmas around sanitation and its capability to deconstruct or construct social hierarchies. This review draws together critical studies that consider the intersection between caste, gender, and sanitation and how these intersections framed the potentiality of SBA in advancing inclusive sanitation reforms.

Caste and Manual Scavenging

Manual scavenging is perhaps the most lucid example of how sanitation work has been and continues to be, historically allocated to the lowest group, Dalit-largely according to caste. However, there are legal prohibitions against the practice. Most people engaged in this degrading labour are Dalits, with women constituting some of the most vulnerable. As Kumar and Preet describe, manual scavengers experience ''double discrimination' 'in being Dalits and women, hence becoming a group quite marginalized in society. An occupation rooted in caste practices is not just a socio-economic need but a much-imbued cultural practice meant to deepen the exclusionary nature of the practice of manual scavenging of Dalits, according to (Kumar and Preet, 2020).

Shahid (2015) dissects the way caste serves as a cultural system to help maintain the exclusionary nature of manual scavenging. According to him, the perception of the work of manual scavenging as an occupation specifically meant for lower members of the caste stream itself forms part of a more significant cultural mechanism of purity and pollution that perpetuates this inhumane labour (Shahid, 2015). Exclusion based on caste is often interwoven with gender, whereby Dalit women are the most vulnerable to doing manual scavenging work under highly hazardous and degrading conditions.

The literature cites how SBA, on its part, has achieved some success in the improvement of sanitation infrastructure but has yet to offer alternatives to manual scavenging that are sustainable as well. Shakh (2023) points out how the SBA program does not do justice to rehabilitation of even manual scavengers. He claims that, despite changes in infrastructures, the SBA program underscored the division of labour castes again in the form of infrastructural changes without questioning the hierarchies of social division serving as the core of manual scavenging (Shakh, 2023). As Gupta (2016) shares, ''Legal frameworks exist, but the enforcement is weak, and thus is the motivation to not be part of this caste-based hierarchy. Furthermore, those who continue the servitude are being cornered into this trough because they do not have any other jobs '(Gupta, 2016). The inability of SBA to challenge the caste-based hierarchies has only allowed manual scavenging to stay, with the campaign branding itself as a flagship reform sanitation initiative (Gupta, 2016).

Shankar and Swaroop (2021) also point out that, together with a lack of alternatives, the caste status pushes women and others into manual scavenging. As the authors observe, even investments in SBA's infrastructure, for instance, toilet construction, have not accompanied any attempts to take seriously the root caste-based discrimination that propelled people into sanitation work (Shankar & Swaroop, 2021). In this context, the unavailability of systemic efforts to address caste-based exclusion in reforms within sanitation demonstrates the limits of SBA's true capability in introducing social inclusion.

Gender and Sanitation

This literature on gender and sanitation reveals how women, particularly those who belong to other low-caste groups, are strongly barred from accessing adequate sanitation. Intersecting discourses of caste and gender help define the experiences of Dalit women, excluded not only from access to proper sanitation but also disproportionately engaged in sanitation work, such as manual scavenging. Chaudhary suggests that Dalit women undergo additive marginalization and are ''the perpetual 'other'' 'in the sanitation discourse. These exclusionary factors are heightened by the cultural taboo towards menstruation, with the body being more private, thus depriving women of a complete role to undertake participation in reform schemes of sanitation projects (Chaudhary, 2020).

SBA did not address issues related to sanitation research from a gendered dimension, as Shankar and Swaroop have elaborated in more recent discussions. To a large extent, the campaign has constructed toilets and improved sanitation facilities in rural and urban locations but has yet to wholly overlook some of the leading needs of women who require sanitary pads and private sanitation structures. It is a pointer to an even broader trend of gender-based inequalities that institutions cannot assume that the needs that gender would present are unique in particular communities, especially the ones marginalized (Shankar & Swaroop, 2021).

Swain and Pathela (2016) argue that SBA's construction of physical infrastructure has yet to be accompanied by socio-cultural efforts to increase women's access to these facilities. According to them, women in rural and slum areas remain widely excluded from public toilets because of insecurity and cultural issues attached to privacy and safety surrounding menstruation. Sanitation sector reform, thus, neglected the gendered needs in their provision, and accordingly, women and female members, particularly those belonging to the lower castes, were excluded from the much-anticipated gains through sanitation.

Chaudhary, 2017 urges a critique of SBA's narrow infrastructural focus by pointing out that this program has abdicated from removing existing gendered barriers that limit access to sanitation. Sanitation reform is approached gender-blind, without any focus on menstrual hygiene management and a woman's need for private, safe spaces. It is thus no surprise that women, especially those from marginalized castes, are still excluded from the benefits SBA bestows. This gendered exclusion underscores the weaknesses of a sanitation reform movement that fails to recognize an intersectional approach that incorporates both caste and gender as critical access determinants to sanitation.

Swachh Bharat Abhiyan: Some Successes and Weaknesses

Swachh Bharat Abhiyan was launched in 2014, and it has been hailed as one of the most successful efforts in cutting open defecation and improving sanitation infrastructure further in the country. Singh, Kunwar, and Sharma (2018) stress some of the successful features of the campaign in terms of toilet building across rural spaces, improving practices in hygiene-related activities, and behaviour change. For them, SBA has reasonably contributed to solving many dimensions of public health problems relating to open defecation-primarily in the context of the village areas where sanitation facilities had not been there in the past (Singh, Kunwar, & Sharma, 2018).

However, the literature also indicates some considerable constraints in the approach of the SBA towards sanitation reform. According to Gatade, ''while SBA has much improved upon the physical infrastructure for sanitation, it had failed to tackle the socio-cultural barriers that prevent marginalized communities from accessing these facilities.' 'Therefore, since the campaign focused more on constructing toilets than disrupting those hierarchies within caste and gender that define sanitation practices in India, it would not make any difference to create better a space for everyone to participate. Consequently, the most vulnerable groups of Dalits and women are pushed further away from the fruits of sanitation reform (Gatade, 2015).

It was criticized that Swain and Pathela pointed out SBA, stating that its focus on the infrastructure side needs to be accompanied by adequate efforts on the socio-cultural determinants of access. On that basis, drawing from the case of two districts in India, this study established that exclusion characterized by caste and gender continues to limit the impact of reform initiatives related to sanitation. Through the SBA initiative, the rates of open defecation have dropped; however, it has not challenged the social hierarchies that set up exclusion in the sanitation sector (Swain & Pathela, 2016).

A more critical approach towards the subject is given by Shekhar in 2023 for this writer; for the author, SBA has made exclusion based on caste inadvertently as it does not provide an alternative source of employment to the manual scavengers. While the drive for toilet construction has been used for mobilization in favour of the campaign, this campaign has not rehabilitated those traditionally

entrusted with the cleaning of the toilets. The society thus deprived and exploited the manual scavengers, particularly Dalit women, states Shekhar in 2023. This critique captures the necessity of a more holistic approach at the grassroots level for sanitation reform targeting sociocultural exclusions alongside infrastructure.

Mane (2014), Tayal and Yadav (2017) discuss the public and media's perception of the campaign, pointing out that much goodwill accorded to the campaign still needs to be removed from its objectives as a campaign on the ground. Social Media Sentiment around SBA: Tayal and Yadav analyze social media sentiment around SBA. They argue that despite the stable public support for the campaign, ''little attention exists toward structural inequalities which continue to powerfully encase SBA's working model.' 'This paper underlines, therefore, that ''there might be inadequate critical engagement toward SBA's impact around the marginalized communities' '(Tayal & Yadav, 2017).

The intersectionality concept, in so far as Kimberlé Crenshaw came up with it in 1989, remains fundamentally a theoretical framework that sheds light on how caste and gender exclusion intersect to preserve forms of marginalization in the sanitation sector. Intersectionality takes the space of the interplay between overlapping social identities like caste and gender, which creates interdependent systems of oppression. Thus, though Dalit women remain marginalized by caste status, sanitation further limits them by gender.

Kumar and Preet (2020) explain how Dalit women carry the burden of doubles shit work in sanitation work: ''While it is their caste status that marginalizes them, their gender becomes a contributing reason as well' '(Kumar & Preet, 2020). Dalit women are faced with unique vulnerabilities due to the intersection of caste and gender since they form the majority group working in the manual scavenging work and are denied access to proper sanitation facilities. some scholar allows for a more nuanced understanding of how caste and gender interconnections form the inequalities that inform sanitation practice in India.

Chaudhary argues that sanitation reform has to be intersectional in nature, as caste and gender are interlinked and cannot be addressed alone for it to impact effectively. She argues that SBA has made remarkable progress in improving sanitary infrastructures but has yet to challenge the social and cultural hierarchies that make exclusion a thing. An intersectional approach would be vital as it recognizes that Dalit women are placed in a situation of facing.

Shankar and Swaroop (2021) also emphasize the application of the intersectional framework in sanitation reform and claim that overlapping oppressions of caste and gender have been critical to the exclusion of most vulnerable segments from access to sanitation services. They assert that the inability of SBA to directly challenge these intersecting oppressions directly has restricted its efforts toward developing exclusivity in policies about sanitation. By taking an intersectional approach, policymakers can ensure that sanitation reforms meet all citizens' needs, irrespective of their castes or gender (Shankar & Swaroop, 2021).

Cultural Taboos and Menstrual Hygiene

Lastly, menstrual hygiene is crucial in the sanitation discourse, especially for rural and marginalized women. Cultural taboos over menstruation usually make it hard for women to have access to decent sanitary facilities, thereby entrenching them more into exclusion. Swain and Pathela have pointed out that women residing in rural areas are significantly restrained from accessing sanitation facilities as public toilets are not equipped with menstrual hygiene management. In particular, Dalit women are also restricted from accessing such facilities due to their low caste status (Swain & Pathela, 2016).

Chaudhary blames SBA for the lack of menstruation-related issues since the campaign targeted infrastructural systems. She argues that the lack of menstrual hygiene management in public sanitation facilities implies a larger gender bias in policies and sanitation decisions. This situation mainly

discriminates against women in marginalized communities due to the inability to attain private and safe areas to manage menstruation (Chaudhary, 2017).

The current research on sanitation, caste, and gender reflects huge lacunae in the approach of SBA towards sanitation reform. As much as the campaign has done important work in improving the infrastructures of physical sanitation, it essentially has missed out on those underlying hierarchies that have major impacts on exclusion in the sanitation sector. For Dalit women, the intersectionality of caste and gender remains a very critical barrier to accessing adequate sanitation. This, therefore, calls for future policy implementation to be more inclusive as it addresses infrastructural and socio-cultural dimensions of exclusion by adopting an intersectional approach for true sanitation reform.

Theoretical Framework: Intersectionality

The theoretical framework this paper draws on is based on the concept of intersectionality, which describes how different forms of social stratification, such as caste and gender, interact to form complex systems of oppression. In this sense, the intersectionality of caste and gender represents an important factor in shaping who cleans, who comes into contact with sanitation facilities, and who is excluded from sanitation reform processes.

Crenshaw's (1989) work on the introduction of the term intersectionality is useful for understanding an analysis of sanitation in India because it mentions how intersecting axes of identity—caste and gender—merge to create different kinds of marginalization. The oppression of Dalit women is doubly pronounced because they are placed within the lowest caste and also within the female category, and their experiences in the sanitation sector reflect this double burden.

This framework has enabled the identification of SBA's shortcomings in attending to the sanitation needs of marginalized groups. Nonsensational imagination dominated the missing element of an intersectional perspective, which means that SBA has, by and large, emphasized infrastructural improvements without addressing deeper socio-cultural hierarchies that define sanitation practices in India. As an intersectional analysis, it presents that the exclusion of Dalits and women from sanitation reform is not just about inadequacy regarding sanitation facilities but also a systemic exercise of oppression instituted on axes of caste and gender.

Methodology

With a qualitative approach, this study critically reviews existing literature on the Swachh Bharat Abhiyan's impacts on India's marginalized communities. Literature reviews are drawn from articles, government reports, non-governmental organization publications, and media accounts in the analysis of how caste and gender exclusion continue to characterize the sanitation sector despite the infrastructural changes introduced by SBA.

The theoretical framework of intersectionality was used for analysis, thus providing a more nuanced understanding of how caste and gender inequalities intersect to create deepened negative marginalization in the area of sanitation. Instead of dwelling on these intersectionalities, the study focuses on social identities, which is important because

The study provides a much more comprehensive analysis than previous ones, which have tended to focus solely on either caste or gender.

Discussion

The SBA represents the significant effort of the Indian government to handle sanitation across the nation, largely through the construction of specific infrastructure aimed at reducing open defecation and improving public hygiene. However much the initiative has been hailed for its infrastructural achievements, a careful analysis would reveal grave limitations of its capability to address the profundity of social inequalities about caste and gender. This paper will critically engage with the literature to outline such gaps in the approach of SBA and to stress that an intersectional perspective is relevant in understanding how the intersections of caste and gender oppression are strongly intertwined in sanitation practices.

Caste-Based Marginalization and SBA

The issue of sanitation practice is very much an issue of social exclusion because manual scavenging is so prevalent. The history of sanitation work in India has involved lower-caste communities, particularly the most socially excluded and economically marginal people. The fact that despite a legal ban on it, the scourge of manual scavenging continues unabated points toward SBA's inability to dismantle the hierarchies of caste that create such exploitative labour.

Such a scenario has come out in the literature time and again, wherein, despite marked improvement in sanitation infrastructure through SBA, the very same act of manual scavenging is still carried out as an occupation by Dalits (Kumar & Preet, 2020; Shahid, 2015; Gupta, 2016). While crores of toilets have been constructed under the SBA programme, the socio-economic circumstances that necessitated this community's entry into sanitation work remain largely unchanged. According to Shekhar, the campaign lacks alternative livelihoods for manual scavengers; there is indirect support for the caste-based division of labour.

Worse still, the exclusionary dynamic described above is compounded by the cultural notions of purity and pollution, based on caste, underlying the division of labour in sanitation. According to Shahid (2015), the stigma attached to manual scavenging is not a purely economic issue but deep within the Indian caste-based cultural framework. SBA has focused much on infrastructural solutions rather than addressing socio-cultural systems that perpetuate caste exclusions in sanitation practices.

The limitations of SBA reveal the need for a more holistic approach to sanitation reform. Unless the caste-based hierarchies that define sanitation and work are contested, the campaign will only reproduce what it seeks to change. Infrastructural improvements are inevitable and essential, but they will not be enough to generate real social transformation unless matched by attempts to dismantle the systems of caste-based oppression that underpin sanitation labour.

Gender and Sanitation: The Forgotten Dimension

The gender-caste intersection uniquely confers exclusion on Dalit women, who are the most overrepresented in the worst forms of degrading sanitation work, like scavenging. Double discrimination has been shown by Kumar and Preet (2020) and Chaudhary (2020) to make Dalit women highly excluded both by the caste lens and gender lens. Further, cultural taboos on menstruation add to this vulnerability by further hindering women's access to safe sanitation.

This means that gender-sensitive sanitation reform still needs to be added to the SBA approach despite all these gender-specific disincentives. Building toilets is highlighted as a critical performance indicator for the campaign; however, this was not supplemented by targeted measures for the special needs of women regarding sanitation – a particularly necessary action for the many rural and disadvantaged women in these countries (Swain & Pathela, 2016; Chaudhary, 2017). For instance, it can be said that the lack of menstrual hygiene management in public toilets typifies how the policy on sanitation is gender-blind-informing consideration of the barriers which might hinder women's ability to access such facilities.

The infrastructure of SBA in literature has failed to take proper care and attention to the safety and privacy issues of women in rural and slum areas. According to Chaudhary (2017), women suffer from a lack of sanitation facility access because they feel insecure and do not have private space for managing menstrual flow. Issues are found to be more intense in the case of Dalit women, as they have a doubly disadvantageous position being both Dalit and a woman.

The failure of sanitation policy to address the intersection of caste and gender has consequently continued to exclude women, particularly Dalit women, from SBA's benefits. Where it has been successful in reducing open defecation and improving sanitation infrastructure, the movement has largely ignored the gendered dimensions of access to sanitation. A sanitation reform needs to be caste and gender inclusive so that it could be extensively socially inclusive, say Chaudhary (2020) and Shankar and Swaroop (2021).

The Intersectionality framework states that caste and gender are not independent but interplay with each other in creating specific vulnerabilities on the part of certain groups, especially Dalit women. With sanitation, it is visible and observable how various forms of intersectional oppression combine in the lives of Dalit women: On the one hand, they represent about 75% of workers in the very dangerous informal sector of manual scavenging, while on the other, they have the least access to a clean

It will only be possible with the clear recognition that Dalit women have their own challenges while accessing the infrastructures of sanitation. This will, in turn, enable policymakers to develop targeted interventions that take into account the specific needs of such a particular marginal group. This would involve not only sanitizing the physical sanitation infrastructure but also the socio-cultural structures that allow exclusion by castes and genders in sanitation practices.

Swachh Bharat Abhiyaan: A Critique

From the discussion above, SBA was highly effective in upgrading sanitation infrastructure and ending open defection in India. Per Singh et al. (2018) and Swain and Pathela (2016), among the areas where such initiatives successfully constructed millions of toilets and changed behavioural practices in rural and urban areas. In areas with no sanitation facilities, it has improved public health and hygiene and access to sanitation facilities. However, while literature points to the fact that these infrastructural changes have been done without giving enough effort to deep socio-cultural hierarchies responsible for exclusion in space sanitation, Gatade (2015) as well as Shekhar (2023) observe that SBA managed to improve physical sanitation but failed to cover caste- and gender-based systems of oppression responsible for exclusion in sanitation practices. This criticism is very apt in the context of manual scavenging, where Dalits, particularly women, continue to be deprived of their rights when legal and infrastructural reforms initiated by SBA fail to trickle down.

The negation of such socio-cultural factors restricts the effectiveness of SBA in rightly implementing holistic sanitation transformation. As aptly postulated by Shankar and Swaroop (2021), the solution lies not in toilet construction but rather in dismantling oppressive systems based on caste and gender that do not give poor and marginalized groups access to sanitation facilities.

For the Future: An Inclusive Sanitation Policy

The caste- and gender-based exclusions by SBA necessitate a more stringent demand for an intersectional approach toward sanitation reform. An intersectional framework would thereby allow the policymaker to craft specific intervention policies, especially in figuring out the needs of the marginalized women of the Dalit caste community. This would involve infrastructure about sanitation and address socio-cultural systems that perpetuate exclusion within the fabric of sanitation.

Key measures to an inclusive sanitation policy would be:

a) Socio-cultural barriers to access to sanitation: These involve confronting caste-based systems of hierarchy that facilitate manual scavenging and prevent Dalits from accessing safe sanitation. Policies need to look toward giving alternative livelihoods to the current manual scavengers and challenging the purity/pollution conundrums in the cultural foundations that underpin caste exclusion in sanitation work.

b) Gender-Sensitive Sanitation Policy This meant that sanitation policy needs became women's considerations, particularly for people with low incomes. This would mean, for instance, that women must have access to clean facilities in safe and private sanitary environments, such as women's public toilets available in rural/slum areas.

Conclusion

Although SBA has proven very successful in upgrading the sanitation infrastructure in India, its impacts on reducing caste- and gender-based exclusion are limited. While manual scavenging continues, Dalit women continue to be marginalized. A failure to alter those socio-cultural conditions that exclude women from society only reflects the capabilities of an SBA approach in inclusive sanitation reform. This rather requires an intersectional approach to concurrently address sanitation's

infrastructural and socio-cultural dimensions to ensure that meaningful and sustainable changes are made possible. It is in this context that interlinkages, especially related to caste and gender inequalities, must be recognized while promoting sanitation in order to design more appropriate interventions for inclusion and to dismantle the very systems of oppression that maintain exclusion within the sanitation sector.

One of the most important steps taken toward improving sanitation infrastructure in India has been the Swachh Bharat Abhiyan. However, the campaign failed to engage deeper socio-cultural hierarchies structuring exclusion within the sanitation sector. Its concentration on infrastructural improvements set aside the intersection of caste and gender, which continue to marginalize Dalit women.

The analysis's results indicate meaningful sanitation reform in India requires more than merely building toilets. Instead, a holistic approach is called for when addressing the systemic oppression produced by marginalized communities. An intersectional approach to creating inclusive policies on sanitation would benefit all citizens, thus cutting across societal statuses.

Future sanitation policies must therefore be directed toward improving the existing infrastructure while dismantling socio-cultural barriers that may prevent marginalized communities from accessing proper sanitation. It is in such a framework of policy practice that the ‘‘intersectionality’ ‘would ensure that India’s sanitation reforms are equally inclusive and equitable.

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