

# HOLISTIC VIEW OF HEALTH FOR ACHIEVING SUSTAINABLE DEVELOPMENT GOAL (6) - WATER AND SANITATION: A SWOT ANALYSIS

## Abstract

The 17 Sustainable Development Goals (SDGs) included in the UN Agenda 2030 set forth the global agenda and tool for peace and prosperity. All facets of life and sustainable development are influenced by water, a key natural resource. Water is a fundamental natural resource that influences all aspects of life and sustainable development. Water resources are the forms of development in sustaining economic growth like agriculture, industry, and maintaining healthy ecosystems. It also deals with social progress and economic development. Water-related ecosystems and the environment have always provided natural sites for human settlements bringing benefits such as reducing poverty, maintaining and preventing good health and well-being. By utilising SWOT analysis, this study seeks to provide a perspective on the economy, society, and environment. The 2030 Agenda includes the concept of integrated water resources management (IWRM), which requires that governments take into account how water and sanitation can relate to the health of various segments of society through SDG objectives. This analysis has been split into six categories of human needs, including social development, equality, stewardship of the environment and resources, protection of human life, and advancement of technology. Finally, this paper explores the many aspects of the sustainable development aim of effective water use in sustainable development goal (6). The extent of improvement and consideration of the future taken to ensure a gradual rise in health and development in support of the SDGs achievement by 2030.

**Keywords:** Water, Sanitation, and Sustainable Development Goals.

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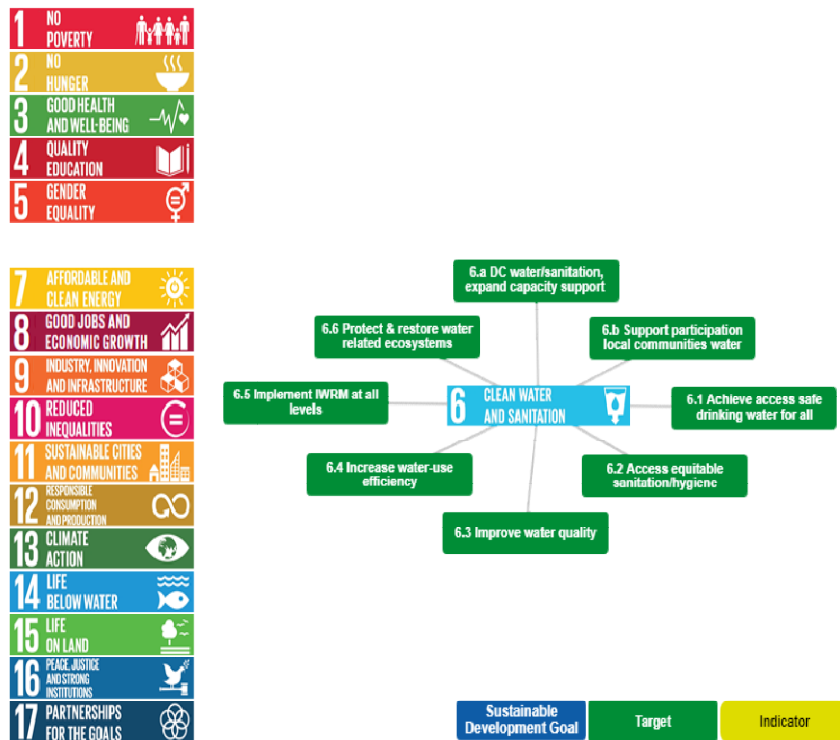
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## I. INTRODUCTION

A comprehensive strategy for promoting health that emphasizes the interconnection of environmental, social, and physical elements is known as the holistic view of health (HVH). This approach views health as more than just the absence of disease and encompasses the well-being of individuals, communities, and the planet as a whole. According to a report by Water Aid India, lack of access to safe water and poor sanitation lead to over 100,000 deaths in India each year.

### 1. Sustainable Development Goals



UN member states approved a new Sustainable Development Agenda, which supports a framework of 17 global goals. The SDGs also cover in its various manifestations, namely environmental protection, social inclusion, and economic progress -United Nations, 2015.

**2. Sustainable Development Goal (6) – Clean Water and Sanitation:** Under Swachh Bharat Mission, India has made progress towards reaching the Sustainable Development Goals by expanding access to toilets across the country (SDGs-17). By the SDG (6) objective, the nations of the world have pledged to ensure that everyone has access to drinking water and sanitary facilities. In order to promote the health of eco systems as well as to elaborate international aid, competency building and the SDG Goal (6) has made a promise to the global community. With the aim of creating a long-term process, the sixth of the SDGs pledges to not only increase access facilities but also to identify the problem of inequality in providing services. There are eight global targets in SDG goal

(6). Government must decide how to incorporate them into planning and strategies based on realities, levels of development, capacities and priorities. Achievements like, Improve water quality and reduce pollution, An enormous increase in recycling and safe reuse on a global basis, Ensure that everyone has access to sanitary conditions that are appropriate and equitable, Substantially increase water use efficiency across all sectors and supply of fresh water to address water scarcity and substantially reduce the number of people suffering from water scarcity, Eliminate open defecation and pay attention to the well-being of girls and women, especially when they are in danger, Protect and restore water related ecosystems, Strengthen and expand the local community's involvement in the improvement of water and sanitation and Enhance international cooperation support for programmes relating to water and sanitation for developing countries, including technology for water efficiency desalination, wastewater reuse, and recycling water harvesting.

### 3. Research Question

- What are the key Strengths, Weakness, Opportunities and Threats that must be taken into account to create a holistic view of health in order to achieve the SDG goal (6): Water and Sanitation?

### 4. Objectives: The research objectives for a study on the Holistic View of Health to attain the Sustainable Development Goal (6)

- To understand the current aspects and future targets of the Holistic View of Health and its relevance to achieving SDG goal (6).
- To assess the SWOT associated with applying the Holistic View of Health approach to address water and sanitation issues.
- To examine the role of government, civic amenities and linkage of environmental awareness in promoting the Holistic View of Health approach to attain SDG goal (6).
- To recommend strategies for addressing the challenges and perceptions for the Holistic View of Health approach to contribute to the achievement of SDG goal (6).

## II. REVIEW OF LITERATURE

The policy of executing specific goals and SDGs, according to Jamie Bartram's et al, (2021) helps us accomplish all of our goals, such as the indicator of water and sanitation goal (6).The SDGs aim to use the indication of goal to measure both the implementation and outcomes of achieving targets (6). They suggested revising the policy as required. This study claimed that this indicator was also useful to governments in combating climate change, compensating for population increase, and ultimately reaching universal access to water and sanitation. Consequently, this research advised making significant adjustments to the development goals. Other fundamental problems, such accessibility, availability and pricing were simultaneously eliminated via recommendations.

Water is a vital essential for the growth of civilization, according to Cecilia et al. (2020), who also show that the quality of the water is just as crucial as the quantity. The potential of recycled wastewater is discussed here, and it suggests that improved sanitation

and safe drinking water may result from reused water, which is a brand new concept in support of the SGDs. The problem of water contamination and its effects on the natural environment and human health were covered in research. The SDGs were suggested as a way for the current society to deal with the problem of increasing population expansion. This study disregards the need for a comprehensive solution to the problem of water shortage; it also looked forward to a potential water crisis and took into account the current state of water resource availability.

Johanna et al, (2018) focused on MDG goal 7c criticism and SDG contribution. The discussion of the sustainable development goal and MDG was backed and illustrated by international surveys and original data. It analysed the equity in access of safe water and sanitation and divided the disparity into national, urban, gender, human right categories as well as measurement techniques. Insights into political dynamics, the benefits and drawbacks of privatisation, and community-based administration were also covered in length.

Srinivasan,S., & Balasubramanian,S. (2020). Sustainable development goals in Tamil Nadu, India: progress, challenges, and opportunities for water and sanitation. The study highlighted the challenges related to water scarcity, groundwater depletion, and water pollution, which pose a threat to sustainable water resource management in the state. The study recommended the promotion of innovative technologies and policies to promote efficient use, conservation, and protection of water resources, as well as the involvement of local communities and stakeholders in decision-making processes to promote sustainable water resource management in Tamil Nadu.

In conclusion studies conducted in a national level, indicated that investments in water and sanitation can result in significant health benefits, particularly for women and children. For example, a study in India found that improved sanitation was associated with reduced diarrhoea incidence among children. Studies conducted in a local level have also demonstrated the effect of improved water and sanitation on health. For example, a study in rural Kenya found that access to a piped water supply was associated with improved water quality and reduced diarrhoea among children. These findings emphasize the importance of continued efforts as means to improve public health.

### **III. METHODOLOGY**

This study is based on qualitative data. S-Strength, W-Weaknesses, O-Opportunities, T-Threats. It is a method of analysis that examines the strengths and weaknesses of the internal environment; opportunities and threats enhance the outcome of the external environment. By utilising SWOT analysis, this study seeks to provide a perspective on the economy, society, and environment. The 2030 Agenda includes the concept of integrated water resources management, which requires that governments take into account how water and sanitation can relate to the health of various segments of society through SDG objectives. Similarly, it refers to elements that are both internal factor (Strengths and Weaknesses) and external factor (Opportunity and Threat). Secondary data for this study was provided by the Committee on Social and Cultural Rights, the World Health Organization, UNICEF, and Agenda of Sustainable Development Goals. Following an analysis of the health in SDGs, this paper explores the many aspects of the sustainable development goal of effective water use along with sanitation facilities in health.

1. **Situational Analysis:** Situational analysis is a technique for qualitative research analysis and the most often used type of interpretive analysis transnationally in the social sciences and humanities. Health services, monitoring and evaluation, intersectoral collaboration, existing health policies and plans, service user needs and characteristics, and the socio-economic determinants of health are all included in situational analysis. A complete scenario analysis gathers data on four main topics like the people affected by the problem, the problem, its severity and its causes, the broad context in which the problem exists and the factors inhibiting behaviour change.
  
2. **SWOT Analysis:** SWOT - is the method of analysis examines that the strengths and weaknesses of the internal environment; opportunities and threats enhance the outcome of the external environment. It also stands for Strengths and Weaknesses and external stands for Opportunities and Threats factors. The strength and weaknesses are generated from the internal environment of enabling and accelerating progress, eliminating inequalities. On the other hand, opportunities and threats are external factors, relating to the behavioural pattern of public participation, prevention of environmental concern, impact on children and women, sustaining water-related ecosystems, government approach, and lack of awareness. SWOT entails both current Status and future prospects. It is a combination in which S and O have optimistic effects, while W and T are pessimistic effects. It describes the outline that provides a foundation to identify the desired future position as well as to resolve the weaknesses and take its potential advantage for the opportunity and mainly overcoming the threats.

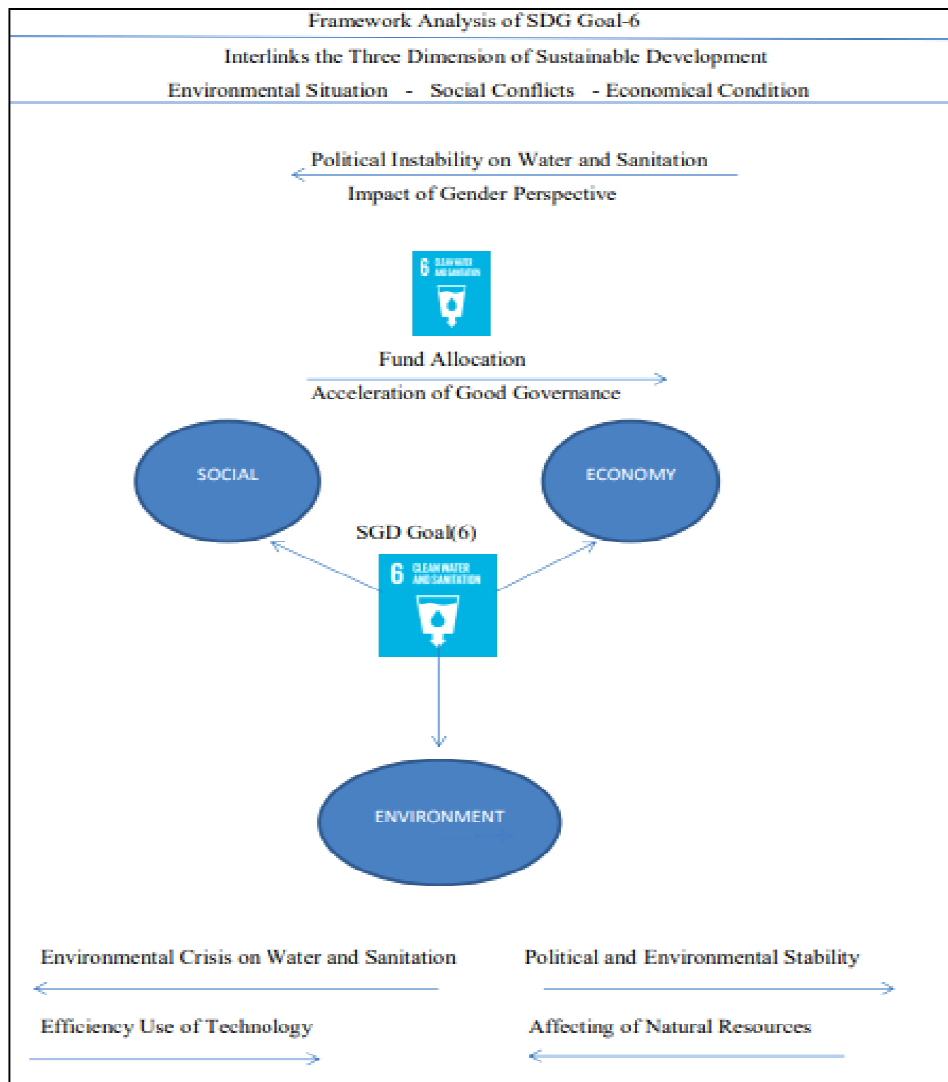


#### IV. SWOT ANALYSIS IN SDGs

A SWOT analysis of the HVH approach to achieving SDG goal (6) would consider the SWOT associated with this approach. Strengths might include the interconnectedness of socio-economic condition and environmental health, which could lead to more integrated and effective solutions. Weaknesses could include a lack of resources and inefficiency of government approach will insist to implement HVH solutions on a global scale. Opportunities could include the potential for HVH solutions to address water challenges as well as broader health and environmental issues. Threats could include resistance to changing existing systems and structures and limited public understanding of the importance of HVH.

**1. Strengths**

- **Enabling and Accelerating of Good Governance:** In this accelerating progress, good water governance is essential. Moreover it provides institutional, political, and administrative rules practices and processes for making decisions and implementing them. The National Water Policy and the Swachh Bharat Abhiyan are some of the key policies aimed at improving water and sanitation in India.



For Example: The success story of the village of Gangadevipalli in Andhra Pradesh is an excellent example of how access to clean water and sanitation can improve health outcomes. The village, which was once plagued by water scarcity and poor sanitation, is now a model for the rest of the state. With the help of government initiatives and non-profit organizations, the village now has access to clean water, toilets, and hand washing facilities and the incidence of waterborne diseases has decreased significantly. The Union Budget for the financial year 2022-23 has

allocated a total of Rs.2.87 lakh crore for the Ministry of Jal Shakti, which is responsible for the development and management of water resources, river development and Ganga rejuvenation and drinking water supply in India. This amount is 7.5 per cent increase from the previous year's budget. The Ministry is also responsible for providing sanitation services through the Swachh Bharat Mission and the Government has allocated Rs.1.41 lakh crore for this purpose in the Budget. This is a 10 per cent increase from the previous year's budget. Further, more than Rs.8.8 lakh schools and Rs.9.1 lakh Anganwadi centres are getting potable piped water supply. While playing a significant role in addressing longstanding health concerns, the JJM also acts as a vital instrument of public health.

The Jal Jeevan Mission scheme, which was launched on 15th August 2019 aims to deliver piped water to every family in the nation by 2024. It has played a critical role in India's journey towards achieving United Nations Sustainable Development Goal (6).

The National Water Policy and the Swachh Bharat Abhiyan are some of the key policies aimed at improving water and sanitation in India. The Union Budget for the financial year 2022-23 has allocated a total of Rs.2.87 lakh crore for the Ministry of Jal Shakti, which is responsible for the development and management of water resources, river development and Ganga rejuvenation and drinking water supply in India. This amount is a 7.5 per cent increase from the previous year's budget. The Ministry is also responsible for providing sanitation services through the Swachh Bharat Mission and the Government has allocated Rs.1.41 lakh crore for this purpose in the Budget. This is a 10 per cent increase from the previous year's budget. In terms of political action, the Indian government has made efforts to improve access to water and sanitation through various programs such as the Swachh Bharat Abhiyan, which aims to eliminate open defecation and improve the management of solid and liquid waste in the country. In the recent budget for 2023, the Indian government has allocated funds towards the improvement of water and sanitation facilities. Further, more than Rs.8.8 lakh schools and Rs.9.1 lakh Anganwadi centres are getting potable piped water supply. While playing a significant role in addressing longstanding health concerns, the JJM also acts as a vital instrument of public health.

- **Fund Allocation:** In the recent budget for 2023, the Indian government has allocated funds towards the improvement of water and sanitation facilities around 77,223 crore, which is 29 per cent increase over the revised estimates of 67,221 crore in 2022-23.

The government has allocated INR 3,700 crore (approximately USD 500 million) towards the Swachh Bharat Abhiyan and INR 2,87,000 crore (approximately USD 38 billion) towards the JJM which seeks to provide functional tap connections to every rural household by 2024. By the second of February 2023, the mission has provided tap water connections to over 11 crore households, increasing coverage by 57 per cent since its inception in 2019.

The allocation for the Ministry of Jal Shakti (Department of Water Resources, River Development and Ganga Rejuvenation) has been increasing in recent years. The pillars of safe water, sanitation, and hygiene especially in rural areas improve people's quality of life and "ease of living."

- **Destructing Inequalities:** Access to WASH services is also an important component of achieving water security. It can improve health, life expectancy, gender equality, student learning and other important issues of international development. It can also assist with poverty reduction and socio-economic development. The DDWS is asking for government assistance in facilitating more public-private partnerships in order to provide solid and liquid waste management frameworks across all 6.4 lakh villages in India by 2024. This request is made in the Budget 2023–2024. The influence of this initiative will extend to the communities' health, education, and livelihoods of the people, including women and children, primarily by providing them with sanitary and hygienic villages to live in and handle on their own. Three pillars: safe water, sanitization, and hygiene can improve people's quality of life particularly in rural areas. In this regard, the Department of Drinking Water and Sanitation has made tremendous strides towards supplying rural households with clean sanitation and access to drinking water. Hence, the purposes of providing access to WASH services include achieving public health gains, enhancing human dignity in the case of sanitation, implementing the human right to water and sanitation, reducing the burden of collecting drinking water for women, reducing risks of violence against women, enhancing education and health outcomes at schools and health facilities, and reducing water pollution. Improving access to WASH services can improve health, life expectancy, gender equality, student learning and other important issues of international development. It can also assist with poverty reduction and socio-economic development.
- **Pertaining of Environmental Concern:** By expanding nationwide toilet access through numerous programmes like Swachh Bharat Abhiyan and Swachh Bharat Mission, India has made significant progress towards achieving Sustainable Development Goal (6). In the same situation, India must scrutinize its success within the framework of environmental safety. It also reinforces the explications that need to take account of other aspects of environmental sanitation such as solid waste management also the generation of industrial and hazardous wastes. The reason of SDGs identified the pathways of full-filling the water and sanitation, by achieving global water and sanitation for all.
- **Political and Environmental Stability:** In terms of political action, the Indian government has taken steps to improve access to water and sanitation through various actions which aims to improve the water and management in the country. Jal Shakti was established by the Indian government in May 2019 as part of the second Modi administration. This was formed by merging of two ministries namely Ministry of Water Resources, River Development and Ganga Rejuvenation and Ministry of Drinking Water and Sanitation. They would also encompass any international or national conflicts between inter-state water bodies and the rivers which are shared by India along with other neighbouring countries. A unique initiative called "Namami



Gange" project has been launched to clean Ganga and its tributaries to provide safe drinking water to people of the country. The formation of this ministry reflects India's seriousness towards the mounting water challenges that the country has been facing over the past few decades. By expanding nationwide toilet access through numerous programmes like Swachh Bharat Abhiyan and Swachh Bharat Mission, India has made significant progress towards achieving Sustainable Development Goal (6). In the same situation, India must scrutinize its success within the framework of environmental safety.

In conclusion, social determinants of health theory depicts that factors outside of an individual's control, such as economic, social, and environmental factors, have a significant impact on their health outcomes. This theory is influenced by the socio and economic context in which people live and work, and that health disparities are largely the result of social and economic inequalities. This theory calls for interventions that address the social and economic determinants of health to improve health outcomes and reduce health disparities.

## 2. Weaknesses

- **Lack of Funding:** According to a report by Water Aid India, poor sanitation and lack of access to safe water lead to over 1,00,000 deaths in India each year. The main issue of implementation of SDG goal (6) in India is the lack of adequate funding. The Indian government has allocated only 0.1 per cent of its GDP to water and sanitation, which is much less than the recommended target of 4 per cent of Gross Domestic Product. This lack of funding has resulted in inadequate access to clean water and sanitation for millions of people in India.
- **Impact on Environmental Crisis:** India is facing a severe water and sanitation crisis. More than 600 million people in India lack access to safe drinking water, and over 892 million lack access to adequate sanitation. India is one of the most populous countries and it is estimated that over 75 per cent of its population lives in rural areas. The lack of access to safe drinking water and adequate sanitation in rural areas is a major contributor to the high rates of water-related diseases and deaths in India. Tamil Nadu is facing a severe water and sanitation crisis. Nearly half of the populations in the state do not have access to safe drinking water, and over two-thirds lack access to adequate sanitation. In addition, the country is facing an increasing water scarcity due to the result of climate change, population growth, and unsustainable water management practices. Tamil Nadu is facing a severe water and sanitation crisis. Nearly half of the populations in the state do not have access to safe drinking water, and over two-thirds lack access to adequate sanitation. In addition, the state is facing an increasing water scarcity due to population growth, climate change and unsustainable water management practices. For example: The 2015 Chennai floods were a devastating event that highlighted the fragile urban infrastructure of the city. The floods were caused by exceptionally heavy rainfall over a short period of time, which overwhelmed the city's drainage system and caused widespread flooding throughout the city. The city's infrastructure, including its buildings, bridges, and roads, as well as its economy, suffered severe damage as a result of the floods. The city's drainage system was designed to handle a maximum of 10 cm of rainfall in a

day, but the rainfall during the floods was much higher than this. One of the main causes of the floods was the city's inadequate storm water drainage system. The floods also highlighted the need for cities to have better urban planning because the city was built on a low-lying coastal plain, which meant that it was vulnerable to flooding. Additionally, the city's urban form was also not intended to support the rapid population expansion that had been experienced in recent years, which resulted in a rise of impermeable surfaces, such as roads and buildings, which exacerbated the flooding. Finally, the city's infrastructure was not adequately maintained due to poor administration and corruption, which resulted in insufficient drainage systems and other problems. It was not designed to cope with extreme weather events, such as the floods, and the authorities failed to take adequate precautions to prevent the flooding.

- **Impact on Gender Perspective:** From the impact of gender perspective, poor sanitation especially affects children under the age of five, as their immunity strength becomes weak and diseases are also caused by poor sanitation. Every year, 1.5 million children were affected by diarrhea, and also the second biggest killer of children in developing countries. Mentioning sanitation alone can decrease many of these unwanted effects among children. When girl students reach adolescence, unclean toilets affect uncleanliness, Unsafeness, discomfort, discourage them to attend school, especially in the situation of menstruating. In addition the poor sanitation facilities also force them to get panic, shame, embarrassment, especially harassment while having to defecate in the open defecation.
- **Inefficiency of Government Approach:** The government system operates within the confines of a specific social and cultural framework and consequently, the comparison of poor water and sanitation facilities predominately affects the lower class, especially in rural backgrounds, also some sort of system control by politically. Furthermore, the government has to take part and achieve the welfare of implementing programs to enhance the division of water and sanitation, especially in universal welfare. The discrepancies between the budget estimates, revised estimates, and actual expenditure raise questions over the physical performance of the scheme.

The Swachh Bharat Mission - Rural (SBM-R) records no change in its budgetary allocation compared to the 2022-23. The SBM-R, in its Phase-II, aims to sustain Open Defecation Free status and cover all villages with Solid and Liquid Waste Management arrangements by 2024-25. Despite the looming deadline, however, the financial provisions for the scheme do not represent a swift approach towards the achievement of this target, as visible in the stagnant allocations. Additionally, the Revised Estimate under the scheme has declined for five consecutive years since 2018, as well as in 2022-23. The Standing Committee on Water Resources: 2021-22, in its 16 report, marks the reduction at each stage of the budget as a 'recurrent reduction' and reflects on the under-utilisation of funds under the scheme. Budgetary allocations for urban sanitation get an impetus while rural sanitation remains stagnant - Urban sanitation has been a neglected area; however, Budget 2023-2024 has given it a much-needed impetus, as seen in the almost 54 per cent hike in the allocation for the Swachh Bharat Mission - Urban (SBM-U) over the previous year. It also recommends better planning and coordination among states and implementing agencies for effective utilisation of the resources.

- **Behavioural Pattern:** In India, approximately 34 million people still practise open defecation, and 39 per cent of the population does not have access to even basic hand washing facilities, according to the WHO and United Nations Children's Fund joint report describes that “It is one of the essential components required to improve water and sanitation facilities. Rapidly, it provides to practicing other aspects of cleanliness like the way of drinking water and eating food, hand washing, Using Soap, especially in both rural and urban areas. Water and sanitation have been ensured by the low level of priority and there is a low level of awareness about its inherent linkages especially related to the welfare of public health in various participations. Additionally, there is a lack of public awareness about the importance of safe water and sanitation, leading to low rates of adoption of these practices. Finally, there is a lack of coordination between government departments and agencies, leading to a lack of implementation of policies and programmes. Thus, India is making progress in improving its water and sanitation facilities, but much work has to be done to guarantee that all citizens have access to safe and clean water and sanitation. Access to WASH needs to be provided at the household level even insist in non-household contexts like schools, health care facilities, workplaces, temporary usage locations, mass gatherings, and for dislocated populations. In schools, group hand washing facilities and behaviours are a promising approach to improve hygiene.

*In behavioural economics theory* acknowledges that people's choices and behaviour of the government are influenced by a wide range of cognitive and emotional factors also the theory proposes that interventions that make use of behavioural insights can be effective in promoting health behaviours. This theory calls for interventions that address the cognitive and emotional factors that influence behaviour.

### 3. Opportunities

- **Efficiency of Technology:** India has been investing in numerous technologies to improve water and sanitation management, such as water treatment plants, sensor-based monitoring systems, and mobile applications to track and report water quality. According to a report by NITI Aayog, India's policy think tank, the adoption of smart water management solutions could reduce non-revenue water by up to 50 per cent, save up to 10 billion cubic meters of water, and generate potential revenue of USD 12 billion by 2022. This presents a significant opportunity for businesses and the government to invest in and adopt these technologies to improve water and sanitation management. Similarly, on 27th September, 2022, the JALDOOT app was launched to measure the water level twice a year in a Gram Panchayat.
- **Wastewater Treatment and Reuse:** In the Central Pollution Control Board, only 30 per cent of the wastewater generated in India is treated, and the rest is discharged into water bodies. Wastewater treatment and reuse is an area that presents an opportunity for India to address its water scarcity and pollution challenges. The Indian government has launched several initiatives to promote wastewater treatment and reusing like Namami Gange and Atal Bhujal Yojana programs.

The Chennai Metro Water Reuse Project and the wastewater treatment facilities of the Delhi Jal Board are only two examples of the wastewater treatment and reuse systems implemented in several cities in India. These projects have led to the reuse of treated wastewater for non-potable purposes, declining pressure on freshwater resources.

- **Gender Dimensions:** Young girls and women are often responsible for collecting water, which can take up to six hours a day, declining their opportunities for education and income generation. The Indian government has implemented various initiatives to address the gender dimensions of water and sanitation, such as the Swachh Bharat Mission – (Gramin), which aims to construct toilets in households and schools. Recognizing the gender dimensions of water and sanitation can present an opportunity for India to improve access to safe and adequate water and sanitation services for women and girls. End open defecation and provide all people with access to sufficient and equitable sanitation and hygiene by the year 2030, giving particular attention to the needs of women, girls, and people in vulnerable situations.
- **Efficient Use of Natural Resources:** India is facing a growing water crisis, with many regions experiencing water scarcity and droughts. Likewise, India has a chance to address these challenges by promoting the effective use of natural resources like water and energy. Although India has 18per cent of the world’s population, it only has 4per cent of the world’s freshwater resources. According to a World Bank report, efficient water management could help India save up to USD 600 billion by 2050. The NWM and the Atal Bhujal Yojana are two examples of government initiatives in India that encourage the effective use of water resources. The efficient use of natural resources presents an opportunity for businesses to develop sustainable solutions and technologies.
- **Rainwater Harvesting:** The government launched Mission Amrit Sarovar on April 24, 2022, with the goal of saving water for the future, despite the fact that JJM includes a significant sustainability component. The mission, adopts a "whole of society" strategy, enlists the collaboration of Jal Shakti, Ministries of Rural Development, Panchayati Raj, Forest and Climate Change, with technical assistance from the Bhaskaracharya National Institute of Space Applications and Geo-Informatics with the aim to develop and revitalise 75 water bodies in each district in time for the nation's 75<sup>th</sup> year of independence. Several states in India have implemented rainwater harvesting programs to promote the collection and storage of rainwater for future use. For example, the state of Tamil Nadu has made rainwater harvesting mandatory for all buildings, and has implemented several programs to promote the practice.
- **Effective Co-operation of People and Government:** Community-based approaches to water and sanitation management, such as the Community-led Total Sanitation program, have been successful in promoting behaviour change and improving access to sanitation facilities. It focuses on community involvement to promote sanitation and hygiene practices. This approach has been successful in several states in India,

with several communities becoming open defecation-free. The JJM is one of the efforts the Indian government has started to encourage public involvement in water and sanitation management. The significance of having access to sanitary facilities has been made clear by the COVID-19 epidemic. In India, the lack of access to clean water and proper sanitation in many areas has made it difficult to control the spread of the virus. Throughout the epidemic, non-profit organizations like Water Aid and UNICEF have been working to provide access to clean water and sanitation especially to vulnerable communities during the pandemic period. States in planning of participatory rural water supply strategy for ensuring drinking water security on long-term basis to each and every rural household and public institution, namely Gram Panchayat building, Schools, Anganwadi centre and Health centre.

- **Opportunities in Sustainable Development Goals:** The Swachh Bharat Abhiyan, the National Rural Drinking Water Program, JJM, and the Namami Gange effort to clean the river Ganges are just a few of the programmes and projects that the Indian government has introduced to fulfil SDG goal (6). The government is also partnering with international organizations and the private sector to improve basic needs of infrastructure in India. In future prospects, through SDG goal (6), countries throughout the world have committed to providing everyone with access to clean, safe drinking water and appropriate sanitation in the next fifteen years.
- **The Welfare of Sustainability – Sustainable Development Goal (6):** The main goal of Sustainable Development Goal (6) entails not only providing access to toilet facilities for both urban and rural communities also making assure that the toilets are usable and used by each and every member of the household with the purpose of long-term progress not in the short term progress.

*In conclusion, social ecological theory* recognizes the influence of social environment on human development. It also influenced by multiple levels like, individual, interpersonal, community, and societal factors also proposes that health interventions should address factors at all levels to be effective. This theory calls for interventions that address factors such as knowledge, behaviour, beliefs and interpersonal factors such as social support networks, community-level factors such as access to healthy food, and societal factors such as policy and environmental factors that promote health.

#### 4. Threats

- **Environment Crisis on Water and Sanitation:** Water and the environment is one of the survivals of human needs in form of drinking water and maintaining of preserving the environment but it may cause in form of direct and indirect methods of pollution. Water can be polluted by groundwater contaminants such as fertilizers and pesticides. It can be affected in the form of direct pollutants. In addition to human behaviour, pollution usually impacts the natural and larger environment due to man-made activities whereas pollutants can occur in the form of indirect methods. Worsening of water quality problems like sewage and wastewater, marine dumping, and even a lack of properly managed sanitation, industrial and agricultural run-off, is widespread and

of growing concern (United Nations Environment Programme, Report 2016) contamination includes in the form of organic contaminations, inorganic contaminations, and biological contaminations.

- **Political Instability on Water and Sanitation:** Political instability can have a significant impact on water and sanitation, as it can disrupt the ability of governments to provide essential services and infrastructure to their citizens. It can also lead to conflict and displacement, which can further worsen the challenges of providing water and sanitation services. In conflict-affected areas, water and sanitation infrastructure may be damaged, and people may be forced to rely on unsafe sources of water or sanitation facilities. Many people in India still lack access to clean water, especially in rural areas, despite attempts to increase access to safe drinking water. The government's ability to provide safe drinking water is hindered by various factors such as poor management, inadequate funding, and corruption. These events can disrupt the delivery of water and sanitation services, particularly in areas that are already vulnerable due to political instability and inadequate infrastructure. India has several interstate disputes over water resources, particularly related to rivers that flow through multiple states. The sharing of water resources is a complex issue in India, and the lack of a comprehensive policy for water allocation and management has contributed to conflicts. India frequently lacks proper wastewater treatment facilities, which causes pollution of water bodies and groundwater contamination. As a result, there may be insufficient water and sanitation systems, which may have detrimental effects on public health, such as the spread of waterborne infections.

Overall, political instability can have a significant negative impact on the ability of governments to provide adequate water and sanitation services to their citizens, which can have serious public health consequences. Addressing these challenges will require concerted efforts by the government, civil society, and international stakeholders to improve governance, increase investment, and build sustainable and resilient water and sanitation infrastructure. In order to ensure that these essential services are provided to everyone, it is to prioritise stability and good governance. Over 2.2 million people die each year from water-related diseases, and many more suffer from water-related illnesses. Water scarcity is becoming increasingly severe due to climate change, population growth, and unsustainable water management practices. As a result, water scarcity is becoming a global security issue, as it is linked to poverty, displacement, and conflict. Additionally, political instability can make it difficult for governments to coordinate with international aid organizations and donors, which can further worsen the problem. Donors and aid organizations may be hesitant to invest in a country with political instability, or they may be unable to effectively coordinate with the government to implement projects and programs.

- **Social Conflicts on Water and Sanitation:** The world is facing an unprecedented water and sanitation crisis. Nearly 1 in 3 people worldwide lack access to drinking water, and 6 in 10 lack access to adequate sanitation. Over 2 million people die each year through water-related diseases, and many more suffer from water-related illnesses. Water scarcity is becoming increasingly severe due to climate change, population growth, and unsustainable water management practices. As a result, water

scarcity is becoming a global security issue, as it is linked to poverty, displacement, and conflict.

- **Affecting of Natural Resources:** One of the fundamental requirements of human life is the environment, which includes water, for sustaining, safeguarding, and keeping the resources. Water scarcity will result from the destruction of forests, non-preservation of plants and non-protection of trees. In urban areas natural resources may be impacted by air pollution, poor management of waste, contaminated water, biodiversity loss, and soil deterioration. Finally to human behaviour, pollution is typically caused by man-made activities that harm the environment, while pollutants can also take the form of non-biodegradable wastages like toxic chemicals including plastics and industrial wastages.
- **Causing Diseases on Water and Sanitation:** Contamination of water bodies is water pollution. Inadequate sanitation facilities can also have an effect because persons are suffering from ill-healthiness and living a short span of lives, thereby earning less money, being unable to sustain education, and mainly unable to get a stable future, especially for their children. Most of the persons affected more in the side of rural background compared to urban areas. Water and sanitation-related diseases are linked to contamination of poor water management. Wastewater and inadequate drainage provide linkage grounds for mosquitoes that diffuse malaria, dengue, and chikungunya. Insufficient water, sanitation, and hygiene services in India's health facilities, contribute to the high neonatal mortality rate, which is currently 24 deaths per 1000 live births. According to the report of (World Health Organisation, 2018) 4 lakh people annually still die from malaria, most of them children under the age of five.
- **Water, Sanitation in Health Care:** Water is a natural solvent, enabling most pollutants to dissolve it also easy to contaminate. It is one of the natural resources that are harmed by both environmental factors and man-made activity in water. Studies have shown that access to clean water and sanitation is linked to improved health outcomes. Study published in the Journal of Water and Health found that access to clean water and sanitation was associated with a significant reduction in the incidence of diarrhea in India. Another study published in The Lancet Public Health found that the lack of access to clean water and sanitation in India was responsible for more than 3,00,000 deaths in 2017. According to a report by Water Aid, an international non-profit organization, in 2021, 163 million people in India did not have access to clean water. This has significant health implications, as contaminated water can cause diarrheal diseases, cholera, typhoid, and other illnesses. Maintaining a sanitary environment in health centres is essential for quality and equity in universal health coverage and in infection prevention and control measures. Water, Sanitation, and Hygiene and health sectors must work together to address this immense challenge and attain the goal of global access to basic water and sanitation in all settings, including health care facilities.

- **Water and the Economy:** The promotion of sustainable economic development in agriculture and industry is the main emphasis of water and the economy. Unsustainable borrowing from natural resources will not prevent to meet these target achievements. Due to climate change, people are becoming more aware of sustainability and how future natural resources are being depleted in order to meet current economic needs. Compare to financial crisis this is worse because if resources are depreciated beyond a sustainable level, there is no means of paying back the debt. From 1992 to 2016, there was an improvement in Indian households' access to water sources. According to the sustainable development goal (6), everyone will have access to clean, safe water and sanitary facilities by 2030.

*In Conclusion, Community-based participatory research theory* proposes that research should be conducted in partnership with communities, with community members playing an active role in all aspects of the research process, from design to dissemination. This theory calls for research that is responsive to the needs and concerns of the community, and that is conducted in a way that empowers the community and promotes social change.

## V. CONVERSION TOWARDS SUSTAINABLE AND RESILIENT SOCIETIES

**SDG-6 is Inevitably Linked to the other SDGs:** Sustainable Development Goal (SDG) 6, which aims to ensure access to water and sanitation for all, is interconnected with all 17 SDGs.

1. **SDG 6 – Clean Water and Sanitation**  $\longleftrightarrow$  **SDG 1 –No Poverty:** The goal is to eradicate extreme poverty and reduce the overall poverty rate. This includes ensuring that everyone has access to basic needs such as food, shelter, and clean water. Lack of basic needs can perpetuate poverty and hinder economic development. Illustration: A person living in poverty might not have access to basic needs like clean water. SDG 6, which aims to ensure access to water and sanitation for all, also can reduce poverty by ensuring that people have access to the resources they need to improve their standard of living.
2. **SDG 6 – Clean Water and Sanitation**  $\longleftrightarrow$  **SDG 2 – Zero Hunger:** The goal is to end hunger and malnutrition. This involves increasing agricultural productivity and access to nutritious food for everyone, especially the most vulnerable populations. Improved water access can increase agricultural productivity and food security. Illustration: A farmer in a developing country might struggle to grow enough food to feed their family due to poor soil quality or lack of access to resources. SDG 2 aims to address these issues by providing support for agricultural development, increasing access to markets, and promoting sustainable food production practices.
3. **SDG 6 – Clean Water and Sanitation**  $\longleftrightarrow$  **SDG 3 - Good Health and Well-being:** The goal is to ensure that everyone has access to quality healthcare, including preventative measures, and to reduce the prevalence of communicable and non-communicable diseases. It is closely connected with the behavioural pattern of people and the government; it can also take prevailing and protecting of good health and safe



human well-being. Access to water and sanitation is crucial to preventing waterborne diseases and improving health outcomes.

4. **SDG 6 – Clean Water and Sanitation**  $\longleftrightarrow$  **SDG 4 – Quality Education:** The goal is to provide access to quality education for all, from primary to tertiary levels, with a focus on equitable access. Providing good education leads to the awareness of protecting the welfare of the environment and safeguarding the natural ecosystem. Students, particularly girls, often miss school due to a lack of access to water and sanitation facilities. Compared to urban areas, it is closely linked with poor people, unable to get an education in order to sustain the employment level, and eventually not able to get a stable future.
5. **SDG 6 – Clean Water and Sanitation**  $\longleftrightarrow$  **SDG 5 – Gender Equality:** The goal is to eliminate gender discrimination and promote equal access to opportunities and resources for all genders. From the gender perspective, women and girls are disproportionately affected by a lack of access to water and sanitation, with impacts on health, safety, and education. However, the cause on young girls and women, poor sanitation facilities also force them to get panic, especially harassment while attain to defecate in the open.
6. **SDG 6 – Clean Water and Sanitation**  $\longleftrightarrow$  **SDG 7 - Affordable and Clean Energy:** Energy is essential for the provision of clean water and sanitation services. The goal is to increase access to affordable, reliable, and sustainable energy for all. Firstly, access to water and sanitation is necessary for the provision of energy services. For example, clean water is needed for hydroelectric power generation, while sanitation facilities are necessary for the safe disposal of waste from energy production. The use of renewable energy sources can reduce water pollution and improve water quality, while the implementation of water and sanitation services can reduce the need for energy-intensive water treatment processes. Energy is needed to pump and treat water, and to operate sanitation facilities such as wastewater treatment plants. Achieving SDG 6 and SDG 7 together can lead to multiple co-benefits.
7. **SDG 6 – Clean Water and Sanitation**  $\longleftrightarrow$  **SDG 8–Work and Economic Growth:** The goal is to promote sustained economic growth and inclusive and sustainable economic development, while ensuring that everyone has access to decent work opportunities. Access to clean water and sanitation can lead to improved health outcomes, which in turn can lead to increased productivity and economic growth. When people are healthy, they are better able to work, learn, and participate in their communities, which can lead to economic and social benefits. Sustainable water management practices can help ensure the long-term availability of water resources, which is important for industries such as agriculture, manufacturing, and tourism.
8. **SDG 6 – Clean Water and Sanitation**  $\longleftrightarrow$  **SDG 9 – Industry and Infrastructure:** This is to promote inclusive and sustainable industrialization to develop resilient infrastructure that supports economic growth and human well-being. Improved water and sanitation infrastructure can support sustainable development and innovation. It is closely dependent, on water and sanitation in order to manufacture the product of industry and also to utilize the infrastructure facilities.

9. **SDG 6 - Clean Water and Sanitation** ← → **SDG 10 – Reduced Inequalities:** This is to reduce inequalities within and among countries, with focus on ensuring that everyone has equal opportunities and rights. Lack of access to water and sanitation disproportionately affects marginalized and vulnerable populations, leading to inequality. Both rural and urban people can access the facilities for their basic needs through the attaining of SDG 6.
10. **SDG 6 - Clean Water and Sanitation** ← → **SDG 11 – Sustainable Cities and Communities:** This goal is for attaining the welfare aspects of cities and human settlements provide basic necessities to their inhabitants, including safe water and sanitation facilities. Cities are also increasingly playing a vital role in the maintaining of water-related ecosystems, in order to maintain and protect floods and droughts. Improved water and sanitation access is critical for sustainable urbanization and building resilient cities. Illustration: Rapid urbanization can lead to overcrowding, pollution, and inadequate infrastructure in cities. SDG 11 aims to address these issues by promoting sustainable urban planning, improving access to basic services, and increasing access to green spaces.
11. **SDG 6 - Clean Water and Sanitation** ← → **SDG 12 – Responsible Consumption and Production:** Water is the main component of the consumption and production of goods, and services. Water and sanitation access is linked to the usage of responsible resource and waste management. The goal is to promote sustainable patterns of consumption and production, with a focus on reducing waste and increasing resource efficiency. Illustration: Overconsumption and waste can lead to environmental degradation and resource depletion. SDG 12 aims to address these issues by promoting sustainable consumption and production practices, reducing waste, and increasing resource efficiency.
12. **SDG 6 - Clean Water and Sanitation** ← → **SDG 13 – Climate Action:** Sanitation and water access can aid in climate adaptation and resilience. Basic requirements for human welfare can be impacted by climate change. Protecting and ensuring the upkeep of ecosystems associated to water, primary concern. The basic concern is to protect and safeguard the maintenance of water-related ecosystems, including environment. The goal is to take urgent action to combat climate change and its impacts, with a focus on declining greenhouse gas emissions and high in resilience to climate-related hazards. Illustration: It can lead to high frequent and severe natural disasters, such as hurricanes and droughts. SDG 13 aims to address these issues by promoting sustainable energy use, increasing resilience to climate change, and reducing greenhouse gas emissions.
13. **SDG 6 - Clean Water and Sanitation** ← → **SDG 14 – Life below Water:** The goal is to conserve and sustainably use the oceans, seas, and marine resources, with a focus on reducing marine pollution and protecting marine ecosystems. Water and sanitation access is linked to ecosystem health and biodiversity conservation. The basic constraints of water are to protect and restore the water-related eco system, increase the economic benefits from the sustainable use of marine resources. In addition, we can maintain the groundwater level and have to concentrate more on man-made environmental activities. Illustration: Pollution and overfishing can lead to the depletion of marine resources and

harm marine ecosystems. SDG 14 aims to address these issues by promoting sustainable fishing practices, reducing marine pollution, and protecting marine ecosystems.

- 14. SDG 6 - Clean Water and Sanitation**  $\longleftrightarrow$  **SDG 15 – Life on Land:** The goal is to protect, restore, and promote the sustainable use of terrestrial ecosystems, with a focus on preserving biodiversity and combating desertification, deforestation, and land degradation. It can also mobilize and significantly increase financial resources from all sources to conserve, prevail and sustainably use for both biodiversity and other water-related ecosystems. Illustration: Deforestation and land degradation can lead to the loss of biodiversity and harm the livelihoods of communities that rely on natural resources. It aims to address these issues by promoting sustainable land use practices, protecting forests and other natural ecosystems, and combating desertification and land degradation.
- 15. SDG 6 - Clean Water and Sanitation**  $\longleftrightarrow$  **SDG 16 – Peace, Justice and Strong Institutions:** It is to promote peaceful and inclusive societies, provide access to justice for all, and strengthen institutions that support democracy, good governance, and the rule of law. Water and sanitation access is linked to good governance, public health, and human security. Assistance of peace and inclusive societies for sustainable development, provision of access to justice for all, and building effective at all levels. Illustration: Corruption and weak institutions can undermine democratic processes and lead to social unrest. By promoting transparency, accountability and good governance and by strengthening institutions that support the rule of law.
- 16. SDG 6 - Clean Water and Sanitation**  $\longleftrightarrow$  **SDG 17–Partnerships for the Goals:** The goal is to strengthen the means of implementation and revitalize the global partnership for sustainable development. Illustration: Improved water and sanitation access requires cross-sectoral collaboration and partnerships among governments, NGOs, private sector, and communities. These partnerships by promoting knowledge sharing, technology transfer, and resource mobilization, and by fostering international cooperation.

The SDG (17) goals to change our world especially they need to mobilize financial resources for developing countries from international sources, as well as to strengthen domestic welfare. These interconnections highlight the crucial role of SDG Goal (6) in achieving broader sustainable development objectives, and emphasize the need for integrated and multidisciplinary approaches of water and sanitation issues.

## VI. CONCLUSION

SDG Goal (6) is essential for enhancing social welfare, social well-being, economic productivity, and fundamental health-related services. It reduces hunger, achieves food security, and enhances hygienic practises and nutrition. One of the fundamental safeguards in everyone's life is their health. Water-related ecosystems include preventing diseases, protecting environmental awareness, and sustaining a high level of a healthy ecosystem. It plays a prime motive in providing advantages and services for safe drinking facilities, water for food and cleaning, and natural solutions for water purification are just a few of the advantages and services it offers. Controlling poverty, achieving food security, and enhancing nutrition for everyone are crucial for the health and well-being of society.

There are three basic facets to sustainability: economic, environmental, and social. The informal names for these three factors are people - economic, planet - environmental, and profits - social. This report offers a broad summary of the SDGs' aims and accomplishments of SDG Goal (6). Future welfare should place more emphasis on man-made environmental preference and sustainability practices, which plays a significant impact in a number of outcomes, especially on water and sanitation – Goal (6).

*“When the well is dry, we know the worth of water”.*

- Benjamin Franklin

In conclusion, the HVH approach has the potential to contribute significantly to achieving SDG Goal (6), but there are also significant challenges that must be addressed in order to fully realize its benefits. Further research is needed to better understand the SWOT, associated with HVH approach to SDG Goal (6) and to develop effective strategies for implementation. Several key variables including water and the growth of future aspects which were significantly associated with SDGs and the outcomes of health should be addressed in the future generation. This paper concludes by evaluating the health of water and sanitation process and assessing welfare through sustainable development. By bringing together diverse perspectives and insights, we hope to contribute to the global effort to ensure access to safe, sustainable, and affordable water and sanitation for all.

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