

ROLE OF CIVIL ENGINEERING IN SWATCH BHARAT MISSION, A CRITICAL REVIEW

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Abstract— The Swachh Bharat Mission-2 (SBM-2), launched by our Prime Minister Shri Narendra Modi in 2021, Swachh Bharat Mission-2 is an ambitious mission to make India clean and open defecation free. This paper discusses the critical role of civil engineers which would be played for the success of such glorious mission. It looks at what civil engineers do for the mission and how they contribute to become India cleaner and healthier India by doing their technical work. This paper uses information and facts to show how civil engineers contribute to this mission. This ambitious initiative has seen active participation from various stakeholders, with civil engineers playing a key role in its success. This paper examined the various roles played by civil engineers in the Swachh Bharat Mission-2, looking at their contributions, challenges and impact on the overall progress of the mission.

Keywords—Swachh Bharat Mission-2, Environmental safety, Open defecation, Civil Engineering, Solid Waste Management, Water supply, Sanitation.

I. INTRODUCTION

The Swachh Bharat Mission-2 began on October 2, 2014, and it's all about preserving India smooth and making sure humans have right sanitation facilities. Civil engineers are just like the heroes in this venture. They assist plan, design, and construct important such things as toilets, sewage remedy plant life, and rubbish control systems. They also ensure that our cities and cities have excellent drainage systems to save you waterlogging and pollutants. Civil engineers additionally paintings on giving us smooth and secure ingesting water. This paper talks about the essential work they do to make the Swachh Bharat Mission-2 an achievement.

II. LITERATURE REVIEW:

Swachh Bharat Mission:

Swachh Bharat Mission is a big mission started by our government in 2014 to make India clean. Its main aim is to stop people from going to the bathroom in the open and to keep our surroundings clean. This mission also works on improving things like toilets, waste management, and clean water. SBM-2 is the extend of this mission to achieve the goals.

Civil Engineers:

Civil engineers are like the Vishwakarma who design and build important things like roads, bridges, and buildings. In the SwachhBharatMission, they are the ones who plan and build things like toilets and sewage systems to keep our areas clean.

Sanitation:

Sanitation means having clean and safe places to go to the bathroom, managing our waste correctly, and getting clean drinking water. It's important for our health, and Swachh Bharat Mission focuses on improving sanitation.

Cleanliness:

Cleanliness means keeping our surroundings free from Dust and dirt. The Swachh Bharat Mission wants to create a clean and Safe as well as healthy environment by reducing waste and make sure people use toilets.

Infrastructure:

Infrastructure includes the basic things we need for our society to work, like roads, water supply, and sewage systems. In the SwachhBharatMission, it means building toilets and other facilities to improve Cleanness.

Sustainability:

Sustainability means making sure that the things we build can last a long time and keep working well. In the Swachh Bharat Mission, it's about creating infrastructure and practices that can be used for many years.

Open Defecation:

Open defecation means people going to the bathroom in the open, like fields or streets, instead of using toilets. The Swachh Bharat Mission aims to stop this practice by providing toilets and encouraging better habits.

Solid Waste Management:

Waste management is all about collecting and getting rid of waste properly. In the Swachh Bharat Mission, it's important to have good systems for dealing with things like garbage and sewage to keep our areas clean.

Water Supply:

Water supply means making sure that people have access to clean and safe drinking water. The Swachh Bharat Mission works on improving water supply systems for better health.

Community Engagement:

Community engagement means involving and educating local communities in the mission's goals. It's about getting people to understand and support the mission and to change their habits to keep India clean. This involvement is crucial for the mission's success.

What Civil Engineers Do:

Civil engineers are really important for the Swachh Bharat Mission-2. They help build toilets and other sanitation facilities that help keep our surroundings clean. They also make sure that sewage and waste are managed properly. They plan how we get clean drinking water, and they make sure that our cities and towns are built in a way that keeps them clean and hygienic, apart from that they always make sure that the new thing they are going to build will be according to plan of the city.

New Ideas and Technology:

The Swachh Bharat Mission has pushed civil engineers to come up with new ideas and use modern technology. They are using eco-friendly materials and smart ways to manage waste. They are also finding ways to use renewable energy sources. This helps make our sanitation facilities more efficient and long-lasting. These changes make our environment cleaner and healthier. a new approach is introduced with the introduction of civil engineers in Swachh Bharat Mission as Engineer they have most advanced plans and hand on technology, that is missing before.

Challenges for Civil Engineers:

Civil engineers face some challenges too. They often have to work with limited budgets, and their work can be technically complex. Keeping the sanitation facilities in good condition also needs regular maintenance. Sometimes, people in the community might not be aware of the importance of cleanliness, which can make things difficult. To overcome these challenges, civil engineers, the government, and the community need to work together, and over the years we can see the change around us But the challenge is not limited to this only as we know most of the city in India is not a planned city so they have to work on things like sewage etc and here it became more challenging but over the years they have overcome all this.

The Impact and the Future:

The work of civil engineers in the Swachh Bharat Mission-2 has made a big difference. We now have better sanitation facilities and cleaner water, especially in rural areas. The Swachh Bharat Mission is not over; we need to keep our country clean and healthy. In the future, civil engineers will keep

playing a key role in this mission. They will need to be creative and work with others to keep India clean and safe.

Impact on India:

- *Better Health:*By providing clean toilets and sanitation facilities, the mission has helped reduce diseases, especially in rural areas. This means people are healthier and don't need to spend as much money on medical treatment.
- *Cleaner Environment:*The mission's focus on cleanliness and managing waste has made our surroundings cleaner. This helps in preserving nature and keeping our resources safe for the future.
- *More Jobs:*The mission has created jobs in construction, maintenance, and waste management. When more people have jobs, it means the country's economy is getting stronger.
- *Tourism and Investment:*A cleaner and healthier environment attracts more tourists and foreign investors. This boosts our economy and helps us grow.
- *Better Education:*Clean and safe toilets in schools mean that children, specially girls, can attend school regularly. This leads to a more educated people, which is important for the country's growth.
- *Empowering Women:*The mission has always helped women, who often face more problems with poor sanitation. With better toilets and hygiene, women can participate more in society and the workforce.
- *Rural Development:*Rural areas have improved because of this mission. This means people don't have to move to cities for better facilities, leading towards a more balanced development across the country.
- *Government Initiatives:*The success of the Swachh Bharat Mission has shown that big government programs can bring about significant positive changes. This means other important issues can also be addressed in the same way.

In short, the Swachh Bharat Mission-2 has had a big impact on India. It has made people healthier, our environment cleaner, and our economy stronger. Its success is an example of how we can tackle other important challenges and make India a better place to live.

III. CONCLUSIONS

Civil engineers are the heroes in the Swachh Bharat Mission. They help build things that keep our country clean and healthy. They show that the Role of civil engineer in society development is always crucial so when it come to Swachhbharat mission Their hard work has already made a great difference, but there's more to be done. By using new ideas, working together, and continuing to make improvements, civil engineers will help India stay clean and healthy for a long time.

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