

“Technological solution for rural sanitation structure A Case Study Of Village.”

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Abstract - India is an agro-based country with 70% of population living in rural area. Since independence, there is a growth of population and presently stands at 125 Cr. The sanitation was not at all given any priority of the living. Whereas health, agriculture and industrialization received priorities in 5 year plan by government of India. On completion of 3 years of Swachh Bharat mission, Ministry of Drinking Water and Sanitation (MoDWS) organized SWACCHATHON 1.0- a Swachh Bharat hackathon which was announced on 1st August 2017. Environment sustainability is directly linked to sanitation (subburaman). Sanitation is fundamental for sustainable development, laying a critical work in promoting human health, wellbeing and livelihood protecting echo system from degradation. (sarah dickin,2017).

The consequences of open defecation are the contamination of groundwater, surface water, air, soil, and environment. (subburaman). Due to the inadequate provision for water and sanitation, and hundreds of millions are debilitated by illness, pain, and discomfort (solo, Tova Maria) also million or more infants and children die each year from this diseases .The global use of inorganic fertilizers in agriculture is rising, resulting in an increase in nitrous oxide emissions and heavy metals entering watercourse and groundwater.

If human feces and urine are managed appropriately, nutrient-rich organic compost can be created without the need for high energy and high water consumption wastewater treatment techniques. (mark sanders,2018)

The civil engineering discipline as focused on the recirculation of water through the environment over the past 200 years failing to recognize the importance of the recirculation of nutrient throughout our environment. (Mark sanders, 2018)

Key Words: sanitation, groundwater, surface water, air, soil, and environment.

1. INTRODUCTION

In india there is major public health issue in environmental sanitation. In India recent interventional studies on environmental sanitation is highlighted the importance of

prioritizing control strategies. There is big challenge in indian context , appropriate cost effective intervention strategies and their implementation. Environmental sanitation related intervention strategies in India discussed in this paper.

Health of the community in Environmental sanitation, envisages promotion of by providing clean environment and breaking the cycle of disease. It depends on various factors such as hygiene status of the people, types of resources available, innovative appropriate technologies according to the requirement of the community, socioeconomic development of the country, cultural factors related to environmental sanitation, political commitment, capacity building of the concerned sectors, social factors including behavioral pattern of the community, legislative India is an agro based country with 70% of population living in rural area. Since independence there is a growth of population and presently stands at 125 Cr. The sanitation was not at all given any priority of the living. Whereas health, agriculture and industrialization received priorities in 5 year plan by government of India. On completion of 3 years of Swachh Bharat mission, Ministry of Drinking Water and Sanitation (MoDWS) organized SWACCHATHON 1.0-a Swachh Bharat Hackathon which was announced on 1st August 2017. Environment sustainability is directly linked to sanitation (subburaman). Sanitation refers to public health excreta and sewage. Sanitation is fundamental for sustainable development, laying a critical work in promoting human health, wellbeing and livelihood protecting echo system from degradation. (sarah dickin, 2017).

The field of environmental sanitation in India is still lagging far behind many countries. Due to these illnesses can cause many years of sickness and can lead to other health problems such as anemia, dehydration, and malnutrition. Severe sanitation-related diseases like cholera- is a spread rapidly and bringing sudden death to many people. In India the unsanitary conditions are appalling and there is need a great sanitary awakening similar to place in London in the mid-19th century. By applying require newer strategies improve the environmental sanitation. According to the need of the country identify the existing system of environmental sanitation with respect to its structure and functioning and to control the strategies. Due to the issue of water constraints, environment-related health problems,

rapid population growth, inequitable distribution of water resources, issues related to administrative problems, urbanization and industrialization, migration of population, and rapid economic growth etc. these priorities are particularly important.

1.1 Ministry of Drinking Water and Sanitation (MoDWS), 2017 organized SWACCHATHON 1.0- a Swachh Bharat hackathon Published on completion of 3 years of Swachh Bharat mission, Ministry of Drinking Water and Sanitation (MoDWS) which was announced on 1st August 2017. It had given solution to some of pressing issues faced during implementation of Swachh Bharat Mission. MoDWS looks forward to innovative solutions from the participants focusing on target group of students, professionals, and organizations including startups. Ministry also looking forward to solutions which are affordable, easy to maintain scalable, environment-friendly and user-friendly:

1.2 Environmental urbanization (2003) represent the MDGs includes the need to improve significantly the lives of at least 100 million slum dwellers 2020 which includes increasing the proportion of people with improved sanitation. These goals include, for 2015, universal primary education, much-reduced infant, child and maternal mortality halving the number of people without safe drinking water adequate incomes and food intakes and the spread of malaria, AIDs, and other diseases.

1.3 Kavita Wankhade (Urban sanitation in India 2015) told the scale of deficit in urban sanitation at the household levels which is also illustrated in table 1. According to census data 13 per. (10 million) household resort to open defecation, and another 3 percent or 1.8 million households have “unimproved” sanitation, unimproved latrines, removal of night soils by humans, animals or direct flow into the drainage. Six percent or around 5 million households rely on public toilets but these do not include toilet shed by neighbors. However, the National Sample Survey Office estimates that around 31 percent of urban 3 households depend on shared/community/public toilets, out of which households with shared toilets account for 24 percent

2. Methodology

1. Conduct a baseline survey of selected village with related to various sanitation structures like toilet, gutter, septic tank, biogas plant, sewer system.
2. Interpret data, and identify problems with respect to usage operation and maintenance of rural sanitation structures.
3. Studying the different byproducts of sanitation waste.
4. Suggest a rural toilet using locally available material by seeking people’s participation.
5. Conduct training program for maintenance, usage, and hygiene

6. By studying the available literature and observing the actual sanitation condition find out a permanent remedy to current scenario.

3. PRESENT SCENARIO:

Inadequate sanitation cost India almost \$54 billion or 6.4% of the country’s GDP in 2006 as per estimates, Over 70% was health-related, with diarrhea due to lower respiratory infections accounting for 12% of the health-related impacts. According to Evidence all water and sanitation improvements are cost-beneficial in all developing world sub regions. Sectoral demands for water are growing rapidly in India owing mainly to urbanization and it is estimated that by 20215, more than 50% of the country’s population will live in cities and towns. growth are also for this Dramatic shift responsible factor such as population increase, rising incomes, and industrial growth .The recent development in National Urban Sanitation Policy 2008 was promote sanitation in urban areas of the country. In rural areas, local government institutions in charge or operating and maintain the infrastructure are seen as weak and lack the financial resources to carry out their functions. In India, no major is known to have a continuous water supply and an estimated 72% of Indians still lack access to improved sanitation facilities ..Due to the lack of access to good water, sanitation and hygiene nearly 8,50,000 people die every year in the United Nations This includes more than 360,000 children under age five who die form diarrhea and many others from disease such as cholera, dysentery, hepatitis A and typhoid.

Type of latrine	Number of households (millions)	Percentage of households
WC connected to piped sewer system	25.8	33%
WC connected to septic tank	30.1	38%
Pit latrine with slab/ventilated improved pit	5.1	6%
Unimproved pit latrine	0.5	1%
Night soil disposed into open drain/removed by humans or animals	1.3	2%
Other system	1.4	2%
Public latrine	4.7	6%
Open defecation	10.0	13%
Total	78.9	100%

SOURCE: Census of India (2011), house listing and housing census data

4. CONCLUSIONS

After detailed survey, it is observed that village is having less sanitation facilities and having less number of toilets. Village is facing sanitation problem due to geographical condition, poor maintenance, due to lack of awareness and backward mentality of people. By monitoring the usage of toilet it is seen that those people having toilet facility are not using toilets regularly and also maintenance is poor. It is observed that human excreta and sewage sludge are valuable source of nutrients. Their use should be promoted in order to replace some of the artificial fertilizer used in agriculture. Awareness about sanitation structure has been increased because of adequate information given about sanitation by conducting awareness training program also suggested alternatives like biotoilet for traditional toilet.

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