# The Economic Assessment of Swachh Bharat Abhiyan(Gramin) in Uttar Pradesh: A Case Study of Auraiya District

**DISSERTATION**

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**Babasaheb Bhimrao Ambedkar University**
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In fulfillment for the Award of

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IN

ECONOMICS


**Submitted By**
**Ashvanee Kumar**

**Under the Supervision of**
**Prof. Sanatan Nayak**
**Head of Department**

**DEPARTMENT OF ECONOMICS**
**SCHOOL OF ECONOMICS & COMMERCE**
**BABASAHEB BHIMRAO AMBEDKAR UNIVERSITY**
**(A Central University)**
**Vidya Vihar, Raebareli Road, Lucknow-226025 (U.P.), India**


Enrollment No.:059/15 Year 2019

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TO MY

VENERABLE PARENTS

# DECLARATION

I hereby, declare that this dissertation entitled "**The Economic Assessment of Swachh Bharat Abhiyan (Gramin) in Uttar Pradesh: A Case Study of Auraiya District"** submitted to Babashaheb Bhimrao Ambedkar University in fulfillment for the award of Master of Philosophy in Economics is my original work. It has not been submitted in part or full for any other diploma or degree of any other university.

This study is carried out under the supervision of **Prof. Sanatan Nayak,** Department of Economics, Babashaheb Bhimrao Ambedkar University Lucknow.

Ashvanee Kumar

Place: Lucknow (Ashvanee Kumar)

Date: 31/12/2019.. Signature of Candidate

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# CERTIFICATE

This is to certify that the Dissertation entitled **"The Economic Assessment of Swachh Bharat Abhiyan (Gramin) in Uttar Pradesh: A Case Study of Auraiya District"** submitted by **Mr. Ashvanee Kumar** in fulfillment of the requirement for the award of Master of Philosophy in Economics has been carried out under my supervision and no part of the dissertation has been submitted by any degree or diploma to any other University.

The dissertation is forwarded for the submission to Babashaheb Bhimrao Ambedkar University for the award of Master of Philosophy in Economics.

Sanatan Nayak 31/12/2019

**Prof. Sanatan Nayak**
Research Supervisor and
Head of the Department
Department of Economics
BBAU, Lucknow

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***Ashvanee Kumar***

# Contents

# List of Tables

# List of Figures

# List of Acronyms

| | |
|---|---|
| WHO | World Health Organization |
| SBA | Swachh Bharat Abhiyan |
| SBA(G) | Swachh Bharat Abhiyan (Gramin) |
| SBA(U) | Swachh Bharat Abhiyan (Urban) |
| MDWS | Ministry of Drinking Water and Sanitation |
| UIDSSURM | Urban Infrastructure Development Scheme for Small and Medium Towns |
| JNNURM | Jawaharlal Nehru National Urban Renewal Mission |
| GOI | Government of India |
| IHHLs | Individual Household Latrines |
| UNDP | United Nations Development Program |
| CAG | Comptroller and Audit General of India |
| WSP | Water and Sanitation Programme |

# Chapter 1

# Conceptual Framework and Review of Literature

# Chapter 1

# Conceptual Framework and Review of Literature

"Sanitation is More Important than Political Freedom"

Mahatma Gandhi, 1923.

## 1.1 Introduction

India's Father of the Nation, Mahatma Gandhi believed sanitation and cleanliness to be far more important than political independence. However, even after several decades we could not change the sanitation situation of India and a large number of people are still living in poor sanitary conditions. They don't even know that how dangerous is this for their life because of lack of knowledge about hygienic conditions such as lack of safe drinking water lack of safe disposal of garbage and proper toilet facility? Worldwide, 2.3 billion people do not access to adequate basic sanitation, about 4.5 billion do not have proper access to safely managed sanitation services i.e. a toilet connected to sewer or pit or septic tank that treats human waste and prevents exposure to disease (WHO, 2018, p.1). Lack of proper and adequate sanitation is the main reason behind deaths and diseases in developing countries. Poor sanitation not only adversely affects the availability and quality of water but also has negative socio-economic impact i.e. on welfare, tourism, and on people's life opportunities in general. Inadequate sanitation has been recognized as the main cause of human illness. Sanitation and cleanliness play an important role in the betterment of the physical environment. Sanitation can be explained as the maintenance and improvement in hygienic condition, promotion of human health through different practices including safe disposal of human excreta, waste water, solid waste, garbage collection, and health and hygiene management. Due to inadequate sanitation, India economy looses Rs. 2.44 trillion annually, which implies the per capita annual losses of Rs. 2,180. The total economic impact of poor sanitation was equitable of 6.4 percent of gross domestic product of India, and health related economic impact was Rs. 1.75 trillion which was the 75 percent of total impact in 2006 (WSP, India, 2007, p.9).

To tackle the sanitation related problems, Indian government started several programs and plans which were directly or indirectly related to sanitation management. Some of the international organizations such as World Bank, World Health Organization etc are also working in this area to improve the quality of life by improving sanitation conditions. Number of initiative have been taken to increase the awareness in the masses such as Sustainable Development Goals, the United Nations General Assembly have declared sanitation as a human right. The aim of Millennium Development Goal (MDG 7) for water and sanitation was to reduce by half the proportion of people without safe access to safe drinking water and basic sanitation by 2015, yet we are unable to control these kinds of problems all over the world. Sanitation is not only related to the personal hygiene but also it has a broader perspective. At present sanitation has its own worldwide market. In India, the sanitation economy is estimated to be at $ 62 billion of market annually by 2021, which includes the green economy, circular economy and smart city (WSP, 2017). Expert also suggests that this is a good opportunity for the century to transform sanitation system into a smart, sustainable and revenue generating economy through the investment (Toilet-Board-Coalition, 2017).

## 1.2 Concept of Sanitation and Cleanliness

Sanitation and cleanliness is not only related to personally taking bathe and having clean food and drinking water but also this is the broad subject covering the management of human excreta, hygiene and sanitation practices, the management of domestic, industrial, medical and animal wastes, drainage cleaning, elimination of open defecation and cleaner volunteer's welfare. The World Health Organization (WHO) has defined the term sanitation as the provision of facilities and service for safe disposal of human urine and excreta. The word sanitation also refers to the maintenance of hygienic conditions, through services such as garbage collection and waste water disposal. Sanitation is broadly defined to include management of human excreta, solid waste, and drainage inspection. Generally sanitation and cleanliness is considered as in same meaning but they have little difference. Cleanliness or cleaning is a process to remove dirt, including dust, strains, bad smells, and clutter on surface. Cleanliness is not guaranteed of bacteria free. However, on the other hand sanitation is a process to make something sanitary i.e. free of germs by sterilizing. And it can be

said that the sanitation is cleaning in which bacteria free environment is guaranteed. In sanitation some of disinfectant is also used, while in cleaning we do not use any disinfectant. W.H.O. defines sanitation in two ways. First, the promotion of hygiene and prevention of disease by maintenance of sanitary condition, second, "Sanitation is defined as access to facilities and services for the safe disposal of human urine and excreta. Therefore, sanitation is regarded as the maintenance of sanitary conditions (WSP, 2007, p.6). Basic sanitation means the provision of sufficient hygiene, hazard-free toilet, the effective removal and disposal of household waste and effluent disposal. Good sanitation is important for number of reasons. Total cleanliness and sanitation considers both type of cleanliness- first, Personal Cleanliness (hygiene) i.e. washing hand, bathing and wearing clean clothes. Second, Public Cleanliness (sanitation) i.e. using clean and safe toilets, keeping water sources clean, and disposing of garbage safely etc.

### 1.2.1 Impact of Poor Cleanliness and Sanitation

Inadequate sanitation facility includes defecation in open, field bucket or hanging latrines, open pit latrines or those which is without a slab, flushing in open areas, and disposal of household's waste in open or in water bodies. Shared toilets are also considered unimproved facilities. Poor sanitation always generates bad consequence for human being as well as others such as environment and animal, which negatively influence human development as well as economic development.

Poor sanitation contributes significantly to water pollution. It adds to the cost of safe water for household. It reduces the production of fish in river. The economic cost of poor sanitation are huge, as four countries studied in East Asia in this World Bank calculated GDP losses due to poor sanitation between 1.4 and 7.2 per cent (UNICEF, 2008, p.2). Poor sanitation reduces the attendance of school children in schools and also affects the work efficiency of people. It also reduces the concentration efficiency of the employee and workers. Furthermore, this requires extra investment in business in form of health security. Poor sanitation and poor cleanliness negatively influence the height of the children, which is called stunting. Malnutrition cases in children happen due to lack adequate sanitation around the environment, some time they have to lose their life as well. Poor sanitation and unhygienic condition increase the occurrence of water-borne diseases such as

diarrhoea, cholera, typhoid and malnutrition anemia etc. Mosquito related diseases viz. malaria, dengue also emerge due to lack of cleanliness. By some estimate lack of drinking water, inadequate sanitation, and poor hygiene practices cause 1.1 million deaths from diarrhoea each year, representing the 5 percent of global burden of diarrhoea (2014) Similar to HIV aids(Coffey, D. et.al., 2107, p.14). Open defecation in India may be responsible for approximately 9 percent of total infant mortality or 6.5 percent death per 100 infant per year (Coffey, D. et.al., 2017, p.14). Lacks of sanitation contribute about 10 percent of global disease burden. Indian economy bears and estimate annual total loss (in terms of health education access, time and tourism) of US$ 54 billion due to lack of toilet and poor hygiene.

### 1.2.2 Importance of Clean Environment or Hygiene and Sanitation Condition

The clean environment or safe sanitation condition is essential for health from preventing infection to improving and maintaining mental and social well-being. Lack of sanitation system leads infection and disease, including diarrhoea, malaria, stunting, anaemia and etc. Adequate sanitation, clean environment and toilet are the basic necessities which ensure and promote the health of people in developing countries such as India. The importance of sanitation condition and toilet use help to reduce the spread of diseases. Sanitation system protect health by providing and promoting a clean environment, of which developing countries are facing challenges in accessing sanitation, hygiene and care. The economic gains of improved sanitation are smaller than the loss due to inadequate sanitation. All the adverse impact of inadequate sanitation cannot be fully mitigated due to a number of factors, because inadequate sanitation affects human beings in multiple ways. Good sanitation and hygiene condition means- first, a clean place to relieve urinate and defecate second, a way to clean oneself after regular practice of life. Third, keeping urine and feces away from food and water and fourth, making sure that toilet stay clean and safe. The transition from unimproved to improved sanitation reduces overall child mortality. The basic sanitation is improved sanitation; it refers to facilities that ensure hygienic separation of human excreta form human contact. The improved sanitation condition brings multiple economic benefits, classified as direct economic benefits which include the amount of money that save from health care expenses (avoiding illness). On the other hand indirect economic benefits of improved sanitation include an

increase in working days of employee, reduce the number of disease and so on. These benefits make people to enable work more.

Improvement in sanitation condition can be explained as having closer latrine access and more latrines per capita, improved latrine system with appropriate infrastructure, improved hygiene practices such as always use of toilet, washing hand after critical situation and before taking meal etc, removal and treatment of human excreta with appropriate and advanced technology, reuse of human excreta. The improvement in the sanitation environment would bring the impact in two phase, first primary impact of improved sanitary practices such as less open defecation, less use of public latrines, save of time which spends on accessing the toilet. This would improve health status due to less exposure to pathogens, the quality of ground and surface water would improve, this would provide more fertilizer for agriculture and also would provide fuel for cooking and lighting. Secondly, economic impact of improved sanitation can be such as saved entry fees in case of public toilet, increases school participation of students, toilet add higher house prices, health related quality of life improvement, higher labour participation and productivity etc . Good sanitation condition also increases tourism revenue, foreign direct investment, better fish production, and better agriculture production.

### 1.2.3 Concept of Sanitation Economy

The word sanitation economy refers a robust market place of products and services related to sanitation, flows of renewable resource and data & information that could transform future of cities, communities and businesses. The sanitation economy is smart, sustainable, innovative cost saving and revenue generating way of development. Sanitation economy links three distinct areas for business and social benefit. First, the toilet economy, it expresses toilet and service innovation that provides toilet fit for purpose for all context and income. Second, the circular sanitation economy, the toilet resources that feed or come in to systems which replace traditional waste management with a circular economy approach. It connects the bicycle, using multiple forms of biological waste, recovering nutrients and water, creating value added products such as renewable energy, organic fertilizers, proteins and others. And third the smart sanitation economy, this is nothing but the digitalized sanitation system that optimize data for operating efficiency, maintenance, plus

consumer use and health information insights. This includes the smart cities infrastructure, monitoring public toilet use, sewage treatment, detect need for maintenance and repair throughout the system. Thus, all these three economies work and exist together. It is called smart sanitation economy. Business economy can capture significant benefit by accelerating sanitation economy. Toilet Board collation release a business report in 2017 and states that there is a big opportunity of benefits sanitation sector in future by 2030 or 2035, because there is a good scope due to sanitation development as 2.3 billion people globally lack access to basic sanitation as toilet. 60 percent of the global population does not use a safely managed sanitation service. The annual economic losses due to poor sanitation are equivalent to between 1 percent and 25 percent of GDP.

### 1.2.4 Concept of Safe Sanitation System

A sanitation system refers specific of sanitation services with the appropriate technology for the management of faecal sludge garbage and waste water through the stages of containment, emptying, transport, treatment, recycle, reuse and disposal. A safe sanitation system is a system, designed and used to separate human excreta from human contact. At all the steps of the sanitation service chain from toilet capture and containment through emptying, transport, treatment and final disposal or end use (WHO, 2018, p.5). Sanitation system works in the appropriate way so that it would complete its purpose. Sanitation service chain may in the following way, toilet output →containment storage→ treatment→ conveyance→ treatment → end use disposal (WHO, 2018, p.5). To stabilize the safe sanitation system, there is need of a range of stakeholders, central and local government can be centre to their effective planning, delivery of services, maintenance, and regulation and monitoring. Generally government is the service provider. Sanitation service providers may be formal and informal private enterprises, public or privately owned stakeholders, local governmental departments and self-service or self-care taker of the society. But generally local and central government work together by sharing the allocation fund. The services can be divided into three categories according to how they are being delivered. First individual services, it provides direct benefits to users as well as community. Individual services are such as toilet construction, hardware supply, removal of fecal sludge and containers and provision of public toilets. Second, shared

services, under this kind of services, operation and maintenance of sewage and drainage system and fecal sludge treatment are included. These are delivered downstream of users, producing public health benefits to the community. It may not easy or possible to finance entirely by direct user fees. Though, these are usually delivered by the local authorities or local companies but may also be subcontracted to private contractor for example, eco-green service of garbage collection in Lucknow, Uttar Pradesh. Third, Infrastructural Development, this is the most important way to stabilize the safe sanitation system, before the both previous point, it is essential to stabilized otherwise they would not be effective. Infrastructure development service provides comprising the design and construction of sewerage, drainage, fecal sludge transfer station and wastewater treatment plants, primary water supply system or slum upgrading. On the other hand in rural areas it considers the drainage and street construction and its maintenance, schools and primary health centre construction and maintenance. These also provide public health benefits to the society but require major investment, and financing.

### 1.2.5 Pathogens Related to Excreta

The main purpose of good sanitation services from a public health perspective is to fulfill the human right to sanitation and ensure sanitation services, separate human excreta from human contact, and to interrupt the excreta related transmission of pathogen. This transmission can come into the human contact through the flies, animals, water bodies and air transmission. The disposal of human and animal waste has the potential impact on the range of microbial hazards. Microbial hazards do happen through the four main groups of pathogenic hazards Bacteria, Viruses, Protozoa and Helminths. For the importance of sanitation, to control of pathogens depends on their size, persistence in the environment and their ineffectiveness.

**Bacteria**: These are small single celled organism (typically 0.2 micrometers). Some of them is capable of multiplication outside a host under favorable condition. Most bacteria are transmitted by the fecal-oral route, and predominantly cause gastroenteritis. Some can cause severe health outcomes and may have long term effects. Multiplication of pathogenic enteric bacteria in the environment is possible. Many of enteric bacteria can be transmitted from animals to humans. Bacteria have the ability to enter a viable non-colorable state which allows them to persist in the

environment for long duration of time. The exposure to antibiotic resistant bacteria may lead to infections that are hard, or even impossible, to treat.

**Viruses:** these are simple infectious agents, containing only of genetic material (DNA or RNA) encased in a protein capsid. These are the smallest organism and these are obligate intracellular organism. Viruses are excreted in very high number from infected person and animal. And may be transported long distances in water and air. Virus cannot metabolize in the environment. Viruses can lead to health outcome such as hepatitis and diarrhea, viral meningitis and gastroenteritis etc.

**Protozoa:** Parasitic protozoa are complex and relatively large single called organism that can replicate outside a suitable host (typically 3 to 20 micrometer).

**Helminths:** Helminths are multi cellular, complex organisms, also known as parasitic worms. Then include tapeworms, flukes and round warms some helminths, referred to as Soil Transmitted Helminth, also can be transmitted by fecal oral route (after a period of maturation in the environment) with infection being caused by ingestion of fertile worm eggs or through skin penetration by infection larvae. STH can lead to various mild to serious effect such as chronic abdominal pain and diarrhoea, iron deficiency anemia, growth felting, intestine obstruction, appendicitis, pancreatitis and protein energy malnutrition. In some species eggs can survive in the environment for years where soil condition is favorable.

### 1.2.6 Microbial Aspects Linked to Sanitation

The role of poor sanitation and excreta in disease transmission depends on the individual pathogen. In simple categorization, there are three primary ways in which human excreta may increase the impact of infection in human. First, pathogens may be transferred through fingers, food, drinking water etc after coming in touch of excreta. Second, by contributing to excreta dependent lifecycles. Third, by facilitating vector breeding through the flies and cockroach, For example cockroaches trapped from the toilet of house with latrines had mean microbial counts of $12.3\times10^{10}$ bacteria / ml and 98 parasites /ml (Akinbo, F.O. et.al, 2005). Insect can therefore, enhance the fecal oral transmission of pathogens by providing additional pathway from excreta to food.

### 1.2.7 Concept of Open Defecation and Open Defection Free Status

Generally when people defecate or pee in open environment like open field, near the ponds and rivers, forests, distich streets and other nearby of the society of village and ward, it is known as open defecation area. It leads to spread of lots of diseases and infections in human being. In the other words, open defecation is the practice of defecating outside in the environment and not in a designed toilet. They do so because lack of readily available toilet or due to traditional cultural practices. The main reason of large number of population in India still defecating in open are the enlarge sections of Indian population is not conceived of the need to stop open defecation because of lack of proper awareness about problems related with open defecation (Geetha, J., & Kumar, S., 2014, p.6). Ministry of Housing and Urban Affairs defined, A city/ward can be defined or declared as ODF city/ward, if at any point of the day, not a single person is found defecating in open (in the urban context). On the other hand, Ministry of Drinking Water and Sanitation defined open defecation free village or environment as there should no visible feces found in the environment/village and every house as well as public / community institution using safe technology option for disposal of feces (toilet). Here safe technology option means proper designed toilet for safely dispose and treatment of feces.

Open Defecation Free primarily means the eradication of open defecation from the entire community /village and particular place or area. It also include the following additional criteria, such Household's latrines should be hygienic, provide the safe containment of feces, offering privacy, have a lid on the defecation hole or a water seal and roof to protect the user. A hand washing facility is nearby with water, soap or ash, is used regularly. Though these given criteria we can declared particular area as Open Defecation Free but more stringent criteria which should be added to achieve ODF status for a community might include first, safe drinking water and storage, Second, food hygiene, third, gray water disposal, and fourth, solid waste management provision of toilet at schools , market and passersby. Drainages around the house hold and community in the area also should be clean. Further, defecation by people in the trains should be also considered, as it has been ignored under the definition by the Government of India (MoDWS).

### 1.2.9 Open Defecation Free plus Status (ODF$^{+}$)

The SBA ODF+ and[1] ODF++ build upon the ODF protocol while keeping true to its provision, A city/ ward/ work circle1 can be declared as SBA ODF+ ward/ SBA ODF+ work circle if, at any point of the day, not a single person is found defecating and/ or urinating in the open, and all community and public toilets are functional and well maintained. Some of the following necessary infrastructure and regulatory conditions must be achieved before declaring a city/ward ODF+, first, all the conditions of ODF status must be achieved including public and private toilet facility, second, total population must be included, third, all residential societies with welfare associations and Mohalla must have toilet facilities for use of male, female and non-resident workers, and fourth, in Every school of area, all enrolled students staff and teachers must have access routinely using toilets at school. Thus the ODF includes also waste management criteria, in the area, and reuse and recycling of waste in the area which is going to be declared as ODF+.

## 1.3 Review of Literature

The review of literature has been divided into two parts as. First, the reviews of articles related with policy implementation in India and its successes. Secondly there are the reviews of literature related to impact of bad sanitation or good sanitation condition.

**Patil, S.R. And Benjamin F.A. (2014)** discussed in the paper about consequences of total sanitation campaign on child health and sanitation adaptation in rural Madhya Pradesh, by doing a cluster randomized control trial of 80 villages. They analyzed the period of 2009 to 2011 collect the base line measure of sanitation conditions behavior and child health which is intervention by the TSC program. The intervention increased the percentage of household with improved sanitation facilities as defined by WHO/UNICEF. However the intervention could not improve child health measured in terms of multiple health outcomes Diarrhoea, HCGI, helminth infection, anaemia, and growth. Therefore, TSC program did modest increase the number of

[1] SBA ODF means open defecation free with others facilities, and ODF++ means open defecation free village with other advanced technology Management.

household with latrine and the small effect on open defecation, and also there was no improvement in the health of children.

**Boisson, S. At.al, (2014, p.11)** analyze in his study the impact of a rural sanitation program implemented under Government of India which is TSC, on diarrhea and semi-transmitted helminthes infections. The study was done by taken 100 samples by direct interview method. The percentage of households with latrine (complete and under construction) increased from 8 percent to 66 percent after one year of starting intervention in 2012. They found no strong evidence of an association between level of awareness and the level of latrine coverage in villages. Therefore the level of coverage achieved and level of awareness of the mobilization process in our interventional villages was poor.

**Dutta, A.R. et.al., (2017)** analyzed the knowledge, attitude and practices of sanitary latrines usages in rural area in Tamil Nadu, by doing primary survey they found significant association between low level of living standard and open air defecation practice. The prevalence of open air defecation among the study participants was 33.3 percent. They said that planning and conducting Information, Education and Communication activity is very essential to solve the problem of underutilization of sanitary latrine. The effective political and administrative support is needed to scale up the sanitation program. Further the awareness about open air defection, out of 275 respondent, 12 percent were only aware about spread of disease due to open air defection and 240 (87 percent) were unaware about it. Awareness about disease transmitted due to open air defecation (diarrhea 60 percent), (dysentery 17 percent), (typhoid 17 percent), (worn infection 5.7 percent) out of 103 households.

**Mehata, M. (2018, pp.370-371)** discussed about the achievement of Swachh Bharat Mission Gamin in rural sanitation condition. One third of the total village had become ODF by mid-2017. Progress on toilet targets better at over 45 percent and the household sanitation coverage had already reached 67 percent by August 2017 half way through the programme period. However Solid and Liquid Waste Management (SLWM) had poor performance. This has been illustrated that there are some of the state, where the higher the expenditure on Information, Education and Communication (IEC) could improve the state ODF performance such as Haryana, Himanchal Pradesh, Sikkim and Kerala , but some of the state shows there is no direct

relation between higher expenditure IEC and sanitation (ODF). Despite the overall very good progress, the few of states have lagged behind, in both fund utilization and ODF performance such states are as Bihar, Uttar Pradesh, and Orissa.

**Ministry of Rural Development (2017-18, pp.9-29)** in the second chapter of the report it has been explained that at the launch of Swachh Bharat Abhiyan Gramin on 2nd October 2014, the sanitation coverage was 38 .70percent. This is increased to 84.13 percent as on 24/05/2018. Since launch of SBM G, there has been 45.43 percent increase in sanitation coverage as on 24/05/2018. Report says that 93.4 percent of household having access to a toilet use regularly and 95.6percent ODF verified villages confirmed ODF. (MDWS 2017-18). The use of constructed toilets is almost good percentage use in Tamil Nadu in 71percent lowest. And in Uttar Pradesh the toilets, constructed under the SBM G is 87.9 percent where average use of constructed toilets all over India is 93.1 percent. Therefore report as explain that there is much impact on the society or rural has been left by SBA G many programme is being under implemented.

**Ghosh, S.K., et.al. (2017, p.1)** named the paper as Swachh Bharat Mission – Implementation and performance in rural area of selected state. They found that Uttar Pradesh and Bihar is on the highest rank of uncovered households sanitation facilities (2013) but the coverage of sanitation has increased in both state as in Bihar 29 percent covered by march 2017 which was 21.4 percent in 2012-13 and in Uttar Pradesh it has increased from 35.2 percent (2012) to 47.6 percent (2017). But this increased facility is the less than other state like Madhya Pradesh, Rajasthan, and Orissa.

**Duflo, E., et.al. (2015)** titled a study as "Toilet Can Work: Short and Medium Run Health Impact of Addressing Complementariness and Sanitation". The study estimates the impact of an interrelated water and sanitation improvement program in rural India which provides household level water connection, latrine and bathing facility and to all household. The estimation suggests that intervention was effective, reducing treated diarrhoea episode by 30-50 percent. These results are evidence in the short term and persist for 5 year or more. The annual cost is approximately US$60 per household. By some estimate lack of drinking water, inadequate sanitation, and poor hygiene practices cause 1.1 million deaths from diarrhoea each year, representing the 5 percent of global burden of diarrhoea (2014) Similar to HIV aids. Open defecation

in India may be responsible for approximately 9 percent of total infant mortality or 6.5 percent death per 100 infant per year (Gerrso and Spears, 2015).

**Mara, D., (2017)** titled his study as "The Elimination of Open Defecation and its Health Effects – moral Imperatives for Government and Professionals". He found that the young children immune systems and brain are affected by the faecal bacteria and faecal pathogens. The world is not good at hand washing estimated that globally 81 percent of people do not practice safe hand (Freeman-2014). He, in one of the heading analyzed the social performance for open defecation and found out that there are social, traditional reasons and psychological individual reason which allow to the people to defecate in open .The adverse health consequences of OD are so extreme that if ODF+ status is not reached in rural villages, small town and low income pre urban areas including slums then the health status can be not good. He suggested also SM and BCC are very valuable technique and should be applied as the first step in CLTs/CLTs++. These are the techniques, which should be used in sequence for best results.

**Thakur, R., & Bangicha, B. et.al., (2018)** state that Poor sanitation leads to adverse health outcomes such as diarrhea, soil transmitted helminthes infection, tropical entropathy and anemia. "One gram of fream from infected person contains around 106 viral pathogens". Lacks of sanitation contribute about 10 percent of global disease burden. Indian economy bears and estimate annual total loss (in terms of health education access, time and tourism) of US$ 54 billion due to lack of toilet and poor hygiene and over US percent 38 billion in treatment cost for disease occurring due to poor hygiene. It is estimated that improved sanitation itself could be lesson diarrhoea, related morbidity by more than 75 percent and improved water sources could lead increase the diarrhoea morbidity by 21 percent,

**Ministry of Drinking Water and Sanitation, (2017-18, pp.9-10)** assessed that how SBA (G) was a successful program. However Uttar Pradesh is still in poor position in order to get 100 percent sanitation coverage. It is said that access of household's toilet is one of the most important parameter to judge the success of SBA (G) as it is necessary to eliminate open defection and promote cleanliness. Access to toilet includes access to own toilet, shared and public toilet of the 4626 villages surveyed. It

was observed that overall toilet coverage is 62.45 percent and 91 percent being used and in Uttar Pradesh access of toilet is 37 percent and are being used 87 percent.

**Dr. Rana Sarvar et.al., (2017)** exposes the reason of open defecation in rural area, by taken the 120 sample from the survey area, (Rural 65 and urban 55). They say that the unsafe disposal of excreta is a principle cause in the transmission of pathogens within the environment. And the improvement in excreta management provides significant reduction in diarrheal diseases. He found in his study 44.6 percent household had an independent toilet in their house. The practices in open air defecation were found 63 percent in the rural area of Hubbali, Dharawad in Karnataka. In children the use of toilet was only 20percent in rural means 80 percent children are defecting in open area. Therefore in the end of the study Dr. Rana Sarvar and all tried to say that the government and public efforts have to be directed towards ensuring the availability and accessibility to household toilet. And encourage the children to use the toilet by informing about hazards of open air defecation, as according to world health organization, the open air defecation is the riskiest sanitation practice of all and the step forward from individual, communities and Government is very essential to achieve the goal elimination of open defecation.

**Kumar, S.S., et.al. (2014)** in the paper (Open Air Defecation: Awareness and practices of rural districts of Tamil Nadu) attempt to bring out the awareness level and practice of 1800 randomly selected households from 60 Panchayat in Tamil Nadu. He found that it is shocking to know that 90 percent of the respondent defecate in open place, hence water get contaminated and incidence of water born diseases are common . He said the reasons for not using toilet are cultural barriers 42 percent, incomplete knowledge 31 percent, and water scarcity. Open defecation is very hard to eliminate form large culturally bond society.

**Coffey, D. and Gupta, A, (2014)** highlights a prediction by applied demographic model that if the government were to build a latrine for every household in Bihar, Madhya Pradesh, Rajasthan and Uttar Pradesh without changing anybody's preference, most rural peoples in our sample would still defecate in open. Finally they tried to say that latrine construction is not enough, if the government needs to achieve its goal of eliminating the open defecation by 2019, it must concentrate on building demand for latrine use in India. India is the highest open defecator in Asia continent

40 percent in 2014. And china has only one percent opens defecation (Low demand for latrine use is the main reason for open defecation).

**Lixil, Water Aid and Economic Oxford, (2016)** released a report in the name *The True Cost of Poor Sanitation*, report shows, how sanitation has substantial impact on the economy. Countries with poor access of sanitation are losing significant proportion of heir GDP. In India this figure is over 5 percent. Report also says that US $ 1 investment in sanitation would give a global economic return of US$ 5.5. Poor sanitation practice does not only affect our body but also or economy at the large stage, as India is at the highest *point* to generating the cost from bad sanitation in the GDP. Further report also suggest some of the important and relevant factor to tackle the sanitation crises by adopting some kind of strategies 1 innovation of new idea , 2 political priorities on sanitation one of the main agenda , 3 collaboration and coordination among the institution by applying this stratagem we can reduce the sanitation and water crisis.

**Minh, H.V. and Hung, N.V. (2011, p.65)** did short review of the developing countries and forecasted on economic aspect of sanitation by taking in the account Vietnam, Cambodia, Indonesia, Philippines. They said the poor sanitation is one of the heaviest existing disease burdens worldwide. The disease related with poor sanitation and unsafe water account for about 10 percent of global burden of deceases. And globally 1.7 million people die every year from diarrhoea disease and 90 percent are children under 5 years mostly in developing countries they also have demonstrated about health cost in these developing countries such as the poor sanitation and hygiene condition in Cambodia 448 US$ million, Indonesia 6.3 billion$ (2.3 percent of GDP in 2015), and Vietnam 780 million $ every year. This is the big justification to rethink on sanitation investment which influences the economy of developing countries. They also said that investment in sanitation brigs two kind of benefit that is direct economic benefit of avoiding illness (the amount of money that is saved from health care expenses) and indirect economic benefits which included a decrease in work lost to illness and a longer lifespan, because these benefits enabled people to work more.

**Water and Sanitation Program, (2007)** present the economic scenario of adequate sanitation in India in his flagship report “Economic Impact of Inadequate Sanitation in

India" they measured the cost of inadequate sanitation by categorized the impact in four categories as health related , domestic water related , access time impact and tourism impact . Further health related impact categorized in three way as pre-mature mortality, cost of health care and productivity losses. This also Estimates that the total annually economic impact of inadequate sanitation in India accounted to a losses of rupee 2.4 trillion ($ 3.8 billion) in 2006. This implies per capita annual loss of 2180 rupee (48$). In purchasing power parity term the adverse economic impact in India was $ 161 billion or 144 $ per person in 2006. These economic impact were the equivalent of 6.4 percent of India's gross domestic product, the health related economic impact of inadequate sanitation was 1.75 rupee trillion (38.5 $ billion) which was the 72 percent of total impact. Thus report says that due to poor sanitation and inadequate sanitation the economy is bearing the highest health cost in form of economic losses.

**United Nation Development Program (2015)** explains seventeen SDGs goals of united nation development program 2015. The goal number sixth is clean drinking water and sanitation to every people in the world which is one of the most important among the seventeen goals as, no poverty, zero hungers, good health and well being, quality education, gender equality and sixth one is the clean drinking water and sanitation. Here, being one of the goals among the development race, shows that sanitation is the fundamental right and requirement of the world need to fulfill. In this organization, the leaders from 193 countries ware participated.

**Swain, P., & Pathela, S. (2016)** explained that awareness of Swachh Bharat Abhiyan and sanitation practice such as cleaning hand and cleaning toilet is very poor in two district of India, which is Jabalpur in Madhya Pradesh and Ghaziabad in Uttar Pradesh. They analyzed by taking the 190 sample from adult urban slummy and rural people, found that 76 percent of total respondent were aware about the Swachh Bharat Abhiyan and 8 percent of respondent don't wash their hand after defecate and 11 percent respondent never wash their hands before meals. Finally they have tried to say that we need to refocus on the population to make aware about sanitation and consequences of bad sanitation.

**Kumar, S.M., (2018)** highlight that community let Total Sanitation approach (CLTs) can be good way to eliminate the open defecation from the village. He illustrate that

CLTs based approach can enforced more effectively using social sanction. Indeed it can be difficult for an individual to define social norms, since he/she can change only if the entire community is willing to change. Paper shows that as other than demographic factors it is social dynamics that influence the decision to built toilet and use it. He gave the evidence that CLTs have been played successful role to make ODF, we can include India's example as Maharashtra was the first state do implement this kind of idea in his policy. This has been more success full plan programme in Maharashtra, Haryana and Himachal Pradesh, where it became the state level policy.

**Chaudhary, M.P. and Gupta, H. (2015)** suggested the important tools to eliminate the open defecation such as political will , focus on behavior change creation of the right incentive structure and stronger public sector local service delivery system etc by using the tools and components of SBM. They said that these tools will protect our environment as they named the paper, Swachh Bharat Mission: steps towards environmental protection.

## 1.4 Research Questions

Since independence and even before it, number of programs has been implemented to improve the sanitation and cleanliness in India. But, the contribution of India was 58 percent in the total population defecating in open. The study of 1800 respondents in 2014, in Tamil Nadu found 90 percent of respondents to be defecating in open (Geetha, J. & Kumar, S. 2014, pp.537-8). There are number of reasons of open defecation in Indian society but main reason for large number of population still defecating in open are lack of proper awareness about problems related with open defecation. Swachh Bharat Abhiyan (SBA) was formed to tackle these problems in 2014 with the goal of 100 percent sanitation in India. On 2nd October, 2019, Prime Minister of India declared that India has become open defecation free and said all 4041 towns as per Census 2011 are covered under the Swachh Bharat Abhiyan. Though, Uttar Pradesh has been accepted as open defecation free in first round survey of Swachh Bharat Abhiyan (Gramin) but being a high populated state is very poor to coming into the main stream of development, poverty Utter Pradesh having highest population in India is the home of 200 million people, and 60 million people are poor, the poverty reduction in the state has been slower than the rest of the country, 29 percent population is below poverty line (World Bank Group, 2016, p.1). Also utter

Pradesh is the slowest growing state in the country and the consumption inequality is below the nation average (World Bank Group, 2016, p.5). The poverty and inequality also a reason leading to non-sanitation. Inequality is in Uttar Pradesh is exit. Uttar Pradesh has low coverage for both household sanitation and drainage service compared to all India level, there is inter-regional disparity in state in the availability of drinking water and sanitation (Tiwari, R. & Nayak, S., 2013, p.1). Table 1.1 shows that Auraiya district of Uttar Pradesh was declared and accepted ODF in 2018-19. In this context the important questions emerge for research are as follows. How could the present government get success to make whole India open defecation free in 5 years? If yes, the open defection free village and 100 percent sanitation really exist in? Whether the quality and quantity of toilet given to the house hold in the village are appropriate or not? How much the change in rural population for toilet use has been taken place? Last but not least, whether the existence of SBM-G is being appreciated by the masses?

**Table.1.2 Percentage of Open Defecation Free Village in Auraiya District**

| Name Of Block | Number of Gram Panchayat | Number of ODF Gram Panchayat | Percentage ODF Villages |
|---|---|---|---|
| Achchalda | 106 | 106 | 100 |
| Erwa Katra | 93 | 93 | 100 |
| Ajitmal | 105 | 105 | 100 |
| Auraiya | 147 | 147 | 100 |
| Bhagya Nagar | 120 | 120 | 100 |
| Bidhuna | 104 | 104 | 100 |
| Shahar | 94 | 94 | 100 |
| **Total** | **771** | **771** | **100** |

Source: Office of Register General, Ministry of Home Affairs, Government of India , New Delhi, 2011. This can be found from Https://Www. Census2011. Co.In/Censu s/District/ 533-Auraiya.Html.

## 1.5 Objectives of the Study

Keeping the above issues in mind on Swachh Bharat Abiyan (Garmin) and my own observations on ground level, the following objectives are developed

- To assess the extent & dimensions of awareness of the sanitation and open defecation in Uttar Pradesh.
- To assess the impact or existence of Swachh Bharat Abhiyan (Gramin) on rural sanitation practices of households.
- To measure the health cost of sanitation in rural Uttar Pradesh.

## 1.6 Hypotheses of the Study

Keeping above objectives in mind the following hypotheses are formulated

- The Villages of Uttar Pradesh are not Open Defecation Free.
- Swachh Bharat Abhiyan (Gramin) has changed the sanitation behaviour of people

## 1.7 Methodology of the Study

### 1.7.1 Data Sources

The analysis is based on both types of data, i.e., primary as well as secondary data. Secondary data has been taken through the relevant report, websites of SBA(G), Ministry of Drinking Water and Sanitation, WHO/UNICEF and others. Primary data is collected in one village in Auraiya district in Uttar Pradesh, The data has been taken by asking both open ended as well as close ended questions. However, most of the question is close ended in nature through which the respondent is interviewed. After that the analysis of the data is being done through the use of proper theoretical base with appropriate statistical tool.

### 1.7.2 Study Area and Sample Design

The field survey is conducted in (ODF) declared villages in Auraiya district of Uttar Pradesh. There are seven block in Auraiya district viz., Auraiya, Ajitmal, Achhalda, Bhagyanagar, Bidhunna, Erwa Katra and Sahar. In which auraiya is the head office of the district and other offices such as Tehsil, district court, district hospital are existed. Therefore being the head block of the district, and deserving the much attention and development, Auraiya block is chosen. In Auraiya Tehsil Bakhariya village is selected randomly. In which maximum caste and religion diversification is identified. Then one hundred household are surveyed through the prepared schedule on the basis of random sampling. This village is 22 km far from Auraiya city and 3 km far from Agra Delhi Nation Highway 2 (NH 2). Both Muslim as well as Hindu community peoples are living together in the village. Population size of the village is 2000, in which 35

percent are Muslim from general and OBC category. In Hindu, OBC population is much more than general, others are schedule caste.

## 1.8 Outline of the Study

**Chapter 1** entitled "**Conceptual Development and Review of Literature**" consist of eight sections. First section deals with introduction of sanitation as an important aspect of the life. Second section explore concept related to sanitation and its basic understanding. The third section is consisting with review of literature. Fourth section explores the research question to study .Section five and sixth discus the objective and hypothesis of the study. Section seventh discusses the methodology of research.

**Chapter 2** entitled "**Swachh Bharat Abhiyan (Gramin): An introduction**" is divided in three section. Section first gives a brief note of policy Swachh Bharat Abhiyan (Gramin) and other program introduced for sanitation improvement in India. Section second gives a brief view of sanitation history in India. Third Section discusses the budget allocation for SBA (G) in India.

**Chapters 3** entitled "**Socio–Economic Profile of Rural Study Area in Uttar Pradesh**". First section of the chapter is the introduction of study is based on secondary data. Second broad section is dealing with socio-economic status such as religion, caste, educational status, and income distribution it the village. The third broad section explains the rural sanitation amenities exist in the study village also discuss the impact of SBA(G).

**Chapter 4** entitled sanitation, "**Defecation Behaviour and Direct Heath Cost**". The chapter is divided in four sections. First section is the introduction of the chapter, second broad section illustrate the impact of SBAG on rural sanitation behaviour of rural population. Third section deals with the direct cost of some water related disease.

**Chapter 5** titled "**Major Findings and conclusions**" includes the key findings and suggestions of the study.

# CHAPTER 2

# SWACHH BHARAT ABHIYAN (GRAMIN): AN INTRODUCTION

# Chapter 2

# Swachh Bharat Abhiyan (Gramin): An Introduction

## 2.1 Introduction

Sanitation is the key of being healthy and fit. Cleanliness is most important for physical well-being and healthy environment. It is essential for everyone to learn about cleanliness, hygiene, sanitation and the various diseases that are caused due to poor hygienic conditions. Mahatma Gandhi dreamt of clean India, and stated that we have got political freedom from British government in 1945 but not from non-cleanliness. To get this kind of freedom Indian government and our intellectual class worked on so many projects and programs to make India clean. Swachh Bharat Abhiyan is one of them a nationwide program of sanitation. It was launched in 2nd October 2014 to complete the vision of nation's father Mahatma Gandhi, Sampoorn Swachh Bharat (whole India clean). SBA (Swachh Bharat Abhiyan) is divided into two part to reach every part of India to cover 100 percent cleanliness. Swachh Bharat Abhiyan (Gramin) (SBA (G) is for rural India under the Ministry of Drinking Water and Sanitation, and Swachh Bharat Abhiyan (Urban) (SBA (U), for urban India under the Ministry of Urban Affairs. The purpose is to improve the general quality of life in rural area and making village Open Defecation Free (ODF), and encouraging the cost effective technology to ecological safe and sustainable development, good liquid and solid waste management by 2019, i.e. 105th birth anniversary of Mahatma Gandhi. However, the central idea of achieving universal sanitation is not very different from the previous initiatives like Total Sanitation Campaign (TSC 1991). SBA was renamed form of Nirmal Bharat Abhiyan which was started in 2012. Its target was to get an ODF India and 100 percent cleanliness in India by 2015. In 2014 when government changed its name, target year was extended to 2019 from 2015. They also included other small programs to complete the goal of 2019 such as Namami Gange Yojana to clean Ganga River and added so many aspects in its guideline. The program is also been taking place through the Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA) in rural India. After completion of five years of SBA-G, The Ministry of Drinking Water and Sanitation declared 100 percent sanitation coverage in villages. India has become 100 percent open defecation free, 100 percent

households in rural India access to toilet. The economic survey 2017-18 highlights that because of SBM-G, the number of peoples defecating in open in rural areas has come down 25 crore in January 2018 from 55 crore in 2014, reduction 45 percent (Ministry of Finance, 2018). Under SBA, 99.2 per cent of rural India has been covered in the last four years. Since October 2014, over 9.5 crore toilets have been built all over the country and 564,658 villages have been declared ODF (Ministry of Finance, 2018-19. p.149). The starting of three years of the SBA (G) has shown good progress. Based on the inputs received by the states and the UTs, the rural sanitation coverage has increased from 38.70 percent at the starting of SBA in 2014 to 63.73 percent as on June 2017 (Quality Council of India, 2017, p.5). However, by 1 July 2019, 30 state and union territories (UTs) had declared themselves ODF, while 27 state and UTs had become declared ODF by 18$^{th}$ January 2019 (Government of India, 2019-20). Thus, India's prime minister declared India as the open defecation free on the occasion of 150$^{th}$ birth anniversary of Mahatma Gandhi in 2$^{nd}$ October 2019.

The economic survey established link between sanitation and economic performance and how a healthy sanitation environment boosts the economy as it has been seen across the countries. According to the World Bank estimate, the lack of sanitation facilities, India bears cost of around 6 percent of its GDP. UNICEF (2017) pointed out that lack of proper sanitation facilities results in death of an estimated 1,00,000 children in India annually. Non-ODF districts also suffered from lower literacy rates and displayed more cases of diarrhea and stunting. But in ODF district behavioral sift was noticed among peoples who often participate in toilet building activities. But on the other hand in second October 2019 is declared that India has become open defecation free. The 100 percent state has been declared Open Defecation Free (Ministry of Drinking Water and Sanitation, 2019). And about Uttar Pradesh all district and Gram Panchayat has been declared open defecation free.

## 2.2 Historical Background of Indian Sanitation Policy

Historically, Indian society has often given high priority to sanitation. Excavation from the Indus valley civilization and Harappa reveals that there was ingenious solution to manage waste water conveyance through underground drainage systems. Sanitary engineering, as far as 5000 year ago was at a developed stage. Such visions on improved sanitary practices continued across the reign of various dynasties such

Mauryas vans, Guptta Vansh and the Southern kingdom of Vijaynagar that ruled the subcontinent. Even from an ideological point of view, many social reforms of India propagated the importance of sanitation. From Patanjali's philosophy to written of Vivekananda and Gandhian concept of sanitation, the emphasis on sanitation was integral to India's cultural foundation.

Our Nation Father Mahatma Gandhi gave much importance to the sanitation and cleanliness by saying that, cleanliness is more important than independence. Even there was very conscious situation of sanitation because of lack of hospital and awareness facility epidemic of diarrhea, cholera, malaria and malnutrition was prevailing there. For instance, rampant outbreaks of cholera and plague were affecting the health of British army; they had decided to establishing improvement trusts to clean up the cities. The first plan was the bombe improvement trust in 1898. The trust was given to institution mandate, which was last initiative before independence; it was created through an act of parliament. Under this program Dadas, Matung, Wadala, Sion area of Mumbai was started to develop in 1899 and completed in 1900.

In the post-independence era of India, the government introduced Rural Sanitation Program in 1954 as the part of first five year plan, but Census 1981 revealed that rural sanitation coverage was only 1 percent in five year plan. Thus, the Census was saying that the Rural Sanitation Program could not affect positively to the non-sanitation situation. After that United Nation Organization (UNO) designed ten years (1981 to 1990) International Drinking Water Supply and Sanitation decade to bring attention and support for clean water and sanitation worldwide, which is today also known as first water decade. After that in middle of 80's the Government of India launched Central Rural Sanitation Program (CRSP) in 1986. It was first nationwide program in India. The goal of the program were to bring the improvement in the general quality of life in the rural area by accelerating the sanitation coverage, encourage the cost effective and appropriate technology in sanitation and eliminate the open defection to minimize risk of contamination of drinking water sewage and food by 2012. This is also known as Total Sanitation Campaign launched in world waste decade of 1989s. In this, there was objective to providing 80 percent subsidy for construction of individual sanitary latrine for BPL house hold on demand basis. The CRSP was restructured in 1999 to a low subsidy model. The supply driven approach

was attired to a demand driven model with increased emphasis on public participation. In 2001 the CRSP was over hauled with the introduction of total sanitation campaign which carried forward the demand driven approach focusing on awareness building.(Ministry of Rural Development, 2017-18, pp.9-99) The program's cost in TSC was being shared between Central (60 percent share) and State government (20 percent) and Beneficiary (20 percent). Total sanitation campaign also known as Nirmal Bharat Abhiyan (NBA) having. The prime focus of the scheme was to improve the sanitation condition of the country. The improvement of this program involved the association of the Panchayati Raj Institution through various local mobilizations. As the fillip to the TSC, the Nirmal Bharat Purashkar was launched, to recognize the achievement towards full sanitation coverage and it was introduced as a part of the effort to give innovative to encourage, positive sanitation in rural community. In 2012 TSC was renamed Nirmal Bharat Abhiyan, NBA hypotheses facilitating individual household toilet to the bellow poverty line, and providing school and community level sanitation. Then, NBA was covered by MGNAREGA to facilitate the rural household with fund available for creating their sanitation facilities.

Further, Central sponsored scheme such as Jawahar Lal Neharu Urban National Mission (JNNURM) was launched by the Government of India under the Ministry Urban Development to achieve the goal of city modernization. Officially the scheme was launched in 2005, 3 December by Prime Minister ManMohan Singh as the program to improve the quality of life and infrastructure of cities. The time period of mission was 7 year from December 2005 to March 2012 but two more years were extended, Until 31 march 2014. In 2009 Urban Infrastructure Development Scheme for Small and Medium Towns (UIDSSURM) is one of the components of JNNURM. The mission is the single largest initiative of the Government of India for planned development of cities and towns.

As above analysis of sanitation policies and programme shows that their implementation has been purely Government-Led-Infrastructure created, supply driven and subsidy based. Our approach towards sanitation has been purely programmatic. However Swachh Bharat Bbhiyan concerns both kind of strategy. In this government gives some sort of intensive to people. On the other hand government enforce to mass to demand driven side of sanitation.

## 2.3 Budget Allocation for the Scheme

Since the programme has been launched, Government of India has been spending lots of fund on the programme implementation. The actual expenditure budget has been more than allocated budget, in financial year 2017-18 Government of India allocated Rs. 13948 crore for the policy but the real expenditure was Rs.16948 crore (122 percent of allocated budget) (SBA(G) Budget Brief, 2017-18, p.2), Which shows increased expenditure on MDWS. The expenditure of MDWS has been more than allocated budget in last three year of SBA (G) which shows the programme has been given much more attention. As. the expenditure of SBA (G) was in 2016-17, 185 percent, in 2017-18 116 percent, and in 2018-19 122 percent of total allocated budget (Kapur, A., & Agarwal, A., 2017. p.6). On the other side as information, education and communication is the most important area of SBA(G) the expenditure on IEC has been very low as in 2014-15 it was 4 percent , in 2015-16 only 1 percent of total budget of SBA-G while in 2017-18 this was 2 percent of total SBA(G) ( Kapur, A., & Agarwal, A., 2017. p.6).

The cost for constructing a household toilet was increased from Rs 10,000 rupee to Rs 12,000 per beneficiary. Construction of Individual Household Latrines (IHHLs) accounts for the largest share of total expenditure under the scheme. In 2014-15, it was 91 percent, and has been increased to 97 percent and 98 percent in 2015-16 and 2016-17, respectively. In 2017-18, it was 98 percent of total expenditure for construction of IHHLs. Government of India also introduced 0.5 percent Cess on services tax to fund the programme. This collected amount called as Swachh Koss. The Senior Citizen, Politicians, Industrialist, Celebrities, Cricketers and Others were requested to accumulate the fund for the program. Swachh Bharat Abhiyan Gramin was provided Rs. 2400 crore in 2015-16 and Rs.10,000 in 2016-17 from Swachhta Kosh (Ministry of Finance, 2017). SBA Cess had been collected Rs. 9851.41 crore till October 2016 for programme development (Press Information Bureau, 2017). All these fund has been utilized for construction of individual household latrine and others community sanitary complex and management and on IEC etc.

## 2.4 Expenditure Components of Swachh Bharat Abhiyan

The number of persons defecating in open rural areas, which were 55 crore in October 2014, has declined 25 crore in 2018. Sanitation coverage has increased from 39

percent in 2014 to 78 percent in 2018. Though toilet construction was the main component of expenditure, but there are other components of expenditure. Information, Education, and Communication (IEC) is an important component of Swachh Bharat Abhiyan (G). There is provision for IEC that 8 percent of total project's cost would be spent on IEC. 3 percent would be utilized at the central level and 5 percent at the state level. The share of Centre and state will be in proportion to 60:40 (SBA (G) Guideline). Provision for the administrative cost is 2 percent of the project cost. In this, centre and state share 60:40 proportionally. A special state like Jammu& Kashmir shares is 90:10 between central and state. The state was advised to spend at least 60 percent of total 8 percent the IEC fund for interpersonal communication (IPC) activities. Under IEC, massive media campaigns are organized at the national level using audiovisual TV and audio (Radio). Many activities are being undertaken in IEC such as songs and drama, wall writing and street plays, group meeting, sports, etc. Under interpersonal communication 4 lakh, Swachhagrahis have been working and 1200 Swahhata Rath rolled out over. Other activities such as Namami Gange Programme, Swachh Iconic Place, Research and Development activities have been part of the (SBA-G) Expenditure component. As per the release of fund since 2014-15 to 2019, utilization of fund has been as following in 2014-15, 95.8 percent of the released fund, in 2015-16, 97.51 percent, in 2016-17, 97.70 percent, 2017-18, 98.0 percent and 2018-19(RE ) was 83 percent of total released fund. Therefore the allocation of fund and released fund present, there is not over expenditure on Swachh Bharat Abhiyan (Economic Survey, 2018-19, p.161)

## 2.5 Conclusion

The Government launched Swachh Bharat Abhiyan (Gramin) with effect from 2nd October, 2014 with the aim to attain Open Defecation Free (ODF) India by 2nd October, 2019 by providing access to toilet facilities to all rural households in the country. Total fund of Rs.47876.21 crore has been released to the State/UTs since the inception of the scheme to 2019, out of total allocation of Rs.51314.3 crore during the same period. Funds allocated for SBA (G) was Rs.2850 crore during 2014-15. It has increased by 128.9 percent to Rs.6525 crore in 2015-16 over 2014-15. It has been observed annual growth of 61.2 percent in allocation of funds for SBA (G) to Rs.16948.27 crore during 2017-18 against Rs.10513 crore during 2016-17. Funds

allocated for SBA (G) was Rs.14478.03 crore during 2018-19. Funds released to the State/UTs for SBA (G) was Rs.2730.3 crore during 2014-15. It has increased by 133 percent to Rs.6362.96 crore in 2015-16 over 2014-15. Annual growth of 61.7 percent has been seen in release of funds to the State/UTs for SBA (G) from Rs.10271.96 crore during 2016-17 to Rs.16610.88 crore during 2017-18. Funds released to the State/UTs for SBA (G) was Rs.11900.11 crore during 2018-19. The fund allocation and utilization was the highest in the final two years 2018 and 2019 of the period of SBA (G).

# CHAPTER 3
# SOCIO-ECONOMIC PROFILE OF THE STUDY AREA

# Chapter 3

# Socio-Economic Profile of the Study Area

## 3.1 Introduction

The socio-economic status of society plays an important role in the economic development and growth of society. A good and positive improvement in individuals always helps to enhance the quality of life and standard of living of the society. Apart from socioeconomic status, the health status of an individual cannot be ignored (which includes proper height, weight, and a healthy body). This requires access to good food, clean clothing, a good house, and a clean environment. Socio-economic status also considers the good practices of sanitation and being hygienic always, such as no open defecation, cleaning hands after critical and normal activities, practices to make houses and nearby surroundings clean. Sanitation practices can be determined by the individual's education, income, housing condition, occupation and other indicators of the individual. Further, the socio-economic status determines the individual awareness of cleanliness, housing conditions with appropriate toilets and bathroom, etc.

The present chapter analyses the social and economic status of the surveyed households of rural Uttar Pradesh. The village "Bakhariya" of Auraiya district in Uttar Pradesh was selected to be studied in accordance with the objective in the context of Swachh Bharat Abhiyan (Gramin). Though, the Indian government declared villages as well as Uttar Pradesh Open Defecation Free. Yet, socio-economic status reflects differently. However, a different question arises such as what are the developmental changes the program left on the population? What is the status of the rural population in Uttar Pradesh dealing with the present development scenario, in the context of sanitation, poverty, and education? The study tries to develop significant insight into the socio-economic and sanitation condition of the rural population. In order to determine the quality of life and standard of living, the study assesses the education level of the households, income, gender, religion, awareness about SBM, housing infrastructure with toilet or bathroom and others. The chapter is divided into two parts; the first part of the chapter presents the overview of

the socio-economic picture of the district and village. The second part of the chapter presents the villagers with basic amenities and an understanding of Swachh Bharat Abhiyan (Gramin).

## 3.2 Socio-Economic Profile of the Study Area

### 3.2.1 District Profile

The background of the study area is very important to understand the present condition of the study area. The village of Bakhariya was selected for study which is near the National Highway (NH-2) in Auraiya block. National census (2011) reveals that women literacy in Auraiya is at the highest point in the education list of Uttar Pradesh. Auraiya's population in 2011 was 13.80 lakh with 16.9 percent population growth rate. Though, the population growth rate had declined from 2001 to 2011 as it was 18.00 percent. But the population density is increased by 684 people/ square kilometer from 586 people per square kilometer. Its proportion to the Uttar Pradesh population is declined from 0.71 percent to 0.69 percent in 2000 (Census 2011). The average literacy of Auraiya district is 78.95 percent while male literacy is 86.11 percent and female 70.61 percent (Table 3.1). In the district, most of the religions exist, as it is the part of religious region Uttar Pradesh. Hindu population is in majority as 92.32 percent of the total population, Muslim is with the share of 7.39 percent and others. However, the Hindu population in Uttar Pradesh is 79.80 percent, Muslims 19.03 percent, Sikhs 0.32 (State Census, 2011).

### 3.2.2 Village profile

As per the constitution of India and the Panchayati Raj Act village Bakhariya is administrated by Gram Pradhan. It is explained as a good village in the way of economic development. This is a medium size village located in the block and tahasil Auraiya. According to the population census 2011, 294 families are living there, with 1551 total population and there are 861 (55.51 percent) males and 690 (44.48 percent) females. In the case of education and literacy rate village is very good compared to Uttar Pradesh. Table 3.1 shows that in 2011, the literacy rate of Bakhariya village was 87.23 percent compared to 67.68 percent of Uttar Pradesh, while male and female literacy rate stands 92.73 percent and 80.36 percent respectively.

**Table 3.1: Socio-Economic Profile of Auraiya District and Study Village**

| Description | Auraiya District | | Bakhariya Village |
|---|---|---|---|
| | 2001 | 2011 | 2011 |
| Population (In lakh) | 11.80 | 13.80 | 1,551 (In Numbers) |
| Actual population (In Number) | 11,79,993 | 1,379,545 | 1,551 (In Numbers) |
| Male (In Number) | 740,040 | 635,762 | 861(In Numbers) |
| Female (In Number) | 639,505 | 544,231 | 690(In Numbers) |
| Population growth (In percent) | 18.00 | 16.91 | - |
| Literacy (In percent) | 70.50 | 78.95 | 87.23 |
| Male literacy(In percent) | 80.14 | 86.11 | 92.73 |
| Female literacy(In percent) | 59.13 | 70.61 | 80.36 |

**Source:** Office of Register General, Ministry of Home Affairs , Government of India , New Delhi, 2011. This can be found from Https://Www.Census2011.Co.In/Census/District/533-Auraiya.Html.

### 3.2.3 Respondent Profile

Under the present survey, 100 households are covered out of 294. In which, 86 percent of respondents are the head of the family and 14 percent of respondents were members of the family. Most of the respondents are male (85 percent) while 14 percent are female. There are 84 percent Hindu and 16 Muslim respondents. 27 percent of respondents belong to the general category, 43 percent from, Other Backward Baste and 30 percent are Schedule Caste (Table 3.2). The study has taken one hundred families which include 552 members from all age groups. Out of 100 families, 32 percent of households have a joint family and 68 percent have a nuclear family. Survey also reveals that 17 percent of families are having APL Ration Card and 67 percent have BPL ration Card, while 14 percent of families have Antyodaya Card. In the study 4 percent of respondents are farmers engaged in agriculture, 12 percent are domestic workers woman. Only 22 percent of respondents are getting income from a regular basis which can be government and private sector. In the study, the age of the respondent as very important to receive the appropriate response, so 85 percent of respondent belong into the age group of 18 to 60 years old, 14 percent are from the age of above 60-year-old and only 1 percent respondents comes from bellow 18-year-old age group ( Table 3.2).

**Table 3.2 Profile of Head of Household in Surveyed Village**

| | | | | | |
|---|---|---|---|---|---|
| **Designation of respondent** | **Head** | 86 | **Gender** | **Male** | 85 |
| | **Member** | 14 | | **Female** | 15 |
| | **Total** | 100 | | **Total** | 100 |
| **Religion** | **Hindu** | 84 | **Caste** | **General** | 27 |
| | **Muslim** | 16 | | **OBC** | 43 |
| | **Total** | 100 | | **SC** | 30 |
| | | | | **Total** | 100 |

**Sources:** Estimated From Primary Survey Data

### 3.2.4 Educational Profile of Households

Education is one of the most important indicator of socio-economic well-being of the family, which shows the slandered of living of the family, as well as social and economic inclusion in the developing world, because in the present competition of development without education and its right, the person might have difficulties to exist in present and future as well. In present India, if someone is deprived of education, it would be said that he is not having his right given by the constitution, the right to education which cannot be stolen. Philosophers and Social Scientist have observed that religion and caste plays a crucial role in determining demographic factors and structure. The Countries, which blindly believe in religious value existence that has been found as a country of the high percentage of illiteracy, low income, and high birth rate. The country like Sudan, Afghanistan, Mali, etc is among the list of countries with the least literacy rate (Samanta, S. 2015, p.26). These countries have a low literacy rate due to widespread poor infrastructure and some of them even have a remote geographical area. India is increasingly compared in adult and youth literacy rates among its regional neighbors as well as for countries under BRIC (Brazil, Russia, India, and China) India does well compared to Bangladesh and Pakistan. India recognized education as a fundamental right of a child and makes appropriate provisions in our constitution. The right of children gets free and compulsory education under RTE act 2009 which comes into effect on 1 April 2010. DISE 2011-12 states about elementary education in Uttar Pradesh in that there are 221653 schools of elementary education with 69.78 percent of the government school. At India level 76.36 percent government elementary school with 1412178 schools. The state of Uttar Pradesh has a rich history of education and learning, Uttar Pradesh had established a name for itself as the education hub of the country, According to the census reports published in the year 2011 the literacy rate in the state is 69.72 percent.

In the surveyed study village of 100 households, there are 552 population sizes which are classified education-wise in Table 3.3. There are 11 percent are illiterate of the population. 24.85 percent of people (considering all of the people) attended primary school, 17.86 percent are upper primary, 30.18 percent populations have completed intermediate and high school, and 16.43 percent have completed graduation and post-graduation. Table 3.3 shows that in the study village there is 89.32 percent of total population literate which states only 10.68 percent of illiterate. At the all over 487 population's size, 261 male (53.59 percent) and 226 female (46.41 percent) are educated excluding children up to five year old. Table 3.3 shows the male literacy rate is higher than the female literacy rate. The female illiteracy is more (15.04 percent) than male illiteracy (6.90 percent). Further 19.54 percent male population is educated primary and 30.97 percent female population is educated up to primary. Though, 37.93 percent males have completed education high school and intermediate which is more than female (21.24 percent). In the higher education, male participation is much higher 20.69 percent than females. Since independence, India has been trying to increase female education but not much success has been achieved so far.

**Table 3.3 Gender Wise Distribution of Educational Qualification of the Population**

| Educational Status | Male | Female | Total Numbers |
|---|---|---|---|
| **Illiterate** | 18 | 34 | 52 |
| | 34.62* | 65.38* | 100.00* |
| | 6.90** | 15.04** | 10.68** |
| **Primary** | 51 | 70 | 121 |
| | 42.15* | 57.85* | 100.00* |
| | 19.54** | 30.97** | 24.85** |
| **Upper Primary** | 39 | 48 | 87 |
| | 44.83* | 55.17* | 100.00* |
| | 14.94** | 21.24** | 17.86** |
| **High and Intermediate** | 99 | 48 | 147 |
| | 67.35* | 32.65* | 100.00* |
| | 37.93** | 21.24** | 30.18** |
| **Graduation and above** | 54 | 26 | 80 |
| | 67.50* | 32.50* | 100.00* |
| | 20.69** | 11.50** | 16.43 ** |
| **Total** | 261 | 226 | 487 |
| | 53.59* | 46.41* | 100.00* |
| | 100.00** | 100.00** | 100.00** |

**Source:** Estimated from Primary Survey Data
**Note:** * Row wise Percent, While ** Column Wise Percentage

Religion and caste not only affect regional development but also affect the economic development of the country. Uttar Pradesh is a rich state in traditional culture where, religion and caste affect socio-economic development. Even in rural areas, this relation of caste and religion becomes much harder and deeper. There is two religion in the study area Hindu and Muslim. Table 3.4 presents the educational status of the population on religion wise, there are 24.20 percent Hindu completed primary education, 32.10 percent high school and intermediate, 17.78 did their graduation. There 7.16 percent of Hindu are illiterate lower than 28.05 percent Muslim illiterate in the study area. In Muslim 9.76 percent of people have completed graduation lower than Hindu. Therefore illiteracy rate in Muslims is much higher (28.05 percent) than Hindus (7.16 percent) in the study village.

On the other side Table 3.4 portray Caste wise educational distribution. There are 18.18 percent in general, 4.29 percent in OBC and 13.10 percent in schedule caste category that are illiterate. There are 22.73 percent of general, 22.86 percent of OBC and 29.66 percent of SC population who have completed primary education. When it comes to complete graduation, only 18.18 percent Population from General, 16.67 percent from OBC and 14.48 percent from SC are able to complete graduation and above. There are 29.55 percent general, 36.66 percent OBC and 21.38 percent SC respondents who have completed education high school and intermediate. Further, data shows that in all caste categories, general population has higher percentage of illiterates because it includes Muslim population where all Muslims belong to General category.

**Table 3.4: Religion and Caste Wise Educational Distribution in the Study village**

| Educational status | Hindu | Muslim | Total | General | OBC | SC | Total |
|---|---|---|---|---|---|---|---|
| **Illiterate** | 29 | 23 | 52 | 24 | 9 | 19 | 52 |
| | 7.16* | 28.05* | 10.68* | 18.18* | 4.29* | 13.10* | 10.68* |
| **Primary** | 98 | 23 | 121 | 30 | 48 | 43 | 121 |
| | 24.20* | 28.05* | 24.85* | 22.73* | 22.86* | 29.66* | 24.85* |
| **Upper Primary** | 76 | 11 | 87 | 15 | 41 | 31 | 87 |
| | 18.77* | 13.41* | 17.86* | 11.36* | 19.52* | 21.38* | 17.86* |
| **High school and Intermediate** | 130 | 17 | 147 | 39 | 77 | 31 | 147 |
| | 32.10* | 20.73 * | 30.18* | 29.55* | 36.67* | 21.38* | 30.18* |
| **Graduation and above** | 72 | 8 | 80 | 24 | 35 | 21 | 80 |
| | 17.78 * | 9.76 * | 16.43* | 18.18* | 16.67* | 14.48* | 16.43* |
| **Total** | 405 | 82 | 487 | 132 | 210 | 145 | 487 |
| | 100.00* | 100.00* | 100.00* | 100.00* | 100.00* | 100.00* | 100.00* |

**Source**: Data Estimated from Field Survey.
**Note:** * Denotes Column Wise Percentage population.

### 3.2.5 Distribution of Population in the Study Area

Occupational pattern is an important factor for determining the socio-economic condition of the village. It shows that in what kind of activities the people are engaged. The occupational structure also influences the socio- economic development of an area. Occupation implies trends or profession. It reveals the nature of economic progress of a country. It is related to agriculture industry upon the degree of economic development and sophistication of country. Occupation structure influences many aspect of population in the region. The occupational structure of a country refers to the distribution or division of its population according to different occupations. There population has been divided into two category first working population and second nonworking population. Further working population's occupation has been categorized into four categories, 1-Regular salary (from both public and private sector), 2- Non- agriculture labour, 3-Agriculture labour, 4-Domestic work with some side work. Remaining population is comes under non working population i.e. students, old person and child population up to five year. This gives a proper illustration of ratio of the working and non-working population in the village. Here domestic related work means regular routine work in house dwelling only however in rural area it also consider outside to the house such as the service of pats animals.

In Indian society, the occupational structure is different with reference to females. Women are not supposed to do some kind of work and some of the work man does not do. This type of practice is prevalent in rural areas of the country. In the study village, Table 3.5 shows that male and female occupation is diversified on the basis of gender. There are 52.72 percent of male population and 47.28 percent of female population. There are 91 people are regular salary earner from both private or government sector, in which female participation is only 8.79 percent than male 91.21 percent. In agriculture and non agriculture labour category, male participation is 96.55 percent and 92.54 percent very high than female participation 3.45 percent and 7.46 percent respectively. As female always have been supposing to do domestic related work in rural area. Therefore in present also female participation in domestic related work is more 91.22 percent than male 8.78 percent only male. On the other hand in non working population 26.27 percent are student population in the village in which 49.66 percent are male students and 50.34 percent female students. Out of total

population (552), 2.36 percent are old age person, 10.69 percent are children up to five year. Therefore over the population of the village 16.49 percent population are regular salary earners, 5.25 percent are casual labour and 26.81 percent percent population are engaged with domestic related work ( mostly women).

**Table 3.5: Gender Wise Distribution of Working and Non Working Population**

| Population Status | Male | Female | Total |
|---|---|---|---|
| **Regular salary** | 83 | 8 | 91 |
| | 91.21* | 8.79* | 100.00* |
| **Non Agriculture labour** | 28 | 1 | 29 |
| | 96.55* | 3.45* | 100.00* |
| **Agriculture labour** | 62 | 5 | 67 |
| | 92.54* | 7.46* | 100.00* |
| **Domestic work** | 13 | 135 | 148 |
| | 8.78* | 91.22* | 100.00* |
| **Student** | 72 | 73 | 145 |
| | 49.66* | 50.34* | 100.00* |
| **Old person** | 5 | 8 | 13 |
| | 38.46* | 61.54* | 100.00* |
| **Child up to five year** | 28 | 31 | 59 |
| | 47.46* | 52.54* | 100.00* |
| **Total** | 291 | 261 | 552 |
| | 52.72* | 47.28* | 100.00* |

**Source:** Estimated From Field Survey
Note: * Row Wise Percentage

On the other side caste and religion wise population are being shown in Table 3.6. As 84.42 percent Hindu population and 15.58 percent is Muslims in the village. There are 16.31 percent Hindu and 17.44 percent Muslim are regular salary earner. In non-agriculture labour, Muslims proportion is more (15.12 percent) than (3.43 percent) Hindu. In agriculture labour, (farmer) both Muslim and Hindu are equally involved (12.02 percent and 12.79 percent). In Muslim religion domestic work related population is more (31.40 percent) than (25.97 percent) Hindus. While, the non-working population in Hindu the student population is more 28.11 percent than Muslim 16.28 percent.

The caste wise distribution of occupational status of village can be seen in Table 3.6. There are 25.91 percent general population including all Muslims population, 43.48 percent OBC and 30.62 percent SC population in the village. In

regular salary group, General (17.48 percent), OBC (19.17 percent) is higher than SC (11.83 percent). In casual labour category OBC proportion is least 1.67 percent than 9.09 percent General and percent SC 7.10. While in agriculture labour all the caste's populations are equally engaged as General, OBC, SC 12.02 percent, 12.79 percent and 12.14 percent respectively.

**Table 3.6: Caste and Religion Wise Occupational Distribution of Population**

| Occupational status | Religion of member | | | Caste | | | |
|---|---|---|---|---|---|---|---|
| | Hindu | Muslim | Total | General | OBC | SC | Total |
| Regular salary | 76 | 15 | 91 | 25 | 46 | 20 | 91 |
| | 16.31* | 17.44* | 16.49* | 17.48* | 19.17* | 11.83* | 16.49* |
| Non Agriculture labour | 16 | 13 | 29 | 13 | 4 | 12 | 29 |
| | 3.43 * | 15.12 * | 5.25* | 9.09 * | 1.67* | 7.10* | 5.25* |
| Agriculture labour | 56 | 11 | 67 | 19 | 29 | 19 | 67 |
| | 12.02 * | 12.79 * | 12.14* | 13.29 * | 12.08* | 11.24* | 12.14* |
| Domestic work | 121 | 27 | 148 | 42 | 67 | 39 | 148 |
| | 25.97* | 31.40* | 26.81* | 29.37* | 27.92* | 23.08* | 26.81* |
| Student | 131 | 14 | 145 | 29 | 63 | 53 | 145 |
| | 28.11 * | 16.28 * | 26.27* | 20.28* | 26.25* | 31.36* | 26.27* |
| Old person | 10 | 3 | 13 | 5 | 5 | 3 | 13 |
| | 2.15* | 3.49* | 2.36* | 3.50* | 2.08* | 1.78* | 2.36* |
| Child up to five year | 56 | 3 | 59 | 10 | 26 | 23 | 59 |
| | 2.02* | 3.49* | 10.69* | 6.99* | 10.83* | 13.61* | 10.69* |
| Total | 466 | 86 | 552 | 143 | 240 | 169 | 552 |
| | 100.00* | 100.00* | 100.00* | 100.00* | 100.00* | 100.00 * | 100.00* |

**Source:** Estimated from Field Survey Data.
**Note:** * Column Wise Percentage values.

### 3.2.6 Land Holding Profile of Households

Uttar Pradesh is the third largest state Economy in India with 15.4 lakh crore in GDP. The majority of the state's population depends upon farming activities. Uttar Pradesh is one of the most important states in India as far as horticulture is concerned (Wikipedia).

Table 3.7 shows that distribution of cultivated land in the study area, there are 91 respondents who are connected with agriculture and farming and they get income and livelihood from the cultivated land. Land holding, here is divided in two parts, first land holding of their own, that they have got from their forefathers or have purchased it. Secondly, rental land holding i.e. farm taken by the farmers on rent. Table 3.7 shows that there 83 percent household got own farms, 42 percent household cultivate on land taken on lease. The mean of private land is 2.21 bigha, and range of land lie between Maximum 11 Bigha and Minimum 0.25 Bigha. Whereas rental land's mean are 3.60 with Maximum 10 Bigha and Minimum 0.25 Bigha. The addition of both type of land makes picture of total land owned by the household, in which they are engaged. The mean of total land is 3.69 Bigha and with 2.42 standard deviation, Minimum 0.25 and Maximum 11 Bigha.

**Table 3.7: Distribution of Cultivated Land Holding Size of Household**

| Land holding size | Observation | Mean of land size | Std. Deviation | Minimum | Maximum |
|---|---|---|---|---|---|
| **Own land size** | 83** | 2.21* | 1.91* | .25* | 11* |
| **Rental land size** | 42** | 3.60* | 1.73* | 1* | 10* |
| **Total land Size** | 91** | 3.68* | 2.42* | -- | - |

**Source:** Estimated from field survey data
**Note: *** Size of land in Bigha and ** Number of Households out of 100 households

There are 9.00 percent household do not have land they are the casual labour or working in other kind of job. According to private land holding wise there are 17.00 percent household are land less. Therefore, in this way 9 percent villagers are land less, 48 percent respondents have land up to mean land holing and 43 percent households have above than mean land holding which is 3.68956 Bigha, with range Minimum 0.25 Bigha Maximum 11Bigha. There 4.76 percent Hindu and 31.25 percent Muslim do not have land and they are not engaged with agriculture in Table 3.8. But 52.38 percent Hindu and 25.00 percent Muslims household access to the land up to Mean (3.68956 Bigha) and 42.86 percent Hindu and 43.73 percent Muslim do have land above mean up to 11 Bigha. There for landlessness in Muslim category 31.25 percent are much higher than Hindu 4.76 percent.

**Table 3.8: Religion Wise Land Distribution of the Household**

| Land holders | Religion | | |
|---|---|---|---|
| | **Hindu** | **Muslim** | **Total** |
| No land holdings | 4 | 5 | **9** |
| | 4.76* | 31.25* | **9.00*** |
| Land Holding up to Mean Value | 44 | 4 | **48** |
| | 52.38* | 25.00* | **48.00*** |
| Land Holdings Above Mean | 36 | 7 | **43** |
| | 42.86* | 43.75* | **43.00*** |
| Total | **84** | **16** | **100** |
| | **100.00*** | **100.00*** | **100.00*** |

**Source:** Estimated From Field survey Data
**Note:** * Shows Column Wise Percentage

The caste wise picture of village land distribution is as in following table 3.9. The Landless households are 55.56 percent in General category, 33.33 percent in OBC and 11.11 percent SC category. In land holding up to mean land (3.68956 Bigha) 18.75 percent General, 45.92 percent OBC and 33.33 percent SC household are there. And in land holding above mean, there are 30.23 percent General, 39.53 percent OBC and 30.23 percent is SC respondent. Here landlessness in General category is more than others because the involved all Muslim landlessness into it.

**Table 3.9: Caste Wise Land Distribution of Households**

| **Land holding in Bigha** | **Caste of the house hold** | | | |
|---|---|---|---|---|
| | **General** | **OBC** | **SC** | **Total** |
| **No Land Holdings** | 5 | 3 | 1 | **9** |
| | 18.52* | 6.98* | 3.33* | **9.00*** |
| **Land Holding up to Mean Value** | 9 | 23 | 16 | **48** |
| | 33.33* | 53.49* | 53.33* | **48.00*** |
| **Land Holdings above Land Holdings** | 13 | 17 | 13 | **43** |
| | 48.15* | 39.53* | 43.33* | **43.00*** |
| **Total** | **27** | **43** | **30** | **100** |
| | **100.00*** | **100.00*** | **100.00*** | **100.00*** |

**Source:** Estimated From Field Survey Data
**Note:** (*) Column Wise Percentage

### 3.2.7 Land Holding Wise Distribution of Rural households

The economy of Uttar Pradesh is based on mainly on agriculture and around 65 percent of total population is dependent on agriculture. According to survey of 2014-

15 approximately 165.95 lakh hectare, 68.7 percent land is used for cultivation. According to agriculture Survey 2011-12, there are 233.25 lakh farmers in the state. State has become self sufficient in the field of food safety and progressing towards more than the requirement. The total number of land holdings is 224.57 lakh. Whereas 175.07 lakh (78.0 percent) are Marginal farmers, 31.03 lakh (13.8 percent) small farmers and 18.47 lakh (8 percent) farmers hold above 2 hectare (farmech.gov.in).

Marginal farmer are with subsistence level of income from his or her own land, sometimes working as an agriculture labour. In India, the percentage of marginal farmers among all farmers is nearly 70 percent. A marginal farmer means a farmer cultivating (as owner or tenant or share cropper) agricultural land up to 1 hectare, whereas small farmer means a farmer cultivating (as owner or tenant or share cropper) agriculture land more than 1 hectare up to 2 hectare. Government of India, ministry of agriculture and farmers welfare categorize the farmers in India on the basis of land holding size in agriculture census, the operational holdings are categorized in five classes as follow – below 1 hectare are marginal farmers, 1 to 2 hectare small farmers, 2 to 4 hectare semi-medium farmer, 4 to 10 hectare medium farmer and 10 hectare and above is large farmers.

Table 3.10 shows the category of farmers according to land holding size in rural area, in study village. There are 9 percent respondents who don't have agriculture land means they are landless. There are 52.00 percent Marginal Farmers, 32.00 percent small farmer and 7.00 percent are semi-medium farmers in the village. Further table shows the picture of farmers religion wise, In Hindu religion 57.14 percent are Marginal Farmers, 32.14 percent are Small Farmers and 5.94 percent are semi-medium farmers in the village. On the other side in the muslin community there are 25.00 percent are marginal farmers, 31.25 percent are small farmers, and 12.50 percent are semi-medium farmers in the village. The landless households are more in Muslim 55.55 percent as compared to Hindu 44.45 percent.

Table 3.10 shows another picture of farmers on caste wise. there are in General category 18.00 percent respondents are landless, 37.04 percent are Marginal Farmers, 33.33 percent are Small Farmer and 11.11 percent are semi-medium farmers in the village. While in (OBC) category there are 6.98 percent are landless, 53.49 percent are marginal farmers, 32.56 percent Small Farmer and 6.98 percent Semi-medium

Farmers in the village. But in SC category 9 percent are landless, 52.00 percent are Marginal Farmers, 32.33 percent small farmers and only 3.33 percent Semi-medium Farmers are in the village. The proportion of marginal farmers in the village is much more in the SC than general category (37.04) percent. While the high land holding farmers as semi medium farmer are in SC category 3.33 percent is much low as compare to 11.11 percent in general category.

**Table 3.10: Religion and Caste Wise Distribution of Land Holding Farmers**

| Religion and Caste of The Household | Type of Farmers in Village House Hold | | | | |
|---|---|---|---|---|---|
| | **Land Lass** | **Marginal Farmer** | **Small Farmer** | **Semi-Medium Farmer** | **Total** |
| Hindu | 4 | 48 | 27 | 5 | 84 |
| | 4.76* | 57.14* | 32.14* | 5.95* | 100.00* |
| Muslim | 5 | 4 | 5 | 2 | 16 |
| | 31.25* | 25.00* | 31.25* | 12.50* | 100.00* |
| Total | 9 | 52 | 32 | 7 | 100 |
| | 9.00* | 52.00* | 32.00* | 7.00* | 100.00* |
| **General** | 5 | 10 | 9 | 3 | 27 |
| | 18.52* | 37.04* | 33.33* | 11.11* | 100.00* |
| **OBC** | 3 | 23 | 14 | 3 | 43 |
| | 6.98* | 53.49* | 32.56* | 6.98* | 100.00* |
| **SC** | 1 | 19 | 9 | 1 | 30 |
| | 3.33* | 63.33* | 30.00* | 3.33* | 100.00* |
| **Total** | 9 | 52 | 32 | 7 | 100 |
| | 9.00* | 52.00* | 32.00* | 7.00* | 100.00* |

**Source:** Estimated From Field Survey Data
**Note:** * Row wise Percentage of Farmers in the Village.

### 3.2.8 Income Distribution of Households

The income of a family is the main measure parameter for the prosperity of any household. On the basis of income, someone decides, how he would fix his consumption pattern and savings. It includes every form of income that is salary or wage, retirement income, near cash government transfers, rent from land, income from animal husbandry and agriculture and others.

As the villagers are mostly involved in farming agriculture and animal husbandry that is why, their income source is also related to agriculture and livestock. But the family also generates income from other sources such as horticulture which involves gardening of vegetables, running the small business at the village level, receive wage and salary from the government sector and private sector, receive rent

on land leased out and others. Table 3.11 presents, 92 households get some part of their income from agriculture annually, 81 households from livestock and 70 households receive some part of their income from wage and salary. On the other side horticulture is the source of income of 11 households, the pension is of 8 households, and Rent form land is of 8 households. There are also other sources of income of 9 households. The household, in some of the cases, may have only one source of income or may also have more than one source of income as they have the number of members in their house.

Average income from agriculture is Rs 82891.3 Rupee per year with Minimum income Rs.5000 and Maximum Rs.500000. This depends on the landholding size of households. Secondly, the mean income of 70 households from wage and salary is Rs.146257.1 per year with Minimum Rs.5000 and Maximum Rs.360000. There are only 8 families who get pension from government as a source of income. Therefore total 100 family's mean incomes Rs.234194 per year with Minimum Rs.46000 and Maximum Rs.920000 per year and standard deviation of total income is Rs.154076.3 per year.

**Table 3.11: Distribution of Income of Households in Study Village**

| Source Of Income | No. Of Observation | Mean Income | Std. Dev. | Minimum of Income | Maximum of Income |
|---|---|---|---|---|---|
| Income Agriculture | 92** | 82891.3* | 75546.57 | 5000* | 500000* |
| Income From Horticulture | 11** | 17454.55* | 21625.74 | 1000* | 60000* |
| Income From Livestock | 81** | 22617.28* | 17849.07 | 1000* | 100000* |
| Income From Business | 21** | 120190.5* | 90362.95 | 5000* | 360000* |
| Wages And Salary | 70** | 146257.1* | 132907.4 | 20000* | 800000* |
| Pension | 8** | 92800* | 157645.3 | 6000* | 360000* |
| Rent From Land | 8** | 13000* | 5014.265 | 8000* | 20000* |
| Income From Other Sources | 9** | 17888.89* | 13383.24 | 8000* | 50000* |
| **Total** | **100** | **234194** | **154076.3** | **46000** | **920000** |

**Source:** Estimated from field survey in July, 2019

**Note: **** Number of Household Earning Income from Different Sources and * Value of Income in Rupee Per Year.

## 3.3 The Existence of Swachh Bharat Abhiyan in the Study Area

### 3.3.1 Basic Infrastructural Status of the Study Area

Housing condition describes about the economic condition of the village population. It is the good indicator of the prosperity, if they have good housing infrastructure. It is one of the basic needs among food, clothes and house. The good house for living must have the house with appropriate roof, including a comfortable toilet for defecation and a clean bathroom facility for bathing. The toilet and bathroom must be far from the kitchen in the house. Lack of toilet and bathroom facility in the house, not only lead the member's problem but also increase the pollution in the environment. Here the house status has been classified into three categories, 1-kachha house, 2-semipakka house and, 3-pakka house. Kachha house refers here the house in which both walls and roof are made of materials which have to replace frequently. Wall may be made of temporary materials, such as grass, un-burn brisk, bamboos, mud, plastic and polyphone etc. These kinds of houses are not so long lasting. Whereas Pakka house are long lasting houses, refers the house which walls and roof are made of permanent materials such as stone, burn bricks, cement bricks concrete. Roof may be made of the combination of the materials as machine made tiles, cement tiles, etc. But in rural area we find that there is some of the house having both kinds of features in the construction Pakka as well as Kachha house. They are considered as Semi Pakka house.

According to Table 3.12, in the study village, 13.00 percent houses are still Kachha houses constructed with mud, clay, woods and shadow. 55 percent houses are semi Pakka house and 34 percent houses are Pakka house in the village. The caste wise houses type can be pictured as; in general category, 11.11 percent families with Pakka house, 18.50 percent semi Pakka house and 70.37 percent with Pakka house are living in the village. While in OBC category, there are 60.28 percent households with Pakka house, 39.53 in semi Pakka house and 44.19 percent with Pakka house. Though in SC category 56.67 percent household as Pakka house, 33.33 percent have Semi-pakka house and only 10.00 percent have Pakka house. The proportion of Pakka house in SC category is good compared to OBC and General category household

because the distribution of house and colony under Prime Minister Rural Awash Yojana in Uttar Pradesh.

**Table 3.12: Caste Wise Distribution of Housing Infrastructure**

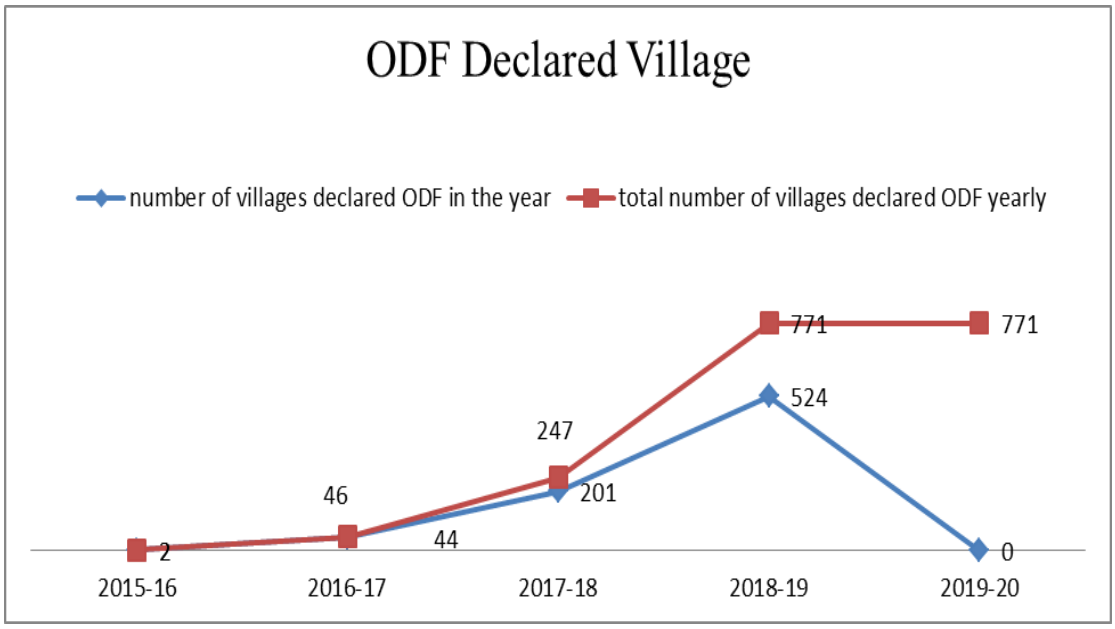
| Type of the house | Caste of the Respondent | | | |
|---|---|---|---|---|
| | General | OBC | SC | Total |
| Kachh house | 3 | 7 | 3 | 13 |
| | 11.11* | 16.28* | 10.00* | 13.00* |
| Semi pakka house | 5 | 17 | 10 | 32 |
| | 18.52* | 39.53* | 33.33* | 32.00* |
| Pakka house | 19 | 19 | 17 | 55 |
| | 70.37* | 44.19* | 56.67* | 55.00* |
| Total | 27 | 43 | 30 | 100 |
| | 100.00* | 100.00* | 100.00* | 100.00* |

**Source:** Estimated From Field Survey in July, 2019
**Note: *** Shows Column Wise Percentage of House

### 3.3.2 Toilet Construction in the Study Area under Swachh Bharat Abhiyan (Gramin)

The picture of households with toilet is one of the most important parameter to judge the success of Swachh Bharat Abhiyan (Gramin). As it is necessary to eliminate open defecation and promote cleanliness the status of toilet in the village. The entire 7 block in Auraiya district have declared as Open Defecation Free. The District Auraiya having 145 Gram Panchayat has declared that every Gram Panchayat household is in access of the sanitary toilet and they are using it properly as open defecation criteria follow. All the block of district considers 771 Gram Panchayat has become 100 percent ODF, where graph 2 shows that after launched the programme in 2014, 2 of the Gram Panchayat declared ODF in 2015-16, after that in 2016-17, 46 Gram Panchayat, in 2017-18 201 Gram Panchayat and in 2018-19 had declared after verified by the government of India(figure 3.1). In the figure 3.1 series 1 presents the pattern of ODF declaration villages per year and series 2 present pattern of total number of villages declared ODF yearly in Auraiya district.

**Figure 3.1: Pattern of Declaring Open Defecation Free Village in Auraiya District**




**Source:** Ministry of Rural Drinking Water and Sanitation, Government of India, New Delhi. Swachh%20Bharat%20Mission (G)-%20MIS

In The village Bakhariya, there are 189 households details have the toilet facility. There are no remaining households without toilet. Though, the village got declared on the ODF on the date 28/ 09/2018, but the other picture of the village, taken by the direct observation in the village is being shown by the following Table 3.13. There are 84 percent of households access with the toilet in the village and 16 percent of households do not have a toilet, which denies the 100 percent access to toilets in the village. On the other hand, the type of toilet is like 76 percent pit toilet and 8 percent septic tank toilets in the study village. There 18 households are without the toilet. There are 2 kachha houses, 8 pakka houses, 8 Semipakka houses, are without toilet in the village. Further, Table 3.14 is showing that 14.86 percent pit toilet is in kaccha house and 32.41 percent are in semi-pakka house and 52.70 are with the pakka houses. The entire septic tank toilet is in the pakka house only, because these are more expensive than a pit toilet.

**Table 3.13: Housing Distribution with Toilet Facility in study village**

| Type of the house | Access of toilet | | |
|---|---|---|---|
| | Yes | No | Total |
| Kachha house | 11 | 2 | 13 |
| | 13.10* | 12.50* | 13.00* |
| Semi pakka house | 24 | 8 | 32 |
| | 28.57* | 50.00* | 32.00* |
| Pakka house | 49 | 6 | 55 |
| | 58.33* | 37.50* | 55.00* |
| Total | 84 | 16 | 100 |
| | 100.00* | 100.00* | 100.00* |

**Source:** Estimated from Field Survey Data in July, 2019
**Note:** * Column Wise Percentage of Access of Toilet household

**Table 3.14 Types of the Toilet in the Village**

| Type of the house | Access of Toilet | | |
|---|---|---|---|
| | Pit toilet | Septic tank | Total |
| Kachha house | 11 | 0 | 11 |
| | 14.47* | 0.00* | 13.10* |
| Semi Pakka house | 24 | 0 | 24 |
| | 31.58* | 0.00* | 28.57* |
| Pakka house | 41 | 8 | 49 |
| | 53.95* | 100.00* | 58.33* |
| Total | 76 | 8 | 84 |
| | 100.00* | 100.00* | 100.00* |

**Source:** Estimated From Field Survey in July, 2019
**Note:** * Column Wise Percentage of Houses

### 3.3.3 Impact of Caste and Income on Toilet Distribution in Study Area

There are three categories of caste in the village. The government of India ensures every household must have toilet facilities in the house, but there is inequality in toilet accessibility in the study village. Table, show that 82 percent of households have toilet in the house, however, 18 percent of the household do not have a toilet. In which 96.30 percent of general category households access to toilet facility, 79.7 percent OBC and 73.33 percent of SC category households access to the sanitary latrine. On the other side, only 3.70 percent of general households do not have a toilet compared to OBC and SC, 20.93 percent and 26.67 percent respectively. The table shows that there is a category wise inequality of toilets distribution.

The study divides all the households into three income groups as household income up to Rs.2 lakh per year, second Rs.2 to five Rs.5 and Rs.5 to Rs.10 lakh per year. 20 percent of households do not have a toilet in the lower-income group up to Rs.2 lakh. However, 9.52 percent of households and 25.00 percent of the household do not have toilets in a group of Rs.2 to five lakh and Rs.5 to Rs.10 lakh per year respectively. On the other hand, the study found there are three types of farmers in the study village. There is no such relation in farmers' wise and toilet accessibility in the village.

**Table 3.15: Caste wise Toilet Distribution of Toilet**

| Caste | Toilet Facility in the House | | |
|---|---|---|---|
| | **Yes** | **No** | **Total** |
| **General** | 26 | 1 | 27 |
| | 96.30* | 3.70* | 100.00* |
| **OBC** | 34 | 9 | 43 |
| | 79.07* | 20.93* | 100.00* |
| **SC** | 22 | 8 | 30 |
| | 73.33* | 26.67* | 100.00* |
| **Total** | 82 | 18 | 100 |
| | 82.00* | 18.00* | 100.00* |

**Source:** Estimated From Field Survey Data.
**Note:** * Shows the row wise percentage of toilet in the house.

### 3.3.4 Bathroom Facility in the Study Village

As the toilet has become very important in the house, similarly some of the other factors also affect household sanitation. Such as proper place of taking bath, cleaning clothes and brushing teeth, etc. The bathroom facility is very important not only for women but also for men and young age girls and everyone. It is also a way of protection of our self-respect. Table 3.15 presents houses of the villagers with bathroom facilities and water source. The water source is for both domestic and drinking purposes. There are 73 percent of houses are with attached bathroom, 9 percent of houses are with detached bathroom from the houses. And 18 percent of respondents (families) do not have a proper bathroom facility for bathing and another purpose. They use the hand pump on the street or backside of the house for bathing purposes. There are most of the families with Pakka house and attached bathroom facilities.

**Table 3.16: Bathroom Facility in the Study Village**

| The House | Facility of Bathroom in House | | | | Accesses to Source of Water | | |
|---|---|---|---|---|---|---|---|
| | Attached | Detached | No Bathroom | Total | Yes | No | Total |
| Kachh House | 6 | 2 | 5 | 13 | 10 | 3 | 13 |
| Semi Pakka House | 22 | 4 | 6 | 32 | 28 | 4 | 32 |
| Pakka House | 45 | 3 | 7 | 55 | 49 | 6 | 55 |
| Total | 73 | 9 | 18 | 100 | 87 | 13 | 100 |

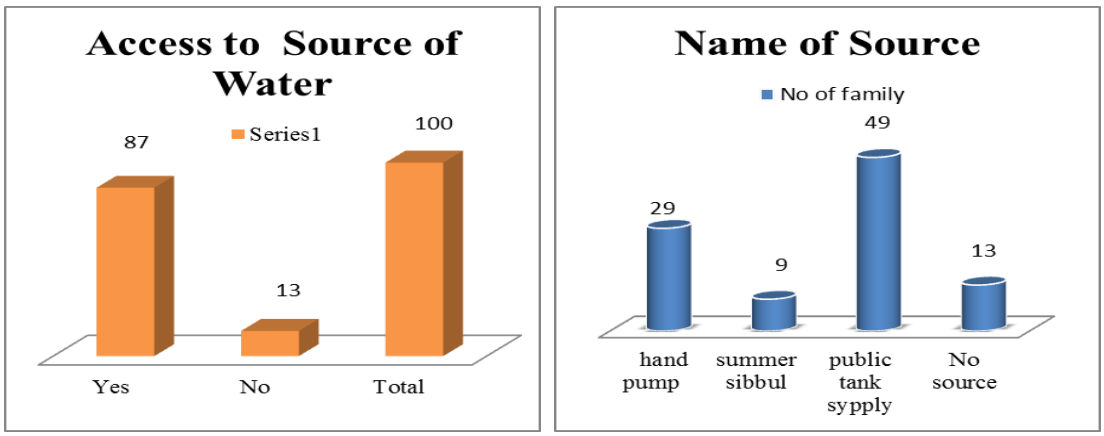
**Source:** Estimated From Field Survey in July, 2019

### 3.3.5 Source of Drinking Water Facility in the Study Village

After having toilet and bathroom facilities, the source of drinking water is also important to determine sanitation facilities in the house. Drinking water is the most important thing for life, so the access to drinking water and sanitation becomes very important for households and livestock. UNDP provides the goal sixth "Clean Drinking Water and Sanitation" from 17 Sustainable Development Goals which ensure availability and sustainable management of water and sanitation for all (United Nations Development Programme, 2015, p.9). Everyone on Earth must have access to safe and affordable drinking water, (United Nations Development Programme, 2015, p.9). Toilet cannot be imagined using regularity without having enough water in the house. Uttar Pradesh as well as Auraiya district is in a water-rich region geographically. So the people of the study area must not have water access related problem. But the study shows, that there is 13 percent of households do not have proper sources of water for drinking and using purpose. 87 percent of households have a source of water in the form of hand pump, private submersible and public tank supply (Figure 3.2). National Rural Drinking Water Program was launched in 2009 to achieve the aim to provide safe and adequate water for drinking, cooking and other domestic needs to every rural person. By December 2017, these objectives were not complete attained, of this only 44 percent of rural households and 85 percent of government school and Anganwari were provided access (Comptroller and Audit General of India, 2018). It also aimed to provide 50 percent of rural population potable drinking water (55 liters per capita per day) by piped water supply of this only 18 percent of the rural population was provided potable drinking water. It also sought to give household connections to 35 percent of the rural households. Of this, only 17

percent of the rural households were given household connections (Comptroller and Audit General of India, India, 2018). Another study did in Uttar Pradesh say that there is the inter-regional disparity in Uttar Pradesh in the availability of drinking water and sanitation (Tiwari, R. 2007, pp.1). Though the state is in the water-rich area in north India, but some of the part of Uttar Pradesh in Bundelkhand is very poor in water (Drinking Water and Water for Livestock) facility, the present study shows that in the (Figure 3.2) in the village 13 percent households do not have a good source of water. Though, the water tank has been constructed in the village by the government of India under the National Rural Drinking Water program but still, 13 percent of families are without source of water. There are 29 percent family has hand pump within the dwelling or outside the dwelling, 49 percent family are accessible with the public tank supply connection of the NRDWP project. But the picture of getting enough water for using and drinking purpose can be seen in the figure 3.2. The families which access to hand pump and submersible not face any problem to get enough water, but the families which have a dependence on public tank supply, don't get enough waters for using and drinking purpose. In the category of public tank supply connection, 22.44 percent households said that they get enough water but 77.55 percent households replied that they do not get enough water to use and drinking purpose. This shows the failures of the program NRDWP in rural Uttar Pradesh. The peoples say that they have a bad quality of water fetching system so most of the time this does not work and we have to face the problem with drinking water for us and animals. Those who don't have a hand pump and other sources said that always we face problem-related to water in the village.

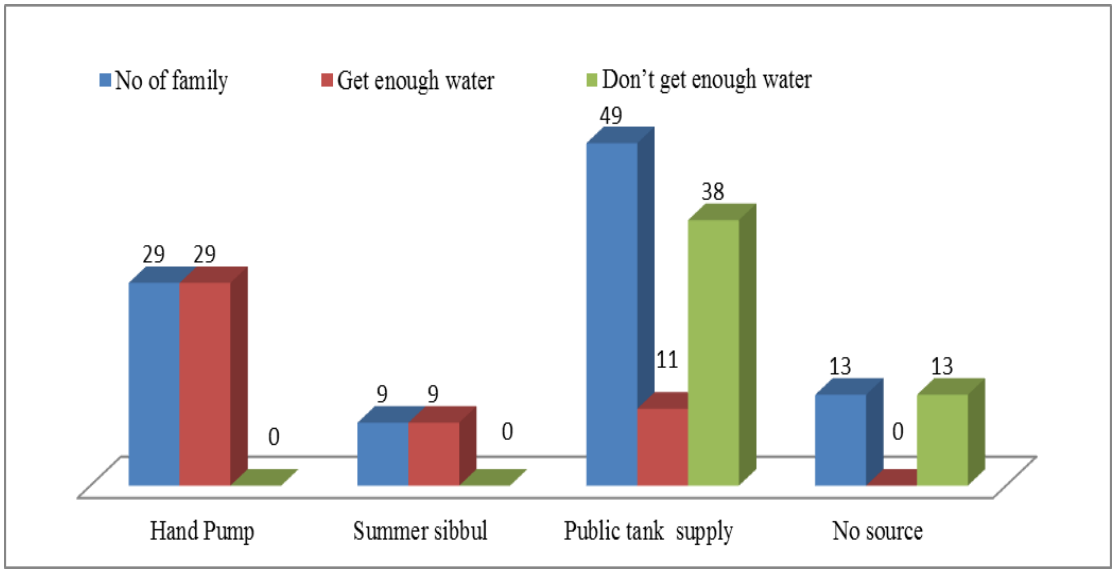
**Figure 3.2: Distribution of Source of Water in the Study Village**




**Source:** Estimated From Field Survey in July, 2019

During the period, between May - June 2015 and July - December 2017, the percentage of households having water for use in the toilet increased from 43 percent to 62 percent in rural India and from 88 percent to 93 percent in urban India(NSSO, 2017, p.1)

**Figure 3.3: Source of Water in Study Village and Availability of Water**




**Source:** Estimated From Field Survey in July, 2019

### 3.3.6 Period of Toilet Constriction in the Study Village

The 83 percent of households have toilet facility in the study area, in which (12 toilets) 14.45 per cent toilets were constructed before 2014. However, (71 toilets) 84.54 per cent have been constructed after 2014 the launching of Swachh Bharat Abhiyan (Gramin). Before launching Swachh Bharat Abhiyan almost 15.00 per cent toilet had been constructed. As 2.41 per cent under some of the previous sanitation policy, 2.41 per cent under the sanitation programme with the help of household and 9 per cent toilet was constructed by the self household. After launching programme Swachh Bharat Abhiyan (Gramin), 51.81 per cent toilets has been constructed under the SBA (G) with the help of the households in the village. While, 31.33 per cent of toilets have been constructed by Pradhan Ji with the incentive amount of SBA (G). 2.41 per cent toilets also have been constructed by the self households after launching SBA (G). Therefore the programme seems to only partially successful because as the target was every household would have a toilet in the village that has not happened. 17 per cent households do not have a toilet in the village. Though more than 50 per

cent toilet is constructed after 2014 but this could not be happen without help of villagers (Table 3.16).

**Table 3.17: Type of the Toilet Constructed in Study Village**

| Type of the latrine | When was the Toilet Built | | |
|---|---|---|---|
| | **Before 2014** | **After 2014** | **Total** |
| **Pit toilet** | 7 | 68 | **75** |
| | 9.33* | 90.67* | **100.00*** |
| **Septic tank** | 5 | 3 | **8** |
| | 62.50* | 37.50* | **100.00*** |
| **Total** | **12** | **71** | **83** |
| | **14.46*** | **85.54*** | **100.00*** |

**Source:** Estimated from Field Survey
**Note:** * Row Wise Percentage of Toilet

**Table 3.18: Toilet Constructed Under Swachh Bharat Abhiyan (Gramin) in Study Village**

| Construction Agency | When Was Toilet Built | | |
|---|---|---|---|
| | **Before 2014** | **After 2014** | Total |
| **Under the Government Policy** | 2 | - | 2 |
| | 16.67* | - | 2.41* |
| **Government and Private** | 2 | - | 2 |
| | 16.67* | - | 2.41* |
| **Self Constructed** | 8 | - | 8 |
| | 66.67* | - | 9.64* |
| **Under the SBA-G** | - | 26 | 26 |
| | - | 36.62* | 31.33* |
| **Government and Privately** | - | 43 | 43 |
| | - | 60.56* | 51.81* |
| **Self Constructed** | - | 2 | 2 |
| | - | 2.82* | 2.41* |
| **Total** | 12 | 71 | 83 |
| | 100.00* | 100.00* | 100.00* |

**Source:** Estimated From Field Survey in July 2019
**Note:** * Column Wise Percentage of Constructed Toilet

### 3.3.7 The Satisfaction of from the Construction Toilet in the Village

As the previously tables show that village households 83 percent families have sanitary latrine respectively 15 pit toilet and 8 septic tank toilet constructed Under Swachh Bharat Abhiyan before 2014 and after 2014 . but the quality of toilet is very poor that is why the sanitation of the household with toilet as follow, 30.67 percent

house hold are full satisfied with their toilet quality they have been using in their house. 38.67 percent household are partially satisfied as they expected something more but would not be provided. 30.67 percent are not satisfied with their toilet in the house, of this, many reason can be such as Pradhan did not allotted all the money which they disserved, they only got one Kist of money and they did not contributed in construction of toilet. The satisfaction at full level is because of they contributed their labour and income from their own pocket. While 30.67 percent not satisfied household are those whose toilet was constructed only by the incentive amount of the program (12000). They also said minimum Rs 15000 should have to be given to them. While on the other side, septic tank toilet represents full satisfaction of household 75.00 percent.

**Table 3.19: Satisfaction of Rural Households from constructed Toilet in the Study Area**

| Type of toilet | Household Satisfaction For Constructed Toilet | | | |
|---|---|---|---|---|
| | Not Satisfied | Partially Satisfied | Full Satisfied | Total |
| Pit toilet | 23 | 29 | 23 | 75 |
| | 30.67* | 38.67* | 30.67* | 100.00* |
| Septic tank | 0 | 2 | 6 | 8 |
| | 0.00* | 25.00* | 75.00* | 100.00* |
| Total | 23 | 31 | 29 | 83 |
| | 27.71* | 37.35* | 34.94* | 100.00* |

**Source:** Estimated From Field Survey in July, 2019
**Note:** * Shows row wise percent

As previous Table present, 72 households have got incentives amount to build the toilet. 68 pit toilets and 3 septic tank toilets have been constructed. But in the village, some of the families were not given the full amount of incentives as Rs.12000 government decided. Many of them add expenditure from their own income. The table 3.19 picture outs the incentive distribution and amount spent by their own toilet construction in the village. There are 72 families got money for toilets, some of them did not have an idea about how much amount they are allotted. Many of them got only Rs6000 as one Kist of incentive. The mean of the given amount is Rs.10798.61 of which slandered deviation 1660.77. The total amount of intensive Rs.777500 has been given to the villagers.

On the other hand, this amount was the only incentive to influence toilet awareness in the village so the people's engagement with the program could be seen. 52 households contributed to the construction of their toilets. As they wish to build, single and double pit toilet and septic tank toilet. The mean amount of people's contribution is 7875 rupees. Minimum Rs.1000, a maximum of 60000 is contributed by the households. The total amount spends by the household is Rs.409500. Most of the toilets have been constructed by Gramm Pradhan as on the contract basis but still, the member of the house contributed the working days in the construction of the toilet. The working days contributed by the beneficiary, 56 toilets have been made with the help of the household. The average of the working days spent by the household on toilet construction is 3.5 working days and a minimum of 1 day and maxi 8 days. A total of 199 working days was spent.

**Table 3.20: Financial Distribution for the Toilet Construction in the Study Area**

| Expenditure on toilet construction | The Amount Govt. Released on Toilet (in Rs.) | The Expenditure on toilet construction by the households (in Rs.) | The Working days spent by household in toilet Construction (in Rs.) |
|---|---|---|---|
| **Observation** | 72 | 52 | 56 |
| **Mean of amount** | 10798.61 | 7875 | 3.55 |
| **Std. dev.** | 1660.77 | 10440.25 | 1.68 |
| **Min. Amount** | 6000 | 1000 | 1 |
| **Max. Amount** | 12000 | 60000 | 8 |
| **Total spend Amount** | 777500 | 409500 | 199 |

**Source:** Estimated From Field Survey in July, 2019

The relevancy and effectiveness of the program in the village can be seen that construction was main focus of the program so if we see the toilet construction in rural area table shows that 12 percent of toilets were constructed before launching of the program. Before 2014, 16 percent under policy such as (Nirmal Bharat Abhiyan ) 16.67 percent was constructed under the policy and self-help of the family income . While 66.67 percent toilet, before 2014 was constructed privately. Overall 12 percent toilet in the village was constructed before the program launched.

On the other side, under The Swachh Bharat Abhiyan Gramin 83 percent toilets are constructed after implementing SBA (G). Over all constructed toilet, 60.56

percent toilet have been constructed under SBM (G) with financial support of the household hold income. 36.63 percent toilet was constructed by only economic assistance given by the government the under SBM-G (12000 Rupee). Those toilets are very poor in quality which is constructed by the Grampradhan. 2.82 percent toilet is also made by self-household after 2014 by the influenced the cleanliness. If we see overall toilet constructed in village 83 percent household have toilet and 17 percent household do not have toilet. The overall picture of sanitary toilet in the village as we can pictured as 14.46 percent toilet was constructed before the launch of SBM-G. After 2014, 31.33 percent toilet constructed under only the help of SBMG financial help, 2.4 percent are constructed by the self-income and 51.81 percent toilet were constructed by the household with government incentive amount in the village.

There 75 percent pit toilet and 8 percent Septic tank toilet are in the village, having without 17 percent no toilet household. Pit toilet means, the toilet consists of a square, rectangular or circular pit dig into the ground, covered by a hygiene cover slab or floor, with a hole, through which excreta fall into the pit (WHO, 2019). The important point of pit toilet other is easy and cheap to construct, the slab and shelter can be reused. And excreta are isolated. Other side septic tank toilet is a watertight chamber made of brick work, concrete, and fibber less, PVC or plastic, through which black water through a pipe from inside a building or an outside. A septic tank system is a highly efficient, self –contained, under-water treatment system, because septic system treats and disposes household wastewater onsite. They are often more economical than centralized sewer system (WHO, 2019).

## 3.4 Conclusion

The chapter is divided into two parts. First, the socioeconomic status of the study village focuses on caste, education, income, and occupation of the villagers, whereas, the second part of the chapter illustrates the sanitation infrastructural status of the village. The study has 100 households, includes 552 members as the total population of the village. The literarily in the village has been found approx 90 percent in the village but the gender-wise variation is very high in the village. Further, most of the rural population engaged in agriculture activities whereas the female population is still more engaged in domestic-related work. There is caste wise unequal distribution of land holdings in the village. There are 18 percent of households are landless

however, 37.4 percents are marginal farmers and 33.33 percent of small farmers in the village. On the other hand the effectiveness the of Swachh Bharat Abhiyan have been seen as 55.00 percent and 32.00 percent households are living in kaccha houses and semi-Pakka house respectively. Though the village has been declared and verified open defecation free but there are only 84 percent of households have a toilet in the village. There is 18 percent of households do not have bathroom facilities in the house. And 13 percent of households do not have a source of water in the house. The outlets around the village are in the type of each and open. Therefore, the chapter ultimately presents that the village is not really open defecation free in absolute terms.

# Chapter 4

# Sanitation, Defecation Behavior and Direct Health Cost

# Chapter 4

# Sanitation, Defecation Behavior and Direct Health Cost

## 4.1 Introduction

Swachh Bharat Abhiyan (Gramin) is a nationwide program. It not only promotes the construction of the toilet in the households but also focuses to ensure hundred per cent of sanitation coverage to villagers. It Influences the villagers to adopt sanitation activities towards sanitation and hygiene. The behavioral change in villagers to use the toilet and eliminate the open defecation is the main purpose of SBA (G). Further, the ultimate purposes of SBA (G) are to bring an improvement in the general quality of life and reducing health cost in the rural area by promoting cleanliness and eliminating open defecation. The most important aspect of the adoption of safe sanitation is the behavioral changes of people, whereas behavioral change means "transformation or modification of human behavior toward the sanitation activities. It refers to a broad range of activities and approaches which focus on the individual, community as well as the whole environment. However, collective behavior change refers to change in the population at the community level. The behavioral change among the range is now essential components of the sanitation program. These changes can be recognized as small change in daily activities such as avoiding open defecation, regular hand washing with soap after critical time, to prefer clean, hygiene and fresh food and drinking water, dispose the wastage in the proper way and adopting safe sanitation facilities (WHO, 2018, p.85). Uttar Pradesh is the most populated state in India has also low coverage for both household sanitation and drainage service compared to all India level. There is the inter-regional disparity in Uttar Pradesh in the availability of drinking water and sanitation (Tiwari, R., 2013, p.1). Though the program SBA (G) has left the impact on rural population and has plugged in the mind of villagers to be active toward the sanitation (Singh, S. & Kunwar, N, 2017). The behaviour of change has become an important tool around the world in addressing public health such as open defecation (Alexander, K. 2016, p.31). One approach to behaviours changes is BCC (Behavioural Change Communication),

this is the strategic use of communication to promote the positive health outcomes based on proven theories, and model of behaviour changes (Allexender, K., 2016, p.31). The present chapter analyses sanitation behaviour of rural peoples of Uttar Pradesh and their problems and preferences adopting sanitation facilities. The second part of the chapter focuses on water and sanitation-related diseases prevailing in present rural area of rural Uttar Pradesh. The study also measures the economic cost of diseases in the study area, which occurs due to the existence of unhygienic and lack of awareness of good sanitation in the study village.

## 4.2 Defecation Behaviour in Study Area

Open defecation is the practice of defecation outside in the environment not in the designed toilet. This was the main reason to reform the sanitation problems through Swachh Bharat Abhiyan (Gamin). Elimination of open defecation from the society was the main purpose of the program with some other purpose such as providing respect and security to the women and girls, to eliminate the shameful case from the society such as rape and other female violence, to improve the attendance of girls student in the school and to reduce the heath hazardous which is happened due to open defecation near the house and other non-sanitation practices. It is well documented that open defecation leads to the transmission of diseases and produces adverse health outcomes for the near population especially children (Allexender, K. & Hammer, J., 2016). India has in 2014, 60 per cent of open defecations rate four times more than the global rate. The open defecation problem is most acute in the rural region and the northern states where 70 per cent of Indians openly defecate in open. (Allexender, K. and Hammer, J., 2016). Open defecation becomes a significant health problem and an issue for human dignity when it occurs in more populated areas, such as in larger villages of Uttar Pradesh. The practice of open defecation is usually associated with poverty and exclusion. (Praveen, S. 2019, p.393) Under Swachh Bharat Mission, 11 million toilets will be built by 2019 that is more than 60,000 toilets per day or nearly one toilet every second (Praveen S. 2019, p.393) Though open defecation is not the easy task to eliminate from the society, yet the government of India claimed that in these five years, all the states declared as open defecation free, however, the data from the primary survey of Bkhariya village district of Auraiya reveals differently. Firstly, high population and unawareness of sanitation

is the main reason of open defecation in the village even after the implementation of SBA (G). Second, the lack of access to the proper sanitary toilet has been another reason for open defecation in the study area as 24 per cent respondent replied. However, 21 respondents said that they do not use the toilet to lack of water. In the present study area, though the people of the rural area have the sanitary latrine but they still defecate in open because 59 per cent are habitual to go out, and 69 per cent do not use toile because it is good for walk, while 17 per cent of respondent not using latrine facility because they don't like it.

Therefore, in the present time, the main reasons for open defecation are they have toilet or not but they are habitual and get more comfort to go in open field. We need to more focus on spreading awareness and knowledge of miss consequence of open defecation in the study village.

**Table 4.1: Various Reasons for not Using Toilet, as Revealed by Households (in percent)**

| Reason for not Using Toilet | Frequency |
|---|---|
| Lack of toilet | 24 |
| Lack of water | 21 |
| This is good for walk | 69 |
| Habitual to go out | 59 |
| Don't like to sit into | 17 |

Sources: Estimated from Field Survey in April to June 2019

### 4.2.1 Status Open Defecation in Rural Uttar Pradesh and Impact of Distributed Toilet under SBA (G)

Sanitation behaviour involves disposing of waste properly, so it could not threaten the environment or public health. Practicing proper hand wash and surface cleaning technique are all part of beat sanitation practices. Open defecation is the biggest unhygienic practice in rural area Uttar Pradesh. The most important aspect of good sanitation can be achieved only through behavioural change in human. Behavioural change refers to any transformation or modification of human behaviour towards to being clean and germs free. In general behaviour change process involves the many of the activities in human such as awareness about the health hazards due to bad sanitation, desire to make clean of the house and themselves, trying out repeating and

maintain the sanitation tool and in restructure and activities, And the most important to be sustained at the sanitation change. Therefore the World Bank had provided India 1.5 billion dollar loan and embarked on assistance program to support to improve sanitation.

Swach Bharat Abhiyan (Gramin) have constructed a toilet for every household and left some of the impacts on villages. Table 4.2 shows the picture of what impact the SBA-G has left on the behaviour of the rural population. Defecation and using pattern of the toilet can be seen in the table 4.2. The people's using paten of toilet is as, 23.41 per cent population have been using toilet since before implementing of SBA (G). After 2014 56.37 per cent of population have started to use toilet, in which male (53.82 per cent) is more than female (36.18 per cent). And 20.22 per cent rural population is still not using the toilet because of lack of toilet and other behavioural hobbits. The proportion of the male population is more than female to not using the toilet. The overall picture of toilet using pattern can be as that 56.37 per cent population has started toilet using after implementation of SBA (G), but approximately one-fourth of the population is still not using the toilet (Table 4.2).

**Table 4.2: Gender wise Impact of Using Toilet in the Study Area after 2014**

| Started of Toilet use | Male | Female | Total |
|---|---|---|---|
| **Before 2014** | 61 | 64 | 125 |
| | 48.80* | 51.20* | 100.00* |
| | 21.55** | 25.50** | 23.41** |
| **After 2014** | 162 | 139 | 301 |
| | 53.82* | 46.18* | 100.00* |
| | 57.24** | 55.38** | 56.37** |
| **Still Not Using** | 60 | 48 | 108 |
| | 55.56* | 44.44* | 100.00* |
| | 21.20** | 19.12** | 20.22** |
| **Total** | 283 | 251 | 534 |
| | 53.00* | 47.00* | 100.00* |
| | 100.00** | 100.00** | 100.00** |

**Sources**: Estimated from Field Survey Data in April to June 2019

**Note: *** Shows the Row Wise Percentage and ** Shows the Column Wise Percentage of Population.

The progress of the behaviour of the people adopting toilet use after 2014 is portrayed Table 4.3. Nearly 29.27 Percent populations were using toilets in 2014. Further, 2.34 percent of people started using the toilet in 2015. Similarly, 2.58 percent of people started using the toilet in 2016. In 2017, 12.88 percent of people started to use the toilet. But most of the populations have been using the toilet for the last two year of the program as 36.30 percent from 2018 and 16.63 percent in 2019, because more than 50 percent of toilets construction work was completed in 2018 and 2019. Table 4.3 shows that using the pattern of toilets differs gender-wise. It seems more women population use toilets than man. Women have been more regular with the toilet than men.

**Table 4.3: The Motion of Adopting Pattern of Using Toilet.**

| Gender | If After 2014 Year | | | | | | |
|---|---|---|---|---|---|---|---|
| | **Before 2014** | **2015** | **2016** | **2017** | **2018** | **2019** | **Total** |
| **Male** | 61 | 6 | 6 | 28 | 81 | 42 | 224 |
| | 27.23* | 2.68* | 2.68* | 12.50* | 36.16* | 18.75* | 100.00* |
| **Female** | 64 | 4 | 5 | 27 | 74 | 29 | 203 |
| | 31.53* | 1.97* | 2.46* | 13.30* | 36.45* | 14.29* | 100.00* |
| **Total .** | 125 | 10 | 11 | 55 | 155 | 71 | 427 |
| | 29.27* | 2.34* | 2.58* | 12.88* | 36.30* | 16.63 * | 100.00* |

**Sources**: Estimated from field survey in April to June 2019

**Note:** * Value in the table shows the percent of population has started using toilet for particulate time.

Table 4.4 presents gender wise using the pattern of toilets in the study village. There is 38.48 percent of the population which always uses the toilet to defecate. 68.60 percent of female use toilets and 31.41 percent of males use toilet. The male participants use the toilet at wish. They only use occasionally. 26.77 percent population takes toilet use on their own wish. 69.44 percent male population and 30.56 percent female population use the toilet only sometimes. Nearly, 13.94 percent population uses the toilet only when some kind of emergency occurs into their access such as, they are suffering from, it is raining or in the night, etc. In this category, 72.00 percent male and 28.00 percent female comes. 20.82 percent of population has not used toilet even once because they don't have toilet in their house.

**Table 4.4: Gender Wise Impact of Using Toilet in the Study Area**

| Gender | Pattern To Use Toilet | | | | |
|---|---|---|---|---|---|
| | **Always** | **Some Time** | **Only Critical** | **Still Not** | **Total** |
| Male | 65 | 100 | 54 | 63 | 282 |
| | (23.05)* | (35.46) * | (19.15) * | (22.34) * | (100.00) * |
| | (31.40)** | (69.44) ** | (72.00) ** | (56.25) ** | (52.42) ** |
| Female | 142 | 44 | 21 | 49 | 256 |
| | (55.47) * | (17.19) * | (8.20) * | (19.14) * | (100.00) * |
| | (68.60) ** | (30.56) ** | (28.00) ** | (43.75) ** | (47.58) ** |
| Total | 207 | 144 | 75 | 112 | 538 |
| | (38.48) * | (26.77) * | (13.94) * | (20.82) * | (100.00) * |
| | (100.00) ** | (100.00) ** | (100.00) ** | (100.00) ** | (100.00) ** |

**Source:** Estimated From Field Survey Data

**Note:** * Show the Row wise Percent of People Using Toilet and ** Present the Column wise Percent of People Using Toilet in the Study Village.

## 4.2.2 Reasons of Open Defecation

Though, in 83.74 percent household access to built sanitary latrine but 30.6 percent of households are defecating in open in spite of government built sanitary latrines (Singha, T. and Kumar, S. et.al. 2010). There are some of the reasons for open defecation such as lack of sanitary latrine and habits, but the opportunity is one more reason because when they are in the farming field or when they go far from their home they have no other option to defecate besides open fields. Somehow, belief in different way becomes the reason of open defecation, for example, Bihar's farmer belief that feces are beneficial for farming, as it will increase the fertility of the land (Gugest, K.C., 2014, p.25). Uttar Pradesh is one of the state have been as big open defecator among the north Indian state Such as Bihar, Madhya Pradesh, Chhattisgarh, Assam, and West Bengal. The biggest reason for open defecation in Uttar Pradesh has been the lack of sanitary latrine. Though Swachh Bharat Abhiyan has provided hundred percent toilets to the villagers as per declaration, but there is still prevailing of open defecation. Table 4.1 shows that why people are still defecating in open besides having a toilet. The main reason for open defecation in rural Uttar Pradesh is the lack of toilets because somehow, the people from rural areas are unable to afford the toilet to the house, due to lack of money. Though in the Swachh Bharat Abhiyan (Gramin), they were provided the latrine 24 percent of households replied as they are

defecating in open due to lack of a toilet. The further reason for open defecation is lack of water. While 69 households respondent reveal it is good for the walk, in the morning "We walk in the early morning to see the field". 59 percent of respondents reply that they are in their habitual to go out and 17 respondents said they don't like to sit into the toilet. Access to toilet is necessary but not sufficient in ensuring increased sanitation coverage (Quality Council of India, 2017, p.9). On 2nd of October, 2014 Swachh Bharat Abhiyan Gramin nationwide program which aimed to make India an open defecation free country in five years. The program's target was not only built the sanitary toilet in the rural area but also to influence the social and human behaviour of the rural population towards sanitation and cleanliness (MDWS.2017.pp.9-10). The behavioural change of sanitation activities in the rural areas involves cleaning hand, to not defecate in open, habitually and properly at key times. Though, since 2014, the government has been constructed 11 million toilets but many people continue to not use toilets despite having them.

### 4.2.3 Behaviour of Rural Population Toward the Sanitation

Generally, hand washing practice is very poor in India. The use of soap is lowest i.e. only 42.3 percent in Chhattisgarh after defecation for cleaning hand (Sinha, T. 2018, p.3). The toilet availability in the rural Uttar Pradesh (in the previous chapter) has been seen that only 83 percent of toilets are working in the village which means 17 percent of the households do not have the toilet to use. Among the users, only 73 percent clean their toilet regularly or occasionally. 10.13 percent toilets are being cleaned daily 29.11 percent once in two days and 60.76 percent are being cleaned once in a week. Remaining toilet is not working. These are not used regular or daily, they are used just for emergency purposes or in a critical situation (table 4.5).

Further, they were asked that do the households keep hand cleaner and shop into the toilet. Their replies were very poor, as only 35 households (43.75 percent) keep hand cleaner and soap separately to clean their hands after using the toilet. On the other side 45 households (65.25 percent) said no, they don't keep hand cleaner for cleaning their hand after using the toilet, though they may clean their hand with clay or without any product. They clean their hand and sometimes not, on hand pump.

**Table 4.5 Cleaning Pattern of Toilet among Household and Extant Of Hygiene Facility in Toilet**

| Access of toilet | Daily cleaning | Once in two day | Once in week | Total |
|---|---|---|---|---|
| **Yes** | **8** | **23** | **48** | **79** |
| | **10.13*** | **29.11*** | **60.76*** | **100.00*** |
| **Keeping soap in the toilet** | | **Yes** | **No** | **Total** |
| **Number of Households** | | 35 | 45 | 80 |
| **Percentage of Households** | | 43.75* | 56.25* | 100.00* |

**Source:** Data estimated from field survey.

**Note:** * Shows the value in percentage.

The reasons revealed by the households in the village, that why do they think the toilet should be used and why are they use a toilet in the house? Nearly 37 households said that they use the toilet to save time, 77 households said this is good for women's respect, and dignity while 68 households said that no need go far from the house. Only 30 respondents are aware of the disease, so they do not go in the open field. The more important reason has emerged that farmers do not allow the villagers into their fields, that is why 43 percent of respondents said we use the toilet because farmers of crops abuses to open defecators.

**Table 4.6 Reasons for Use of Toilet by Household Members**

| Reasons For Using Toilet | Frequency |
|---|---|
| To save the time | 37 |
| Good for women | 77 |
| No need to go far | 68 |
| Save from disease | 30 |
| To ignore the abuse of farmers | 43 |
| **Others** | **28*** |

**Source:** Data estimated From Field Survey.

Unsafe disposal of the stool is one of the important contributing factors responsible for stunting and mortality among the children (Dwivedi, L.K.). Use of dustbin in the village is very poor as they said 46.39 percent of households use dustbin and 53.61 percent do not use dustbin for garbage collection. They just throw the garbage near the house. Nearly 63.38 percent households do not even separate garbage recycles and non-recycle waste of the house. Table 4.7 shows that there is no particular place in the village to dispose the garbage. 52 percent of households throw garbage near the house, 4 percent of households throw backside of the house, and 38 percent, households throw the garbage out of the village.

**Table 4.7: The Deposition Behaviour Garbage in the Village**

| Throwing place of garbage | Frequency | Percentage |
|---|---|---|
| Near the house | 52 | 52.00 |
| Back side of the house | 4 | 4.00 |
| Near house in garden | 6 | 6.00 |
| Out of village | 38 | 38.00 |
| Total | 100 | 100.00 |

**Source:** Data Estimated from field Survey Data.

### 4.2.4 Drainage Facility in the Village And its related Activities in the village

The management of wastewater is also the most important aspect of sanitation in the village. Unconstructed drainage around the village becomes the reason for blocked and store water in the village. This becomes the reason and source of much water-borne disease. The mosquitoes are also born into the unmanaged water around the houses. There must be a properly constructed drainage system flow the wastewater around the village. In the study village, there are three kinds of ways to release wastewater from the village. Kaccha and open drain Pakka and open, and Pakka and covered drains. The primary survey reveals that there only 5 percent Pakka and covered drains in the village, 60 percent drains in the village are Pakka but open and 28 percent drains are Kachha and open. 7 percent of households said there is no drainage around their houses. They just release the water in open field. Thus, more than 95 percent of household's water releases through the open drainage systems in the village.

Drainage cleaning becomes very important when the drainage around the houses is not covered and properly constructed. Table 4.8 states that In the study village, the cleaning pattern of drainage is 5 percent daily, 18 percent weekly, 44 percent once in two weeks and 8 percent once in a month and rest 8 percent are being cleaned just occasionally. In Swachh Bharat Abhiyan (*Gramin*), one Safai Karmi has been appointed in every gram Panchayat to sweeping the roads and cleaning the drainage in the village (Table 4.8). There only 12 percent of households said that Safaikarmi comes to the cleaning drains, while 55 percent of households clean drain their own. Thus most of the time water blogging problems appear in the village. The villagers also revealed that they feel very bad and problems by the unclean drainages. These problems may be in form of such as said we face bad smell always, 56 revels that our children cannot play near the house, difficulties to reach the main road and other reason the people face from the bad condition of drainage.

**Table 4.8: The Drainage Cleaning Pattern in the Study Village**

| Pattern of Cleaning Drainage | Percentage | Cleaner | Percentage |
|---|---|---|---|
| Daily | 5.00 | **Safai karmi** | 12.00 |
| Weekly | 18.00 | **Self only** | 55.00 |
| Once in two week | 44.00 | **Both** | 33.00 |
| Once on month | 25.00 | **Total** | 100.00 |
| Occasionally | 8.00 | | |
| Total | 100.00 | | |

**Source:** Estimated from Field Survey Data

## 4.3 Cost Estimation of Water Related Disease

In developing countries, five children die of malaria or diarrhea in every minute. Every month, nearly 19,000 people in developing countries die of unintentional poisonings (Remoundou, K. and Koundouri, P., 2019, p.1). The polluted and contaminated water can be the reason of waterborne diseases like cholera, typhoid, malaria, and dysentery. Globally water-related diseases are responsible for the death of more than 5 million people annually (Malik, A., et,al. 2012,). The absence of adequate and safe water supply and sanitation systems is responsible for sickness and death in developing countries. Poor water quality and sanitation are leading causes of

mortality and diseases in developing countries (Duflo, E. et.al. 2015,). About 1.8 million people die every year from diarrheal diseases; 90 percent of these are children under 5 year and most are in developing countries. Poor sanitation is associated with various infectious diseases, including diarrhea, soil-transmitted helminth infection, and trachoma, (Abhay, B., 2014, p.2). Therefore contaminated water and poor sanitation condition is the main reason for many diseases in the environment, and much in the rural area. Because in the rural area the awareness is low, this leads the unhygienic activities in the society. This becomes the reason for many diseases in the village area. Almost one-third of the global population is living in developing South Asia, where disease occurrence is high especially in rural areas and people are unaware of water-borne diseases and the cost of illness (Malik, A. et.al, 2012). However, by interventions, such as by providing toilets in rural areas, by maintaining health facilities in rural areas, by providing proper water and sanitation facilities in rural areas water-borne diseases can be reduced.

### 4.3.1 Classification of Water Related Disease

Many conditions come under the designation of water-related disease. Bradley and White (1972) provided the most common classification of these kinds of diseases. This classification was done on the basis of the mode of transmission. First, waterborne pathogen, which is ingested from drinking-water (includes faecal-oral diseases such as diarrhoea and typhoid fever). Second, water-washed pathogen, which can be transmitted from person to person because of poor hygiene (includes faecal-oral diseases and skin and eye infections such as scabies and trachoma) Water-based pathogen is transmitted by a host that lives in the water. Third Water-related insect vector pathogen is transmitted by an insect that breeds in water influence malaria and dengue (Duflo, E., et.al. 2015, p.3).

Sanitation is an investment with high economic returns. Poor sanitation is a major public health issue in India. Poor sanitation is thought to be a major cause of enteric infections among young children. A third of the 2•5 billion people worldwide live in India without access to improved sanitation (Abhay, M., 2014, p.1). In India poor sanitation leads to loss of roughly 6 per cent of India’s gross domestic product and an estimated loss equivalent to 3.4 per cent of GDP (2006). Hence, the need of the hour is to undertake the initiatives to create awareness on sanitation and toilet

culture in India. The Economics of Sanitation Initiative (ESI) study estimates that the total annual economic impact of inadequate sanitation in India amounted to a loss of `INR 2.4 trillion in 2006. (Malik, A. et.al. 2012, p.7) found that the majority of the population (76 per cent) was unaware of pathogens. A majority of 60 per cent population had no knowledge of water-borne diseases, while only 36 per cent of the respondents knew that diarrhoea and malaria were water-borne diseases and 4 per cent population had the perception that Hepatitis-E was a waterborne disease. (Duflo, E., et.al, 2015) find substantial reductions in water-related disease episodes of severe diarrhoea declined by 30-50 per cent. Impacts appear immediately and persist for at least five years, which is as long as the data allow. Further, there is also evidence, albeit smaller in magnitude and estimated less precisely, of declines in the incidence of malaria and fever, for which there are possible path physiological relationships, although less direct than for diarrhoea. These results show that comprehensive, water and sanitation infrastructure can significantly reduce water-related morbidity in rural areas.

In the case of study village, it is found 29 cases of diarrhoea, 1 case of cholera, 33 cases of malaria, 49 cases of dysentery, 17 cases jaundice, 12 cases of the intestinal worm and 1 case of hepatitis-A. Total of 150 cases of the water-related disease has been identified in the village (Table 4.9). Diarrhoea caused by Nora virus and Rotavirus, these come from contaminated food and contaminated water and particularly form area with poor slandered of hygiene and sanitation. Cholera is also a water-related disease spread out by the Vibro virus. This virus can affect the human by water, soil, flies and fingers. Whereas, dysentery is a common disease happens in the summer season. Dysentery is an infectious disease associated with serve diarrhoea.

Health expenditure of the villagers is shown in table 4.9. The total expenditure within six months has been estimated by the villagers on health Rs. 1204540. In which Rs. 6,28,450 expenditure was on the water-related disease. Disease wise water-related health expenditures such as diarrhoea consist of Rs.56,850 total expenditure with mean 2274 per, minimum Rs.500 and maximum Rs.10000. Only one case of cholera is found as Rs. 1500 the cost of illness. The most known disease happened in the village is malaria. Of these 33 cases has been identified. They have spent Rs.

86,800 expenditure with mean expenditure is Rs. 3214.81 per case. There is the highest number of cases i.e. 49 under dysentery. Nearly Rs. 29,000 was the total expenditure. It means expenditure is 1000 per case with a minimum of 50 rupee and maximum 10000. On the other hand, the cases of Jaundice and intestinal worm have been found 17 and 12 respectively. Total expenditure is Rs. 30200 and Rs. 287600 in the six months. The minimum and maximum expenditure of Jaundice is Rs. 200 and Rs. 10000. And the minimum and maximum of intestinal worn is 400 to Rs. 2, 00,000. Only one case of hepatitis-A was observed in the village with the expenditure of Rs.4000 rupee. Therefore, all the water-related disease spent Rs. 6, 28,450 as direct cost while the estimation of total cost generated by the water-related disease is very tough to estimate because it includes so many dimensions, such as loss of time of the patient, losses of working day salary and others.

Diarrhoea cases in Uttar Pradesh have been increased doubled after launching of Swachh Bharat Abhiyan in India. And the underweight birth rate is higher than 2014, In SBA period of time, while the case of malaria has been decreased. (Ministry of Finance, 2018-19. p.165)

**Table 4.9: Distribution of Disease Cost Estimation across Households in the Study Village**

| Disease | No. of Households | Total No. of cases | Expenditure | Mean | Std. Dev. | Min. | Max. |
|---|---|---|---|---|---|---|---|
| Diarrhoea | 25 | 29 | 56850 | 2274 | 2332.69 | 500 | 10000 |
| Cholera | 1 | 1 | 15000 | | | | |
| Malaria | 27 | 33 | 86800 | 3214.81 | 9514.99 | 500 | 50000 |
| Dysentery | 29 | 49 | 29000 | 1000 | 1971.49 | 50 | 10000 |
| Jaundice | 14 | 17 | 30200 | 2157.14 | 2791.11 | 200 | 10000 |
| Intestinal | 9 | 12 | 278600 | 30955.56 | 65387.2 | 400 | 200000 |
| Anaemia | 12 | 12 | 128000 | 10666.67 | 12914.64 | 5000 | 50000 |
| Hapatitis_A | 1 | 1 | 4000 | 4000 | - | 4000 | 4000 |
| Others Disease | 29 | 29 | 576090 | 19203 | 49064.4 | 40 | 250000 |

**Source:** Estimated from Field Survey Data

### 4.3.2 Impact of Toilet Facility on Water Related Disease.

WHO said that every year, more than 3.4 million people die from the water-borne disease, which itself makes the brutal carouse of disease and death in the world The number of cholera cases decreased globally by 60 percent in 2018 (WHO, 2019). The pathogen available in the contaminated water is invisible to the human eyes and is responsible for the various bacteria, viruses, and protozoa. Though, the open defecation can be the reason of water-borne disease, because of the tiny virus comes through the air and water by the insects. The toilet is a good measure to protect the air and water pollution in rural areas as well as water-related diseases.

Table 4.10 shows the number of diseases occurred in the house with the toilet and without the toilet. 17.80 percent cases of cholera, 18.49 cases of malaria, 30 percent of dysentery and 17 percent cases of anaemia have been found in the houses in which toilet facility is. Whereas, 15 percent of cases of cholera, 30 percent cases of malaria, 20 percent cases of dysentery, 20 percent of cases of anaemia have been found in the house without toilet facility. Though the cases of malaria jaundice, anaemia and hepatitis are found more in the house without a toilet whereas, the causes of diarrhoea and cholera and dysentery are found more in the house with toilet facility. Therefore, there is not any kind of correlation between toilets accessibility and the number of diseases found, because open defecation is not only the reason for water-related diseases. But the increase in sanitation reduces the number of diseases. The number of cholera cases decreased globally by 60 percent in 2018 (WHO, 2019).

**Table 4.10 The Distribution of Disease According to Accessibility of Toilet Facility.**

| Name of Disease | Access of toilet / Number of disease | | |
|---|---|---|---|
| | **Yes** | **No** | **Total** |
| **Diarrhoea** | 26 | 3 | 29 |
| | 17.80* | 15.00* | 17.46* |
| **Cholera** | 1 | 0 | 1 |
| | 0.68* | 0.00* | 00.60* |
| **Malaria** | 27 | 6 | 33 |
| | 18.49* | 30.00* | 19.87* |
| **Dysentery** | 45 | 4 | 49 |
| | 30.82* | 20.00* | 29.51* |
| **Jaundice** | 10 | 2 | 12 |
| | 6.84* | 10.00* | 7.22* |

| | | | |
|---|---|---|---|
| **Intestinal worm** | 12 | 0 | 12 |
| | 8.21* | 0.00* | 7.22* |
| **Anaemia** | 25 | 4 | 29 |
| | 17.12* | 20.00* | 17.46* |
| **Hepatitis A** | 0 | 1 | 1 |
| | 0.00* | 5.00* | 0.66* |
| **Total** | 146 | 20 | 166 |
| | 100.00* | 100.00* | 100.00* |

**Source:** Estimated from Field Survey

**Note:** * Show the Column wise Percent of Disease.

## 4.4 Conclusion

This chapter has observed from the review that opens defecation and unimproved sanitation or poor sanitation negatively impact health as well as the national economy. Secondly in the rural are 20.22 per cent of populations still not use the toilet even though they have a toilet in their houses. In which the male population is higher than females. However, 23.41 populations have been using the toilet before 2014. While SBA (G) also has left some impact at 56.37 per cent people have started using the toilet after 2014 the launched of SBA (G). These 50 percent of people have been started but approx 20.22 percent population still do not use the toilet even they have. Hand wash practice is very poor in the study village. Only 43.00 percent of people put the soap and hand cleaner to clean hands after critical activities. Drainage cleaning activities in the village are poor as 44 percent and 25 percent drains are unlearned once in a week and once in a month respectively. Whereas most of the drainages system is open and Kachha in nature keep always stagnant water into it. the cases of the water-related disease have been recognized in the village at very high frequency within six months as diarrhea 29, cholera 1, malaria 33 dysentery 49 and anemia and intestinal worm 12 and 12 cases as well. Therefore, chapter summarizes that there are still prevails of open defecation in the village. Though the SBA (G) has affected the rural population to adopt sanitation behavior this still seems to be failed.

# CHAPTER 5

# MAJOR FINDINGS AND CONCLUSIONS

# Chapter 5

# Major Findings and Conclusions

## 5.1 Introduction

Sanitation generally refers to the provision of facilities and services for the safe disposal of human urine and excreta. Further, it referees to the maintenance of hygiene conditions, through services such as garbage collection and wastewater disposal. Sanitation is very important. Basic sanitation means the provision of sufficient hygiene environment around us. Total sanitation considers both of kind cleanliness, Personal cleanliness and public cleanliness as an essential for human life. Lack of adequate sanitation is a major cause of death and diseases in developing nation. Sanitation not only affects the availability and quality of water but also has the same impact on education, welfare, tourism, people's health and life opportunities in general. As Mahatma Gandhi said that if someone is not clean he cannot be healthy, and if someone is not healthy, he would never be mentally strong, thus cleanliness is the only way to develop a good character and have a healthy mind. Sanitation covers the human excreta, hygiene practices, and the management of domestic, industrial and medical waste and animal waste. Over the last few decades, the importance of sanitation in South Asia development has been increasingly recognized and also huge public investment has been taken place for improving the sanitation environment and awareness. The rural sanitation is very important to improve because the people of rural areas are unaware of unimproved sanitation consequences. Most of the water-related disease happens due to poor sanitation. More than 4,00,000 people every year die due to poor sanitation and hygiene. India has also been the part of losses of human development due to poor sanitation. So it has been recognized that sanitation is very essential. Therefore, many of sanitation improvement programmes have been introduced in India to improve the sanitation condition such as Total Sanitation Campaign (TSC), Nirmal Bharat Abhiyan (NBH), Swachh Bharat Abhiyan Urban and Rural (SBA, U&R) and others on the local level. All these programmes have left some of the impacts on society but still, the populations are facing poor sanitation related problems. The Swachh Bharat Abhiyan has been an important initiative to improve the level of sanitation coverage in rural India. This has left a significant

impact on the rural area of the country in terms of toilet construction and drainage. These facilities have improved and the most important the behaviour of people toward the sanitation has changed. But SBA (G) has been unable to cover completely 100 per cent sanitation and 100 per cent behaviour change.

## 5.2 Major Findings of the Study

The first chapter entitled "**Conceptual Framework and Review of Literature**" has discussed the basic concept related to sanitation and the impact of poor cleanliness and sanitation on human development, along with some policy implications. Further, it continues with objectives, hypothesis and methods of this study.

The second chapter entitled "**Swachh Bharat Abhiyan (Gramin): An Introduction**" explains the introduction of the program and its essential initiatives to tackle poor sanitation. The chapter also has discussed the historical importance of sanitation developed by the government from time to time. Further, it explains the pattern of public expenditure and budget allocation of Swachh Bharat Bbhiyan (Gramin), it has been found that expenditure on IEC has been low in these year.

Third chapter entitled "**Socio-Economic Profile of the Study Area**" discusses the socio-economic condition and the distribution of sanitation amenities under Swachh Bharat Abhiyan (Gramin) in the study village. Education, health, caste and existence of basic availability facility school drinking water, latrine drainage and bathroom, etc. major observation are as follows.

First, all the people are domicile of Uttar Pradesh since their birth. 84 percent of the households belong to the Hindu religion and rest 16 percent are from the Muslim religion. There is 27 percent of households are in the general category, 43 percent of households are in OBC and 30 percent are in the SC category. Second, gender-wise occupational distribution also differs in the village. In the earning group of a regular salary, 91.21 percents are male population and only 8.79 percent of the female are working in the public & private sector. On the other hand, 91.22 percents are women and only 8.78 percent male members work in domestic work. Most of the populations are students and domestic workers. Third, the mean of cultivated land holdings is 3.68 bigha the village whereas, 17 percent of the households do not have land. However,

only 9 percent of households work in non-agriculture sector. Third, 50 percent of households are coming under the income group of up to Rs.2 lakh per annum, where only 8 percent of households are in the income group of 5 to 10 lakh per annum from all the sources of income. Similarly, 42 percent of households are under the category of two to five lakh per annum. The mean income of 100 households is Rs 2,32,194 per year. Whereas the range of households income between Rs 46,000 minimum and Rs 9,20,000 maximum. On the other hand, the mean income of the general category is Rs. 2,55,496.3 per year, for OBC is Rs. 249274 per year and for SC is Rs. 1,93,400 per year. The mean income from agriculture is Rs.7,55,46.57 per year, where most of the households are engaged. The mean income from small businesses is Rs.90,362.95 per year, which involves only 21 people. Livestock's are also have been found as a source of income, of which the mean income Rs.17,849.07 per year. The livestock is still a major source of family income in Uttar Pradesh.

Fourth, 55 percent of households in the village live in Packka house whereas, 32 percent and 13 percent live in Semi-Pakka house and Kachha house respectively. Fifth, Though the government of India has already declared 100 per cent village open defecation free even the study village by saying that all the household has access of sanitary latrines yet only 84 per cent households have the sanitary toilet in the village, and 16 per cent household do not have even toilet. Nearly 90.48 per cent toilets are pit toilet whereas; only 9.52 percent are septic tank toilet in the village. All the septic tank toilets are in the pakka house. Nearly, 85.54 per cent of toilets were constructed after the launch of SBA (G). However, only, 14.46 per cent toilet had constructed before launched of SBAG. The mean amount spent on toilets construction is Rs. 10,798.61 per toilet by the government. However, the total amount spent on the toilet in the village is Rs.7,77,500. The average working day spent by the household on constructing a toilet is 3.55 days. Further, under constructed toilets, only 34.95 per cent of households are fully satisfied with their toilet. However, 37.35 per cent of households are partially satisfied and 27.71 per cent completely dis-satisfied with the present toilet. Most of the dis-satisfied toilets are constructed under the SBA (G). Sixth, it is observed that 73 percent of the households have attached bathroom facility, whereas 9 per cent have detached bathroom. 18 per cent of households do not have the facility of bathroom in the house. 87 per cent of households have a source of water. However, 13 per cent households do not access with an easy sources of water.

49 per cent of household access with water tank supply gets, only 11 per cent enough water for their needs, while 38 per cent of households do not get enough water for drinking purpose.

The Fourth chapter entitled "**Sanitation, Defecation Behaviour and Health Cost**" discuss the impact of SBA (G) on sanitation always with health cost of the rural population. Few of them observation are as follow. First, it has been observed from the literature that opens defecation and unimproved sanitation negatively affects to health as well as the economy. Second, 20.22 per cent populations are still not using the toilet even though they have a toilet in their house in rural areas in which, the male population is higher than that of females. However, 23.41 per cent of the populations have been using the toilet since before 2014. It is shown that SBA (G) has affected significantly. It shows that 56.37 per cent of people have started using the toilet after the launch of SBA (G) in 2014. These 50 per cent people have been started using but 20.22 per cent population still do not use the toilet even they have. Further, more than 50 per cent of households have started using the toilet from this year. Third, the real picture of open defecation is still more than 60 per cent, because only 38.49 per cent toilets are used always to defecate. In which 68.60 per cent are females and only 31.40 per cent are male. On the other side 26.77 per cent population use the toilet just sometimes and 13.94 per cent population use toilet only in critical time while 20.81 per cent population always go to open field. Fourth, though, the lack of toilet has been remain the reason for open defecation the preferences to go open field is the biggest reason for open defecation in the rural area. Sometimes they are not habitual to use the toilet and sometimes lack of water also the reason for open defecation. Fifth, unawareness is the main reason for not changing the behaviour of the rural population. Those households, who have toilet their cleaning pattern is very poor. Only 10.13 per cent do clean daily however, 60.70 per cent toilets are being cleaned once in a week or occasionally when they feel to do clean. Sixth, Hand washing practice is very poor. 43 per cent of people put the soap and hand cleaner separately to cleaning hand after defecation whereas, 56.25 per cent of people do not keep soap to wash hand. They wash their hand without any subsistence. Sometimes they don't even wash. On the other side, the drainage cleaning activities in the village is poor as 44 per cent and 25 per cent drains are cleaned once in a week and once in a month respectively. Whereas most of the drainages system is open and kachha in nature,

keep always stagnant water into it. Seventh, the cases of water-related disease have been observed in the village at very high frequency. In the last six month, the cases of diarrhoea are 29, cholera is 1, malaria is 33, dysentery are 49 and anaemia and intestinal worm are 12 and 12 respectively are found.

## 5.3 Conclusions

In the process of development, it cannot be forgotten that sanitation and cleanliness sustain our healthy and happy life. Sanitation is also very important to a healthy life and good character. Un- improved and poor sanitation can bring many kinds of disease such as diarrhoea, malaria, typhoid etc. In Indian history, sanitation and cleanliness have been always an important topic to improve. And due to unimproved sanitation, many of the disasters have happened. Since independence, there has been rolled many central and local government programmes to improve the sanitation condition of the villages as well as in big cities. Swachh Bharat Abhiyan was launched in second October 2014 to cover the 100 per cent sanitation coverage and 100 per cent open defecation free environment by 2nd October 2019 the 150th birth anniversary of Mahatma Gandhi. Though, the Swachh Bharat Abhiyan (Gramin) has been an effective programme all over India and has impact on rural sanitation environment in the five years, for example, many of the people have started using of toilet. They have got some awareness about liquid, solid and agriculture waste management and behaviour has changed the people somehow. But due to some of the seasons, the programme has been unsuccessful in the village area such as the following way the study revealed. Sanitation coverage is very poor as study found 16 per cent households do not to the sanitary toilets, more than 50 per cent population defecate in open (some times and always) 31 per cent people are not satisfied with the present constructed toilet, 13 per cent households do not access with easy source of water for drinking and using purpose, only 5 and 18 per cent drains are being cleaned daily and weekly respectively, Shafai Karmi's irregularity in the village, etc. On the other hand, most important the occurring of water-related disease within the six months is very high 49 cases of dysentery, 29 cases of diarrhoea, others have been found in the village. Approximately 150 cases of water-related disease generated a major part of household income as health cost present that the SBA (G) has been unable to get success at village level in Uttar Pradesh.

## 5.4 Limitations of the Study

This study focuses only on the Auraiya district of Uttar Pradesh, which represents only 0.84 percent shares of the total geographical area of the state. So, we cannot generalize the findings of the study on the whole state level. The sample size is very small (100) from which the inferences cannot be justified at the state or country level. The scope of the study is limited, because of the limited time duration of course and income. The study did not explore the maximum part of the state. The study measures the health cost only of water-related diseases occurred within six months. The cost of illness is measured in the form of money expenditure. This cost is measured in the form of medicines and the health centre's service charges. Illness cost is revealed by the respondent and the indirect cost of illness is not considered in the study.

## 5.5 Recommendations

The government should first take the step to see the distribution of toilets in the village area of Uttar Pradesh whether they are really open defecation free or not. The amount of incentive should be increased so that the qualitative and long-lasting toilet would be constructed. Though, most of the toilets in the rural area are not good in quality, so the government should provide some maintenance cost to the villagers so that the toilet would be sustained for a long time. More than one sweeper (Safaikarmi) should be appointed at the level of every Grampanchayat to clean drainage. To change sanitation and defecation behaviour, there must be an effective programme to increase awareness in the rural area. The camp must be organized by the government and non-governmental organization, so that everyone could be aware about the benefit of improved sanitation. The Government should increase the expenditure on Information, Education and Communication (IEC), which will help to improve the awareness as well as using a pattern of the toilet of the villages. The increase in IEC expenditure will indirectly reduce the water-related diseases and also will reduce the health cost of the village. The government should launch such an effective programme to reassess the Swachh Bharat Abhiyan (Gramin) so that the impact of SBA (G) could be sustained in the long run.

## 5.6 Further Scope of Study

The study focused on the impact of SBA (G) human sanitation behaviour in the Auraiya district of Uttar Pradesh only. This type of similar observation can be made on the country level or different part of the nation. Likewise, the impact of SBA (G) can be seen on water pollution. Further, the impact of improved sanitation management can be seen on agriculture production. Similarly, lack of sanitation also affects the trend in school going behaviour of children in rural areas as well as tourism and health sector. Therefore, the impact of improving sanitation can be seen in a multiple-way on the factor. Though the study is limited only with the direct cost of the water-related disease, unimproved sanitation also affects human health as well as animal health and environment, which can be further studied.

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# Interview Schedule

## A: General Profile

1. **Name or Respondent…**
2. **Designation:** (1. Head 2. Member)
3. **Age of the respondent (in years):**
4. **Gender:** (1- Male 2- Female 3- Others)
5. **Family status:** (1- Joint, 2- Nuclear)
6. **Religion:** (1-Hindu 2-Muslim 3- Others)
7. **Cast:** (1- General, 2- OBC, 3- SC, 4- ST, 5-EWS )
8. **Type of house:** (1-Kachha house 2-Semi pakka house 3-Pakka house)
9. **Location of the house:** (1- In middle area of the village 2-Outer area of the village)
10. **Type of Rashan card:** (1- APL card 2- BPL card 3- Antyoday Card)
11. **Size of farm land owned:.....**

## B: Household Profile:

1. **Socio-Economic Characteristics of Households.**

| Sl.No. | Name | Age | Gender* | Education | Special education after 12th | Occupation | Annual Income |
|---|---|---|---|---|---|---|---|
| 1 | | | | | | | |
| 2 | | | | | | | |
| 4 | | | | | | | |
| 5 | | | | | | | |
| 6 | | | | | | | |

Code- *: (Male-1 Female-2)

# 1-(Self Employment) 2-(Regular Salary Group (Both public and private) 3-(Non-Agricultural labour) 4-(Agricultural Labour) 5-(Unemployed) 6-

(Domestic Work), 7-(Domestic work with some side work), 8-( Student), 9-(if other specify)

**2. Expenditure Pattern ( Annual expenditure of the HHs)**

| Sl. No. | Expenditure Type | Expenditure in Rs. |
|---|---|---|
| 1 | Non –Durables (Monthly exp.) | |
| 2 | Durables (during the survey year) | |
| 3 | Education (of all the children) | |
| 4 | Health (both curative and preventive) | |
| 5 | Social ceremony (festival) | |
| 6 | Others | |
| 7 | Total | |

**3. Income by all sources (for one year)**

| Sr. no. | Source of Income | Gross income (in Rs.) Monthly | Gross income (in Rs.) Annually |
|---|---|---|---|
| 1 | Agriculture | | |
| 3 | Horticulture | | |
| 4 | Animal Husbandry | | |
| 5 | Business and Trade | | |
| 6 | Household Industry | | |
| 7 | Wages and Salaries | | |
| 8 | Pensions | | |
| 9 | Rent from land | | |
| 10 | Others (specify) | | |
| | Total | | |

**(C) <u>Household Sanitation Profile</u>:**

**(1)Do you have toilet in your house?**

(1.Yes, 2. No, 3. Yes, but it is not working)

1.1. In case of if yes, then,

(1) Within the house boundary (2) outside to the house

**1.2. Which type of latrine do you have?**

1-Pit latrine ( ) 2-Dry pit latrine ( )

3-Flush/piped sewer system ( ) 4- Septic tank ( )

5-Jamadar cleaned ( ) 6- other ( )

**1.3. When was it built?**

| | **Constructed by** | **The amount the Govt. provided** | **The amount You spent** | **Total amount (in Rs.)** |
|---|---|---|---|---|
| Before 2014 Year | (Under the govt. Policy) | | | |
| | (Govt and private both) | | | |
| | (Constructed by myself) | | | |
| After 2014 Year | (under SBM-G) | | | |
| | (Under the SBM-G but se help) | | | |
| | (Self constructed) | | | |

(2) Did you contribute your labour in making toilet? 1-Yes ( ) 2-No ( )

2.1. If yes then, how many days did you contribute? .....

**(3) According to you, to whom the credit goes for? .....**

**(4) Are you satisfied with the present constructed toilet? And the amount that you received?**

1. Not satisfied ( ) 2. Partially ( ) 3. Full satisfied( )

4.1. If not then, what is the minimum amount that a toilet requires to build?

.....

**(5) Since when, you have been using toilet?**

| **Family member Code no.** | **Before 2014** | **After 2014 Since it was made Mention year** | | | | **Using pattern** | | | **Still not using*** |
|---|---|---|---|---|---|---|---|---|---|
| | | **2015** | **2016** | **2017** | **2018** | **Always** | **Some time** | **Critical time only (**)** | |
| | | | | | | | | | |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |

Code (**) critical time only means when someone is in hurry up , in the night , or when it is raining, and when somebody is unable to go outside like he is suffering ,and when its broken leg etc.

**(6)When do you clean your toilet?**

(1)Daily (2) Once in two days (3) Once in a week

**(7)How much do you spend for cleaning toilet and hands in a month?**

(1)10 to 50 Rs. (3) 50 to 100 Rs.

(2) (3) 100 to 200 Rs. (4) 200 to 250 Rs. (5) more than 250 Rs.

(8) **Do you always keep shop/ hand cleaner in your toilet?**

(1-Yes 2-No)

8.1. If no then, how do you clean your hand?

.....

(9) **Do you have a water source in your** house?

(1.Yes 2.No)

**(9.1) If yes, what kind of source, do you have?**

(1-Hand Pump, 2-Well, 3- Public Tank Supply)

**(9.2) Do you have enough water to use the toilet**?

(1- Yes, 2- No )

**10. If you use toilet, then what do think that which is the most important reason for you/us to use the toilet?**

1. Save of time ( )
2. Good for women. ( )
3. No need to go far. ( )
4. To ignore the abuse of farmers ( )

5. It saves from disease ( )
6. Others ( )

**11. <u>In case if you do not have toilet, then</u>,**

**11.1 If you do not have toilet then what is the reason?**

1. I don't have interest to build (i don't need)
2. I don't have enough income.
3. I have interest but I am not provided by govt.
4. I am waiting for…. I applied.
5. I don't have land to build.
6. I do not have water to use that.
7. Others

**12. If you are not using toilet or if you are defecating in open, then why?**

1. Lack of toilet ( )
2. Lack of enough water ( )
3. These are women work and it is easy to me to go out. ( )
4. Even it is good for walk. ( )
5. Others ( )

**12.1If you defecate in open …then how much far you go distance?**

1- 0 to 100 meter ( )
2- 100 to 500 meter ( )
3- more than 500 meter ( )
4- more than 1 km ( )

12.2**Do you face any problem with open defecation?** (1- Yes 2- No )

**12.2.1 If yes, then what kind of problem do you face?**

1. Wait for the night ( ) 4. I have to go so Far ( )
2. Abuses by farmers ( ) 5. Pollution near home ( )
3. Others then Specify……

**12.2.2 Due to lack of toilet, who faces more problems to go out from home?**

(1. Men 2.women 3.children 4.Oldage person)

12.3 **Is there any fight happened, because of open defecation.**

(1- Yes 2- No)

12.4 **If yes, then frequency of fight?**

(1. Rare, 2.Often, 3. Not sure)

**13. Do you use dustbin for garbage?**

(1.Yes, 2.No)

**13.1 If yes, do you separate *Gilakachra* and *Sukhaakachra*?**

**(1.Yes 2.No )**

13.2 **If yes, how do you utilize the garbage?**

(1.Gila for fertilizer 2.Sukhaa for raddiwala)

**13.3 If no, where do you throw the garbage?**

1. Near the house
2. Without use dustbin.
3. Back side of the house
4. Use dustbin and throw far from the house
5. Others specify .....

**14. Facility of bathroom that you have in your house?**

(1.Attached 2.Detached 3.No bathroom

**15. Status of drainage around your home?**

1. Kachha with open
2. Pakka but open
3. Pakka and covered
4. No drainage.

**16. The pattern of cleaning the drainage……..?**

1. Daily
2. Within two or three days
3. Two time in a week

4. Once in two week
5. Once in month
6. Occasionally
7. Never

**17. Who do clean the drainage?**

1. Safai-karmi appointed by SBM-G
2. By yourself
3. Jamadar only
4. Jamadar and yourself

**18. Do you feel any kind of problems because of unclean drainage?**

(1.Yes 2.No)

**If yes, then what kind of problems you face……**

1. Bad smell all the time.
2. Difficulties to reach to the main road
3. Child can't play, often falls down.
4. All of the above
5. Others.

**19. Do you think, that open defecation and open drainage affecting your health?**

(1.Yes 2.No)

**(D) <u>Impact of Bad Sanitation on Health:</u>**

**20. Do you face any kind of diseases due to bad sanitation environment?**

1. (Yes) 2. (No)

**20.1 If yes, then what is the frequency of illness?**

1. Always
2. Sometimes / rare
3. Only during the rainy season

21. **Do you think the mosquitoes problems happen due to open drainage and bad sanitation?** 1.(Yes) 2.(No)

**21.1 If yes then how to you save yourself.**

1. Mosquitoes Net
2. Mosquito Coil/ Agarbatti
3. Smoke of leaves of Neem
4. Mosquito Repellent Cream/Gel/Lotion

**22. Within six month, any member of the house is suffered from any diseases?**

1. (Yes) 2. (No)

**22.1 If yes, then which type of diseases?**

**22.2**

| Disease Name | Diarrhoea | Cholera | Malaria | Dysentery | Jaundice | Intestinal worm | Anaemia | Helminth / Hepatitis | Others |
|---|---|---|---|---|---|---|---|---|---|
| Number of family members | | | | | | | | | |
| Expenditure | | | | | | | | | |

(1)**Do you know about Ayushman Bharat Yojana?** 1- (Yes) 2- (No )

**If yes, do you have smart card?** 1- (Yes) 2-(No)

**If yes, are you beneficiated by the card?** 1-(Yes) 2-(No)

**23. Do you know about "Darwaza Band Abhiyaan"?**

1- (Yes) 2-(No)

**If yes, from where you have heard?**

1. Radio
2. Television
3. Mobile phone (internet)
4. Newspaper
5. Student march
6. Gram pradhan meeting

# Photo Gallery


Pic-1


Pic-2


Pic-3


Pic-4