

# **WOMEN AND RURAL SANITATION IN MIZORAM**

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## LIST OF ABBREVIATIONS

|        |   |
|--------|---|
| APL    | Above Poverty Line                          |
| AAV    | Antyodaya Anna Yojana                       |
| BPL    | Below Poverty Line                          |
| FGD    | Focus Group Discussions                     |
| GOI    | Government of India                         |
| GoM    | Government of Mizoram                       |
| IHHL   | Individual Household Latrine                |
| MDG    | Millennium Development Goals                |
| MHIP   | Mizo Hmeichhe Insuihkhawm Pawl              |
| MUP    | Mizo Upa Pawl                               |
| PRA    | Participatory Rural Appraisal               |
| SA     | Salvation Army                              |
| SPSS   | Statistical Package for the Social Sciences |
| TSC    | Total Sanitation Campaign                   |
| UPC    | United Pentecostal Church                   |
| UN     | United Nations                              |
| UNICEF | The United Nations Children's Fund          |
| WASH   | Water Sanitation and Hygiene                |
| WHO    | World Health Organization                   |
| YMA    | Young Mizo Association                      |

## **CHAPTER I**

### **INTRODUCTION**

The present study attempts to probe into role of women in rural sanitation in the context of Mizoram.

Provision of sanitation to all is a critical herculean task to policy makers and social work professionals in the developing nations. Sanitation has significant linkages with both human health and basic dignity of life. Poor sanitation directly results in not only decline in the quality of life but also quantity of available water resources. As such the problem of sanitation attracted the attention of world leaders with greater degree of seriousness than ever before. This was highlighted during World Summit on Sustainable Development at Johannesburg in 2002, where the existing Millennium Development Goals (MDGs adopted by United Nations in New York in September 2000) were expanded to include the sanitation target of halving the proportion of people without access to sanitation in 1990 by the year 2015. It is argued that poor access to sanitation would have disastrous effects on public health besides having very adverse impact on environment (UN Report 2002).

In most developing countries, the three most important environmental health problems that affect a large majority of population are contaminated water supply, inadequate sanitation and untreated solid wastes ( Sekhar 2006: UN Report 2010). Improving hygiene behaviours and promotion of latrine use have become a major concern in most developing nations because of their ability to fight against poverty, improve health, and promote education.

It is pertinent to note that more than a third of world population i.e about 2.4 billion people suffer due to lack of access to adequate sanitation facilities and four out of five of these people live in Asia (Cairncross 2003). Inadequate sanitation practices such as unsafe

disposal of human excreta and urine, open defecation, lack of infrastructure (sewerage, drainage/systems) and absence of hygiene management constitute a major threat to the health of the people.

According to a 2010 study published by the United Nations University, a UN think-tank, out of the world's estimated 7 billion people; 6 billion have access to mobile phones. But only 4.5 billion people have access to working toilets. Of the 2.5 billion who don't have proper sanitation, 1.1 billion defecate in the open. India contributes a chunk of the global population lacking access to basic sanitation- almost 60%. About half of its 1.2 billion residents are mobile subscribers, but only 366 million people (about one-third of its population) have access to toilets.

Lack of proper sanitation raises the threat of potentially fatal illnesses such as diarrhoea, intestinal worms, typhoid and malaria. These diseases are also to blame for stunted growth in children. Almost 61.7 million Indian children are stunted, the highest prevalence in the world. In fact, according to World Bank study, India's situation vis-à-vis sanitation is said to be worse than other Asian countries such as Vietnam, Philippines, Indonesia and Cambodia (Science Reporter, 2013).

In order to achieve the MDG target on sanitation, it is reported that on an average 3.5 lakh people per day will have to gain access to improved sanitation, between now and 2015 (IRC 2003). Despite the global commitments, the improvements made by many countries during the last one decade were found to be inadequate and the identified constraints include financial difficulties, institutional problems, inadequate human resources, lack of political commitment, insufficient community involvement, inadequate operation and maintenance, lack of hygiene education, poor water quality, people's attitude towards sanitation and insufficient information and communication (WHO/UNICEF 2000).

As far as the scenario of rural sanitation in India is concerned, the access to water supply and sanitation services is still largely inadequate. While the overall Indian scenario reflects that an estimated 55% of all Indians or close to 600 million people still do not have access to any kind of toilet but in rural areas, the scale of the problem is particularly daunting, as 74% of the rural population still defecates in the open. Despite an investment of more than Rs 6 billion and construction of over 9 million latrines in rural areas, rural sanitation grew at just 1% annually throughout the 1990s and the census of 2001 found that only 22 per cent of rural households had access to a toilet, with combined rural and urban coverage as 36.4% (UNICEF 2008).

Women, who are primarily responsible for household activities and also taking care of their children, are most affected by lack of sanitation. Children's ill health caused by poor sanitation also places an increased burden on the women and girls who look after them, adding to their heavy workload (Hazra, 2011).

Women are the most vulnerable victims to lack of proper sanitation facilities at home since most of the household activities are managed by them, their dignity remains to be at stake. Moreover, lack of access to sanitation directly affects women's health, education, employment, income and empowerment. According to (Seager et al; 2008) the gendered dynamics of water and sanitation underscore the close inter-linkages between poverty, gender and sustainable development. In many developing countries, women and young children make more use of sanitation in the home than other household members; their needs therefore should be suitably accommodated. To achieve this, women ought to be able to participate in the selection of technology and in design decisions being made at both community and household levels. In many cases, this concept may come about naturally, but there are still instances and places where the contributions of women need to be more fully accepted and recognized in the selection process. Women in most societies are the principal educators and



socializers of children, and if the women are fully involved in the decision to improve household sanitation they will be better placed to educate their families (particularly the young children) in practices which will improve health and hygiene. Women may also be able to instil in the male adults in the family and community the fact that the contributions they make towards essential sanitary improvements, by giving time, labour and resources, will be of benefit to all. Actual decisions on how women will participate in low-cost sanitation activities should be based on an understanding of: the socially and culturally acceptable sanitation-related roles for women; an understanding of the kinds of social situations and organizational mechanisms which are most conducive to women's active involvement; and the extent of participation which can realistically be expected in a given situation (Ilahi 2000).

Total Sanitation Campaign (TSC) launched in 2003-04 has been one of the flagship programs of the Government of India. As of 2011, TSC projects approved with a total outlay of Rs 22,022 crore (with a 65.5% Central Government share) are being implemented in 607 rural districts. The TSC is implemented as a community-led and people centric approach to generate effective demand for sanitation facilities through creating awareness among village communities, educating them and providing all required information that can help them to avail Government's subsidy and technical services under the TSC program. TSC is an inclusive program and seeks active participation of all sections of society including women, SC's and ST's. TSC has a special component to encourage women and adolescent girls to actively participate in the sanitation program (Hazra, 2011).

### **1.1 Overview of Literature**

As universalization of sanitation is a major challenge to policy making in the third world countries there is a copious literature on the problem. There are studies on households access to sanitation and its socio economic determinants (see Tumwine et al 2003; Marion and Scott

2007; Whittington et al 2010). There are also studies on the impact of poor sanitation on households (Checkley et al 2004; Water Aid in Nepal 2011) as well as impact of improved sanitation on health (Scott et al 2006).

In terms of water handling and sanitation practices at the community level, studies have been made to assess the knowledge, attitude and practice regarding water handling, sanitation and defecation practice as possible determinants of incidence of diseases in the rural communities (Scott, Lawson & Curtis 2007; Schmidt et al 2009; Bhattacharya et al 2011).

There are also some studies which focus on the role of women in management of water and sanitation at household level (Elmendorf and Isley 1983; Katsha & White 1989; Wjik-Sijbesma, 1985). Some studies which evaluate the government projects on rural sanitation (see Hanchet et al 2003; Nanan et al 2003).

The overview of the studies on sanitation helps us in identifying the substantive research issues, methodological as well as policy issues. In spite of that there are a few research gaps which are found to exist in the literature. These gaps are of substantive and methodological in nature. Firstly, there are a few studies in the context of north east India on the role of women in rural sanitation. Secondly, there are a few studies on the women's access to sanitation facilities and adoption of sanitation practices in the context of India. The present study tries to fill these research gaps.

## **1.2 Statement of the problem**

Universalisation of sanitation still remains a major challenge in rural areas of Mizoram. In the rural areas of Mizoram, more than four fifth of households are without proper toilet facilities. The drainage system is also very poor and many households are without drainage facility in their dwellings. There is not much differential between poor houses and non-poor households regarding toilet and drainage facilities, which shows uniform lack of sanitation facilities among the rural households. The provisioning of safe drinking water is also a

critical problem in the state. Only 75.84 per cent of the households have access to safe drinking water in Mizoram against all India figures of 87.9 per cent.

All this makes it clear that the scheme like Total Sanitation Campaign (TSC), a Centre sponsored scheme, aiming the target to achieve universalization of sanitation facilities by the end of 2015, has not made even a modest dent on the rural sanitation and drainage.

Mizoram being a patriarchal society, women are given the responsibility of looking after most of the household activities which includes cleaning, washing, cooking and also looking after the children. It is inevitable that their role and participation towards improving sanitation be taken into consideration for overall improvement of sanitation.

In this context the present study attempts to find out the factors determining the rural women's access to sanitation. It will probe into the role of women's awareness on sanitation in determining their adoption of safe sanitation practices. Further it will attempt to comprehend the role of women agency in management of sanitation at household level and promotion of safe sanitation projects at the community level.

The results of the present study will benefit policy makers, planners, civil society organizations as well as social workers at multilevel. They will be able to develop suitable intervention strategies towards universalization of sanitation at multi-level.

### **1.3 Objectives**

The following are the specific objectives of the present study:

1. To assess the level of awareness of women on sanitation in rural Mizoram.
2. To determine the rural women's access to sanitation facilities.
3. To assess the level of adoption of safe hygienic and sanitation practices.
4. To understand the role played by women in sanitation at the household level.
5. To probe into the patterns of women's utilization in rural sanitation programmes implemented at the community level.

## **1.4 Hypotheses**

The present study attempts to test the empirical validity of the following hypotheses

1. Women's awareness on sanitation depends upon their education status, socio economic status and the level of socio economic development of their village.
2. Women's access to sanitation depends upon their awareness on sanitation.
3. Women's adoption of sanitation and hygiene practices depends upon their awareness on sanitation.

## **1.5 Chapter Scheme**

The present study is organized into the following six chapters.

1. Introduction.
2. Review of Literature.
3. Methodology.
4. Women, Sanitation and Hygiene.
5. Utilisation of Total Sanitation Campaign by Women
6. Conclusion.

## **CHAPTER II**

### **REVIEW OF LITERATURE**

This chapter provide a review of literature for the present study about the role of rural women on sanitation in Mamit District. For the present study a wide range of literature including researches, journals, case studies, web-based materials, articles all relating to sanitation has been reviewed.

#### **2.1. Concept of Sanitation**

World Health Organization (WHO) defines sanitation as a group of methods to collect human excreta and urine, as well as community waste waters in a hygienic way, where human and health community health is not altered. According to Merriam Webster Dictionary, sanitation is defined as the process of keeping places free from dirt, infection, disease by removing waste, trash and garbage by cleaning streets etc. UNICEF defines sanitation as means measures necessary for improving and protecting health and well-being of the people. Sanitation is any system that promotes proper disposal of human and animal wastes, proper use of toilet and avoiding open space defaecation.

#### **2.2. Global Studies**

A study conducted by Catherine Wambui Thuita on “The Role of Women and Sanitation: a case study of Northern Kenya” sought to find out the role of women in sanitation and how involving women would generate sustainable programme because of their primary role as users and managers of sanitation facilities, through women networks hygiene awareness was emphasized and their participation in sanitation activities; programmes would get their knowledge about what latrines would suit them best. The study also aimed to find out the beliefs, perceptions, practices and barriers they face on current sanitation policy and programmes. This study used a mix of qualitative methods to generate information about women and sanitation from the Somali community. Data was collected over a one month

period with each interview process lasting for about 60-90 minutes and all were audio-taped and transcribed verbatim. The researcher also adopted semi-structured interviews. The study concluded that rural sanitation was still a great challenge that required more attention particularly because unlike the urban areas where the practicalities of public sanitation are viable, rural areas required a different approach; one that would entail up-scaling household sanitation. The cultural dynamics of Kenya and the different poverty levels also influenced sanitation in the area. It was also found that more social and gendered approaches needed to be emphasized in order to meet the needs of the marginalized. In this study, Somali women presented themselves as determined and strong individuals who were able to manage household affairs with zeal but the society they lived in impacted negatively on their efforts to improve their sanitation lives. The study also noted that public and civil sectors narrowly define issues regarding sanitation as a health component to the absence of diseases, yet communities had multi-layered concept of health.

Mary L. Elmendorf and Raymond B Isley observed that as carriers of water where household taps do not exist, women influence directly the volume consumed and thus the achievement of health effects related to increased volume (i.e., decreased morbidity from diarrhoea and other disorders such as skin infections and trachoma). As selectors of water sources, women determine the quality of the water delivered to the house. As those who choose the transport and storage vessels, wash them, and cover them, women influence both the volume of water consumed (depending on the size of the container) and the quality. Finally, as those who provide their infants and young children with fluids in both sickness and health, they determine the hygiene of the cup and spoon and, therefore, are partly responsible for the children from diarrhoea. They observed that it was women who constantly formed a link in the chain of contamination from faeces to fingers to food and who can break

the chain by latrine use, hand washing, and protection of leftover food. Therefore, their role is vital and women must be trained and educated as users of water and sanitation facilities.

United Nations (2006) case studies depict best practices in securing sustainable safe drinking water and sanitation for communities by engaging both men and women as critical stakeholders. The case studies are drawn from 14 countries in Africa, Asia, Latin America and the Middle East. They illustrate what happens when communities become involved and actively engaged in addressing issues related to clean water and sanitation from a gender perspective. This perspective ensures that the concerns of women who have the primary responsibility for water are not only addressed but become part of the solution. The three case study methodologies adapted for this research project include: The Harvard Business Case Study Methodology, Appreciative Inquiry, Feminist Analysis, The case studies demonstrate that at the community level, solutions to clean water and appropriate sanitation problems are context-specific. One context that must be addressed is related to the prevailing gender systems and the attendant gender division of labour that determines women's primary responsibility for water in the household. Gender systems also determine the distribution of power between men and women. The case studies show that in pursuit of common goals and through dialogue, innovation, participation and collaboration, answers can be found that respond to the different interests of men and women in ensuring access to clean water and sanitation, and in the process break down many barriers based on prevailing traditional gender paradigms. It is successes such as these that become the building blocks to the realization of the Millennium Development Goals.

Pruss et al (2002) studies on disease from water, sanitation and hygiene estimated the disease burden from water, sanitation, and hygiene at the global level taking into account various disease outcomes, principally diarrheal diseases. The disability-adjusted life year (DALY) combines the burden from death and disability in a single index and permits the

comparison of the burden from water, sanitation, and hygiene with the burden from other risk factors or diseases. We divided the world's population into typical exposure scenarios for 14 geographical regions. They matched these scenarios with relative risk information obtained mainly from intervention studies and estimated the disease burden from water, sanitation, and hygiene to be 4.0% of all deaths and 5.7% of the total disease burden (in DALYs) occurring worldwide, taking into account diarrheal diseases, schistosomiasis, trachoma, ascariasis, trichuriasis, and hookworm disease. Because they based these estimates mainly on intervention studies, this burden is largely preventable. Other water- and sanitation-related diseases remain to be evaluated. This preliminary estimation of the global disease burden caused by water, sanitation, and hygiene provides a basic model that could be further refined for national or regional assessments. This significant and avoidable burden suggests that it should be a priority for public health policy.

Joke Muylwijk (2006) in his study "A gender approach sanitation, for empowerment of women, men and children", highlights three important concepts such as gender, gender ideology and empowerment related to sanitation sector. According to Muylwijk empowerment has four interdependent elements, which are the social, the economic, the political and the physical aspects. In sanitation all four elements are strongly presented. The study highlights that even though women are victims of poor sanitary situations they are the most important actors in this field. They have the responsibility, the understanding and knowledge and the most interest in clean facilities and the health of the families. He concludes that in finding solutions for improved hygiene and sanitation need to take gender ideology into account. Participation, of all stakeholders is often suggested as a solution for sanitation programmes, but it is only adequate if the prevalent gender ideology is taken into account. They need to be involved as main actors and men also need to be involved too, because all should be responsible, not just women.



Sharon Moffatt's study on analysis of women's right of access to water and sanitation and women's work in informal sector focuses specifically on how the failure of the Government of Zimbabwe to provide acceptable sanitation facilities to flea markets in urban areas breaches the right of its stall holders, the majority of whom are women, and their specific right as women to water and sanitation. The writer, a government lawyer, studies a sample of women (and a few men) who operate out of two flea markets which fall under the jurisdiction of the Municipality of Chitungwiza, the country's biggest high density area and largest supplier of labour to Harare, the country's capital. Although the writer employs several methodologies (including the Grounded and Human Rights Approaches) to conduct her research, she directs it using the unique Women's Law Approach which highlights how the various dynamic forces within society, especially its laws, adversely affect its women. Data collected for the study includes a review of the relevant feminist theories, laws and literature on the subject and oral evidence obtained from interviews with her respondents and key informants including representatives of the State as well as members of the surrounding business and residential communities. In essence, the study finds that the women stall holders have fallen victim to a combination of several forces, chief of which are: (1) the negative attitudes of Municipal officials (the majority of whom are men) who do not respect a woman's right to work outside her home for remuneration and show no interest in their specific water and sanitary needs within their working environment (where, e.g., they also look after their children); and (2) an on-going conflict between these Municipal officers whose members belong to one political party and the apparent members of a different political party which (ironically through women) has seized control of and undermines the operations of the flea markets by exploiting its female stall holders. As a result, the markets' water and sanitary conditions are atrocious, resulting in outbreaks of disease which are often blamed on its marginalised, innocent victims. The writer's suggested solutions to this serious

problem include policy and law reform as well as strategic class action litigation and improved local female representation and activism in community issues.

In an article titled “Determinants of Unequal Access to Water and Sanitation,” Susanna Wolf highlights the huge gap in the delivery of services like water and sanitation between rural and urban areas which contributes to other inequalities in health and income. This better access to services is one of the drivers of urbanization but at the same time urbanization puts a heavy strain on service delivery in urban areas. In this paper, a cross-country panel regressions are used to compare institutional factors like corruption and decentralization as well as financing that might influence access to water and sanitation in rural versus urban areas. Decentralization seems to have a positive effect on rural provision of water and sanitation, whereas the effects of sectoral aid and controlling corruption seem to be rather limited. The paper concludes with policy advice on how to improve access to water and sanitation and to reduce inequality between rural and urban areas. (Wolf Susanna, 2009).

Tortajada (2003) in her study conducted in Morocco focuses on the roles that women play and can play in the planning, management and operation of water resource systems in Morocco. Through the author’s research notes, it appears to be a matter of education, training and time before more women work in water-related institutions, however, it is important to note that in the case of Morocco, nearly 50 percent of the students are female, but after graduation 80 percent of them disappear from the labour market. Given this finding, it appears that the development of women at the professional level may often depend on the family and social support they receive. To further increase women’s participation the researcher suggests: to create multidisciplinary groups and in the long term to encourage women to choose professions which are related to water management. Inadequate water and sanitation services adversely affect the health and socioeconomic development of communities. The Water and Sanitation Extension Programme (WASEP) project, undertaken

in selected villages in northern Pakistan between 1997 and 2001, was designed to deliver an integrated package of activities to improve potable water supply at village and household levels, sanitation facilities and their use, and awareness and practices about hygiene behaviour.

A case-control study was conducted by D. Nanan, F. White, I. Azam, H. Afsar, & S. Hozhabri during July-September 2001 to evaluate whether, after selected confounders were controlled for, children aged <6 years with diarrhoea were more or less likely to reside in villages that participated in the project than in villages that did not participate. Descriptive and logistic regression analyses were performed. The findings were that children not living in WASEP villages had a 33% higher adjusted odds ratio for having diarrhoea than children living in WASEP villages (adjusted odds ratio, 1.331;  $P < 0.049$ ). Boys had 25% lower odds of having diarrhoea than girls (adjusted odds ratio, 0.748;  $P < 0.049$ ). A 2.6% decrease was found in the odds of diarrhoea for every yearly increase in the mother's age (adjusted odds ratio, 0.974;  $P < 0.044$ ) and a 1.4% decrease for every monthly increase in the child's age (adjusted odds ratio, 0.986;  $P < 0.001$ ). The findings in this study may help refine the approach to future water, sanitation, and hygiene initiatives in northern Pakistan. The integrated approach taken by WASEP, which incorporates engineering solutions with appropriate education to maximize facility usage and improve hygiene practices, is a useful example of how desired health benefits can be obtained from projects of this type. Evaluation of a water, sanitation, and hygiene education intervention on diarrhoea in northern Pakistan.

(Willems et al) study on gender and Pacific water, sanitation and hygiene initiatives proposes that access to water, sanitation, hygiene, education and gender equality may be constructively addressed together, the former providing an entry point for the latter. Empirical results are presented from strengths-based research conducted in Vanuatu and Fiji investigating gender outcomes arising from WASH interventions. A range of positive

outcomes were identified. These include some expected outcomes, for example a reduction in women's labour associated with collecting water, as well as several more unexpected strategic gender outcomes including women taking on leadership roles and men assuming greater responsibility for hygiene in the home. Another important finding in one community was a reduction in household violence against women caused by conflict over water management. The research articulates positive gender outcomes associated with WASH initiatives and demonstrates that these can be achieved by implementing relatively simple, cost-effective and known strategies for integrating gender considerations into WASH programming.

A study in South Africa by Mitik and Decaluwe shows that women, in particular, spend a considerable proportion of their time in the household's common sanitation related activities such as fetching water, harvesting fodder, and collecting firewood especially in rural areas of developing countries. They further suggested and concluded that for ensuring the success and sustainability of any sanitation programme women must be given enough space and opportunity to take active part in it.

An International research collaboration between five universities and five NGOs from India, Bangladesh, Sri Lanka, The Netherlands and Finland demonstrated the alternative strategies of environmental sanitation and waste management for improved health and socio-economic development in peri-urban coastal communities in south Asia. They cooperated with local Governments in the three East Asian countries focusing on action research on alternative strategies for environmental sanitation and waste management in six peri-urban coastal communities. The objectives were (1) to measure the cost-effectiveness of innovative and replicable approaches to excreta and solid waste management in low income peri-urban settlements; (2) to measurably improve sanitation conditions and practices; (3) to scale up the tested approaches; and (4) to strengthen implementation skills of the participants.

The project used participatory methods to promote the adoption of improved sanitation and hygiene. Local women (and men) were trained to produce and install sanitation facilities, generate work and income and improve their status. The researchers helped and documented this process to assess the pros and cons in comparison to pre-existing conditions. Their achievements were the innovations promoted were toilets and rainwater harvesting tanks built by local women masons. These worked out well with the women in Kerala (India) and Bangladesh. In Sri Lanka, the masonry work turned out not to be an attractive formula for the participating women. (2) Sanitation conditions and practices were improved in all participating communities, thus creating potential for reducing water-borne diseases and other negative effects of previous practices. The benefits importantly include lower cost toilets, water tanks and eco-latrines, home composting and vermi composting, all of which can make a difference in resource poor households. The 4Ws formula was 31% cheaper than a government programme in Bangladesh and 20% cheaper in Kerala. (3) Expansion to two more wards is under way in Bangladesh. Lessons on composting are taken up to the national level through the partners' roles as advisors to the national sanitation policy. In Kerala, expansion is under way to 12 of 21 Local Self Governments and two municipalities. (4) The teams also scored well on their own capacity building through the collaboration and have remained in touch after the project.

Yuerlita et al (2002) in their study analysed Rural Water Supply and Sanitation (RWSS) quality improvement under Water and Sanitation for Low Income Communities (WSLIC II) project in Jorong Kampung Baru, Solok district, West Sumatra. The paper explores people participation in the project with emphasized on equal participation between men and women in decision-making process, implementation, operation and maintenance, monitoring and evaluation. In decision-making process, men more actively participate and they attended the meeting more frequently than women. Women also participate in the

project construction as well as men as unpaid labours. However, women did not get any knowledge about the schemes during the project construction or trainings. Women use the facilities more often than men but lack of general knowledge on the schemes make the women unable to do maintenance tasks. Men and women participation in monitoring and evaluation was very low because most of them were not involved in evaluation activities, besides they did not have initiative to report and discuss the solutions concerning damage or destruction of facilities. The sustainability of the project in the next five or ten years is threatened because women were not effectively involved in the project. Therefore, involving both men and women effectively in the project phases need to be emphasized and implemented in the achievement of project sustainability.

### **2.3 Studies on Sanitation in India**

A case study conducted by Geeta Pardeshi in Maharashtra India describes the roles and responsibilities of women in TSC implemented in Yavatmal. The study was conducted in four Nirmal Gram Villages in December 2006. Quantitative (house to house survey), qualitative (Focus group discussions) and participatory rapid appraisal technique (transect walks) were used to conduct the study. Women had played important roles as beneficiaries, targets and resources for the campaign. The women described benefits at individual, family and community level. Only 18 out of the 55 Women Latrine Complexes were functional, a majority of which were noted to be of poor quality and lacking in maintenance and cleanliness. The community and administration acknowledged the vital role of women in achieving the goals of TSC. Women were considered to be important target groups in IEC and training activities Women performed varied roles as fund raisers, motivators, initiators, surveillance workers and implementers. In the post TSC phase women were mainly responsible for the cleanliness and maintenance of the household latrines. After achieving the goal of open defecation free villages, women in only one village were involved in some

development activities. In the remaining villages the women had stopped attending local meetings and had returned back to household chores. They concluded that Women have played important and varied roles in the Total Sanitation Campaign. Their active involvement has contributed towards achievement of the goal of open defecation free village. Women have not only been one of the main beneficiaries but also participants and targets of IEC and training programmes. In addition they have been motivators, initiators, surveillance workers, fund raisers and decision makers. The maintenance and cleanliness of Women Sanitary complexes needs to be strengthened. In the post TSC phase there was attrition of interest and involvement of the community in general and women in particular in any village development activities. Once the goal of Nirmal Gram was achieved the external forces also shifted focus to newer villages.

In a study on women's participation in rural water supply, Linda Stalker has stated that evidence supporting the claim that women's participation in large-scale rural water supply projects leads to improved project outcomes is largely limited to isolated case studies. This paper attempts to fill this gap by examining data from 45 villages in two World Bank-assisted projects in India. Using data from a variety of sources, including water committee members, household surveys and focus groups, women's participation is quantified – what percentage actually attend meetings or are involved at higher levels of participation such as decision-making? While it is determined that, in some cases, female committee members are nominal, or token, participants, there is evidence that being on a local water committee helps women develop skills and confidence. Overall community participation is found to have a positive and significant relationship with different measures of project success; however, women's participation at the levels observed in this study is found to have no relationship to project success.

A study conducted by (Chawlal Sunita et al, 2006) in three villages of Mewat area viz..Ghasera, Kalwari and Kaliaka to study the sanitation practices and safe drinking water facilities. Hundred women of low, and middle socio-economic groups were assessed. The sanitary and hygienic conditions were very poor in these villages. People were quite ignorant about personal and environmental hygiene. Main source of drinking water were tap and hand pump. Water was generally stored in earthen pots, plastic and metal buckets. The rural women were educated regarding the importance of sanitation, use of safe drinking water and methods of water purification with special emphasis on - Janta Water Filter through lectures, campaigns and trainings. Results revealed a significant increase in knowledge. The educational status of women was strongly correlated with the adoption of technology. Among these, twenty interested women were selected for action research. The acceptability of Janta Water Filter was quite high but was adopted by only 55 per cent families due to some constraints. Local availability of the critical input i.e. water filter candle was the major constraint. This technology has good scope if popularized through extensive education programme. Exposure to health education programme enabled the beneficiaries to acquire certain desirable health habits significantly ( $P \leq 0.01$ ) in daily living.

A study conducted in the rural community of Madhya Pradesh by M. Bhattacharya, V Joon and V Jaiswal titled “Water Handling and Sanitation Practices in Rural Community of Madhya Pradesh: A Knowledge, attitude and practice study, mothers and children below 5 years of age were interviewed using questionnaires in 10 villages of 2 blocks of Sehore District of Madhya Pradesh. The study showed that all the households stored drinking water in containers. The mothers did not associate unsafe water with diarrhoea attributing it to spicy food. Similarly for worm infestations, the community’s perception was that it occurs due to eating sweets and chillies. Among 250 households interviewed, 71% of respondents in Ichhawar block and 62% in Astha defecated in open



field. Hand washing with soap and water after defecation was practiced by 22% people in Ichhawar and 62% in Astha. 80% people in Ichhawar and 22% in Astha. The study concludes that existing knowledge regarding safe water, sanitation and hygiene behaviour in the community was very low, in both the blocks and especially so in Ichhawar. The major factor behind this could be low level of education among villagers. The unhealthy surroundings and unhygienic behaviour of the community creates ideal condition for spread of water borne diseases. Health and hygiene education is very important for better use of existing facilities and also to prevent the incidences of water and sanitation related diseases like diarrhoea, dysentery, hepatitis, polio, and worm infestation. Behaviour change communication to create awareness among children and mothers on the importance of water, sanitation and hygiene by using various media is the need of the hour. In India, even today a very large population is deprived of safe water and sanitation facilities, therefore, appropriate emphasis is needed to be given to these sectors. Provision of safe drinking water should be given utmost priority besides educating people about hygiene.(M. Bhattacharya et al, 2011).

Gopal et al (2009) in their study of water and sanitation practices in India using geographic information systems applied the method of mapping residence, water storage and distribution, sewage and places where people in the village defecated and drinking water sources were tested for microbial contamination in Nelvoy village, Vellore district, Tamil Nadu. They examined the water and sanitation facilities of a village in southern India using geographic information system (GIS) tools. The findings of the results were that water in the village was found to be microbiologically unfit for consumption. Analysis using direct observations supplemented by GIS maps revealed poor planning, poor engineering design and lack of policing of the water distribution system causing possible contamination of drinking water from sewage at multiple sites. Their interpretations and conclusions were that until appropriate engineering designs for water supply and sewage disposal to suit individual

village needs are made available, point-of-use water disinfection methods could serve as an interim solution.

Amin and Naqshbandi (2013) in their study try to explore the role of educational level and gender of rural population when it comes to the creation of any awareness creating method for them. The main objective of this study was to find out the relationship, if any, that exists between awareness creating method to be adopted by the rural population based on their age, educational level and gender and to find out the most effective method for creating awareness among the rural population regarding sanitation. In order to achieve the above cited objectives, the present study was carried out in Kasandi village of Gohana block in Sonapat District of Haryana Sample comprised 160 respondents, of both male and female inhabitants above 18 years in equal proportion. Qualitative approach was used to satisfy the goals of the study. Stratified random sampling method was used to approach the respondents and interview schedule was used as a tool for data collection. The emphasis remained on educational level and gender. In addition to the primary data, secondary data were collected from books, journals, newspapers and internet sites and government reports. The data collected were scrutinized and coded; Statistical Package of Social Science (IBM SPSS) version 20 was used to perform normalcy, frequency and cross tabulation test. The findings of the study reveals that though education has been a major thrust area of Indian planners since the inception of planned development in India, its impact is visible in every sphere of social life in India and it is the need of the hour that must be taken into consideration before finalizing any plan or strategy for the population living in urban or rural areas of India. The present study shows that education and gender are very important factors and should be considered while designing any strategy. Education asks for different techniques to be adopted as per the level of education and gender changes the preferences for awareness methods. As a number of awareness techniques are used among the rural settings it becomes

imperative to consider different socioeconomic indicators of the population. The survey findings clearly indicate that whatever strategy is designed may not be appropriate for all.

In her article, O'Reilly shows that local gender relations and geographies complicate sanitation interventions. By critiquing the technical solutions sought by policy makers and project planners alike, she argued that the structure and siting of latrines are important social and material interventions that have political effects in the communities and households where they are built. Although the drinking-water supply and sanitation project grappled with local norms particular to north India, gender inequalities are a global problem. Projects attempting to increase sanitation coverage and usage will undoubtedly confront and influence existing social relations of power, and their corresponding geographies, wherever they operate. The task is to learn for each location the complex relations of power that enable or disable women's participation in latrine marketing and decisions about siting, and their usage of latrines. Only then can projects be designed that incorporate measures to change those relations of power that have the potential to bring about both better community health and women's participation. As feminist critiques suggest, gender relations must be understood in context first. The findings of this research have wide application for water-supply and sanitation projects insofar as they suggest that latrine building and usage promotion are both technical and gendered political interventions. As feminist scholars of water resources have frequently noted, technical interventions will not work to solve gendered relations of unequal power. Instead these issues of power must be analysed and confronted. An analysis of gendered access to public and private spaces is one way to see afresh the gendered power relations affecting drinking water supply and sanitation.

In a study on "Gender Responsive Budget Analysis in Water and Sanitation: A Study of Two Resettlement Colonies (JhuggiJhopriClusters)in Delhi" following the methodology of Budget Analysis and PETS, the paper studies the Gender Responsive

Budgeting in the fields of urban water and sanitation in Delhi region, with a focus on two resettlement colonies as primary areas of inquiry, in order to ascertain the hypothesis that the budgeting and planning significantly and disproportionately impacts the lives of women and girls as compared to men and boys. The study finds that various policies and schemes pertaining to urban water and sanitation in India can be categorised as „gender blind“ since these do not recognise the gender-based disadvantages in accessing safe water supply and also accessing sanitation, sewerage and drainage. The analysis of Budget of Delhi suggests that though the State Government has recognised water and sanitation services in the region as the most prioritised area of government interventions after transport in its Five Year Planning, however, its budgetary allocations in the real sense have gone down over the years. It is also observed that the overall budgetary allocation for water and sanitation in the resettlement colonies and for JhuggiJhopri (JJ) clusters is grossly inadequate and not in sync with the needs and effective level of service delivery in the urban settlements. Inadequacy of funds for these areas is surely a cause of concern. The problem is also compounded due to ownership and accountability issues pertaining to the development of water and sanitation facilities in the relocation colonies of Bawana and Bhalaswa. There is utter confusion and the lack of effective collaboration and consultation among various implementing agencies on the level of service delivery. Finally, the paper finds that the Efforts of bringing out a „Gender Responsive Budgeting“ in India have been a cosmetic exercise so far.

Sekher T.V and Nazrul Islam Md (2006), in a pioneering paper on sanitation in India, attempted to explore the importance of sanitation and its linkage with health status, availability and utilization of sanitation facilities in India, programmes to improve its coverage and experiences in this direction and highlighting the challenges ahead for India by mainly utilizing all the available secondary data on sanitation. The authors observed a strong inverse correlation between access to urban water and sewerage connection on the one hand,

and child mortality, on the other. Thus, increase in the amount of water used and wide coverage of sewerage connection contribute to better hygiene and in the elimination of bacteriological contamination. Diarrhea is significantly less common among children living in households that boil water or use a filter for purification of drinking water than among other children without these facilities.

#### **2.4 Studies on Health, Hygiene and Sanitation**

In a study conducted by (Esrey et al) a total of 144 studies were analysed to examine the impact of improved water supply and sanitation facilities on ascariasis, diarrhoea, dracunculiasis, hookworm infection, schistosomiasis, and trachoma. These diseases were selected because they are widespread and illustrate the variety of mechanisms through which improved water and sanitation can protect people. Disease-specific median reduction levels were calculated for all studies, and separately for the more methodologically rigorous ones. For the latter studies, the median reduction in morbidity for diarrhoea, trachoma, and ascariasis induced by water supplies and/or sanitation was 26%, 27%, and 29%, respectively; the median reduction for schistosomiasis and dracunculiasis was higher, at 77% and 78%, respectively. All studies of hookworm infection were flawed apart from one, which reported a 4% reduction in incidence. For hookworm infection, ascariasis, and schistosomiasis, the reduction in disease severity, as measured in egg counts, was greater than that in incidence or prevalence. Child mortality fell by 55%, which suggests that water and sanitation have a substantial impact on child survival. Water for personal and domestic hygiene was important in reducing the rates of ascariasis, diarrhoea, schistosomiasis, and trachoma. Sanitation facilities decreased diarrhoea morbidity and mortality and the severity of hookworm infection. Better water quality reduced the incidence of dracunculiasis, but its role in diarrhoeal disease control was less important than that of sanitation and hygiene.

In their policy research working paper on Water, Sanitation and Children's Health, Isabel Gunther and Gunther Fink combined 172 Demography and Health Survey data sets from 70 countries to estimate the effect of water and sanitation on child mortality and morbidity. The results show a robust association between access to water and sanitation technologies and both child morbidity and child mortality. The point estimates imply, depending on the technology level and the sub-region chosen, that water and sanitation infrastructure lowers the odds of children to suffering from diarrhoea by 7–17 percent, and reduces the mortality risk for children under the age of five by about 5-20 percent. The effects seem largest for modern sanitation technologies and least significant for basic water supply. The authors also find evidence for the Mills-Reincke Multiplier for both water and sanitation access as well as positive health externalities for sanitation investments. The overall magnitude of the estimated effects appears smaller than coefficients reported in meta-studies based on randomized field trials, suggesting limits to the scalability and sustainability of the health benefits associated with water and sanitation interventions.

Regassa et al (2011) in their study on access to, and utilization of information on sanitation and hygiene by rural households in Alaba Special District, Southern Ethiopia assessed the level of sanitation and hygiene information and identifying factors that determine its access and utilization by rural households in Alaba District, Southern Ethiopia. The study generated the required data from 162 respondents selected from four rural villages using multistage sampling technique. Both qualitative and quantitative data were collected, and then the data were analysed using descriptive statistics and Ordered Logit Model. The analysis revealed that rural households in the study area have limited access to sanitation and hygiene information. Taking selected indicators of sanitation and hygiene: once in a week basis, 3.1% of the respondents accessed the messages on hand washing which is followed by safe excreta disposal (1.9%), safe water collection and storage (1.2%), food hygiene (0.6%),

household waste disposal (0.6%) and disease causing vectors (0%). With regard to utilization of the accessed information, safe excreta disposal accounted for (57%), hand washing (26.5%), safe water collection and storage (1.2%), food hygiene (0.6%), household waste disposal (0.6%) and disease causing vectors (0%). With regard to utilization of the accessed information, safe excreta disposal accounts for (57.4%), hand washing (26.5%), safe water collection and storage (16%), disease causing vectors (9.3%), food hygiene (4.3%), and household waste disposal (3.1%). The Ordered Logit regression result indicated that educational status of the respondent, health extension worker contact, information seeking behaviour and perception of the respondent were found to be significant determinants of access to sanitation and hygiene information among rural households in the study area. Regarding sanitation and hygiene information utilization, the analysis of Ordered Logit showed that educational status of the respondent, contact with health extension worker and knowledge level significantly affect the utilization decision of sanitation and hygiene information accessed by rural households. The overall findings of the study underlined the importance of communication and behavioural factors in the areas of sanitation and hygiene information access and level of utilization. Therefore, policy and health interventions should give emphasis to improvement of information sources, which can address the rural households and more focuses should be given to adult education and behavioural change communication approaches.

Hutton G. Rodriguez U (2008) have examined the issues viz., health, water, environmental, tourism and other welfare impacts associated with poor sanitation in Cambodia, Indonesia, the Philippines and Vietnam. The study was based on evidence from other investigations, surveys and databases. The impact measurement reported in the study focused mainly on a narrow definition of sanitation – human excreta management and related hygiene practices. The measurement of water resource impact also includes grey water and

the measurement of environmental impact includes solid waste management. Many of these impacts are quantifiable in economic terms. Other impacts that are less tangible or less easy to evaluate are also potentially important for economic development, quality of life, and political decision making. The focus in the study was on sanitation and not on water. This was justified due to the fact that water has historically received greater emphasis than sanitation, in terms of research, policy development, programmatic support and resource allocation. The study provides important evidence to support further investment in sanitation in these countries by examining the economic impacts of poor sanitation and the potential gains from improved sanitation. The specific goal of this sanitation impact study was to provide decision-makers at country and regional level with better evidence on the negative economic impacts of poor sanitation, and to provide tentative estimates of those negative impacts that can be mitigated by investing in improved sanitation. The results showed that the disaggregate impacts by provincial groupings for each country, as well as providing a rural-urban breakdown. Geographical disaggregation of results is presented for some types of economic impact at the regional level in Cambodia, the Philippines and Vietnam, and at the provincial level in Indonesia. Rural/Urban breakdown is provided where ever it was feasible. Furthermore, health impacts are disaggregated by age group for selected diseases and descriptive gender analysis are also conducted.

( Mercy K et al 2008) in their study on Sanitation and Hygiene in Kibera Slums reviewed the relevant literature of sanitation and hygiene regarding women in poor urban centres and explored ways on empowering women on sanitation and hygiene. The aim of the study was to describe the typical concerns for women regarding sanitation and hygiene in Kibera as well as providing women with practical suggestions to improve Hygiene and Sanitation in slums. The data collection method involved reviewing relevant literature which consisted research materials from poor urban centres and developing countries. In addition,



United Nations publications and educational books for research were referred to. The findings suggest that there are seven sanitation and hygiene concerns that women experience: Toileting, water, poverty, problems caused by poor sanitation, communicable diseases, insecurity and gender inequality. Nurses need to promote hygiene and sanitation practices by advocating, educating, campaigning and participating in designing community projects that affect sanitation and hygiene. Furthermore, nurses need to work within communities, churches, and schools. As a conclusion, the findings of this study give idea on designing a poster for the community health care nurses who are working with women living in under privileged environments.

UNDP Report (2006) reveals that, India loses most number of lives to diarrhea in the world, yet its military spending is more than ten times that of sanitation. As per the Report it is pertinent to note that, while the country has made considerable progress on drinking water, it is lagging on the sanitation front as nearly two-third of India has no sanitation access. Moreover, of the 1.8 million diarrhea deaths in the world, India has 450,000. At this pace India may quite likely to miss the Millennium Development Goals on sanitation which has two-third of population without sustainable access to safe drinking water and sanitation. The Report quotes 'Beyond Scarcity: power, poverty and the global water crisis' is linked to the previous year had pointed out that despite its economic growth, India's child mortality continued to remain high. Water and sanitation hold the key to saving lives of these children, the report states. Surprisingly, Bangladesh has overtaken India on this front too. "India may outperform Bangladesh as a high performing globalization success story, but tables are turned when the benchmark for success shifts to sanitation: despite per capita income some 60 percent higher, India has a lower rate of sanitation coverage," says the Report while pointing out, not long ago, the two countries faced similar problems. Since then, India has enjoyed far more rapid growth, widening income gap between the two countries. But in rural sanitation, it

has fallen behind. The Report is peppered with numerous case studies from across the countries that show how community mobilization and good governance can make a difference. The National Slum Dwellers Federation in Mumbai galvanized people to construct toilets. The successful Total Sanitation Campaign in Bangladesh, later adopted by West Bengal has achieved impressive progress. In Hyderabad, the water utility has increased coverage and improved performance in revenue collection. Research in Maharashtra has shown that contracting out the billing work, repairs, water treatment and information updates can improve performance. The Report points to the importance of effective regulation to manage water supply better. Though Bangalore applies a rising block tariff – subsidies benefit non-poor more than poor people. The well off 10 per cent households receives 30 per cent of water subsidy and the poorest 20 per cent receive 10.5 per cent only. India is just above Afghanistan and Pakistan in sanitation indices among developing countries in the world. Even Bangladesh is above India in this crucial social index, said Renu Gera, programme officer, UNICEF, Hyderabad. The child malnutrition rate of 50 per cent in India is much higher than Eritrea, a poor African nation, where it is only 35 per cent. While these figures may disappoint Indians, there is no need for despair, she said. “Although India was once a laughing stock for other nations, various government programmes, including total sanitation campaign undertaken by the Ministry of Rural Development aimed at ameliorating rural poverty and improving sanitary conditions, have resulted in considerable improvement in living conditions,” she added. The sanitation index of Karnataka, which was a poor two per cent when the campaign was launched in 2004, is now a healthy 38 percent. Although, this is lower than the national average of 45 per cent, it is a positive achievement as per UNICEF Report. The jump from 2 to 45 per cent in sanitation index is very impressive; the index in literate Dakshina Kannada is 90 per cent. The Report says, “ this is a clear indicator that when there is a right mixture of government policies and human initiative along with a

government official to implement a mandate given to him/her, one can see the programmes end up in transforming human lives, especially in rural areas for better”.

A study conducted by Diana Padilla attempted to update the findings of different researches that had been already done by qualitatively analysing the results of relevant publications from June 2003 to 2011. It compares and contrasts the results of such interventions to the reported findings by Fewtrell et al. in order to find trends in the effectiveness of certain types of interventions and the distribution of research across the world. The findings of this paper conclude that all types of interventions can be successful in lowering diarrheal rates, and that more implementation of interventions is necessary in order to eventually provide universal access to increased sanitation and potable water. The dismal amount of sanitation interventions, along with the absence of water quantity interventions and research studies performed in Oceania since 2003, highlight the crucial necessity for more research in these areas.

This chapter has presented a review of literature on concepts of sanitation, global studies on women and sanitation, studies of women and sanitation in India and studies on health, hygiene and sanitation. The next chapter presents the methodological aspects of the present study.

## **CHAPTER III**

### **METHODOLOGY**

This chapter describes the setting and the methodology of the present study. This chapter has been presented into three major sections. The first section deals with profile of the study area while the second section presents the methodological aspects of the present study and the third section is the objectives.

#### **3.1. The Setting: Profile of the Study Area**

The present study has been conducted in Mamit District of Mizoram.

##### **3.1.1 Mizoram**

Mizoram is one of the twenty nine states of India with an area of 21,087 sq. kilometres and a population of 1,091,014 persons according to 2011 census. It is located in the North Eastern India. The people living in Mizoram are called Mizo with literacy of 88.49% which is considered to be the second highest in the country. Mizo are a close knit society with no class distinction and very little discrimination on grounds of sex. Ninety percent of them are cultivators and the members. Birth of a child, marriage in the village and death of a person in the village are important occasions in which the whole village is involved.

About 95% of current Mizoram population is of diverse tribal origins who settled in the state, mostly from Southeast Asia, over waves of migration starting about 16th century but mainly in 18th century. This is the highest concentration of tribal people among all states of India, and they are currently protected under Indian constitution as Scheduled Tribe. The tribes converted from Animist religions to Christianity over the first half of 20th century. Mizoram is one of three states of India with a Christian majority (87%). Its people belong to various denominations, mostly Presbyterian in its north and Baptists in south.

Mizoram is a highly literate agrarian economy, but suffers from slash-and-burn jhum or shifting cultivation, and poor crop yields. In recent years, the jhum farming practices are

steadily being replaced with a significant horticulture and bamboo products industry. The state's gross state domestic product for 2012 was estimated at ₹6991 crore (US\$1.1 billion). About 20% of Mizoram's population lives below poverty line, with 35% rural poverty. The state has about 871 kilometres of national highways, with NH-54 and NH-150 connecting it to Assam and Manipur respectively. It is also a growing transit point for trade with Myanmar and Bangladesh. There are eight Districts in the State viz. Aizawl District, Lunglei District, Kolasib District, Champhai District, Mamit District, Lawngtlai District, Kolasib District and Serchhip District.



**Figure 3.1. Map of Mizoram**

### **3.1.2. Mamit**

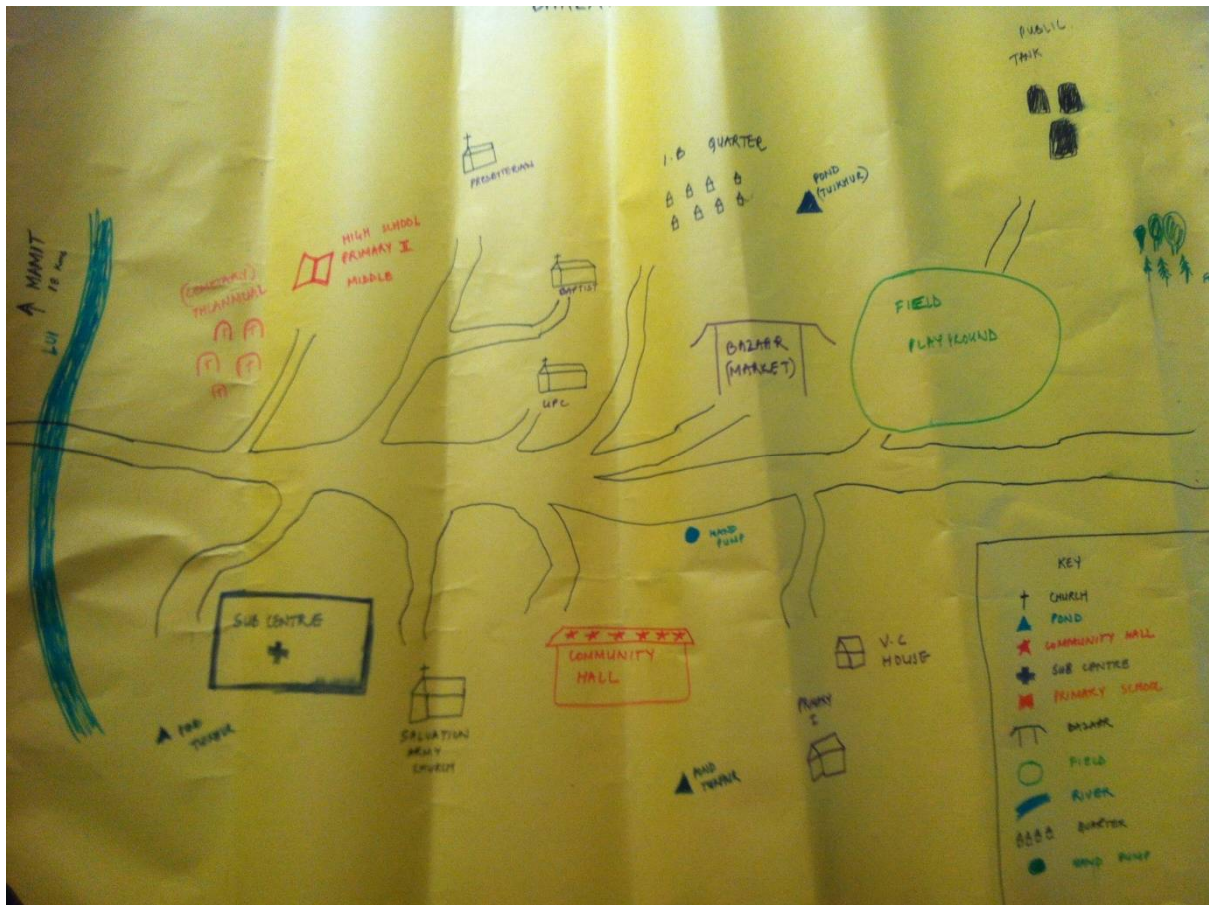
Mamit District was created by way of bifurcation of the erstwhile Aizawl District in 1998 .The Temperature ranges from 9C to 24C and from 24C to 36C during winter and summer

respectively. The district experiences Monsoon during summer receiving abundant rainfall and is neither too hot nor too cold throughout the year. The district witnessed in the past years, natural calamities like cyclonic storm, landslide, hailstorm etc. All Rivers flow in South-North direction, except Khawthlangtuipui. The Mountains also stretched in the same manner. The five main big rivers are Tlawng, Tut, Teirei, Langkaih and Khawthlangtuipui. Most of the hills are covered by thick forest. As a result, the district is quite self-sufficient in forest products like Timber, Bamboo and Broomstick. Women Play major role in the society as well as in the family. The population comprises Mizo, Reang(Bru), Chakma and other backward classes. Mamit district was selected for Multi-Sectoral Development Plan for Minority concentrated districts. The district is bounded on the north by Hailakandi district of Assam state, on the west by North Tripura district of Tripura state and Bangladesh, on the south by Lunglei district and on the east by Kolasib and Aizawl districts. The district occupies an area of 3025.75 km sq. It is 4th largest district in Mizoram and 395th largest in India in terms of total area. Mamit town is the administrative headquarters of the district. Headquarters of the district. The district has 3 R.D. Blocks: Reiek, West Phaileng and Zawlnuam. The district has 3 legislative assembly constituencies. These are Hachhek, Dampa and Mamit. According to the 2011 census Mamit district has a population of 85,757. This gives it a ranking of 619th in India (out of a total of 640). The district has a population density of 28 inhabitants per square kilometre (73 /square miles). Its population growth rate over the decade 2001-2011 was 36.59 %. Mamit has a sex ratio of 924 females for every 1000 males and a literacy rate of 85.96 %.



**Figure 3.2. Map of Mamit District**

### 3.1.3 Darlak Village

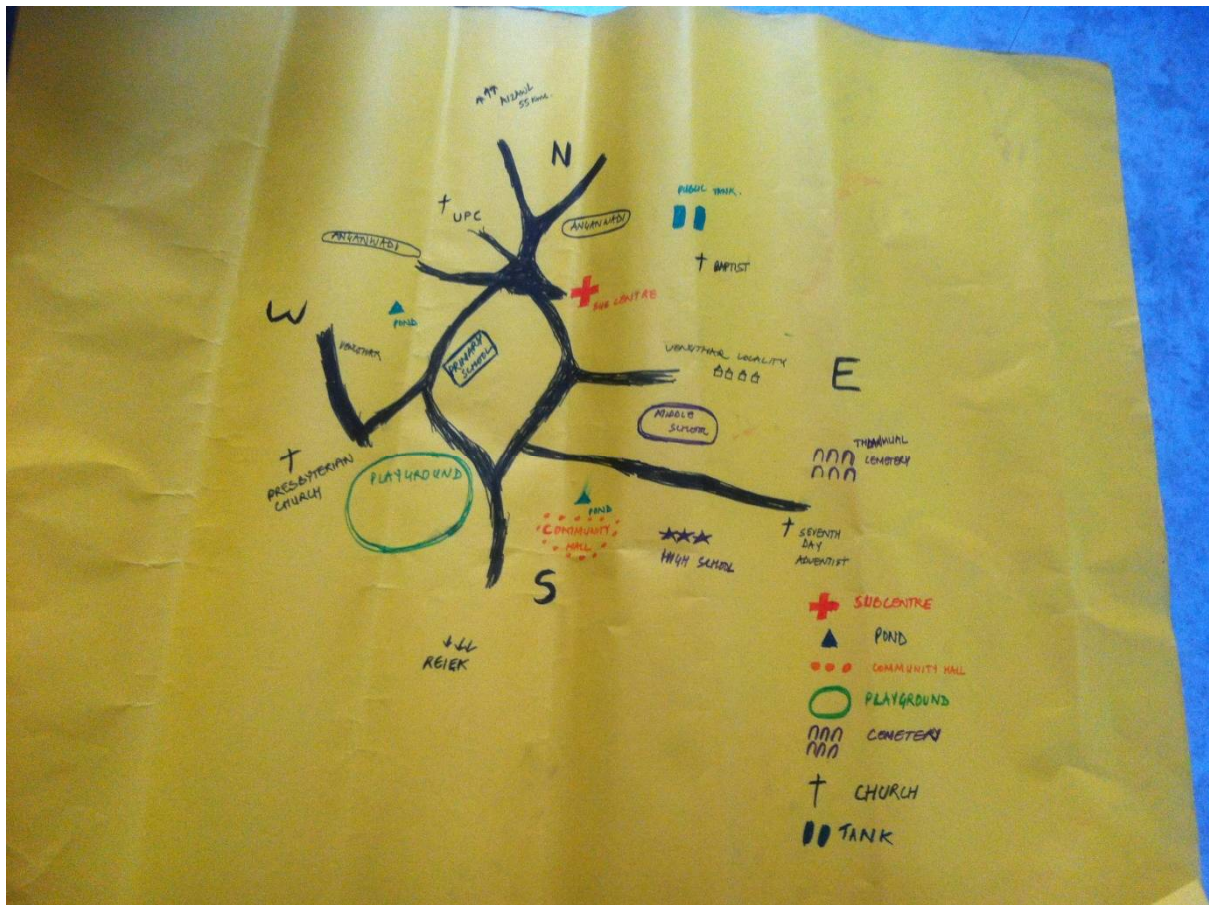


**Fig 3.3 Map of Darlak Village**

Darlak Village is the village selected for study under the intervention area for rural women and sanitation and has been under Zawlnuam RD Block. It is 20 kilometers from Mamit District headquarter. As per 2011 Census, the village has a total population of 1074 and total households of 240. Total male population stands at 587 whereas female population stands at 487. The village is divided into two sections. The village has one community hall, a single public playground and a Primary Health Centre caters for the Village Council Area. In terms of educational institutions, two primary schools, one middle school and a high school are present in the village. All these educational institutions are run by the State Government. There is one Anganwadi centre. The community base organizations operating in the village include YMA, MUP, MZP and MHIP.



### 3.1.4 Darlung Village



**Fig 3.4 Map of Darlung Village**

Darlung Village is another sample village which is under Reiek RD Block in Mamit District. The total population of the village stands at 1048 where male population consists of 559 and female population consists of 489. With a total household of 205, the village is under one Village Council area. The village is divided into six localities. There are 187 job card holders, 30 BPL families and 20 AAY families in the village. The community base organizations operating in the village include YMA, MUP, MZP and MHIP. The village has two primary government run primary schools, one middle school and one high school. There is one private run English medium school which runs its educational institute up to Class 10. There are three Anganwadis and one community hall and one sub-centre.

## **3.2. Methodology**

The present study is cross sectional in nature and descriptive in design. The study is based on primary data collected mainly through field survey. Field survey with structured household interview schedule is conducted to probe into the role of women in sanitation, their practices and habits and their awareness. The field survey was conducted during September 2014 to October 2014. Case studies and Participatory exercises were employed to supplement the quantitative survey data.

### **3.2.2. Sampling**

The unit of the study is on individual woman while the population includes all the rural women in Mizoram. The respondents are women who manage the household sanitation. Multi-stage sampling is used to select district, villages and respondents. The first stage is the choice of districts where Mamit district was purposively chosen as it represents the state in terms of literacy rate. The second stage is selection of villages. The villages were classified into socioeconomically low and high on the basis of indicators viz. proportions of households with water connection, electricity, telephone, LPG, computer, television, internet, two-wheeler /four wheeler, septic tank, and bathroom(see table 3.1 and 3.).

### **3.2.3 Tools for Data Collection**

Structured household interview schedule was used for collection of primary data. The interview schedule contains ten sections with a number of sub-sections. Pilot study was conducted with women individuals for constructing interview schedule. The constructed schedule was pre-tested in one community. Modifications were made in questions the light of review (see appendices).

### **3.2.4. Data Processing and Analysis**

The quantitative data collected through field survey was processed and analysed with the help of computer especially MS Excel and SPSS. While qualitative and participatory

data was organised into case studies. For analysing the quantitative data, in addition to simple averages, percentages, proportions and cross tabulations t test and Karl Pearson's product moment correlation coefficients were used.

### **3.2.5 Concepts and Operational Definitions**

In this section the important concepts used in the present study are operationally defined as under:

**Sanitation:** Sanitation can be broadly referred to as the state of being clean and conducive to health. Sanitation literally means measures necessary for improving and protecting health and wellbeing of the people. Sanitation is any system that promotes proper disposal of human and animal wastes, proper use of toilet and avoiding open space defecation.

**Hygiene Promotion:** Hygiene is the practice of keeping yourself and your surroundings clean, especially to avoid illness or the spread of preventable diseases. The process of changing hygiene behaviour using systems and messages on what people know, do and want. It involves working with people to understand their beliefs, practices, taboos and building on this to achieve the desired hygiene behaviour.

**Health** is the level of functional or metabolic efficiency of a living organism. In humans, it is the general condition of a person's mind and body, usually meaning to be free from illness, injury or pain. The World Health Organization (WHO) defined health in its broader sense in 1946 as "a state of complete physical, mental, and social well-being and not merely the absence of disease or infirmity. Although this definition has been subject to controversy, in particular as lacking operational value and because of the problem created by use of the word "complete," it remains the most enduring.

**Adoption of safe sanitation:** Taking better measures and taking something as your own. Adoption of safe sanitation means to have a habit of safe and proper hygienic practice.

**Gender Division of Labour:** It is the result of how each society divides work among men and among women according to what is considered suitable or appropriate to each gender.

**Awareness:** Awareness is the state or quality of being aware of something. Awareness on sanitation can be having basic understanding of sanitation practices and applying your ideas and knowledge for proper safe and hygienic practices.

### **3.2.6 Limitations of the Study**

The main limitation of the study is that the respondents who have been selected for the research are just a fraction of the rural women in Mizoram and they may not represent the entire rural women in the context of women and rural sanitation. The information given by respondents on the amount of income may not be accurate. This may not reflect the actual living condition of the household. However, the researcher made every effort in building rapport with the respondents and provided sufficient time for all calculations of all facts and figures. This maximizes the accuracy of the information and minimized human error.

This chapter has presented the methodological aspects of the study. It made an attempt to highlight the different characteristics of research design including sampling method, data collection using different tools and processing of the data. It also provides the tools used for analysis of data and limitation of the study. In the next chapter the results of the analysis of quantitative data collected are discussed.

## CHAPTER IV

### **Women Sanitation and Hygiene: Access, Awareness and Adoption**

In this chapter an attempt has been made to present the results of the analysis quantitative data on the study which have been presented in sections. The first section presents the socio structural bases of the respondents. The second describes access to housing, water and sanitation. The third describes the awareness and adoption of sanitation and hygiene. The fourth section describes the role of men and women in household sanitation practices.

#### **4.1. Socio Structural Bases of the Respondents**

The present section is devoted to discuss the socio structural bases of respondents in terms of their demographic, social and economic characteristics.

##### **4.1.1. Demographic Profile of Respondents**

The demographic characteristics of the respondents comprises of age groups, marital status, education status (see Table 5.1).

Age is an important variable that connotes the vigour and also productivity of an individual, subsequently the earning capacity. In this study, age group is classified into Young (below 35 years), Middle (35-59) and Old (60 years and above). There is no difference in age distribution in both the villages. More than one half (57.9%) of the respondents belong to the Middle age group. More than one fifth (24.3%) of the respondents belong to the Young age group and nearly one fifth (17.9%) belong to the Old age group.

Marital status is another important factor that can mark the family's ability to have a cohesive family and in turn have higher social support. Since the majority of the respondents belong to middle age group, most of the respondents are married (see Table 5.1). Marital Status comprises of five categories viz. Unmarried, Married, Divorced/Separated, Remarried and Widowed. Almost all the respondents are married (90%) and only 3 of the respondents

are not married. The divorced rate is extremely low where only 3 respondents are divorced or separated. There are 7 persons who have been widowed and only 1 respondent who is remarried.

Educated people know better about preventive methods which protect them from a number of diseases. An illiterate and ignorant person is more likely to ignore the symptoms and avoids seeking medical aid unless the problem becomes very serious. Hence education enables you to take better care of yourself as well as your family. Illiteracy often breeds ignorance and this ignorance may prove to be dangerous when it comes to healthcare. Education status is assessed in terms of five levels viz. Illiterate, Primary, Middle School, High School, Higher Secondary and College. Most of the respondents were literate but not with high educational background. Middle level with highest constitute 40% followed by Primary school with 32%. Among the respondents, 16.4% were illiterate. High school level with 7.9% and higher standard with higher secondary and graduate were low with 2.1% and 0.7% only. The mean educational status of the low developed village is 4.2 and that of the higher developed village is 5.4. There is no difference between the two villages. The reason for low education is mainly because the respondents were above 35 years of age and the chances of higher education were very less during their time as Mizoram face certain insurgency and other conflict. Moreover, the people who attended middle schools were considered highly educated.

#### **4.1.2 Familial Profile of Respondents**

Type of family is classified into Nuclear and Joint family. Nuclear family is predominantly found in both the villages with 84.3% from low developed village and 97.1% from the high developed village. 15.7% lived in Joint families in the low developed village while only 2.9% lived in joint families from the high developed village.

Form of family consists of Stable, Broken and Reconstituted family. Majority of the respondents in both the villages have Stable family with 87.1% and 94.3% respectively. Overall stable family is 90.7%. The overall broken family is 6.4% with 7.1% broken family in the low developed village and 5.7% form broken family in the high developed village. There are 5.7% of reconstituted family in the low developed village but there is no reconstituted family in the high developed village.

Size of family is classified into Small (1-3), Medium (4-6) and Large (7 and above). Medium size family constitutes 62.1% followed by Small size family with 27.9% and large size family with 10%.

Gender of head of the household is another important aspect taken as the fourth indicator of family structure. Majority of the Gender of Head of Family from both the villages are males with 97.1% from the low developed village and 91.4% from the high developed village. Only a fraction of females who are heading their families have been reported. There are 2.9% from the low developed village and 8.6% from the high developed village. Similar findings were also observed in earlier rural studies in Mizoram (Laltlanmawii 2007; Zaitinvawra 2014).

#### **4.1.3. Social Structural Characteristics of Sample Household**

Social structure is the relationship and distinctive arrangement of institution in a society, whereby human beings in a society interact and live together. Social Characteristics consist of Sub-Tribe, Religion and Denomination (see Table 5.3). There are three known Sub-Tribe, Lusei, Hmar and Ralte. Majority of the respondents belong to the Lusei sub-tribe. In the low developed village, 58.6% belong to Lusei sub-tribe and 62.9% from the other village. Ralte sub-tribe constitutes the second largest sub-tribe where 24.3% are from the low developed village and 15.7% are from the high developed village. 17.1% of respondents belong to Hmar sub-tribe in the low developed village and 21.4% are from the high developed village.

All the sample households follow Christianity as their religion. There are four denominations among the respondents- Presbyterian, Baptist, Salvation Army, UPC(NE) and Seventh Day Adventist. 34.3% of respondents belong to Presbyterian in the low developed village and there are 44.3% Presbyterians from the high developed village. For Baptist denomination, 27.1% are from the low developed village and 8.6% are from the high developed village. 18.6% belong to Salvation Army from the low developed village and 14.3% are from the high developed village. There are equal number of respondents representing the UPC(NE) in both villages which is 15.7% for both the villages. There are just a few members of Seventh Day Adventist from the low developed village which is 4.3% and in the high developed village, there are 17.1%.

#### **4.1.4. Economic Profile of Respondents**

The economic characteristic of respondents consists of Earner, Dependent, Primary, Secondary Occupation and Socio-economic status. Majority of the respondents from the low developed village are dependants which are 72.9% and 58.6% are dependants from the high developed village. Overall dependent comprises of two third (65.7%) of the respondents.

Primary occupation consists of Government Workers, Cultivators, Wage Labourers, Petty Business and Large Business.( refer Table 5.4) Two third of the respondents (65.7%) are with no occupation. Cultivation is the primary occupation in both villages. Wage labourers consists of one tenth (10%) followed by petty business which is 2.9%. Government workers and large business are the same at 0.7%. Only 1.4% are engaged in secondary occupation which is cultivation. 98.6% are not engaged in primary occupation in both the villages.

As for socio-economic status, the proportion of poor households is greater in the high developed village. 62.9% are from non-poor family in the low developed village and 44.3% from the high developed village. 24.3% are from poor family in the low developed village



and 27.1% from the high developed village. Very poor respondents constitute to 12.9% for the low developed village and 28.6% for the high developed village. Annual household income for the low developed village is 72385.7 and 98432.9 for the high developed village. Per capita household income for the low developed village is 15884.9 and 27491.2 for the high developed village.

## **4.2. Access to Housing, Water and Sanitation**

In this section women's access to housing water and sanitation are discussed in three subsections.

### **4.2.1. Housing Conditions of Respondents**

Everyone shares the right to a decent standard of living. Essential to the achievement of this standard and therefore to the fulfilment of human life beyond simple survival is access to adequate housing. Housing fulfils physical needs by providing security and shelter from weather and climate. It fulfils psychological needs by providing a sense of personal space and privacy. It fulfils social needs by providing a gathering area and communal space for the human family, the basic unit of society. In many societies, it also fulfils economic needs by functioning as a centre for commercial production.(refer Table 5.5)

The housing characteristics are Type of House, Type of Wall, Type of Roof and Type of House Post. More than half of the respondents (54.3%) live in semi-pucca houses,40% live in kuccha houses and 5.7% live in pucca houses. The proportion of respondents living in semi-pucca houses is better in the high developed village while more than half of the respondents from the low developed village live in kuccha houses.

Half of the respondents use tiled walls and one third (34.3%) use bamboo walls while 15.7% use brick walls. Respondents using bamboo walls are greater in the low developed village with 47.1% and 21.4% for the high developed village.

More than half of the respondents use tin for their roof and more than one third (36.4%) use straw. The proportion of straw users is greater in the low developed village with more than half of the respondents using straw while only one fifth use straw in the high developed village. The proportion of tin roof users is also greater in the high developed village with 72.9% using tin as their roof while 38.6% use tin roof in the low developed village. Concrete users are the same with overall 7.9% respondents using concrete roof. Wood is the type of house post used in both the villages with 73.6% of respondents using wood as their house post and 26.4% using concrete as their house post.

#### **4.2.2. Access to Water among Respondent Households**

Water is the foundation of life. And still today, all around the world, far too many people spend their entire day searching for it. In many instances, political and economic barriers prevent access to water even in areas where it is otherwise available. There are various sources from where the respondents get their supply of water during different seasons. The main sources of access to water are from rain water, public tank, hand pumps, community ponds and private source.

During the rainy season, nearly two third (64.3%) of the respondents get their water from rain water and 1.4% get it from the public tanks and community pond while 0.7% get their water from public hand pumps.

During the dry season, more than two third (68.6%) of respondents get their water from private source where they buy it from private firms selling water. The river is the next source of access to water for the respondents who are from the low developed village while there are no respondents from the high developed village who get their water from the river. This is mainly because there is no river which is close to the village. The nearest river close to the village is about 12 kilometres from the village. 27.9% of respondents get their water

from public tanks while 5.7% get their water from hand pumps and community ponds from both the villages.

Nearly three fourth (73.6%) of respondents get their water from the private source in both the seasons, community pond is the next source of access to water in which 31.4% get their water from the community pond. 30% of respondents get their water from the public tanks and 2.1% get water from the hand pumps in both the villages. There are just 9.3% who get their water from the river and that too from the low developed village only. Respondents from the high developed village do not get their water from the river for any season.

#### **4.2.3. Access to Sanitation among Respondent Households**

Millions of people lack access to safe, sufficient and affordable water, sanitation and hygiene facilities that are accessible and within easy reach for all. This has a devastating effect on the health, dignity and prosperity of these people, especially for the most disadvantaged. This lack of access also has significant consequences for the realisation of other human rights. In Table 5.7 the access to the type of toilet among the respondent households is shown. Majority of the respondents from both villages do not have access to septic tanks and only a few of the respondents have access to toilet with septic tanks. Only a few respondents also share toilet facilities with other families.

#### **4.2.4. Access to water of Respondents: Toilet Facilities**

Basic access to facilities like soap, direct water connection, wash basin in the bathroom or having a separate bathroom can drastically improve the quality of safe sanitation practices. In Table 5.8, the best facility available for the respondents is soap in the toilet to clean. The next facility is having a wash basin in the toilet and direct water connection to toilet and having a separate bathroom comes in the third and fourth place. Access to facilities is more or less the same in both the villages with the high developed village having a slightly better access to facilities than the less developed village.

#### **4.2.5. Access to Housing, Water and Sanitation: Inter correlation Matrix**

Karl Pearson's Coefficient of Correlation is used to understand the inter correlation matrix to access to housing, water and sanitation. Housing condition is positively related to household access to sanitation in terms of frequency of use of toilets with septic tank. Access to sanitation in terms of frequency of use of toilet with septic tank is positively related to housing conditions. Access to water in terms of direct water connection to the toilet, separate bathroom and availability of wash basin in the toilet is positively correlated. (See Table 5.9).

#### **4.2.6. Socio Economic Determinants of Access to Housing, Water and Sanitation**

Access to water is also positively related to access to sanitation (use of toilets with septic tank). Access to sanitation in terms of frequency of use of toilet with septic tank is positively related to housing condition and access in terms of direct water connection to toilet, separate bathroom and availability of wash basin in the toilet.

#### **4.3. Awareness and Adoption of Sanitation and Hygiene**

In terms of awareness on the various sanitation programmes implemented by the Government of India, more than one half (60.7%) are aware of the Total Sanitation Campaign while more than one third (39.3%) are not aware of the programme. More than four fifth (85.7%) are not aware of Nirmal Gram Puruskar and only one tenth of the respondents are aware of the programme. 3% say that they have never heard of it. More than two third (68.6%) are not aware of National Rural Drinking Water Programme and 25.7% are aware of it. 5% of respondents say they are aware but the programme has not been implemented and only 1 respondent has never heard of it. More than one half (52.9%) of respondents are not aware of the Individual Household Latrine Scheme while 47.1% are aware of the scheme. 89.3% of respondents are aware of the Sanitation Committee that is functioning in their village. 9.3% have never heard of it and only 1.4% are not aware of the committee.

#### **4.3.1 Awareness and Adoption of Hygienic Practice: Hand washing**

Hand washing protects people poorly or not at all from droplet- and airborne diseases, such as measles, chickenpox, influenza, and tuberculosis. It protects best against diseases transmitted through faecal-oral routes (such as many forms of stomach flu) and direct physical contact. Nearly half of the respondents (42.9%) said washing hands with soap and water was the most effective way to prevent transmission of diseases. 30.7% answered that it was through having antibiotics. 17.9% were not able to give any answer and 8.6% of respondents felt that washing hands with water was sufficient.

More than one fifth (28.6%) of respondents answered that they should wash hands before and after having meal and also before preparing food. 25% said all the above was required and 14.3% said it was after having meal. 2.9% of respondents could not give any answer.

When asked the question “Washing of hands should be” more than three fourth of respondents (77.9%) said it was a habit they often practiced while 12.9% said they washed it only when it was dirty. 9.3% of respondents said they mostly avoided washing their hands. On being asked how many times they should brush their teeth, more than one half (58.6%) of the respondent said that it should be done thrice a day and more than one third (35.7%) said it should be done twice a day. Only a few respondents (5.7%) said it should be done once a day.

#### **4.3.2. Awareness on Hygiene and Sanitation: Bacteria and Diseases**

Lack of proper hygiene and sanitation can cause many diseases which are also health related and hamper the individual life of a person. There are many diseases which can be caused due to low level of sanitation. Providing proper awareness is essential in order to educate and change certain sanitation behaviour and practices of people.

In Table 5.11 the respondents were tested on their level of awareness relating to bacteria and diseases. When asked what the ideal conditions for bacterial growth was, more than two third

(68.6%) said it was through food, 12.1% said it was through warm temperature and one tenth respondents said it was through water. Only 8.6% answered that all the above conditions were necessary.

When asked if food have enough bacteria to cause food poisoning, nearly one half of the respondents said that it would smell while almost one third (31.4%) of the respondents said it would taste different and nearly one fifth (17.1%) of the respondents said that it would taste different and nearly one tenth (9.3%) of the respondents said it is impossible to differentiate.

When asked to identify the major illness caused due to non-availability of sanitation more than four fifth (84.3%) of the respondents identified Diarrhoea as the major illness. One tenth identified Malaria as the major illness and less than one-tenth (6.4%) identified Tuberculosis as the major illness caused due to non-availability of sanitation. The respondents from both the villages were correct in their identification of the major illness caused due to non-availability of sanitation.

#### **4.3.4. Awareness on Sanitation and Hygiene**

In Table 5.14 awareness on Sanitation and Hygiene, there were different components like major illness caused due to non-availability of sanitation (84.3%), washing of hands (77.9%), single most effective way of transmission of disease (42.9%), how many times they should brush their teeth (35.7%) were the safe sanitation and hygiene often practiced by the respondents, other components like if food had enough bacteria to cause food poisoning (31.4%), when the appropriate time to wash hands was (25.7%), reason for drying of hands (10%), the ideal condition for bacterial growth (8.6%), identifying what type of disease Malaria was (2.1%) were not known among the respondents. Overall awareness on sanitation and hygiene was mediocre. The respondents from the lesser developed village fared a bit better in giving the correct responses than the respondents from the higher developed village but the awareness level was almost the same for both the villages.

#### **4.3.5. Benefits of Respondents under Total Sanitation Campaign**

More than one third of the respondents (37.9%) benefitted from the TSC Campaign, more than one fifth (24.3%) benefitted from loan and nearly one fifth (19.3%) benefitted by receiving commode.

#### **4.3.6. Adoption of Hygienic Practices among the Respondents**

Hygiene behavior plays an important role in the prevention of diseases related to water and sanitation, such as cholera, typhoid, dysentery, diarrhea and intestinal worms. Providing water and sanitation facilities do not necessarily lead to a decrease in these diseases. Provision of these facilities has to go hand in hand with their proper use and maintenance. This is achieved by persuading people to change their behavior in order to reduce 'risk' practices that predispose them to hygiene and sanitation related diseases. The simple habit of hand washing if widely adopted would save more than one million lives around the world annually, the majority of them children under the age of five in poorer countries.

The hygienic behaviour of the respondents from both the village have been seen to be quite good. In most of the practices like washing face every day, brushing teeth every morning, washing food before eating and preparing, keeping nails clean and short, sweeping and mopping floor every day, washing utensils before and after using, using sanitary hygienic pad, covering all food and water, washing hands with soap before eating, the respondents from both the villages were good practitioners of such habits while certain hygienic practices like taking bath every day, washing hair every day, washing hands with soap after defecation, drinking boiled or filtered water were certain habits that were not well practiced by the respondents. (See Table 5.16)

#### **4.3.7. Adoption of Safe sanitation practices of Respondents**

In Table 5.17, the respondents from both the villages showed that they practiced most of the sanitation practices like daily cleaning of home, covering garbage with lids and cleaning of the toilets were good sanitation practices followed by the respondents. Washing hands with soap after defecation, using anti-germs for cleaning the toilet were neglected by the respondents from both the villages.

#### **4.3.8 Determinants of Awareness on Sanitation, Hygiene and Adoption of Safe Sanitation and Hygienic Practices.**

Awareness on sanitation is not affected by age, education, type of family. Socio-economic status has a positive effect on awareness of sanitation (See Table 4.18).

#### **4.3.9 Awareness and adoption of Sanitation and Hygiene:**

Awareness on sanitation programmes is having significant positive effect on adoption of safe sanitation practice while having no significant effect on adoption of safe hygienic practice. Adoption of safe hygienic practices is having significant positive effect on adoption of safe sanitation practice while having no significant effect on adoption of safe hygienic practice.

#### **4.3.10. Prevalence of diseases related to sanitation in the households of respondents.**

There are many diseases that can be spread through contaminated food and water. Improved sanitation and hygienic conditions can drastically reduce the diseases that can be spread because of bad sanitation.

In Table 5.20 hook worm is the most prevalent disease among the respondents with 23.6% with cases more predominant in the low developed village, trachoma was the second most prevalent disease found with 17.1% and ulcer was the third with 15.7%. Typhoid and dysentery were the fourth and fifth diseases with overall 9.3% prevalence and Cholera with 2.9% and 1.4% of guinea worm. No traces of Scabies were found among the respondents. Overall, the prevalence of the following diseases were mostly predominant in the less



developed village while the higher developed had only a few cases among the respondents. Similar findings have been made in other studies such as Gordon (2002) which identified many of the respondents having suffered from hookworm and other infections. Study conducted by Hazra (2011) have also found similar cases of infections.

#### **4.4. Role of men and women in household sanitation practices**

In much of the world, women and girls are traditionally responsible for domestic water supply and sanitation, and maintaining a hygienic home environment. As managers at the household level, women also have a higher stake in the improvement of water and sanitation services and in sustaining facilities. The importance of involving both women and men in the management of water and sanitation has been recognized at the global level, starting from the 1977 United Nations Water Conference at Mar del Plata, the International Drinking Water and Sanitation Decade (1981-90) and the International Conference on Water and the Environment in Dublin (January 1992), which explicitly recognizes the central role of women in the provision, management and safeguarding of water.

In the table (see Table 5.21) the role of men and women in household sanitation practices was seen where women were the main care takers of their households. Bathing children, cleaning the house, cleaning the toilet, cooking, disposing garbage and waste materials, fetching water from wells and ponds, storing water for drinking, washing dirty clothes were the main activities that were performed in the household for maintaining good sanitation practices. Bathing children was clearly practiced only by the female in their household in both the villages. Females were also the major role player when it came to cleaning the house. The male members of the household rarely cleaned their house. Cleaning the toilet was also considered to the female's duty in both the village as the male never did this kind of work. Cooking was also done by the female members and the male members only helped out and cooked when it was absolutely necessary. Disposing garbage and waste

materials was also done by female and only a fraction of the respondents would sometimes dispose the garbage and waste materials. The men sometimes would help in fetching water but it was also the female who did most of the work. Storing water for drinking was also done by the female and hardly ever done by the male. Washing dirty clothes was also always done by the female and the male would only do it if it was absolutely necessary.

There is a clear difference in the role of men and women in the household sanitation practice. The women were the most active participants in taking care of the household sanitation while the men did not do anything much. Their role in household sanitation practice is very limited. The men were involved in fetching water, storing water for drinking, cooking and washing dirty clothes but they did these works only when a female member was not available or could not do it due to other reasons. The pattern remains similar for both the village.

In this chapter an attempt has been made to discuss the findings of analysis of primary data. Women's access to sanitation, awareness and adoption of sanitation and hygienic practices and their socio economic determinants were discussed. In the next chapter women's perceptions and experiences with regard to total sanitation campaign are presented in terms of case studies and results of FGD.

**Table 4.1 Demographic Profile of Respondents**

| SI.No      | Characteristic                 | Level of Development |                | Total<br>N = 140 |
|------------|--------------------------------|----------------------|----------------|------------------|
|            |                                | Low<br>n = 70        | High<br>n = 70 |                  |
| <b>I</b>   | <b>Age Group</b>               |                      |                |                  |
|            | Young( 19 -35)                 | 18<br>(25.7)         | 16<br>(22.9)   | 34<br>(24.3)     |
|            | Middle (36 -59)                | 42<br>(60.0)         | 39<br>(55.7)   | 81<br>(57.9)     |
|            | Old(60 and Above)              | 10<br>(14.3)         | 15<br>(21.4)   | 25<br>(17.9)     |
|            | <i>Mean Age</i>                | 47.1 ± 13.0          | 47.3 ± 12.7    | 47.2 ± 12.8      |
| <b>II</b>  | <b>Marital Status</b>          |                      |                |                  |
|            | Unmarried                      | 1<br>(1.4)           | 2<br>(2.9)     | 3<br>(2.1)       |
|            | Married                        | 64<br>(91.4)         | 62<br>(88.6)   | 126<br>(90.0)    |
|            | Divorced/Separated             | 2<br>(2.9)           | 1<br>(1.4)     | 3<br>(2.1)       |
|            | Remarried                      | 1<br>(1.4)           | 0<br>(0.0)     | 1<br>(0.7)       |
|            | Widowed                        | 2<br>(2.9)           | 5<br>(7.1)     | 7<br>(5.0)       |
| <b>III</b> | <b>Education Status</b>        |                      |                |                  |
|            | Illiterate                     | 12<br>(17.1)         | 11<br>(15.7)   | 23<br>(16.4)     |
|            | Primary( 1- 4)                 | 30<br>(42.9)         | 16<br>(22.9)   | 46<br>(32.9)     |
|            | Middle(5 -8)                   | 24<br>(34.3)         | 32<br>(45.7)   | 56<br>(40.0)     |
|            | High School(9 - 10)            | 2<br>(2.9)           | 9<br>(12.9)    | 11<br>(7.9)      |
|            | Higher Secondary(11 - 12)      | 2<br>(2.9)           | 1<br>(1.4)     | 3<br>(2.1)       |
|            | College                        | 0<br>(0.0)           | 1<br>(1.4)     | 1<br>(0.7)       |
|            | <i>Mean Years of Education</i> | 4.2 ± 2.9            | 5.4 ± 3.4      | 4.8 ± 3.2        |

Source: Computed

Figures in parentheses are percentages

Mean ± S.D

**Table 4.2 Familial Profile of Respondents**

| SI.No      |                                 | Level of Development |                | Total<br>N = 140 |
|------------|---------------------------------|----------------------|----------------|------------------|
|            |                                 | Low<br>n = 70        | High<br>n = 70 |                  |
| <b>I</b>   | <b>Type of Family</b>           |                      |                |                  |
|            | Nuclear                         | 59<br>(84.3)         | 68<br>(97.1)   | 127<br>(90.7)    |
|            | Joint                           | 11<br>(15.7)         | 2<br>(2.9)     | 13<br>(9.3)      |
| <b>II</b>  | <b>Form of Family</b>           |                      |                |                  |
|            | Stable                          | 61<br>(87.1)         | 66<br>(94.3)   | 127<br>(90.7)    |
|            | Broken                          | 5<br>(7.1)           | 4<br>(5.7)     | 9<br>(6.4)       |
|            | Reconstituted                   | 4<br>(5.7)           | 0<br>(0.0)     | 4<br>(2.9)       |
| <b>III</b> | <b>Size of Family</b>           |                      |                |                  |
|            | Small(1- 3)                     | 16<br>(22.9)         | 23<br>(32.9)   | 39<br>(27.9)     |
|            | Medium(4 -6)                    | 41<br>(58.6)         | 46<br>(65.7)   | 87<br>(62.1)     |
|            | Large(7 and Above)              | 13<br>(18.6)         | 1<br>(1.4)     | 14<br>(10.0)     |
|            | Mean Age                        | 5.0<br>1.8           | 4.0<br>1.4     | 4.5<br>1.7       |
| <b>IV</b>  | <b>Gender of Head of Family</b> |                      |                |                  |
|            | Male                            | 68<br>(97.1)         | 64<br>(91.4)   | 132<br>(94.3)    |
|            | Female                          | 2<br>(2.9)           | 6<br>(8.6)     | 8<br>(5.7)       |

Source: Computed

Figures in parentheses are percentages

Mean ± S.D

**Table 4.3 Social Profile of Respondents**

| Sl.No     | Characteristic        | Level of Development |                | Total<br>N = 140 |
|-----------|-----------------------|----------------------|----------------|------------------|
|           |                       | Low<br>n = 70        | High<br>n = 70 |                  |
| <b>I</b>  | <b>Sub-tribe</b>      |                      |                |                  |
|           | Lusei                 | 41<br>(58.6)         | 44<br>(62.9)   | 85<br>(60.7)     |
|           | Hmar                  | 12<br>(17.1)         | 15<br>(21.4)   | 27<br>(19.3)     |
|           | Ralte                 | 17<br>(24.3)         | 11<br>(15.7)   | 28<br>(20.0)     |
| <b>II</b> | <b>Denomination</b>   |                      |                |                  |
|           | Presbyterian          | 24<br>(34.3)         | 31<br>(44.3)   | 55<br>(39.3)     |
|           | Baptist               | 19<br>(27.1)         | 6<br>(8.6)     | 25<br>(17.9)     |
|           | Salvation             | 13<br>(18.6)         | 10<br>(14.3)   | 23<br>(16.4)     |
|           | UPC (NE)              | 11<br>(15.7)         | 11<br>(15.7)   | 22<br>(15.7)     |
|           | Seventh Day Adventist | 3<br>(4.3)           | 12<br>(17.1)   | 15<br>(10.7)     |

Source: Computed

Figures in parentheses are percentages

Mean ± S.D

**Table 4.4 Economic Profile of Respondents**

| Sl.No      | Characteristic                     | Development       |                   | Total<br>N = 140  |
|------------|------------------------------------|-------------------|-------------------|-------------------|
|            |                                    | Low<br>n = 70     | High<br>n = 70    |                   |
| <b>I</b>   | <b>Earnor or Dependent</b>         |                   |                   |                   |
|            | Dependent                          | 51<br>(72.9)      | 41<br>(58.6)      | 92<br>(65.7)      |
|            | Earnor                             | 19<br>(27.1)      | 29<br>(41.4)      | 48<br>(34.3)      |
| <b>II</b>  | <b>Primary Occupation</b>          |                   |                   |                   |
|            | None                               | 51<br>(72.9)      | 41<br>(58.6)      | 92<br>(65.7)      |
|            | Govt. Workers                      | 0<br>(0.0)        | 1<br>(1.4)        | 1<br>(0.7)        |
|            | Cultivators                        | 11<br>(15.7)      | 17<br>(24.3)      | 28<br>(20.0)      |
|            | Wage Labourers                     | 7<br>(10.0)       | 7<br>(10.0)       | 14<br>(10.0)      |
|            | Petty Business                     | 1<br>(1.4)        | 3<br>(4.3)        | 4<br>(2.9)        |
|            | Large Business                     | 0<br>(0.0)        | 1<br>(1.4)        | 1<br>(0.7)        |
| <b>IV</b>  | <b>Secondary Occupation</b>        |                   |                   |                   |
|            | None                               | 69<br>(98.6)      | 69<br>(98.6)      | 138<br>(98.6)     |
|            | Cultivators                        | 1<br>(1.4)        | 1<br>(1.4)        | 2<br>(1.4)        |
| <b>V</b>   | <b>Socio-economic Status</b>       |                   |                   |                   |
|            | Non-Poor(APL)                      | 44<br>(62.9)      | 31<br>(44.3)      | 75<br>(53.6)      |
|            | Poor(BPL)                          | 17<br>(24.3)      | 19<br>(27.1)      | 36<br>(25.7)      |
|            | Very Poor(AAY)                     | 9<br>(12.9)       | 20<br>(28.6)      | 29<br>(20.7)      |
| <b>VI</b>  | Annual Household Income            | 72385.7 ± 37651.0 | 98432.9 ± 70847.6 | 85409.3 ± 58018.7 |
| <b>VII</b> | Per capita Annual Household Income | 15884.9 ± 9869.8  | 27491.2 ± 23623.2 | 21688.1 ± 18955.1 |

Source: Computed

Figures in parentheses are percentages

Mean ± S.D

**Table 4.5 Housing Profile of Respondents**

| Sl.No      | Indicator                 | Level of Development |                | Total<br>N = 140 |
|------------|---------------------------|----------------------|----------------|------------------|
|            |                           | Low<br>n = 70        | High<br>n = 70 |                  |
| <b>I</b>   | <b>Type of House</b>      |                      |                |                  |
|            | Kuccha                    | 39<br>(55.7)         | 17<br>(24.3)   | 56<br>(40.0)     |
|            | Semi Pucca                | 26<br>(37.1)         | 50<br>(71.4)   | 76<br>(54.3)     |
|            | Pucca                     | 5<br>(7.1)           | 3<br>(4.3)     | 8<br>(5.7)       |
| <b>II</b>  | <b>Type of Wall</b>       |                      |                |                  |
|            | Bamboo                    | 33<br>(47.1)         | 15<br>(21.4)   | 48<br>(34.3)     |
|            | Tile                      | 29<br>(41.4)         | 41<br>(58.6)   | 70<br>(50.0)     |
|            | Brick                     | 8<br>(11.4)          | 14<br>(20.0)   | 22<br>(15.7)     |
| <b>III</b> | <b>Type of Roof</b>       |                      |                |                  |
|            | Straw                     | 37<br>(52.9)         | 14<br>(20.0)   | 51<br>(36.4)     |
|            | Tin                       | 27<br>(38.6)         | 51<br>(72.9)   | 78<br>(55.7)     |
|            | Concrete                  | 6<br>(8.6)           | 5<br>(7.1)     | 11<br>(7.9)      |
| <b>IV</b>  | <b>Type of House Post</b> |                      |                |                  |
|            | Wood                      | 51<br>(72.9)         | 52<br>(74.3)   | 103<br>(73.6)    |
|            | Concrete                  | 19<br>(27.1)         | 18<br>(25.7)   | 37<br>(26.4)     |
|            | <i>Housing Conditions</i> | 1.68 ± 0.51          | 1.82 ± 0.49    | 1.75 ± 0.50      |
|            | t                         | 1.63                 |                |                  |
|            | Sig. (2-tailed)           | 0.11                 |                |                  |

Source: Computed      Figures in parentheses are percentages

Mean ± S.D

**Table 4.6 Access to Water of Respondents**

| Sl.No      | Season / Source             | Level of Development |                | Total<br>N = 140 |
|------------|-----------------------------|----------------------|----------------|------------------|
|            |                             | Low<br>n = 70        | High<br>n = 70 |                  |
| <b>I</b>   | <b>Rainy Season</b>         |                      |                |                  |
|            | Rain Water                  | 47<br>(67.1)         | 43<br>(61.4)   | 90<br>(64.3)     |
|            | Public Tanks                | 2<br>(2.9)           | 0<br>(0.0)     | 2<br>(1.4)       |
|            | Hand Pumps                  | 0<br>(0.0)           | 1<br>(1.4)     | 1<br>(0.7)       |
|            | Community Pond              | 1<br>(1.4)           | 1<br>(1.4)     | 2<br>(1.4)       |
| <b>II</b>  | <b>Dry Season</b>           |                      |                |                  |
|            | River                       | 50<br>(71.4)         | 0<br>(0.0)     | 50<br>(35.7)     |
|            | Public Tanks                | 14<br>(20.0)         | 25<br>(35.7)   | 39<br>(27.9)     |
|            | Hand Pumps                  | 2<br>(2.9)           | 6<br>(8.6)     | 8<br>(5.7)       |
|            | Community Pond              | 5<br>(7.1)           | 3<br>(4.3)     | 8<br>(5.7)       |
|            | Brought from private source | 44<br>(62.9)         | 52<br>(74.3)   | 96<br>(68.6)     |
| <b>III</b> | <b>Both Seasons</b>         |                      |                |                  |
|            | Bought from private source  | 47<br>(67.1)         | 56<br>(80.0)   | 103<br>(73.6)    |
|            | Community Pond              | 26<br>(37.1)         | 18<br>(25.7)   | 44<br>(31.4)     |
|            | Public Tanks                | 28<br>(40.0)         | 14<br>(20.0)   | 42<br>(30.0)     |
|            | River                       | 13<br>(18.6)         | 0<br>(0.0)     | 13<br>(9.3)      |
|            | Hand Pumps                  | 1<br>(1.4)           | 2<br>(2.9)     | 3<br>(2.1)       |

Source: Computed

Figures in parentheses are percentages



**Table 4.7 Access to Sanitation among Respondent Households: Type of Toilet Use**

| SI.No | Type of Toilet                    | Level of Development |      |             |      |               |      | t     | Sig. (2-tailed) |
|-------|-----------------------------------|----------------------|------|-------------|------|---------------|------|-------|-----------------|
|       |                                   | Low n = 70           |      | High n = 70 |      | Total N = 140 |      |       |                 |
|       |                                   | Mean                 | S.D  | Mean        | S.D  | Mean          | S.D  |       |                 |
| 1     | Toilet without septic tank        | 2.21                 | 1.28 | 2.06        | 1.40 | 2.14          | 1.34 | 0.69  | 0.49            |
| 2     | Toilet with septic tank           | 0.51                 | 1.14 | 0.89        | 1.34 | 0.70          | 1.25 | -1.77 | 0.08            |
| 3     | Shared toilet with other families | 0.41                 | 0.84 | 0.24        | 0.65 | 0.33          | 0.75 | 1.35  | 0.18            |

Source: Computed

Figures in parentheses are percentages

**Table 4.8 Access to water of Respondents: Facilities**

| SI.No | Facility                          | Level of Development |         |             |         | Total N = 140 | t    | Sig. (2-tailed) |           |
|-------|-----------------------------------|----------------------|---------|-------------|---------|---------------|------|-----------------|-----------|
|       |                                   | Low n = 70           |         | High n = 70 |         |               |      |                 |           |
|       |                                   | Frequency            | Percent | Frequency   | Percent |               |      |                 | Frequency |
| 1     | Soap in the toilet to Clean       | 10                   | 14.3    | 13          | 18.6    | 23            | 16.4 | -0.68           | 0.50      |
| 2     | Wash basin in the toilet          | 2                    | 2.9     | 4           | 5.7     | 6             | 4.3  | -0.83           | 0.41      |
| 3     | Direct Water Connection to Toilet | 2                    | 2.9     | 3           | 4.3     | 5             | 3.6  | -0.45           | 0.65      |
| 4     | Separate bathroom                 | 1                    | 1.4     | 3           | 4.3     | 4             | 2.9  | -1.01           | 0.31      |

Source: Computed

Figures in parentheses are percentages

**Table 4.9 Access to Housing, Water and Sanitation: Inter correlation Matrix**

|                                   | Housing Condition | Access to Water                   |                   |                          | Frequency of Toilet Use |                            |                                   | Soap In the Toilet to Clean |
|-----------------------------------|-------------------|-----------------------------------|-------------------|--------------------------|-------------------------|----------------------------|-----------------------------------|-----------------------------|
|                                   |                   | Direct Water Connection to Toilet | Separate bathroom | Wash Basin In the Toilet | Toilet With Septic Tank | Toilet Without Septic Tank | Shared Toilet With Other Families |                             |
| Housing Condition                 | 1                 | 0.34**                            | 0.30**            | 0.37**                   | 0.53**                  | -0.39**                    | -0.24**                           | 0.35**                      |
| Toilet with septic tank           | 0.53**            | 0.36**                            | 0.32**            | 0.39**                   | 1                       | -0.86*                     | -0.20*                            | 0.49**                      |
| Toilet without septic tank        | -0.39**           | -0.22**                           | -0.18*            | -0.26**                  | -0.86**                 | 1                          | 0.12                              | -0.41**                     |
| Shared toilet with other families | -0.24**           | -0.08                             | -0.08             | -0.09                    | -0.20**                 | 0.12                       | 1                                 | -0.04                       |
| Separate bathroom                 | 0.30**            | 0.89**                            | 1                 | 0.81**                   | 0.32**                  | -0.18**                    | -0.08                             | 0.27**                      |
| Direct Water Connection to Toilet | 0.34**            | 1                                 | 0.89**            | 0.91**                   | 0.36**                  | -0.22**                    | -0.08                             | 0.33**                      |
| Wash basin in the toilet          | 0.37**            | 0.91**                            | 0.81**            | 1                        | 0.39**                  | -0.26**                    | -0.09                             | 0.38**                      |
| Soap in the toilet to Clean       | 0.35**            | 0.33**                            | 0.27**            | 0.38**                   | 0.49*                   | -0.41**                    | -0.04                             | 1                           |

Source: Computed

\*\*P<0.01

\* P<0.05

**Table 4.10 Socio Economic Determinants of Access to Housing, Water and Sanitation:  
Correlation Matrix**

| Sl. No | Socio Economic Factor      | Housing Condition | Access to Water                   |                   |                          |                             | Frequency of Toilet Use |                            |                                   |
|--------|----------------------------|-------------------|-----------------------------------|-------------------|--------------------------|-----------------------------|-------------------------|----------------------------|-----------------------------------|
|        |                            |                   | Direct Water Connection to Toilet | Separate bathroom | Wash basin in the toilet | Soap in the toilet to Clean | Toilet with septic tank | Toilet without septic tank | Shared toilet with other families |
| 1      | Age                        | -0.16             | 0.01                              | 0.05              | 0.02                     | -0.09                       | -0.01                   | 0.05                       | -0.03                             |
| 2      | Education Status           | 0.22**            | 0.06                              | 0.09              | 0.00                     | 0.19*                       | 0.13                    | -0.12                      | 0.02                              |
| 3      | Type of Family             | -0.07             | 0.07                              | 0.09              | 0.05                     | -0.08                       | -0.12                   | 0.15                       | -0.07                             |
| 4      | Size of Family             | 0.22**            | 0.13                              | 0.13              | 0.13                     | 0.00                        | 0.02                    | 0.00                       | -0.09                             |
| 5      | Socio-economic Status      | -0.33**           | -0.16                             | -0.14             | -0.18                    | -0.01                       | -0.03                   | 0.08                       | 0.12                              |
| 6      | Annual Household Income    | 0.44**            | 0.14                              | 0.17*             | 0.19*                    | 0.19*                       | 0.38*                   | -0.32*                     | -0.15                             |
| 7      | Percapita Household Income | 0.20*             | 0.00                              | 0.02              | 0.03                     | 0.24*                       | 0.26*                   | -0.22*                     | -0.06                             |

Source: Computed

\*\*P<0.01

\* P<0.05

**Table 4.11 Awareness on Sanitation Programs of Respondents: Programmes**

| Sl.No      | Component                                      | Level of Development |                | Total<br>N = 140 |
|------------|--|----------------------|----------------|------------------|
|            |  | Low<br>n = 70        | High<br>n = 70 |                  |
| <b>I</b>   | <b>Total Sanitation Campaign</b>               |                      |                |                  |
|            | No   | 26<br>(37.1)         | 29<br>(41.4)   | 55<br>(39.3)     |
|            | Yes  | 44<br>(62.9)         | 41<br>(58.6)   | 85<br>(60.7)     |
| <b>II</b>  | <b>Nirmal Gram Puruskar</b>                    |                      |                |                  |
|            | No   | 67<br>(95.7)         | 53<br>(75.7)   | 120<br>(85.7)    |
|            | Yes  | 0<br>0.0             | 14<br>(20.0)   | 14<br>(10.0)     |
|            | Never heard of it                              | 3<br>(4.3)           | 3<br>(4.3)     | 6<br>(4.3)       |
| <b>III</b> | <b>National Rural Drinking Water Programme</b> |                      |                |                  |
|            | No   | 42<br>(60.0)         | 54<br>(77.1)   | 96<br>(68.6)     |
|            | Yes  | 24<br>(34.3)         | 12<br>(17.1)   | 36<br>(25.7)     |
|            | Aware but not implemented                      | 3<br>(4.3)           | 4<br>(5.7)     | 7<br>(5.0)       |
|            | Never heard of it                              | 1<br>(1.4)           | 0<br>0.0       | 1<br>(0.7)       |
| <b>IV</b>  | <b>Individual Rural Latrine Scheme</b>         |                      |                |                  |
|            | No   | 35<br>(50.0)         | 39<br>(55.7)   | 74<br>(52.9)     |
|            | Yes  | 35<br>(50.0)         | 31<br>(44.3)   | 66<br>(47.1)     |
| <b>V</b>   | <b>Sanitation Committee</b>                    |                      |                |                  |
|            | No   | 1<br>(1.4)           | 1<br>(1.4)     | 2<br>(1.4)       |
|            | Yes  | 67<br>(95.7)         | 58<br>(82.9)   | 125<br>(89.3)    |
|            | Never heard of it                              | 2<br>(2.9)           | 11<br>(15.7)   | 13<br>(9.3)      |

Source: Computed

Figures in parentheses are percentages

**Table 4.12 Awareness on Hygiene: Hand Washing**

| Sl.No      |   | Level of Development |                | Total<br>N = 140 |
|------------|---|----------------------|----------------|------------------|
|            |   | Low<br>n = 70        | High<br>n = 70 |                  |
| <b>I</b>   | <b>Single most effective way to prevent transmission of disease</b> |                      |                |                  |
|            | Do not know   | 5<br>(7.1)           | 20<br>(28.6)   | 25<br>(17.9)     |
|            | <b>Hand washing with soap and water</b>                             | 40<br>(57.1)         | 20<br>(28.6)   | 60<br>(42.9)     |
|            | Hand washing with water only  | 3<br>(4.3)           | 9<br>(12.9)    | 12<br>(8.6)      |
|            | Antibiotics   | 22<br>(31.4)         | 21<br>(30.0)   | 43<br>(30.7)     |
| <b>II</b>  | <b>When should one wash hands</b>                                   |                      |                |                  |
|            | Do not know   | 0<br>0.0             | 4<br>(5.7)     | 4<br>(2.9)       |
|            | Before and after having meal  | 33<br>(47.1)         | 7<br>(10.0)    | 40<br>(28.6)     |
|            | After having meal   | 10<br>(14.3)         | 10<br>(14.3)   | 20<br>(14.3)     |
|            | Before preparing food   | 22<br>(31.4)         | 18<br>(25.7)   | 40<br>(28.6)     |
|            | <b>All the above</b>  | 5<br>(7.1)           | 31<br>(44.3)   | 36<br>(25.7)     |
| <b>III</b> | <b>Washing of hands should be</b>                                   |                      |                |                  |
|            | <b>A habit that is to be done often</b>                             | 60<br>(85.7)         | 49<br>(70.0)   | 109<br>(77.9)    |
|            | Only done when they look dirty                                      | 8<br>(11.4)          | 10<br>(14.3)   | 18<br>(12.9)     |
|            | Mostly avoided  | 2<br>(2.9)           | 11<br>(15.7)   | 13<br>(9.3)      |
| <b>IV</b>  | <b>Reason of drying your hands after washing them?</b>              |                      |                |                  |
|            | <b>Because germs and bacteria are spread easily with wet hands</b>  | 10<br>(14.3)         | 4<br>(5.7)     | 14<br>(10.0)     |
|            | Your hands are slippery when wet and you will not be able to        | 60<br>(85.7)         | 66<br>(94.3)   | 126<br>(90.0)    |
| <b>V</b>   | <b>How many times should you brush your teeth</b>                   |                      |                |                  |
|            | Thrice a day  | 42<br>(60.0)         | 40<br>(57.1)   | 82<br>(58.6)     |
|            | <b>Twice a day</b>  | 27<br>(38.6)         | 23<br>(32.9)   | 50<br>(35.7)     |
|            | Once a day  | 1<br>(1.4)           | 7<br>(10.0)    | 8<br>(5.7)       |

Source: Computed

Figures in parentheses are percentages

**Table 4.13 Awareness on Hygiene and Sanitation: Bacteria and Diseases**

| Sl.No      |   | Level of Development |                | Total         |
|------------|---|----------------------|----------------|---------------|
|            |   | Low<br>n = 70        | High<br>n = 70 | N = 140       |
| <b>I</b>   | <b>Bacteria need to assist it to grow and multiply</b>            |                      |                |               |
|            | Water   | 5<br>(7.1)           | 10<br>(14.3)   | 15<br>(10.7)  |
|            | Food  | 50<br>(71.4)         | 46<br>(65.7)   | 96<br>(68.6)  |
|            | Warm temperature  | 8<br>(11.4)          | 9<br>(12.9)    | 17<br>(12.1)  |
|            | <b>All of the above</b>   | 7<br>(10.0)          | 5<br>(7.1)     | 12<br>(8.6)   |
| <b>II</b>  | <b>If food have enough bacteria to cause food poisoning</b>       |                      |                |               |
|            | It will smell   | 41<br>(58.6)         | 18<br>(25.7)   | 59<br>(42.1)  |
|            | It will have different colour                                     | 9<br>(12.9)          | 15<br>(21.4)   | 24<br>(17.1)  |
|            | <b>It will taste different</b>                                    | 17<br>(24.3)         | 27<br>(38.6)   | 44<br>(31.4)  |
|            | It is impossible to differentiate                                 | 3<br>(4.3)           | 10<br>(14.3)   | 13<br>(9.3)   |
| <b>III</b> | <b>Water Borne Diseases</b>                                       |                      |                |               |
|            | Influenza   | 5<br>(7.1)           | 7<br>(10.0)    | 12<br>(8.6)   |
|            | <b>Malaria</b>  | 0<br>0.0             | 3<br>(4.3)     | 3<br>(2.1)    |
| <b>IV</b>  | <b>Major illness caused due to non-availability of sanitation</b> |                      |                |               |
|            | <b>Diarrhoea</b>  | 59<br>(84.3)         | 59<br>(84.3)   | 118<br>(84.3) |
|            | Malaria   | 7<br>(10.0)          | 6<br>(8.6)     | 13<br>(9.3)   |
|            | Tuberculosis  | 4<br>(5.7)           | 5<br>(7.1)     | 9<br>(6.4)    |

Source: Computed

Figures in parentheses are percentages

**Table 4.14 Awareness on Sanitation and Hygiene:**

| SI.No | Component  | Level of Development |         |                |         |                  |         |
|-------|--|----------------------|---------|----------------|---------|------------------|---------|
|       |  | Low<br>n = 70        |         | High<br>n = 70 |         | Total<br>N = 140 |         |
|       |  | Frequency            | Percent | Frequency      | Percent | Frequency        | Percent |
| 1     | Major illness caused due to non-availability of sanitation   | 59                   | 84.3    | 59             | 84.3    | 118              | 84.3    |
| 2     | Washing of hands should be                                   | 60                   | 85.7    | 49             | 70.0    | 109              | 77.9    |
| 3     | Single most effective way to prevent transmission of disease | 40                   | 57.1    | 20             | 28.6    | 60               | 42.9    |
| 4     | How many times should you brush your teeth                   | 27                   | 38.6    | 23             | 32.9    | 50               | 35.7    |
| 5     | If food have enough bacteria to cause food poisoning         | 17                   | 24.3    | 27             | 38.6    | 44               | 31.4    |
| 6     | When should one wash hands                                   | 5                    | 7.1     | 31             | 44.3    | 36               | 25.7    |
| 7     | Reason of drying your hands after washing them?              | 10                   | 14.3    | 4              | 5.7     | 14               | 10.0    |
| 8     | Bacteria need to assist it to grow and multiply              | 7                    | 10.0    | 5              | 7.1     | 12               | 8.6     |
| 9     | Malaria  | 0                    | 0.0     | 3              | 4.3     | 3                | 2.1     |
|       | Awareness on Sanitation                                      | 25                   | 35.7    | 25             | 35.1    | 50               | 35.4    |
|       | Independent Samples Test                                     |                      |         |                |         |                  |         |
|       | T  | 0.27                 |         |                |         |                  |         |
|       | Sig. (2-tailed)  | 0.78                 |         |                |         |                  |         |

Source: Computed

Figures in parentheses are percentages

**Table 4.15 Benefits of Respondents under TSC**

| SI.No | Benefit                   | Level of Development |         |                |         | Total<br>N = 140 |         |
|-------|---------------------------|----------------------|---------|----------------|---------|------------------|---------|
|       |                           | Low<br>n = 70        |         | High<br>n = 70 |         |                  |         |
|       |                           | Percent              | Percent | Frequency      | Percent | Frequency        | Percent |
| 1     | Competition on Sanitation | 51                   | 72.9    | 2              | 2.9     | 53               | 37.9    |
| 2     | Loan                      | 15                   | 21.4    | 19             | 27.1    | 34               | 24.3    |
| 3     | Toilet                    | 11                   | 15.7    | 16             | 22.9    | 27               | 19.3    |

Source: Computed

Figures in parentheses are percentages

**Table 4.16 Adoption of Hygienic Practices among the Respondents**

| Sl.No | Practice                                   | Level of Development |     |                |     |                  |     |
|-------|--|----------------------|-----|----------------|-----|------------------|-----|
|       |  | Low<br>n = 70        |     | High<br>n = 70 |     | Total<br>N = 140 |     |
|       |  | Mean                 | S.D | Mean           | S.D | Mean             | S.D |
| 1     | Washing face everyday                      | 3.0                  | 0.0 | 3.0            | 0.0 | 3.0              | 0.0 |
| 2     | Brushing teeth every morning               | 2.8                  | 0.4 | 2.9            | 0.4 | 2.9              | 0.4 |
| 3     | Washing food before eating and preparing   | 2.9                  | 0.2 | 2.8            | 0.4 | 2.9              | 0.4 |
| 4     | Keeping nails clean and cutting nail short | 2.7                  | 0.5 | 3.0            | 0.1 | 2.9              | 0.4 |
| 5     | Sweeping and mopping floor everyday        | 2.8                  | 0.4 | 2.8            | 0.4 | 2.8              | 0.4 |
| 6     | Washing utensils before and after using    | 2.8                  | 0.5 | 2.7            | 0.6 | 2.8              | 0.6 |
| 7     | Using sanitary hygienic pad during period  | 2.5                  | 1.0 | 2.9            | 0.5 | 2.7              | 0.8 |
| 8     | Covering all the food and water            | 2.4                  | 0.7 | 2.9            | 0.3 | 2.6              | 0.6 |
| 9     | Washing hands with soap before eating      | 2.5                  | 0.6 | 2.6            | 0.5 | 2.5              | 0.6 |
| 10    | Taking bath every day                      | 2.5                  | 0.6 | 2.3            | 0.5 | 2.4              | 0.5 |
| 11    | Brushing teeth every night                 | 2.4                  | 0.8 | 2.3            | 0.8 | 2.4              | 0.8 |
| 12    | Washing hair everyday                      | 2.2                  | 0.5 | 2.3            | 0.5 | 2.3              | 0.5 |
| 13    | Washing hand with soap after defecation    | 1.8                  | 0.8 | 1.6            | 0.8 | 1.7              | 0.8 |
| 14    | Drinking treated water (filtered/boiled)   | 1.2                  | 1.2 | 1.2            | 1.2 | 1.2              | 1.2 |
|       | Adoption of Safe Hygienic Practices        | 2.5                  | 0.2 | 2.5            | 0.2 | 2.5              | 0.2 |
|       | Independent Samples Test                   |                      |     |                |     |                  |     |
|       | t'   | -1.50                |     |                |     |                  |     |
|       | Df   | 138                  |     |                |     |                  |     |
|       | Sig. (2-tailed)                            | 0.14                 |     |                |     |                  |     |

Source: Computed

Figures in parentheses are percentages

**Table 4.17 Adoption of Safes Sanitation practices of Respondents**

| SI.No                           | Safe Sanitation Practice                 | Level of Development |     |                |     |                  |     |
|---------------------------------|--|----------------------|-----|----------------|-----|------------------|-----|
|                                 |  | Low<br>n = 70        |     | High<br>n = 70 |     | Total<br>N = 140 |     |
|                                 |  | Mean                 | S.D | Mean           | S.D | Mean             | S.D |
| 1                               | Daily cleaning of home                   | 2.9                  | 0.4 | 2.9            | 0.2 | 2.9              | 0.3 |
| 2                               | Covering garbage with lids               | 2.1                  | 0.7 | 2.1            | 0.4 | 2.1              | 0.6 |
| 3                               | Daily cleaning of toilet                 | 1.5                  | 0.6 | 2.0            | 0.5 | 1.7              | 0.6 |
| 4                               | Washing hands with soap after defecating | 0.9                  | 0.5 | 1.1            | 0.5 | 1.0              | 0.5 |
| 5                               | Using anti- germs for cleaning of toilet | 0.1                  | 0.3 | 0.2            | 0.6 | 0.2              | 0.5 |
| 6                               | Safe Sanitation Practices                | 1.5                  | 0.2 | 1.7            | 0.3 | 1.6              | 0.3 |
| <b>Independent Samples Test</b> |  |                      |     |                |     |                  |     |
|                                 | 't'                                      | -3.85                |     |                |     |                  |     |
|                                 | Sig. (2-tailed)                          | 0.00                 |     |                |     |                  |     |

Source: Computed

Figures in parentheses are percentages

**Table 4.18 Determinants of Awareness on Sanitation, Hygiene and Adoption of Safe Sanitation and Hygienic Practices: Correlation Matrix**

| SI.No |                                    | Awareness on Sanitation Programmes | Awareness on Sanitation | Adoption of Safe Sanitation Practices | Adoption of Safe Hygienic Practices |
|-------|------------------------------------|------------------------------------|-------------------------|---------------------------------------|-------------------------------------|
| 1     | Age                                | 0.01                               | 0.03                    | 0.01                                  | -0.04                               |
| 2     | Education Status                   | -0.02                              | -0.05                   | -0.03                                 | 0.10                                |
| 3     | Type of Family                     | -0.01                              | 0.01                    | -0.07                                 | -0.02                               |
| 4     | Size of Family                     | -0.08                              | -0.08                   | -0.04                                 | 0.03                                |
| 5     | Socio-economic Status              | 0.06                               | 0.19*                   | 0.07                                  | -0.05                               |
| 6     | Annual Household Income            | -0.07                              | -0.06                   | 0.02                                  | 0.06                                |
| 7     | Per capita Annual Household Income | -0.06                              | 0.00                    | 0.03                                  | 0.01                                |

Source: Computed

\*\*P<0.01

\* P<0.05



**Table 4.19 Awareness and Adoption of Sanitation and Hygiene: Inter Correlation matrix**

| Sl.No |                                     | Awareness on Sanitation Programmes | Awareness on Sanitation | Adoption of Safe Sanitation Practices | Adoption of Safe Hygienic Practices |
|-------|-------------------------------------|------------------------------------|-------------------------|---------------------------------------|-------------------------------------|
| 1     | Awareness on Sanitation Programmes  | 1                                  | -0.08                   | 0.18*                                 | 0.15                                |
| 2     | Awareness on Sanitation             | -0.08                              | 1                       | -0.08                                 | -0.12                               |
| 3     | Safe Sanitation Practices           | 0.18*                              | -0.08                   | 1                                     | 0.34**                              |
| 4     | Adoption of Safe Hygienic Practices | 0.15                               | -0.12                   | 0.34**                                | 1                                   |

Source: Computed

\*\*P<0.01

\* P<0.05

**Table 4.20 Prevalence of Diseases Related to Sanitation in the Households of Respondents**

| Sl.No | Disease     | Level of Development |         |                |         | Total<br>N = 140 |         |
|-------|-------------|----------------------|---------|----------------|---------|------------------|---------|
|       |             | Low<br>n = 70        |         | High<br>n = 70 |         |                  |         |
|       |             | Frequency            | Percent | Frequency      | Percent | Frequency        | Percent |
| 1     | Hook Worm   | 30                   | 42.9    | 3              | 4.3     | 33               | 23.6    |
| 2     | Trachoma    | 20                   | 28.6    | 4              | 5.7     | 24               | 17.1    |
| 3     | Ulcer       | 11                   | 15.7    | 11             | 15.7    | 22               | 15.7    |
| 4     | Typhoid     | 9                    | 12.9    | 4              | 5.7     | 13               | 9.3     |
| 5     | Dysentery   | 5                    | 7.1     | 8              | 11.4    | 13               | 9.3     |
| 6     | Cholera     | 2                    | 2.9     | 2              | 2.9     | 4                | 2.9     |
| 7     | Guinea Worm | 0                    | 0.0     | 2              | 2.9     | 2                | 1.4     |
| 8     | Scabies     | 0                    | 0.0     | 0              | 0.0     | 0                | 0.0     |

Source: Computed

Table 4.21 Role of men and women in household sanitation practices

| SI.No      | Characteristic                                   | Level of Development |     |                |     |                  |     |
|------------|--|----------------------|-----|----------------|-----|------------------|-----|
|            |  | Low<br>n = 70        |     | High<br>n = 70 |     | Total<br>N = 140 |     |
|            |  | Mean                 | S.D | Mean           | S.D | Mean             | S.D |
| <b>I</b>   | <b>Bathing the children:</b>                     |                      |     |                |     |                  |     |
|            | Female   | 3.0                  | 0.0 | 3.0            | 0.2 | 3.0              | 0.1 |
|            | Male   | 0.0                  | 0.0 | 0.0            | 0.0 | 0.0              | 0.0 |
| <b>II</b>  | <b>Cleaning the house</b>                        |                      |     |                |     |                  |     |
|            | Female   | 2.9                  | 0.2 | 2.9            | 0.3 | 2.9              | 0.2 |
|            | Male   | 0.0                  | 0.2 | 0.1            | 0.3 | 0.1              | 0.3 |
| <b>II</b>  | <b>Cleaning the toilet:</b>                      |                      |     |                |     |                  |     |
|            | Female   | 0.4                  | 1.0 | 2.9            | 0.3 | 1.7              | 1.5 |
|            | Male   | 0.0                  | 0.0 | 0.0            | 0.0 | 0.0              | 0.0 |
| <b>III</b> | <b>Cooking:</b>                                  |                      |     |                |     |                  |     |
|            | Female   | 3.0                  | 0.2 | 3.0            | 0.2 | 3.0              | 0.2 |
|            | Male   | 0.0                  | 0.2 | 0.1            | 0.3 | 0.1              | 0.2 |
| <b>IV</b>  | <b>Disposing garbage and waste materials:</b>    |                      |     |                |     |                  |     |
|            | Female   | 2.9                  | 0.2 | 2.1            | 0.3 | 2.5              | 0.5 |
|            | Male   | 0.1                  | 0.2 | 1.2            | 0.6 | 0.6              | 0.7 |
| <b>V</b>   | <b>Fetching water from wells and ponds etc :</b> |                      |     |                |     |                  |     |
|            | Female   | 2.9                  | 0.2 | 1.9            | 0.6 | 2.4              | 0.7 |
|            | Male   | 0.2                  | 0.5 | 0.4            | 1.0 | 0.3              | 0.8 |
| <b>VI</b>  | <b>Storing water for drinking:</b>               |                      |     |                |     |                  |     |
|            | Female   | 2.9                  | 0.2 | 2.2            | 0.4 | 2.6              | 0.5 |
|            | Male   | 0.1                  | 0.2 | 1.0            | 0.4 | 0.5              | 0.6 |
| <b>VII</b> | <b>Washing dirty clothes :</b>                   |                      |     |                |     |                  |     |
|            | Female   | 3.0                  | 0.0 | 2.2            | 0.4 | 2.6              | 0.5 |
|            | Male   | 0.0                  | 0.2 | 0.8            | 0.4 | 0.4              | 0.5 |

Source: Computed

Figures in parentheses are percentages

## CHAPTER V

### 5.1. Utilisation of Total Sanitation Campaign by Women: Some Case Studies

Improved sanitation and safe drinking water are the most important elements for improvement in the health conditions of the rural population, their development and welfare. Under the centrally sponsored Total Sanitation Campaign (TSC) launched by the Government of India, the main focus has been given on enabling each and every rural household in getting access to improved sanitation through individual household latrine.

The Cabinet Committee on Economic Affairs June 02 approved the upward revision of the incentive amount to a Below Poverty Line (BPL) household for construction of one unit of Individual Household Latrine (IHHL) from existing 2200 to (Rs 2700 for difficult and hilly areas) to 3200 to (Rs 3700 for difficult and hilly areas). The Central share out of this shall be Rs 2200 (2700 in case of hilly and difficult areas) and State Government share shall be Rs 1000. Minimum beneficiary share shall be Rs 300. State Governments are allowed the flexibility to provide higher incentive for a household toilet, of the same or higher unit costs from their own funds. The BPL household may also contribute towards value addition to the basic unit at its own expense.

The date of implementation for the revised rates of the incentives would be with effect from 01.06.2011. The increased in incentives amount is expected to have an additional financial implication to the tune of Rs 1348.26 crore approximately on the Central Government. The State Governments together shall also have to bear an additional financial expenditure of Rs 577 crore approximately.

The revision in the incentive amount being provided to individual households below poverty line is expected to accelerate the pace of construction of these toilets thereby resulting in better sanitation coverage in rural areas of the country. It is expected that all rural households shall have access to sanitation facilities by March 2015.

In the light of this implementation being provided by the Government, Case Studies were conducted among the beneficiaries of IHHL in the sample villages to find out if they were utilizing the incentives which had been given to them. Five Case Studies have been conducted, two in each sample village among the BPL families who were the beneficiaries of this programme.

#### **Case Study 1: Financial problems hinders toilet construction**

Mrs Malawmi is a mother of four children. She is 33 years old and lives with her husband and her children in Darlak village. She comes from a poor socio-economic backward family and is listed in the BPL list in her village. Malawmi is a beneficiary of the Individual Household Latrine Scheme and has been given the incentive and commode under the scheme but Malawmi says that she has not made use of the incentive and has not yet used the commode that was given to her. When asked what the reason was, Malawmi says that the incentive which is given for construction which is Rs 1000 is not sufficient and it was difficult to use their other source of income for construction of the toilet since buying materials like cement and other things would be too expensive and that they could not spare any extra money. They would also have to employ a cement construction worker and they could not afford it. Malawmi says that instead of giving the money, the government should have constructed the toilet for us or that they should have been given some of the materials required. Malawmi and her family are using pit latrine for their toilet. They have built a small toilet with bamboo and have dug up the pit and use it as toilet. For taking bath, Malawmi and

her family have a small area just next to her house where they have put up a wall using bamboo and she and her other family use it for bathing. Malawmi is a mother of four young children who are not old enough to take care of themselves. Malawmi does all the household work and her husband is a daily wage labourer. Sometimes he has to spend many days away from his family to make ends meet and Malawmi is the sole care taker of their children. Malawmi says she tries to take good care of their house and the children and try and teach them good cleanliness habits and try to inculcate good sanitation habits for her family.

### **Case Study 2: Basic sanitation access still remains a dream.**

Mrs Laldinpuii is a 43year old housewife from Darlak Village. She lives with her husband and seven children in a semi-pucca house. Laldinpuii's husband is a farmer who grows palm oil for a living and she helps out her husband when she can. Laldinpuii has seven children whose age group is from 19 years to 4 years of age. Two of her eldest children have dropped out of school to help out their parents in the field and the other children are still in school. She takes care of her family most of the time. She is the main person who does most of the household chores and does the cleaning and cooking. Even though her children help her out sometimes, three of the older children are male so they are not very helpful in cooking, cleaning the house, cleaning toilet washing clothes or bathing the children.

Mrs. Laldinpuii is also a beneficiary of the IHHL and has also got the incentive along with the commode. Like Mrs Malawmi, Mrs Laldinpuii says "We were extremely happy to have received the incentives along with the commode and were happy that we could finally have a proper toilet for ourselves. The kids were also delighted to be having such facilities and were looking forward to using the commode but we were not able to construct a proper toilet and we have not been able to put it to good use even to this day. It's a shame that we have got

such a small amount because we are not able to build the toilet as we are making ends meet with such a huge family and since most of our family members are unemployed”.

Mrs Laldinpuii says that they may be able to construct the toilet next year as they are trying to save extra money to buy the materials required for the construction.

### **Case study 3. Progress through better access to sanitation.**

Mrs. Vanlallawmi lives with her family in Darlak village. She lives in a joint family and is also a beneficiary of the Individual Housing Latrine Scheme and has also gotten the incentives and commode. Her family have been using the commode that they have gotten for a period of two years and she says that it was one of the best incentives that she has gotten since she and her family are now able to have access to a proper toilet and it has made a drastic change in their lives. Mrs Vanlallawmi is very happy that she has been able to put her incentives to good use. She says “Even though we were not able to use it right away, we manage to get a relative from the nearby village who is a construction worker and he was kind enough to help us build the toilet at a very low cost. My children also pooled in their salary and with their help we were able to buy the bricks and cement and other necessary materials for building the toilet. Now the only problem is water because we have to fetch water from outside as we do not have any direct connection to the toilet. Our lives have been a lot better as we are also able to use the space for bathing. We are extremely happy but we also know there are many families who are still not able to put their incentives to good use due to financial constraints or lack of proper space. We hope that they will be able to utilize it soon and that they may be able to improve their lives as well”.

#### **Case study 4 Hope for proper toilet dwindles.**

Mrs Vanlalhlani is 56 years old and lives with her husband and two sons in Darlung village. She is a housewife and her husband is a carpenter by profession and is the sole member who has an occupation while her family depends on him. The family do not have any secondary occupation. Mrs Vanlalhlani is also a beneficiary of the IHHL and has got the incentive of 1000 and a commode. Her family have been able to construct the toilet and they are also using the toilet space for bathing. Mrs Vanlalhlana and her family are extremely happy to have gotten the incentive but insist it was difficult to construct the toilet immediately as they had to save some extra money to buy the materials like bricks and cement. Mrs. Vanlalhlana says ‘From the moment we knew we were going to get the incentive, my husband and I started to save some money every month so that we could install the commode. It is not possible for us to get have done this alone as we are from a poor family and cannot afford to buy this type of commode. Our Village Leaders are also very keen on improving the sanitary conditions altogether and have made many efforts to improve the sanitary conditions in and around our village’.

#### **Case study 5: No money and space for toilet.**

Mrs Hnemi is a 42 year old mother of four children. Hnemi is from Darlung village. She lives with her husband and she runs a small petty shop which is attached to her hut. She is the earner in the family and also takes care of most of the household work. Her husband also sometimes helps out but his role is very limited. Hnemi is also a beneficiary of IHHL but she has not made use of the toilet as she says she does not have the spare money to buy the materials required to construct the toilet. She has also considered selling the toilet as she did not put it to good use and said that the money that she will get from selling the toilet will be used for something else. When asked whether she knew the importance of having a proper

toilet she said that she knew the importance but she was helpless as she could not afford to construct toilet and the incentive was not sufficient. Ms Hnemi also does not have any land of her own and that she was living in a rented house and it did not make much sense for her to make the toilet.

From the above case studies, it is clear that many of the beneficiaries are not able to put their incentives to good use due to financial constraints as the amount given to the beneficiaries is not sufficient. The respondents who were able to construct their toilet added their own money to meet their needs. It is clear that the incentive given is not sufficient to provide the beneficiaries from buying the materials required for construction. Hiring a cement mason is also expensive for them as they all come from extremely poor families and do not have any extra money to spare. Many of them barely make ends meet to provide for their family. Their housing condition is also not good and constructing such toilets is not appropriate for all.

## **5.2. Role of Women and Men in Sanitation Promotion**

Surveys assume that people know how they feel. But sometimes they really don't. Sometimes it takes listening to the opinions of others in a small and safe group setting before they form thoughts and opinions. Focus groups are well suited for those situations. Focus groups can reveal a wealth of detailed information and deep insight. When well executed, a focus group creates an accepting environment that puts participants at ease allowing them to thoughtfully answer questions in their own words and add meaning to their answers. Surveys are good for collecting information about people's attributes and attitudes but a focus group discussion is needed to understand things at a deeper level.



A Focus Group Discussion was conducted in both the villages of Darlak and Darlung so that the researcher could gather in-depth information regarding the role of men and women in sanitation at the household and community level.

The topic of discussion is “ Role of men and women for improvement of sanitation in the household and community level”. The discussion was set for a time of one hour in which each participant were requested to voice out their opinion and give any suggestion which was noted down by the researcher.

| Sl. No | Question   | Answers  | Darlak     | Darlung |
|--------|--|--|------------|---------|
| 1      | Who is mostly responsible for cleaning the house in your community?  | A Women<br>B Men<br>C Both men & Women   | *<br><br>* | *       |
| 2      | Who are the leaders in implementation of sanitation at the community level?                                | A Village Council members<br>B MHIP members<br>C Both men & women<br>D All the members of Sanitation Committee | *<br><br>* | *       |
| 3      | Who is responsible for taking care of the children?  | A Mother<br>B Father<br>C Both mother and father   | *          | *       |
| 4      | Is there any specific type of household work performed by the male members regarding sanitation practices? | A Yes<br>B No  | *          | *       |
| 5      | Who takes care of the sick at home?  | A Women<br>B Men<br>C Both men & women   | *          | *       |

|    |  |  |   |   |
|----|--|--|---|---|
| 6  | Who is the decision maker in type of building and toilet?                                    | A Women<br>B Men<br>C Both men & women | * | * |
| 7  | Who plays the role of educator regarding sanitation at home                                  | A Men<br>B Women                       | * | * |
| 8  | Is there a division of role played by men & women at the community level                     | A Yes<br>B No<br>C Sometimes           | * | * |
| 9  | Is there any difference in the role played by men and women in terms of doing household work | A Yes<br>B No                          | * | * |
| 10 | Are women considered the main care takers in the household?                                  | A Yes<br>B No                          | * | * |

From the FGD conducted, women and men usually have very different roles in water and sanitation activities. Women are most often the users, providers, and managers of water in rural households and are also responsible for household sanitation and hygiene. They are also the key-players in implementing innovative and improved hygiene behaviours at household level and they also play a significant role as toilet-trainer of their children and women tend to play the role of hygiene-educator pro-actively. Although men participate in the decision making around the type and building of the toilet, its maintenance is seen as the responsibility of women since cleaning the house and toilet are not regarded as work for men. Women's lives are closely connected to and affected by sanitation as well as the use of and access to water resources. It is women who are often the caregivers for those who fall ill, who have to fetch and manage water for both the family and productive purposes, and who have the greatest need for private and safe sanitation facilities. Despite global commitments made in the areas of water supply and sanitation, and recognition of women's concerns, the equitable

divisions of power, work, access to and control of resources between women and men are hardly ever addressed. Rather, in efforts to improve management of the world's finite water resources and extend access to safe drinking water and adequate sanitation, the central role of women in water management is often overlooked. But from this study experience as well as from the responses received from the respondents, it was felt that in order to make rural sanitation system to be truly effective and sustainable at the grassroots level, it is crucial to mainstream gender perspectives not only into any community or household-level sanitation initiatives but also into sanitation policy-designing for ensuring that the specific needs and concerns of women and men from all social groups have been taken into consideration with due importance.

## CHAPTER VII

### CONCLUSION

In the last chapter the results and discussion was presented. In this chapter the main conclusions of the present study are presented along with the suggestions that emerge from them.

#### 5.1 Summary of findings

There is no difference in Age distribution. Nearly one-half of the respondents belong to the Middle Age group in both villages. In the less developed village majority are married whereas four fifth of respondents are married in the higher developed village. Both the villages have similar levels of educational attainment. Nuclear family predominantly found in both the villages and stable family is predominant in both villages. The proportion of broken families is slightly higher in the less developed village. Medium Size of family is predominant in both the villages. Gender of head is by and large male headed.

Majority of respondents belong to Lusei sub tribe in both the villages. Ralte sub-tribe is more predominant in the higher developed village .Hmar sub- tribe constitute more in the less developed village. Majority of respondents belong to Presbyterian denomination in both the villages. Baptist is the second majority denomination in the less developed village while Seventh Day Adventist constitutes the second largest denomination in the high developed village. Respondents are mostly earners. Proportion of dependents is greater in less developed village. Mostly cultivation is the primary occupation in both villages.

The proportion of poor households is greater in more developed village than less developed village. The proportion of non-poor is far greater in less developed village. During the rainy season, two third of the respondents from the less developed village get their water from rain water and nearly two third which is get their water from the rain. Only 2 per cent get their water from the public tank in the less developed village while no respondents from the higher developed village get water from the public tank during the rainy season.

Housing condition is slightly better in the high developed village. Semi pucca with tiled wall and tin roof is higher in the developed village. Straw roof with bamboo walls is proportionately greater in the less developed village. Wood is the type of house post used in both the villages. Houses with concrete house post are the same in both villages.

Rain water is the major source of access to water in both the villages during the rainy season. River is the major source of getting water in the less developed village during the dry season and buying from private source is the major access to water in the high developed village during dry season.

Community Pond is the major source of getting water in both the villages. The lesser developed village has slightly better awareness on Sanitation Programmes. The respondents from both the villages always and mostly practiced hygienic habits. Women are mostly performing sanitation practices at the household level in both the villages.

Housing condition is positively related to household access to sanitation in terms of frequency of use of toilets with septic tank.

Access to sanitation in terms of frequency of use of toilet with septic tank is positively related to housing conditions. Access to water in terms of direct water connection to the toilet, separate bathroom and availability of wash basin in the toilet is positively correlated.

Access to water is also positively related to access to sanitation (use of toilets with septic tank). Adoption on sanitation programmes is having significant positive effect on adoption of safe sanitation practice while having no significant effect on adoption of safe hygienic practice. Adoption of safe sanitation practice is not correlated to age, education status, type of family, size of family, socio-economic status, annual household income and per capita annual household income.

## **5.2 Conclusion**

The present study attempts to understand the role of rural women in sanitation practices in Mamit District of Mizoram. Rural sanitation is still a great challenge that requires more attention as mere awareness is not enough in improvement of sanitation. The improvement of housing also plays an important role in the overall household sanitation since people who lead better lives have better access to sanitation. Although there is a good level of awareness and good sanitation practice among the studied women respondents, better social and gendered approaches need to be emphasized so that the needs of the marginalised can be dealt with adequately. The Mizo community has always given great importance to hygiene and sanitation from the early times but cultural dynamics must also be considered as the role played by men and women at the household and community level is clearly divided. Women still remain the victims of poor sanitation especially in terms of their health and their need to have a proper toilet when they are menstruating.

## **5.3 Suggestions**

Research implications of this study suggest that more studies are required on issues related to role of women in sanitation.

1. The incentives given for construction of toilet is not enough and needs to be increased. The condition of sanitation can improve by better housing and better access to water.
2. Better advocacy is needed so that women's participation in the community level may also increase at the community level and not only at the household level.

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# **WOMEN AND RURAL SANITATION IN MIZORAM**

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**ABSTRACT**

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## **1.1 Introduction**

Provision of sanitation to all is a critical herculean task to policy makers and social work professionals in the developing nations. Sanitation has significant linkages with both human health and basic dignity of life. Poor sanitation directly results in not only decline in the quality of life but also quantity of available water resources. As such the problem of sanitation attracted the attention of world leaders with greater degree of seriousness than ever before. This was highlighted during World Summit on Sustainable Development at Johannesburg in 2002, where the existing Millennium Development Goals (MDGs adopted by United Nations in New York in September 2000) were expanded to include the sanitation target of halving the proportion of people without access to sanitation in 1990 by the year 2015. It is argued that poor access to sanitation would have disastrous effects on public health besides having very adverse impact on environment (UN Report 2002).

In most developing countries, the three most important environmental health problems that affect a large majority of population are contaminated water supply, inadequate sanitation and untreated solid wastes ( Sekhar 2006: UN Report 2010). Improving hygiene behaviours and promotion of latrine use have become a major concern in most developing nations because of their ability to fight against poverty, improve health, and promote education.

It is pertinent to note that more than a third of world population i.e. about 2.4 billion people suffer due to lack of access to adequate sanitation facilities and four out of five of these people live in Asia (Cairncross 2003). Inadequate sanitation practices such as unsafe disposal of human excreta and urine, open defecation, lack of infrastructure (sewerage, drainage/systems) and absence of hygiene management constitute a major threat to the health of the people.

According to a 2010 study published by the United Nations University, a UN think-tank, out of the world's estimated 7 billion people; 6 billion have access to mobile phones. But only 4.5 billion people have access to working toilets. Of the 2.5 billion who don't have proper sanitation, 1.1 billion defecate in the open. India contributes a chunk of the global population lacking access to basic sanitation- almost 60%. About half of its 1.2 billion residents are mobile subscribers, but only 366 million people (about one-third of its population) have access to toilets.

Lack of proper sanitation raises the threat of potentially fatal illnesses such as diarrhoea, intestinal worms, typhoid and malaria. These diseases are also to blame for stunted growth in children. Almost 61.7 million Indian children are stunted, the highest prevalence in the world. In fact, according to World Bank study, India's situation vis-à-vis sanitation is said to be worse than other Asian countries such as Vietnam, Philippines, Indonesia and Cambodia (Science Reporter, 2013).

In order to achieve the MDG target on sanitation, it is reported that on an average 3.5 lakh people per day will have to gain access to improved sanitation, between now and 2015 (IRC 2003). Despite the global commitments, the improvements made by many countries during the last one decade were found to be inadequate and the identified constraints include financial difficulties, institutional problems, inadequate human resources, lack of political commitment, insufficient community involvement, inadequate operation and maintenance, lack of hygiene education, poor water quality, people's attitude towards sanitation and insufficient information and communication (WHO/UNICEF 2000).

As far as the scenario of rural sanitation in India is concerned, the access to water supply and sanitation services is still largely inadequate. While the overall Indian scenario reflects that an estimated 55% of all Indians or close to 600 million people still do not have access to any kind of toilet but in rural areas, the scale of the problem is particularly daunting, as 74%

of the rural population still defecates in the open. Despite an investment of more than Rs 6 billion and construction of over 9 million latrines in rural areas, rural sanitation grew at just 1% annually throughout the 1990s and the census of 2001 found that only 22 per cent of rural households had access to a toilet, with combined rural and urban coverage as 36.4% (UNICEF 2008).

Women, who are primarily responsible for household activities and also taking care of their children, are most affected by lack of sanitation. Children's ill health caused by poor sanitation also places an increased burden on the women and girls who look after them, adding to their heavy workload (Hazra, 2011).

Women are the most vulnerable victims to lack of proper sanitation facilities at home since most of the household activities are managed by them, their dignity remains to be at stake. Moreover, lack of access to sanitation directly affects women's health, education, employment, income and empowerment. According to (Seager et al; 2008) the gendered dynamics of water and sanitation underscore the close inter-linkages between poverty, gender and sustainable development. In many developing countries, women and young children make more use of sanitation in the home than other household members; their needs therefore should be suitably accommodated. To achieve this, women ought to be able to participate in the selection of technology and in design decisions being made at both community and household levels. In many cases, this concept may come about naturally, but there are still instances and places where the contributions of women need to be more fully accepted and recognized in the selection process. Women in most societies are the principal educators and socializers of children, and if the women are fully involved in the decision to improve household sanitation they will be better placed to educate their families (particularly the young children) in practices which will improve health and hygiene. Women may also be able to instil in the male adults in the family and community the fact that the contributions

they make towards essential sanitary improvements, by giving time, labour and resources, will be of benefit to all. Actual decisions on how women will participate in low-cost sanitation activities should be based on an understanding of: the socially and culturally acceptable sanitation-related roles for women; an understanding of the kinds of social situations and organizational mechanisms which are most conducive to women's active involvement; and the extent of participation which can realistically be expected in a given situation. (Ilahi 2000).

Total Sanitation Campaign (TSC) launched in 2003-04 has been one of the flagship programs of the Government of India. As of 2011, TSC projects approved with a total outlay of Rs 22,022 crore (with a 65.5% Central Government share) are being implemented in 607 rural districts. The TSC is implemented as a community-led and people centric approach to generate effective demand for sanitation facilities through creating awareness among village communities, educating them and providing all required information that can help them to avail Government's subsidy and technical services under the TSC program. TSC is an inclusive program and seeks active participation of all sections of society including women, SC's and ST's. TSC has a special component to encourage women and adolescent girls to actively participate in the sanitation program (Hazra, 2011).

## **1.2 Statement of the problem**

Universalisation of sanitation still remains a major challenge in rural areas of Mizoram. In the rural areas of Mizoram, more than four fifth of households are without proper toilet facilities. The drainage system is also very poor and many households are without drainage facility in their dwellings. There is not much differential between poor houses and non-poor households regarding toilet and drainage facilities, which shows uniform lack of sanitation facilities among the rural households. The provisioning of safe



drinking water is also a critical problem in the state. Only 75.84 per cent of the households have access to safe drinking water in Mizoram against all India figures of 87.9 per cent.

All this makes it clear that the scheme like Total Sanitation Campaign (TSC), a Centre sponsored scheme, aiming the target to achieve universalization of sanitation facilities by the end of 2015, has not made even a modest dent on the rural sanitation and drainage.

Mizoram being a patriarchal society, women are given the responsibility of looking after most of the household activities which includes cleaning, washing, cooking and also looking after the children. It is inevitable that their role and participation towards improving sanitation be taken into consideration for overall improvement of sanitation.

In this context the present study attempts to find out the factors determining the rural women's access to sanitation. It will probe into the role of women's awareness on sanitation in determining their adoption of safe sanitation practices. Further it will attempt to comprehend the role of women agency in management of sanitation at household level and promotion of safe sanitation projects at the community level.

The results of the present study will benefit policy makers, planners, civil society organizations as well as social workers at multilevel. They will be able to develop suitable intervention strategies towards universalization of sanitation at multi-level.

### **1.3 Overview of Literature**

As universalization of sanitation is a major challenge to policy making in the third world countries there is a copious literature on the problem. There are studies on households access to sanitation and its socio economic determinants (see Tumwine et al 2003; Marion and Scott 2007; Whittington et al 2010). There are also studies on the impact of poor sanitation on households (Checkley et al 2004; Water Aid in Nepal 2011) as well as impact of improved sanitation on health (Scott et al 2006).

In terms of water handling and sanitation practices at the community level, studies have been made to assess the knowledge, attitude and practice regarding water handling, sanitation and defecation practice as possible determinants of incidence of diseases in the rural communities (Scott, Lawson & Curtis 2007; Schmidt et al 2009; Bhattacharya et al 2011).

There are also some studies which focus on the role of women in management of water and sanitation at household level (Elmendorf and Isley 1983; Katsha& White 1989; Wjik-Sijbesma, 1985). Some studies which evaluate the government projects on rural sanitation (see Hancheet et al 2003; Nanan et al 2003).

The overview of the studies on sanitation helps us in identifying the substantive research issues, methodological as well as policy issues. In spite of that there are a few research gaps which are found to exist in the literature. These gaps are of substantive and methodological in nature. Firstly, there are a few studies in the context of north east India on the role of women in rural sanitation. Secondly, there are a few studies on the women's access to sanitation facilities and adoption of sanitation practices in the context of India. The present study tries to fill these research gaps.

#### **1.4 Objectives**

The following are the specific objectives of the present study:

1. To assess the level of awareness of women on sanitation in rural Mizoram.
2. To determine the rural women's access to sanitation facilities.
3. To assess the level of adoption of safe hygienic and sanitation practices.
4. To understand the role played by women in sanitation at the household level.
5. To probe into the patterns of women's utilization in rural sanitation programmes implemented at the community level.

## **1.5 Chapter Scheme**

The present study is organized into the following six chapters.

1. Introduction.
2. Review of Literature.
3. Methodology.
4. Women, Sanitation and Hygiene.
5. Utilisation of Total Sanitation Campaign by Women
6. Conclusion.

## **1.6 Methodology**

The present study is cross sectional in nature and descriptive in design. The study is based on primary data collected mainly through field survey. Field survey with structured household interview schedule is conducted to probe into the role of women in sanitation, their practices and habits and their awareness. The field survey was conducted during September 2014 to October 2014. Case studies and Participatory exercises were employed to supplement the quantitative survey data.

### **1.6.1 Sampling**

The unit of the study is on individual woman while the population includes all the rural women in Mizoram. The respondents are women who manage the household sanitation. Multi-stage sampling is used to select district, villages and respondents. The first stage is the choice of districts where Mamit district was purposively chosen as it represents the state in terms of literacy rate. The second stage is selection of villages. The villages were classified into socioeconomically low and high on the basis of indicators viz. proportions of households

with water connection, electricity, telephone, LPG, computer, television, internet, two-wheeler /four wheeler, septic tank, and bathroom(see table 3.1 and 3.).

### **1.6.2 Tools for Data Collection**

Structured household interview schedule was used for collection of primary data. The interview schedule contains ten sections with a number of sub-sections. Pilot study was conducted with women individuals for constructing interview schedule. The constructed schedule was pre-tested in one community. Modifications were made in questions the light of review (see appendices).

### **1.6.3 Data Processing and Analysis**

The quantitative data collected through field survey was processed and analysed with the help of computer especially MS Excel and SPSS. While qualitative and participatory data was organised into case studies. For analysing the quantitative data, in addition to simple averages, percentages, proportions and cross tabulations t test and Karl Pearson's product moment correlation coefficients were used.

## **1.7 Women Sanitation and Hygiene: Access, Awareness and Adoption**

In this chapter an attempt has been made to present the results of the analysis quantitative data on the study which have been presented in sections. The first section presents the socio structural bases of the respondents. The second describes access to housing, water and sanitation. The third describes the awareness and adoption of sanitation and hygiene. The fourth section describes the role of men and women in household sanitation practices.

### **1.7.1 Socio Structural Bases of the Respondents**

The present section is devoted to discuss the socio structural bases of respondents in terms of their demographic, social and economic characteristics.

### **1.7.2 Demographic Profile of Respondents**

The demographic characteristics of the respondents comprises of age groups, marital status, education status (see Table 5.1).

Age is an important variable that connotes the vigour and also productivity of an individual, subsequently the earning capacity. In this study, age group is classified into Young (below 35 years), Middle (35-59) and Old (60 years and above). There is no difference in age distribution in both the villages. More than one half (57.9%) of the respondents belong to the Middle age group. More than one fifth (24.3%) of the respondents belong to the Young age group and nearly one fifth (17.9%) belong to the Old age group.

Marital status is another important factor that can mark the family's ability to have a cohesive family and in turn have higher social support. Since the majority of the respondents belong to middle age group, most of the respondents are married (see Table 5.1). Marital Status comprises of five categories viz. Unmarried, Married, Divorced/Separated, Remarried and Widowed. Almost all the respondents are married (90%) and only 3 of the respondents are not married. The divorced rate is extremely low where only 3 respondents are divorced or separated. There are 7 persons who have been widowed and only 1 respondent who is remarried.

Educated people know better about preventive methods which protect them from a number of diseases. An illiterate and ignorant person is more likely to ignore the symptoms and avoids seeking medical aid unless the problem becomes very serious. Hence education enables you to take better care of yourself as well as your family. Illiteracy often breeds ignorance and this ignorance may prove to be dangerous when it comes to healthcare. Education status is assessed in terms of five levels viz. Illiterate, Primary, Middle School, High School, Higher Secondary and College. Most of the respondents were literate but not with high educational background. Middle level with highest constitute 40% followed by Primary school with 32%. Among the respondents, 16.4% were illiterate. High school level

with 7.9% and higher standard with higher secondary and graduate were low with 2.1% and 0.7% only. The mean educational status of the low developed village is 4.2 and that of the higher developed village is 5.4. There is no difference between the two villages. The reason for low education is mainly because the respondents were above 35 years of age and the chances of higher education were very less during their time as Mizoram face certain insurgency and other conflict. Moreover, the people who attended middle schools were considered highly educated.

### **1.7.3 Familial Profile of Respondents**

Type of family is classified into Nuclear and Joint family. Nuclear family is predominantly found in both the villages with 84.3% from low developed village and 97.1% from the high developed village. 15.7% lived in Joint families in the low developed village while only 2.9% lived in joint families from the high developed village.

Form of family consists of Stable, Broken and Reconstituted family. Majority of the respondents in both the villages have Stable family with 87.1% and 94.3% respectively. Overall stable family is 90.7%. The overall broken family is 6.4% with 7.1% broken family in the low developed village and 5.7% form broken family in the high developed village. There are 5.7% of reconstituted family in the low developed village but there is no reconstituted family in the high developed village.

Size of family is classified into Small (1-3), Medium (4-6) and Large (7 and above). Medium size family constitutes 62.1% followed by Small size family with 27.9% and large size family with 10%.

Gender of head of the household is another important aspect taken as the fourth indicator of family structure. Majority of the Gender of Head of Family from both the villages are males with 97.1% from the low developed village and 91.4% from the high developed village. Only a fraction of females who are heading their families have been

reported. There are 2.9% from the low developed village and 8.6% from the high developed village. Similar findings were also observed in earlier rural studies in Mizoram (Laltlanmawii 2007; Zaitinvawra 2014).

#### **1.7.4 Social Structural Characteristics of Sample Household**

Social structure is the relationship and distinctive arrangement of institution in a society, whereby human beings in a society interact and live together. Social Characteristics consist of Sub-Tribe, Religion and Denomination (see Table 5.3). There are three known Sub-Tribe, Lusei, Hmar and Ralte. Majority of the respondents belong to the Lusei sub-tribe. In the low developed village, 58.6% belong to Lusei sub-tribe and 62.9% from the other village. Ralte sub-tribe constitutes the second largest sub-tribe where 24.3% are from the low developed village and 15.7% are from the high developed village. 17.1% of respondents belong to Hmar sub-tribe in the low developed village and 21.4% are from the high developed village.

All the sample households follow Christianity as their religion. There are four denominations among the respondents- Presbyterian, Baptist, Salvation Army, UPC(NE) and Seventh Day Adventist. 34.3% of respondents belong to Presbyterian in the low developed village and there are 44.3% Presbyterians from the high developed village. For Baptist denomination, 27.1% are from the low developed village and 8.6% are from the high developed village. 18.6% belong to Salvation Army from the low developed village and 14.3% are from the high developed village. There are equal number of respondents representing the UPC(NE) in both villages which is 15.7% for both the villages. There are just a few members of Seventh Day Adventist from the low developed village which is 4.3% and in the high developed village, there are 17.1%.

#### **1.7.5 Economic Profile of Respondents**

The economic characteristic of respondents consists of Earner, Dependent, Primary, Secondary Occupation and Socio-economic status. Majority of the respondents from the low

developed village are dependants which are 72.9% and 58.6% are dependants from the high developed village. Overall dependent comprises of two third (65.7%)of the respondents.

Primary occupation consists of Government Workers, Cultivators, Wage Labourers, Petty Business and Large Business.( refer Table 5.4) Two third of the respondents (65.7%) are with no occupation. Cultivation is the primary occupation in both villages. Wage labourers consists of one tenth (10%) followed by petty business which is 2.9%. Government workers and large business are the same at 0.7%. Only 1.4% are engaged in secondary occupation which is cultivation. 98.6% are not engaged in primary occupation in both the villages.

As for socio-economic status, the proportion of poor households is greater in the high developed village. 62.9% are from non-poor family in the low developed village and 44.3% from the high developed village. 24.3% are from poor family in the low developed village and 27.1% from the high developed village. Very poor respondents constitute to 12.9% for the low developed village and 28.6% for the high developed village. Annual household income for the low developed village is 72385.7 and 98432.9 for the high developed village. Per capita household income for the low developed village is 15884.9 and 27491.2 for the high developed village.

## **1.8 Access to Housing, Water and Sanitation**

In this section women's access to housing water and sanitation are discussed in three subsections.

### **1.8.1 Housing Conditions of Respondents**

Everyone shares the right to a decent standard of living. Essential to the achievement of this standard and therefore to the fulfilment of human life beyond simple survival is access to adequate housing. Housing fulfils physical needs by providing security and shelter from weather and climate. It fulfils psychological needs by providing a sense of personal space and



privacy. It fulfils social needs by providing a gathering area and communal space for the human family, the basic unit of society. In many societies, it also fulfils economic needs by functioning as a centre for commercial production.(refer Table 5.5)

The housing characteristics are Type of House, Type of Wall, Type of Roof and Type of House Post. More than half of the respondents (54.3%) live in semi-pucca houses,40% live in kuccha houses and 5.7% live in pucca houses. The proportion of respondents living in semi-pucca houses is better in the high developed village while more than half of the respondents from the low developed village live in kuccha houses.

Half of the respondents use tiled walls and one third (34.3%) use bamboo walls while 15.7% use brick walls. Respondents using bamboo walls are greater in the low developed village with 47.1% and 21.4% for the high developed village.

More than half of the respondents use tin for their roof and more than one third (36.4%) use straw. The proportion of straw users is greater in the low developed village with more than half of the respondents using straw while only one fifth use straw in the high developed village. The proportion of tin roof users is also greater in the high developed village with 72.9% using tin as their roof while 38.6% use tin roof in the low developed village. Concrete users are the same with overall 7.9% respondents using concrete roof.

Wood is the type of house post used in both the villages with 73.6% of respondents using wood as their house post and 26.4% using concrete as their house post.

### **1.8.2 Access to Water among Respondent Households**

Water is the foundation of life. And still today, all around the world, far too many people spend their entire day searching for it. In many instances, political and economic barriers prevent access to water even in areas where it is otherwise available. There are various sources from where the respondents get their supply of water during different

seasons. The main sources of access to water are from rain water, public tank, hand pumps, community ponds and private source.

During the rainy season, nearly two third (64.3%) of the respondents get their water from rain water and 1.4% get it from the public tanks and community pond while 0.7% get their water from public hand pumps.

During the dry season, more than two third (68.6%) of respondents get their water from private source where they buy it from private firms selling water. The river is the next source of access to water for the respondents who are from the low developed village while there are no respondents from the high developed village who get their water from the river. This is mainly because there is no river which is close to the village. The nearest river close to the village is about 12 kilometres from the village. 27.9% of respondents get their water from public tanks while 5.7% get their water from hand pumps and community ponds from both the villages.

Nearly three fourth (73.6%) of respondents get their water from the private source in both the seasons, community pond is the next source of access to water in which 31.4% get their water from the community pond. 30% of respondents get their water from the public tanks and 2.1% get water from the hand pumps in both the villages. There are just 9.3% who get their water from the river and that too from the low developed village only. Respondents from the high developed village do not get their water from the river for any season.

### **1.8.3 Access to Sanitation among Respondent Households**

Millions of people lack access to safe, sufficient and affordable water, sanitation and hygiene facilities that are accessible and within easy reach for all. This has a devastating effect on the health, dignity and prosperity of these people, especially for the most disadvantaged. This lack of access also has significant consequences for the realisation of other human rights. In Table 5.7 the access to the type of toilet among the respondent households is shown. Majority

of the respondents from both villages do not have access to septic tanks and only a few of the respondents have access to toilet with septic tanks. Only a few respondents also share toilet facilities with other families.

#### **1.8.4 Access to water of Respondents: Toilet Facilities**

Basic access to facilities like soap, direct water connection, wash basin in the bathroom or having a separate bathroom can drastically improve the quality of safe sanitation practices. In Table 5.8, the best facility available for the respondents is soap in the toilet to clean. The next facility is having a wash basin in the toilet and direct water connection to toilet and having a separate bathroom comes in the third and fourth place. Access to facilities is more or less the same in both the villages with the high developed village having a slightly better access to facilities than the less developed village.

#### **1.8.5 Access to Housing, Water and Sanitation: Inter correlation Matrix**

Karl Pearson's Coefficient of Correlation is used to understand the inter correlation matrix to access to housing, water and sanitation. Housing condition is positively related to household access to sanitation in terms of frequency of use of toilets with septic tank. Access to sanitation in terms of frequency of use of toilet with septic tank is positively related to housing conditions. Access to water in terms of direct water connection to the toilet, separate bathroom and availability of wash basin in the toilet is positively correlated. (See Table 5.9).

#### **1.8.6 Socio Economic Determinants of Access to Housing, Water and Sanitation**

Access to water is also positively related to access to sanitation (use of toilets with septic tank). Access to sanitation in terms of frequency of use of toilet with septic tank is positively related to housing condition and access in terms of direct water connection to toilet, separate bathroom and availability of wash basin in the toilet.

### **1.9 Awareness and Adoption of Sanitation and Hygiene**

In terms of awareness on the various sanitation programmes implemented by the Government of India, more than one half (60.7%) are aware of the Total Sanitation Campaign while more than one third (39.3%) are not aware of the programme. More than four fifth (85.7%) are not aware of Nirmal Gram Puruskar and only one tenth of the respondents are aware of the programme. 3% say that they have never heard of it. More than two third (68.6%) are not aware of National Rural Drinking Water Programme and 25.7% are aware of it. 5% of respondents say they are aware but the programme has not been implemented and only 1 respondent has never heard of it. More than one half (52.9%) of respondents are not aware of the Individual Household Latrine Scheme while 47.1% are aware of the scheme. 89.3% of respondents are aware of the Sanitation Committee that is functioning in their village. 9.3% have never heard of it and only 1.4% are not aware of the committee.

### **1.9.1 Awareness and Adoption of Hygienic Practice: Hand washing**

Hand washing protects people poorly or not at all from droplet- and airborne diseases, such as measles, chickenpox, influenza, and tuberculosis. It protects best against diseases transmitted through faecal-oral routes (such as many forms of stomach flu) and direct physical contact. Nearly half of the respondents (42.9%) said washing hands with soap and water was the most effective way to prevent transmission of diseases. 30.7% answered that it was through having antibiotics. 17.9% were not able to give any answer and 8.6% of respondents felt that washing hands with water was sufficient.

More than one fifth (28.6%) of respondents answered that they should wash hands before and after having meal and also before preparing food. 25% said all the above was required and 14.3% said it was after having meal. 2.9% of respondents could not give any answer.

When asked the question “Washing of hands should be” more than three fourth of respondents (77.9%) said it was a habit they often practiced while 12.9% said they washed it only when it was dirty. 9.3% of respondents said they mostly avoided washing their hands.

On being asked how many times they should brush their teeth, more than one half (58.6%) of the respondent said that it should be done thrice a day and more than one third (35.7%) said it should be done twice a day. Only a few respondents (5.7%) said it should be done once a day.

### **1.9.2 Awareness on Hygiene and Sanitation: Bacteria and Diseases**

Lack of proper hygiene and sanitation can cause many diseases which are also health related and hamper the individual life of a person. There are many diseases which can be caused due to low level of sanitation. Providing proper awareness is essential in order to educate and change certain sanitation behaviour and practices of people.

In Table 5.11 the respondents were tested on their level of awareness relating to bacteria and diseases. When asked what the ideal conditions for bacterial growth was, more than two third (68.6%) said it was through food, 12.1% said it was through warm temperature and one tenth respondents said it was through water. Only 8.6% answered that all the above conditions were necessary.

When asked if food have enough bacteria to cause food poisoning, nearly one half of the respondents said that it would smell while almost one third (31.4%) of the respondents said it would taste different and nearly one fifth (17.1%) of the respondents said that it would taste different and nearly one tenth (9.3%) of the respondents said it is impossible to differentiate.

When asked to identify the major illness caused due to non-availability of sanitation more than four fifth (84.3%) of the respondents identified Diarrhoea as the major illness. One tenth identified Malaria as the major illness and less than one-tenth (6.4%) identified Tuberculosis as the major illness caused due to non-availability of sanitation. The respondents from both

the villages were correct in their identification of the major illness caused due to non-availability of sanitation.

### **1.9.3 Awareness on Sanitation and Hygiene**

In Table 5.14 awareness on Sanitation and Hygiene, there were different components like major illness caused due to non-availability of sanitation (84.3%), washing of hands (77.9%), single most effective way of transmission of disease (42.9%), how many times they should brush their teeth (35.7%) were the safe sanitation and hygiene often practiced by the respondents, other components like if food had enough bacteria to cause food poisoning (31.4%), when the appropriate time to wash hands was(25.7%), reason for drying of hands(10%), the ideal condition for bacterial growth(8.6%), identifying what type of disease Malaria was(2.1%) were not known among the respondents. Overall awareness on sanitation and hygiene was mediocre. The respondents from the lesser developed village faired a bit better in giving the correct responses than the respondents from the higher developed village but the awareness level was almost the same for both the villages.

### **1.9.4 Benefits of Respondents under Total Sanitation Campaign**

More than one third of the respondents (37.9%) benefitted from the TSC Campaign, more than one fifth (24.3%) benefitted from loan and nearly one fifth (19.3%) benefitted by receiving commode.

### **1.9.5 Adoption of Hygienic Practices among the Respondents**

Hygiene behavior plays an important role in the prevention of diseases related to water and sanitation, such as cholera, typhoid, dysentery, diarrhea and intestinal worms. Providing water and sanitation facilities do not necessarily lead to a decrease in these diseases. Provision of these facilities has to go hand in hand with their proper use and maintenance. This is achieved by persuading people to change their behavior in order to reduce 'risk' practices that predispose them to hygiene and sanitation related diseases. The simple habit of

hand washing if widely adopted would save more than one million lives around the world annually, the majority of them children under the age of five in poorer countries.

The hygienic behaviour of the respondents from both the village have been seen to be quite good. In most of the practices like washing face every day, brushing teeth every morning, washing food before eating and preparing, keeping nails clean and short, sweeping and mopping floor every day, washing utensils before and after using, using sanitary hygienic pad, covering all food and water, washing hands with soap before eating, the respondents from both the villages were good practitioners of such habits while certain hygienic practices like taking bath every day, washing hair every day, washing hands with soap after defecation, drinking boiled or filtered water were certain habits that were not well practiced by the respondents. (See Table 5.16)

#### **1.9.7 Adoption of Safe sanitation practices of Respondents**

In Table 5.17, the respondents from both the villages showed that they practiced most of the sanitation practices like daily cleaning of home, covering garbage with lids and cleaning of the toilets were good sanitation practices followed by the respondents. Washing hands with soap after defecation, using anti-germs for cleaning the toilet were neglected by the respondents from both the villages.

#### **1.9.8 Determinants of Awareness on Sanitation, Hygiene and Adoption of Safe Sanitation and Hygienic Practices.**

Awareness on sanitation is not affected by age, education, type of family. Socio-economic status has a positive effect on awareness of sanitation (See Table 4.18).

#### **1.10 Awareness and adoption of Sanitation and Hygiene:**

Awareness on sanitation programmes is having significant positive effect on adoption of safe sanitation practice while having no significant effect on adoption of safe hygienic practice.

Adoption of safe hygienic practices is having significant positive effect on adoption of safe sanitation practice while having no significant effect on adoption of safe hygienic practice.

#### **1.10.1 Prevalence of diseases related to sanitation in the households of respondents.**

There are many diseases that can be spread through contaminated food and water. Improved sanitation and hygienic conditions can drastically reduce the diseases that can be spread because of bad sanitation.

In Table 5.20 hook worm is the most prevalent disease among the respondents with 23.6% with cases more predominant in the low developed village, trachoma was the second most prevalent disease found with 17.1% and ulcer was the third with 15.7%. Typhoid and dysentery were the fourth and fifth diseases with overall 9.3% prevalence and Cholera with 2.9% and 1.4% of guinea worm. No traces of Scabies were found among the respondents. Overall, the prevalence of the following diseases were mostly predominant in the less developed village while the higher developed had only a few cases among the respondents. Similar findings have been made in other studies such as Gordon (2002) which identified many of the respondents having suffered from hookworm and other infections. Study conducted by Hazra (2011) have also found similar cases of infections.

#### **1.10.2 Role of men and women in household sanitation practices**

In much of the world, women and girls are traditionally responsible for domestic water supply and sanitation, and maintaining a hygienic home environment. As managers at the household level, women also have a higher stake in the improvement of water and sanitation services and in sustaining facilities. The importance of involving both women and men in the management of water and sanitation has been recognized at the global level, starting from the 1977 United Nations Water Conference at Mar del Plata, the International Drinking Water and Sanitation Decade (1981-90) and the International Conference on Water



and the Environment in Dublin (January 1992), which explicitly recognizes the central role of women in the provision, management and safeguarding of water.

In the table (see Table 5.21) the role of men and women in household sanitation practices was seen where women were the main care takers of their households. Bathing children, cleaning the house, cleaning the toilet, cooking, disposing garbage and waste materials, fetching water from wells and ponds, storing water for drinking, washing dirty clothes were the main activities that were performed in the household for maintaining good sanitation practices. Bathing children was clearly practiced only by the female in their household in both the villages. Females were also the major role player when it came to cleaning the house. The male members of the household rarely cleaned their house. Cleaning the toilet was also considered to the female's duty in both the village as the male never did this kind of work. Cooking was also done by the female members and the male members only helped out and cooked when it was absolutely necessary. Disposing garbage and waste materials was also done by female and only a fraction of the respondents would sometimes dispose the garbage and waste materials. The men sometimes would help in fetching water but it was also the female who did most of the work. Storing water for drinking was also done by the female and hardly ever done by the male. Washing dirty clothes was also always done by the female and the male would only do it if it was absolutely necessary.

There is a clear difference in the role of men and women in the household sanitation practice. The women were the most active participants in taking care of the household sanitation while the men did not do anything much. Their role in household sanitation practice is very limited. The men were involved in fetching water, storing water for drinking, cooking and washing dirty clothes but they did these works only when a female member was not available or could not do it due to other reasons. The pattern remains similar for both the village.

In this chapter an attempt has been made to discuss the findings of analysis of primary data. Women's access to sanitation, awareness and adoption of sanitation and hygienic practices and their socio economic determinants were discussed. In the next chapter women's perceptions and experiences with regard to total sanitation campaign are presented in terms of case studies and results of FGD.

### **1.11 Utilisation of Total Sanitation Campaign by Women: Some Case Studies**

Improved sanitation and safe drinking water are the most important elements for improvement in the health conditions of the rural population, their development and welfare. Under the centrally sponsored Total Sanitation Campaign (TSC) launched by the Government of India, the main focus has been given on enabling each and every rural household in getting access to improved sanitation through individual household latrine.

The Cabinet Committee on Economic Affairs June 02 approved the upward revision of the incentive amount to a Below Poverty Line (BPL) household for construction of one unit of Individual Household Latrine (IHHL) from existing 2200 to (Rs 2700 for difficult and hilly areas) to 3200 to (Rs 3700 for difficult and hilly areas). The Central share out of this shall be Rs 2200 (2700 in case of hilly and difficult areas) and State Government share shall be Rs 1000. Minimum beneficiary share shall be Rs 300. State Governments are allowed the flexibility to provide higher incentive for a household toilet, of the same or higher unit costs from their own funds. The BPL household may also contribute towards value addition to the basic unit at its own expense.

The date of implementation for the revised rates of the incentives would be with effect from 01.06.2011. The increased in incentives amount is expected to have an additional financial implication to the tune of Rs 1348.26 crore approximately on the Central

Government. The State Governments together shall also have to bear an additional financial expenditure of Rs 577 crore approximately.

The revision in the incentive amount being provided to individual households below poverty line is expected to accelerate the pace of construction of these toilets thereby resulting in better sanitation coverage in rural areas of the country. It is expected that all rural households shall have access to sanitation facilities by March 2015.

In the light of this implementation being provided by the Government, Case Studies were conducted among the beneficiaries of IHHL in the sample villages to find out if they were utilizing the incentives which had been given to them. Five Case Studies have been conducted, two in each sample village among the BPL families who were the beneficiaries of this programme.

#### **Case Study 1: Financial problems hinders toilet construction**

Mrs Malawmi is a mother of four children. She is 33 years old and lives with her husband and her children in Darlak village. She comes from a poor socio-economic backward family and is listed in the BPL list in her village. Malawmi is a beneficiary of the Individual Household Latrine Scheme and has been given the incentive and commode under the scheme but Malawmi says that she has not made use of the incentive and has not yet used the commode that was given to her. When asked what the reason was, Malawmi says that the incentive which is given for construction which is Rs 1000 is not sufficient and it was difficult to use their other source of income for construction of the toilet since buying materials like cement and other things would be too expensive and that they could not spare any extra money. They would also have to employ a cement construction worker and they could not afford it. Malawmi says that instead of giving the money, the government should have constructed the toilet for us or that they should have been given some of the materials

required. Malawmi and her family are using pit latrine for their toilet. They have built a small toilet with bamboo and have dug up the pit and use it as toilet. For taking bath, Malawmi and her family have a small area just next to her house where they have put up a wall using bamboo and she and her other family use it for bathing. Malawmi is a mother of four young children who are not old enough to take care of themselves. Malawmi does all the household work and her husband is a daily wage labourer. Sometimes he has to spend many days away from his family to make ends meet and Malawmi is the sole care taker of their children. Malawmi says she tries to take good care of their house and the children and try and teach them good cleanliness habits and try to inculcate good sanitation habits for her family.

### **Case Study 2: Basic sanitation access still remains a dream.**

Mrs Laldinpuii is a 43year old housewife from Darlak Village. She lives with her husband and seven children in a semi-pucca house. Laldinpuii's husband is a farmer who grows palm oil for a living and she helps out her husband when she can. Laldinpuii has seven children whose age group is from 19 years to 4 years of age. Two of her eldest children have dropped out of school to help out their parents in the field and the other children are still in school. She takes care of her family most of the time. She is the main person who does most of the household chores and does the cleaning and cooking. Even though her children help her out sometimes, three of the older children are male so they are not very helpful in cooking, cleaning the house, cleaning toilet washing clothes or bathing the children.

Mrs. Laldinpuii is also a beneficiary of the IHHL and has also got the incentive along with the commode. Like Mrs Malawmi, Mrs Laldinpuii says “We were extremely happy to have received the incentives along with the commode and were happy that we could finally have a proper toilet for ourselves. The kids were also delighted to be having such facilities and were looking forward to using the commode but we were not able to construct a proper toilet and

we have not been able to put it to good use even to this day. It's a shame that we have got such a small amount because we are not able to build the toilet as we are making ends meet with such a huge family and since most of our family members are unemployed”.

Mrs Laldinpuii says that they may be able to construct the toilet next year as they are trying to save extra money to buy the materials required for the construction.

### **Case study 3. Progress through better access to sanitation.**

Mrs. Vanlallawmi lives with her family in Darlak village. She lives in a joint family and is also a beneficiary of the Individual Housing Latrine Scheme and has also gotten the incentives and commode. Her family have been using the commode that they have gotten for a period of two years and she says that it was one of the best incentives that she has gotten since she and her family are now able to have access to a proper toilet and it has made a drastic change in their lives. Mrs Vanlallawmi is very happy that she has been able to put her incentives to good use. She says “Even though we were not able to use it right away, we manage to get a relative from the nearby village who is a construction worker and he was kind enough to help us build the toilet at a very low cost. My children also pooled in their salary and with their help we were able to buy the bricks and cement and other necessary materials for building the toilet. Now the only problem is water because we have to fetch water from outside as we do not have any direct connection to the toilet. Our lives have been a lot better as we are also able to use the space for bathing. We are extremely happy but we also know there are many families who are still not able to put their incentives to good use due to financial constraints or lack of proper space. We hope that they will be able to utilize it soon and that they may be able to improve their lives as well”.

#### **Case study 4 Hope for proper toilet dwindles.**

Mrs Vanlalhlani is 56 years old and lives with her husband and two sons in Darlung village. She is a housewife and her husband is a carpenter by profession and is the sole member who has an occupation while her family depends on him. The family do not have any secondary occupation. Mrs Vanlalhlani is also a beneficiary of the IHHL and has got the incentive of 1000 and a commode. Her family have been able to construct the toilet and they are also using the toilet space for bathing. Mrs Vanlalhlana and her family are extremely happy to have gotten the incentive but insist it was difficult to construct the toilet immediately as they had to save some extra money to buy the materials like bricks and cement. Mrs. Vanlalhlana says ‘From the moment we knew we were going to get the incentive, my husband and I started to save some money every month so that we could install the commode. It is not possible for us to get have done this alone as we are from a poor family and cannot afford to buy this type of commode. Our Village Leaders are also very keen on improving the sanitary conditions altogether and have made many efforts to improve the sanitary conditions in and around our village’.

#### **Case study 5: No money and space for toilet.**

Mrs Hnemi is a 42 year old mother of four children. Hnemi is from Darlung village. She lives with her husband and she runs a small petty shop which is attached to her hut. She is the earner in the family and also takes care of most of the household work. Her husband also sometimes helps out but his role is very limited. Hnemi is also a beneficiary of IHHL but she has not made use of the toilet as she says she does not have the spare money to buy the materials required to construct the toilet. She has also considered selling the toilet as she did not put it to good use and said that the money that she will get from selling the toilet will be used for something else. When asked whether she knew the importance of having a proper

toilet she said that she knew the importance but she was helpless as she could not afford to construct toilet and the incentive was not sufficient. Ms Hnemi also does not have any land of her own and that she was living in a rented house and it did not make much sense for her to make the toilet.

From the above case studies, it is clear that many of the beneficiaries are not able to put their incentives to good use due to financial constraints as the amount given to the beneficiaries is not sufficient. The respondents who were able to construct their toilet added their own money to meet their needs. It is clear that the incentive given is not sufficient to provide the beneficiaries from buying the materials required for construction. Hiring a cement mason is also expensive for them as they all come from extremely poor families and do not have any extra money to spare. Many of them barely make ends meet to provide for their family. Their housing condition is also not good and constructing such toilets is not appropriate for all.

### **1.11.1 Role of Women and Men in Sanitation Promotion**

Surveys assume that people know how they feel. But sometimes they really don't. Sometimes it takes listening to the opinions of others in a small and safe group setting before they form thoughts and opinions. Focus groups are well suited for those situations. Focus groups can reveal a wealth of detailed information and deep insight. When well executed, a focus group creates an accepting environment that puts participants at ease allowing them to thoughtfully answer questions in their own words and add meaning to their answers. Surveys are good for collecting information about people's attributes and attitudes but a focus group discussion is needed to understand things at a deeper level.

A Focus Group Discussion was conducted in both the villages of Darlak and Darlung so that the researcher could gather in-depth information regarding the role of men and women in sanitation at the household and community level.

The topic of discussion is “ Role of men and women for improvement of sanitation in the household and community level”. The discussion was set for a time of one hour in which each participant were requested to voice out their opinion and give any suggestion which was noted down by the researcher.

| Sl. No | Question   | Answers  | Darlak     | Darlung |
|--------|--|--|------------|---------|
| 1      | Who is mostly responsible for cleaning the house in your community?  | A Women<br>B Men<br>C Both men & Women   | *<br><br>* | *       |
| 2      | Who are the leaders in implementation of sanitation at the community level?                                | A Village Council members<br>B MHIP members<br>C Both men & women<br>D All the members of Sanitation Committee | *<br><br>* | *       |
| 3      | Who is responsible for taking care of the children?  | A Mother<br>B Father<br>C Both mother and father   | *          | *       |
| 4      | Is there any specific type of household work performed by the male members regarding sanitation practices? | A Yes<br>B No  | *          | *       |
| 5      | Who takes care of the sick at home?  | A Women<br>B Men<br>C Both men & women   | *          | *       |



|    |  |  |   |   |
|----|--|--|---|---|
| 6  | Who is the decision maker in type of building and toilet?                                    | A Women<br>B Men<br>C Both men & women | * | * |
| 7  | Who plays the role of educator regarding sanitation at home                                  | A Men<br>B Women                       | * | * |
| 8  | Is there a division of role played by men & women at the community level                     | A Yes<br>B No<br>C Sometimes           | * | * |
| 9  | Is there any difference in the role played by men and women in terms of doing household work | A Yes<br>B No                          | * | * |
| 10 | Are women considered the main care takers in the household?                                  | A Yes<br>B No                          | * | * |

From the FGD conducted, women and men usually have very different roles in water and sanitation activities. Women are most often the users, providers, and managers of water in rural households and are also responsible for household sanitation and hygiene. They are also the key-players in implementing innovative and improved hygiene behaviours at household level and they also play a significant role as toilet-trainer of their children and women tend to play the role of hygiene-educator pro-actively. Although men participate in the decision making around the type and building of the toilet, its maintenance is seen as the responsibility of women since cleaning the house and toilet are not regarded as work for men. Women's lives are closely connected to and affected by sanitation as well as the use of and access to water resources. It is women who are often the caregivers for those who fall ill, who have to fetch and manage water for both the family and productive purposes, and who have the greatest need for private and safe sanitation facilities. Despite global commitments made in the areas of water supply and sanitation, and recognition of women's concerns, the equitable

divisions of power, work, access to and control of resources between women and men are hardly ever addressed. Rather, in efforts to improve management of the world's finite water resources and extend access to safe drinking water and adequate sanitation, the central role of women in water management is often overlooked. But from this study experience as well as from the responses received from the respondents, it was felt that in order to make rural sanitation system to be truly effective and sustainable at the grassroots level, it is crucial to mainstream gender perspectives not only into any community or household-level sanitation initiatives but also into sanitation policy-designing for ensuring that the specific needs and concerns of women and men from all social groups have been taken into consideration with due importance.

## **1.12 Conclusion**

In the last chapter the results and discussion was presented. In this chapter the main conclusions of the present study are presented along with the suggestions that emerge from them.

### **1.12.1 Summary of findings**

There is no difference in Age distribution. Nearly one-half of the respondents belong to the Middle Age group in both villages. In the less developed village majority are married whereas four fifth of respondents are married in the higher developed village. Both the villages have similar levels of educational attainment. Nuclear family predominantly found in both the villages and stable family is predominant in both villages. The proportion of broken families is slightly higher in the less developed village. Medium Size of family is predominant in both the villages. Gender of head is by and large male headed.

Majority of respondents belong to Lusei sub tribe in both the villages. Ralte sub-tribe is more predominant in the higher developed village. Hmar sub-tribe constitute more in the less developed village. Majority of respondents belong to Presbyterian denomination in both the villages. Baptist is the second majority denomination in the less developed village while Seventh Day Adventist constitutes the second largest denomination in the high developed village. Respondents are mostly earners. Proportion of dependents is greater in less developed village. Mostly cultivation is the primary occupation in both villages.

The proportion of poor households is greater in more developed village than less developed village. The proportion of non-poor is far greater in less developed village. During the rainy season, two third of the respondents from the less developed village get their water from rain water and nearly two third which is get their water from the rain. Only 2 per cent get their water from the public tank in the less developed village while no respondents from the higher developed village get water from the public tank during the rainy season.

Housing condition is slightly better in the high developed village. Semi pucca with tiled wall and tin roof is higher in the developed village. Straw roof with bamboo walls is proportionately greater in the less developed village. Wood is the type of house post used in both the villages. Houses with concrete house post are the same in both villages.

Rain water is the major source of access to water in both the villages during the rainy season. River is the major source of getting water in the less developed village during the dry season and buying from private source is the major access to water in the high developed village during dry season.

Community Pond is the major source of getting water in both the villages. The lesser developed village has slightly better awareness on Sanitation Programmes. The

respondents from both the villages always and mostly practiced hygienic habits. Women are mostly performing sanitation practices at the household level in both the villages.

Housing condition is positively related to household access to sanitation in terms of frequency of use of toilets with septic tank.

Access to sanitation in terms of frequency of use of toilet with septic tank is positively related to housing conditions. Access to water in terms of direct water connection to the toilet, separate bathroom and availability of wash basin in the toilet is positively correlated.

Access to water is also positively related to access to sanitation (use of toilets with septic tank). Adoption on sanitation programmes is having significant positive effect on adoption of safe sanitation practice while having no significant effect on adoption of safe hygienic practice. Adoption of safe sanitation practice is not correlated to age, education status, type of family, size of family, socio-economic status, annual household income and per capita annual household income.

The present study attempts to understand the role of rural women in sanitation practices in Mamit District of Mizoram. Rural sanitation is still a great challenge that requires more attention as mere awareness is not enough in improvement of sanitation. The improvement of housing also plays an important role in the overall household sanitation since people who lead better lives have better access to sanitation. Although there is a good level of awareness and good sanitation practice among the studied women respondents, better social and gendered approaches need to be emphasized so that the needs of the marginalised can be dealt with adequately. The Mizo community has always given great importance to hygiene and sanitation from the early times but cultural dynamics must also be considered as the role played by men and women at the household and community level is clearly divided. Women

still remain the victims of poor sanitation especially in terms of their health and their need to have a proper toilet when they are menstruating.

### **1.12.2 Suggestions**

Research implications of this study suggest that more studies are required on issues related to role of women in sanitation.

1. The incentives given for construction of toilet is not enough and needs to be increased. The condition of sanitation can improve by better housing and better access to water.
2. Better advocacy is needed so that women's participation in the community level may also increase at the community level and not only at the household level.

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