

**HYGIENE AND SANITATION SYSTEM OF RURAL
COMMUNITY: AN ETHNOGRAPHIC STUDY FROM
LOTHAR VILLAGE DEVELOPMENT COMMITTEE OF
CHITWAN DISTRICT**

A Dissertation

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Degree of
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By

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LETTER OF RECOMMENDATION

We certify that this dissertation entitled "**Hygiene and Sanitation System of Rural Community: An Ethnographic Study from Lothar Village Development Committee of Chitwan District**" has been prepared by Kamal Raj Sharma under our guidance. Hence, we recommend this dissertation for internal examination by the Research Committee of the Faculty of Humanities and Social Sciences, Tribhuvan University, submitted for the fulfillment of the requirements for the Degree of Doctor of Philosophy in Anthropology.

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APPROVAL LETTER

This dissertation entitled *Hygiene and Sanitation System of Rural Community: An Ethnographic Study from Lothar Village Development Committee of Chitwan District* was submitted by Mr. *Kamal Raj Sharma* for final examination by the Research Committee of the Faculty of Humanities and Social Sciences, Tribhuvan University, in fulfillment of the requirements for the **Degree of Doctor of Philosophy in Anthropology**. I hereby certify that the Research Committee of the faculty has found this dissertation satisfactory in scope and quality and has therefore accepted it for the degree.

Date:

.....
Dean and Chairman
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DECLARATION

I hereby declare that this Ph.D. dissertation entitled “*Hygiene and Sanitation System of Rural Community: An Ethnographic Study from Lothar Village Development Committee of Chitwan District*” is submitted by me to the office of the Dean, Faculty of Humanities and Social Sciences, Tribhuvan Univeristy, Nepal is an entirely original work prepared under the supervision and guidance of supervisor Prof. Dr. Laya Prasad Uprety and co-supervisor Dr. Binod Pokharel. I have made due acknowledgements to all ideas and information borrowed from different sources in the course of writing this dissertation. The result presented in this dissertation has not ever presented or submitted anywhere else for the award of any degree or for any other purposes. No part of the contents of this dissertation has ever been published in the form or a part of any book. I am solely responsible if any evidence is found against my declaration.

Kamal Raj Sharma

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ABSTRACT

If human behaviors are the product of cultural system of a given society/community, then this study is an endeavor to bring anthropological insights about hygiene and sanitation behaviors produced and reproduced by internalities and external forces induced from outer actors to the local setting. In this study, I have tried to understand the process of structuring and restructuring the human behaviour at local level. I have explored how the cultural domain of community people adopted and rejected the new and old behavior patterns during the course of their learning and adaptation.

Culture is the core among driving and motivating forces, but how people either individually or collectively injected the new concepts, ideas, and strategies to change their behavior patterns as per circumstances is the fundamental anthropological inquiry which has been reflected in the institutional and organizational arrangements and various forms of local level behaviors.

This study has concluded that the new behavior patterns are the outcomes of the process of production and reproduction as a general process through the adoption of cultural norms of outer interventions and the changing local perceptions and beliefs. Differences in the patterns of behaviors exist due to the differences in socio-economic positions, perceptions, and beliefs of community people living in a geographical location. In such conditions, the development intervention has been a process of transmitting the new cultural traits, the mechanism of creating dependency, and the major cause of dependency of the behavioral system of a particular local people depending upon outside support, which also makes the state apparatus a means of diffusing the outer cultural ideas into the host structure. However, intervention not only increased the dependency of local community but also enhanced the awareness and uplifted the levels of livelihood of those local people who adopted the modern system. As a result, development becomes the process of transmitting the new traits of culture; nevertheless, the internalities always remain strong for mastering the structures of behaviors guided by deep roots of culture. Through the interaction between external and internal components, the new ecological domains and system of behavior come into existence; however, it is limited by the perceptions and worldviews of local community people. The overall behavioral patterns of the community people are the consequences of local level cultural sphere and the new

concepts, strategies, and ideas transmitted through development intervention. But it could also be said that the ideas injected by outside intervention alone cannot bring change in the rural community inhabited traditionally in specific geographical locations because of local internalities along with multiple worldviews, and culturally differential behavioral system always seemed stronger than externalities. More specifically, the hygiene and sanitation system operational at local level has been shaped and reshaped also by the historical traditions and practices guided by the contemporary local circumstances, and Lothar can be considered an example of this generalization.

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LIST OF ABBREVIATIONS/ACRONYMS

AHW	Assistant Health Worker
ARI	Acute Respiration Infection
BSP	Basic Sanitation Package
CATS	Community Approach to Total Sanitation
CBO	Community-Based Organization
CCA	Child-to-Child Approach
CDO	Chief District Officer
CGD	Child-Friendly, Gender-Friendly, and Differently-Abled
CLTBCHS	Community-Led Total Behavioral Change in Hygiene and Sanitation
CLTS	Community-Led Total Sanitation
DACAW	Decentralized Action for Child and Woman
DDC	District Development Committee
DEO	District Education Office
DHO	District Health Office
DTO	District Technical Office
D-WASH-CC	District Water Supply, Sanitation, and Hygiene Coordination Committee
DWSS	Department of Water Supply and Sewerage
Ecosan	Ecological Sanitation
FGD	Focused Group Discussion
GESI	Gender Equality and Social Inclusion
GHD	Global Hand Washing Day
GN	Government of Nepal
GO	Governmental Organization
HMG	His Majesty's Government
HWWS	Hand Washing With Soap
IDWSSD	International Drinking Water Supply and Sanitation Decades
IEC	Information Education and Communication
INGO	International Non-Governmental Organization

IYS	International Year of Sanitation
JSR	Joint Sector Review
KAP	Knowledge, Attitude, and Practice
LDO	Local Development Officer
LK	Local Knowledge
LLTS	Local Body Led Total Sanitation
LSHTM	London School of Hygiene and Tropical Medicine
MDG	Millennium Development Goals
MoE	Ministry of Education
MoHP	Ministry of Health and Population
MoWCSW	Ministry of Women, Children, and Social Welfare
MPPW	Ministry of Physical Planning and Works
M-WASH-CC	Municipality Water Supply, Sanitation and Hygiene Coordination Committee
NEWAH	Nepal Water for Health
NG	Nepal Government
NGO	Non-governmental Organization
NHSSC	National Hygiene and Sanitation Steering Committee
NRCS	Nepal Red Cross Society
NSAW	National Sanitation Action Week
OD	Open Defecation
ODF	Open Defecation Free
PPA	Public-Private Partnership
PPCP	Public, Private, and Community Partnership
R-WASH-CC	Regional Water, Sanitation, and Hygiene Coordination Committee
SAPPROS	Support Activities for Poor Producers of Nepal
SEIU	Sector Efficient Improvement Unit
SHMP	Sanitation and Hygiene Master Plan
SLTS	School-led Total Sanitation
SMC	School Management Committee
SSG	Sector Stakeholder Group
SSHEP	School Sanitation and Hygiene Education Program
TS	Total Sanitation

UN	United Nations
UNDP	United Nations Development Program
UNICEF	United Nations Children's Fund
VDC	Village Development Committee
V-WASH-CC	Village Development Committee Water Supply, Sanitation, and Hygiene Coordination Committee
WAN	Water Aid Nepal
WASH	Water Sanitation and Hygiene
WATSAN	Water and Sanitation
WED	World Environment Day
WEDC	Water Engineering and Development Centers
WHO	World Health Organization
WSP	Water and Sanitation Program
WSP	Water Supply Project
WSSDO	Water Supply and sanitation Division Office
WSST	Water Supply and Sanitation Technician
WUSC	Water User's and Sanitation Committee
WW	Woman Worker

CHAPTER-I

INTRODUCTION

1.1 Statement of Research Problem

Hygiene and sanitation behavior transformation in the local communities has been a focal issue of global development discourse. The issues of illness, disease, and modern health had already been incorporated in the beginning of 1950s for development purpose (Justice, 1989); however, area-specific intellectual attention was not given till the 1970s regarding the modern hygiene and sanitation development approach for transforming traditional behavior system of the rural community people of the undeveloped world and for creating new cultural domains of modern hygiene and sanitation system. The issues were not yet properly addressed nor brought into the framework of modern development process. As cultural variables, hygiene and sanitation behaviors of the local people were also out of academic spheres and hence yet remained to be brought into anthropological discourse.

Since 1980s, a new development approach or paradigm came into being for the academic discourse in the modern development process with changes in the values of the global political, economic and socio-cultural system. The approach was a leap of conceptual changes from setting physical project targets to learning process which emphasized the communication between developmental practitioners and community members. Basically, intellectual attention focused to find out the existing status of knowledge, attitudes, and practice (KAP) of the local community people both for fitting it to the development process and for intellectual discourse. This discourse intended to debate on the conceptual changes that regarded the development process as an adaptive change. Since this period, development was taken as a process of modification to solve immediate problems, relating it to what people currently do rather than as a means by which "newer" and better technologies replaced existing technologies or interventions. Along with the debate on the conceptual changes taking place in general development process, there were intellectual discussions on the conceptual changes also occurring in water supply, hygiene, and sanitation promotional projects for the transformation of traditional behaviors of the rural setting into the modern cultural frame (Curtis, 2007; Yacoob and Whiteford, 1994). However, this intellectual discourse on conceptual approach in the areas in question

also actually could not address the knowledge about the local cultural roots of behaviors and community concerns into both academic and development framework as major determinants of diseases, unnatural deaths, and health hazards.

During the 1970s, the international community of both development practitioners and academic milieu began to pay much attention to the issues of public health in the developing world. Consequently, the issues of diseases of dirt and squalor inevitably came to the fore for discussions and for setting development strategies. The discussions caught the idea or agenda of 'water and sanitation for all', which became a major concern. During this period, health campaigners and intellectuals constantly repeated the refrain that 80 percent of sickness in the world was 'water-related'. However, the discourse on the need for efficient and hygienic disposal of human excreta had not become a matter of major public campaigning or moral reform in the world at large. When intellectual minds focusing on public health issues began to take on more importance in the development portfolio of the post-colonial world, the emphasis tended to be on medical technology for disease control, such as immunization (Cairncross and Feachem, 1993; Black et. al., 2008:71). On the basis of these facts, it could be said that academic discussions and systematic hygiene and sanitation efforts within the modern development process at the world level began with the public health issues. However, local cultural roots in its ethnographic context were not identified as the major foundation of traditional health, hygiene and sanitation behaviors.

When sanitary issues began to enter the frame in the 1960s and 1980s, both for intellectual discourse and development concern was mostly for 'safe drinking water' as a route to better health. However, removal of human excreta and its hazards from homes and streets was yet out of intellectual sight and mind, which later became a major agenda of development. Only in the 1990s did public health discourse begin to challenge openly the idea that 'safe' drinking water was the way to reduce diseases of dirt and talk began of the need to break the fecal-oral route of diarrheal disease transmission. The academic idea on public health approach also identified the need of ranking of water and hygiene and sanitation intervention in order of priority according to health benefits. As a result, the issues of safe excreta disposal came first, hygiene second, and provision of clean drinking water third, and all these components took the space of the academic discourses (Evans, 2005; Black et. al., 2008:31, 72-74). Despite

these facts, both the development world and academic sphere yet missed to throw light on the dark side of cultural roots of public health (e.g., hygiene and sanitation behaviors), which, as a major component, were to be brought to the forefront of development process and anthropological academic discourse.

Right after the first half of the 1990s, the traditional legacy rooted in academic and development discourses had been replaced by the notion of local and indigenous knowledge system. As a counterpart against the conventional development jargon and intellectual mind, the idea about the linkage between local indigenous knowledge and development practices was emphasized in the development process (Escobar, 1995; Pieterse, 2001).

With the beginning of this new approach, the idea of intermingling among local indigenous knowledge, modern and formal scientific approaches, and corresponding technologies for development became effective in both development and intellectual domains. As a result, sensitive attention was directed to existing local knowledge systems for sustainable use and wise management of local resources for successful development (Chhetri, 1994). However, local knowledge in its broader ethnographic context regarding health, hygiene and sanitation behavior remained yet far behind the academic point of view.

One of the major discourses on the general anthropological understanding is that the local need is actually shaped by the perceptions of local community people. Moreover, local indigenous knowledge is rich, even though often untapped in development spheres. Simultaneously, it was realized that effective development can only best be achieved through adopting the knowhow, understandings, and knowledge of local community people. After the first half of the 1990s, the issues of incorporating and connecting the local knowledge into development intervention, strategy, and practices became major concerns of the development project for not making failures of any development. Local knowledge began to be placed in the forefront of priority as a part for making development sustainable to create feeling of ownership and responsibility among the local community people. Consequently, local knowledge began to be given high emphasis in the development process. After the second half of the 1990s, this idea became more effective and crucial in the case of water use also. Hence, the issue of local knowledge (LK) took considerable space of academic discourse and has also been given immense importance for sustainable

management and utilization of local water resources. It was because LK encompasses a broad spectrum of knowledge covering physical characteristics, quality, and availability of water as well as its associated management practices (Posely, 1985; Upreti, 1999). However, local knowledge related to local traditional hygiene and sanitation behaviors had not been brought into anthropological ethnographic discourse.

As in other fields, the idea of incorporating local knowledge into the policy and practice of development had also been a focal issue in the global level water, hygiene, and sanitation development sphere and academic discourse. Consequently, the concept of local knowledge and resources got significant space in the hygiene and sanitation sector development policy in Nepal (DWSS, 2004). However, in practice, local cultural knowledge, perception, and other major cultural components, i.e., beliefs and attitudes guiding hygiene and sanitation behaviors of local community people, were being far removed from planning process and outcomes and instead were often structured by them (Mosse, 2001; Sillitoa, 1998; Pradhan, 2003; Upreti, 2006). This study has focused more on those components to which previous efforts had missed it from the academic and anthropological framework.

Some of the technical and policy documents report that due to the exclusion of concerned people and their local-level cultural components from the academic discourse and real development practices, the cost-effective outcomes have never been achieved. The hazardous behavior itself has still been reflected in many sanitation-related diseases and deaths scenarios compared to that of expenses (GN, 2009). For example, most of the documents overviewed for my study show that complete lack of sanitation is still responsible for a number of sanitation-related diseases. According to statistics, 40% of the world population still lacks access to sanitation facilities. Approximately 6,000 children, most of them in developing countries, die every day due to diseases related to inadequate sanitation and hygiene, combined with a lack of access to safe drinking water. Reports show that a lack of proper sanitation contributes to death of millions of children below the age of five every year, and about 50 diseases are associated with poor sanitation. Furthermore, 88% of diarrheal diseases are caused by unsafe water supply and inadequate sanitation and hygiene measures. The incidences of child morbidity arising from water-borne diseases, inadequate sanitation facilities, and consequent health hazards, and drudgery

of women-folk altogether have created a vulnerable situation. Observations also prove that proper water and sanitation practices could reduce the incidence of diarrhea by at least 25%, and incidence of other diseases like guinea worm and trachoma could also be positively decreased by improvements in water supply, sanitation, and hygiene behavioral change. Sanitation and clean environment have also been challenging issues for all developing countries. In this way, diseases related to inadequate water, improper sanitation, and unhealthy hygiene behavior have become a huge burden for countries like Nepal (Pathak, 1999; Rosenquist 2005; DWSS, 2004; Levine 1989; Yacoob and Whiteford, 1994:332; WHO, 2009:5). However, the domains of anthropological inquiry and the development regime have still not identified the very cultural roots behind these problems in its ethnographic context, which is the major focus of my academic discussion.

Some other documents further report that there are inadequate facilities of defecation. Over 40% of people in the developing world still depend on a bucket, bush, bank of a stream, backstreet, or some other sheltered place for their several daily emissions. However, the problem of poor health, infectious diseases, environmental hazards, hygiene and sanitation, and pollution is not only in developing countries but also in the developed, i.e., Europe, America, and other continents. On the basis of the above facts, it could be said that worldwide sanitary crisis is indisputable. It has been a major threat to development, impacting countries' progress in health, education, gender equality, and social economic development. Consequently, the issue of hygiene and sanitation behavior transformation has become a major development concern for global human society in general and for Nepal in particular (Black et. al., 2008:4; UNICEF, 2009:6). There are certainly area-specific cultural reasons behind these problems. However, the factors have been out of intellectual discourse, specifically the anthropological discourses. Academic attention has not yet given to find out the cultural circumstances of these problems in reference to the ethnographic frame, particularly in the context of Nepal. Finding the cultural structures regarding the local hygiene and sanitation system and perspectives of local community people towards development intervention is the major concern of this study.

Historical evidences have witnessed that the concept of modern hygiene and sanitation system was undoubtedly a concern of the 19th century colonial administration, specifically in the Indian subcontinent. The system of sanitation

practices with the ideas of safe and modern water supply system, use of hygienic bathroom, soap, use of toilet, shampoo, dust bin, nail cutting, and pit for grey water collection and drainage system have also been transferred and diffused from West to other parts of the world in different historical periods (Escobar, 1995; Black et. al., 2008:101). Health, hygiene, and sanitation perceptions, attitudes and knowledge have been the central components of development discourse and debates, but these discourses have not been yet the issues of academic and anthropological discussions.

Government intervention in the hygiene and sanitation behavioral transformation began with the UN declaration of IDWSD in 1980-1989. In the initial period, development discourse emphasized providing safe water and hygienic excreta disposal facilities for the entire world's human population by the end of the decade. Moreover, the idea in the Decade intended to improve human health by having clean water supply closer to a person's home and a hygienic toilet. The greatest need in water supply, hygiene, and sanitation involved rural and poor urban areas; the greatest emphasis had been put on improving services to these areas (UN, 1981 and 2006). For easy access of concerned people to modern hygiene and sanitation services, emphasis was on the criteria for low-cost water supply technologies that should be technically and environmentally sound, economically efficient, financially affordable, socially and culturally acceptable, and simple to install, operate, and maintain (WHO, 1986; HMG, 1994; Sharma et al., 2000). Within this discourse, however, emphasis was given to only physical setting of water supply projects regardless of its quality. Less attention was given to alter the hygiene and sanitation behaviors of the rural people. Consequently, the cultural aspect of sanitation and hygiene system had been a subject of low priority and remained out from the dimensions of human development, which is still given low priority at the international, state, and local level compared to that of other sectors. The analysis of the subject of transforming the traditional hygiene and sanitation behaviors and its cultural roots moved away from both academic discuss and practical milieu (Sharma et al., 2000: viii and Pretus, 2008).

Writers discussed more about the countless problems, i.e. water-borne diseases, mortality, and morbidity due to poverty, poor hygiene, environmental contamination; lack of interest among policy makers, bureaucrats, local leaders as well as people in investing in water supply, hygiene, and sanitation behavior transformation; and lack of proper water supply and sanitation facilities. These are regarded among

development experts as major challenges in developing countries, and they realized the fact that majority of the people have been suffering from negative health effects of poor sanitation, water shortage and pollution, food insecurity, and urban growth, and the inadequacies of current sanitation options are discussed enough and addressed to overcome (Rosenquist, 2005; Black et. al., 2008:4; WHO/UNICEF, 2000; Yacoob and Whiteford, 1994). People's perceptions, beliefs, and lack of knowledge might be the major factors causing these problems (Walsh and Esrey et al., 1990; Shrestha et al, 1993; Pokhrel and Viraraghavan, 2004). However, these cultural components in reference to the ethnographic descriptions particularly in the context of Nepal have not been investigated.

Most of the writings stressed more on the importance of intervention for hygiene and sanitation behavior transformation as a major development agenda of global human society. They informed that since 2000s it has gradually attracted more international attention, culminating in the designation of 2008 as the 'International Year of Sanitation' in recognition of the slow progress being made towards the United Nations Millennium Development Goals (MDG) targeting to reduce diarrhea incidence by half the proportion of people by 2015. The particular concerns— (i) removing the stigma around sanitation so that the importance of sanitation can be more easily and publicly discussed, and (ii) highlighting poverty reduction, health, and other benefits that flow from better hygiene, household sanitation arrangements, and wastewater treatment— have been elevated and flowered for the development purpose (WHO, 2009:6; Black et al., 2008:4) but these have never been the focus of academic debates in the field of anthropological inquiry, particularly in the Nepalese context.

Documents presently available speak about the right and responsibility approach in the developmental field regarding the improvement of people's sanitation and hygiene status. These writings highlighted major health and hygiene problems under the slogan of 'everyone's right, everyone's responsibility', with water and sanitation-borne diseases like high incidence of diarrhea resulting in the high percentage of mortality and morbidity as the major focus of analysis. The ideas further emphasized on the basic and fundamental human right to make effective and easy access of ordinary people to hygiene and sanitation and safe drinking water supply facilities, which has gained high priority in developing countries (WHO, 2007; Rheinlander et.al, 2010).

UN agencies have given immense importance to take the responsibility to improve the existing basic health care, hygiene, and sanitation conditions of the rural people of the world, giving high priority to provide adequate safe drinking water and proper hygiene and sanitation facilities by the government adopting right-based approach. The global recognition on the issue of hygiene and sanitation behavioral transformation and development activities have emphasized the sayings of 'think sanitation' and 'do sanitation' for poverty alleviation through income generation and increment and generation of employment (WHO, 2006). However, existing studies have not sought out the cultural facts as causes to be investigated which have still not been brought into anthropological discourse.

Policy documents emphasized the provision of modern water supply services and health, hygiene, and sanitation facilities as major achievements of the modern era, which have also been important functions of the Nepalese state. In Nepal, people have also recognized the importance of modern hygiene and sanitation development intervention on behalf of their own through the formulations of policies and guidelines (GN, 2004 and 2010) but institutional and organizational settings have not yet got its proper shape required to overcome the challenges, nor institutional cultural aspect has been considered, which might be the major hindrance (Justice, 1989). However, the major causes of the hindrance have not been discussed within the proper academic ground.

The information discussed above about the development efforts taken at global as well as national and local level for hygiene and sanitation behavioral transformation provided the scenario of the hygiene and sanitation behavioral events, but these are all the outcomes of the community's internalities, i.e., cultural beliefs, idea/ideals, perspectives, values, attitudes, and perceptions and policies, institutional and organizational arrangements (Justice, 1989; Pigg, 1995). In addition to these, outer intervention with formal rules and regulations and structural arrangements of formal organizations are also crucial factors (Pokhrel & Viraraghavan, 2004; Chhetri, 1994) for producing and reproducing the new form of hygiene and sanitation behavior. However, human behavior related to the disposal of human wastes is treated as a subject normally buried in euphemism and avoidance, thus an unspoken subject in almost every culture both in ordinary life and academic discourse. Defecation, urination, excreta disposal, organs of defecation and urinating are supposed to be

close or identical to those used for sex. Speaking about toilet habits are associated with vulgarity and eroticism and are difficult to negotiate. Most ordinary people adopt an attitude of 'out of sight, out of mind' regarding these behaviors. Comedians may enjoy the subject, but those of an academic or intellectual bent tend to avoid it. Our attitudes are not surprising. Feces and urine are extremely offensive, and it is preferable to carry on averting our gaze and our noses. As a result, the worldwide sanitary crisis is often wrongly perceived, diagnosed, and wrongly addressed, when it is noticed at all. For many of us, on even the cultural variable, it is difficult to evoke a world in which scientific information on a matter of such importance took so long to become established and widely known (Black et al., 2008: xiv and 3-19). Consequently, socio-cultural and institutional aspects of sanitation and hygiene behavior have been the much neglected subject, thus remained to be addressed for bringing into common understandings and anthropological discussions as a field of inquiry.

Most of the available reports, policy, strategy, documents and literatures advocated only the technological transformation and gave much more importance on the necessity of it but did not talk about transmission of cultural traits. In the development discourse, culture is conceived as characterized only by rules, values, thought, action, and Western dominant system of knowledge. However, this is a reductionist way of thinking. The cultural system exists beyond this narrow understanding (Escobar, 1995:13).

In the context of hygiene and sanitation development intervention, the fundamental traits of cultural system—local norms, attitudes, perceptions, belief, morals, worldview, local approaches, preferences towards intervention, local ways of knowing, doing, habits, structural setting, i.e., roles, rules, and network (Krishna, 2002), acting and thinking—are important and fundamental dimensions of behavior of human life, which, in a particular ethnographic context, need to be brought in broadest anthropological discourse. Hygiene and sanitation behavioral patterns are also the reflections of cultural system, hence the cultural variables. However, hygiene and sanitation behaviors have not been interpreted as such in the existing literatures, documents and studies in reference to the local cultural approach.

Additionally, development discourse to some extent spoke about the right of local people (GN, 2010), but interpretation about the idea of rejection and acceptance of

local people to outer intervention on hygiene and sanitation behaviors is not found in available literatures. There has not yet been done any substantial research to explore and understand and analyze these issues in question in the context of Nepal with an ethnographic approach. Both for the formulation of scientific knowledge, methods and models to extend the ground for the anthropological academic discourse and for making development effective, ethnographic insight is most essential. Therefore, this subject has been pertinent to be undertaken for academic consideration. I claim that such study could provide the local cultural perspective in order to know why and how the hygiene and sanitation system has been operated, and how local-level behavior is influenced and conditioned by cultural traits and physical things (land, water, forest, resources) and other variables like education program, training, skills, campaign, and occupation. Thus, this study intended to discover the local traditional hygiene and sanitation practices and examine how modern forms of behaviors are practiced as well as how the effects of intervention are being institutionalized to replace the traditional system.

Writings on the development intervention gave importance to and emphasized on the change in technical aspects to bring change in traditional pattern of behavior by increasing the modern sanitation and hygiene facilities. The process is also supposed to institutionalize the new form of ideas at the local level and people's involvement in the various phases of development process. Studies, however, are limited within the domains of medical and health practices and water supply system (for e.g. Burghart, 1988; Justice, 1989; Pig, 1992, 1993, 1995; Sharma, 2001; Pokharel et al., 2004; Victor et al. 2008) and lack the analysis of the cultural aspects of hygiene and sanitation behaviors from the integrated and ethnographic approach. These studies have dealt more with the relations among diarrheal diseases, safe water, death, and training and bureaucratic culture in relation to providing services from the state. These studies have spoken little about health, diseases, and illness, behind which culture is the major causative factor. They speak about the doctor-patient relationship and local healing practices but do not speak about the cultural component which causes behavior related to food and drinking patterns. Thus, these studies lack the broader ethnographic references to particular context. For example, Pigg basically puts her ideas only about the national ideology of social development, the effects of intervention policies on health status of mother and child, representation and

attendance of local people in training for health development (Pigg, 1995); she lacked ethnographic framework and reference, broadly saying, with context of these variables as culturally guided and constructed behaviors. My study has taken hygiene and sanitation behaviors as the cultural variables of a community settled in a particular rural setting and analyzed in the context of micro- and macro-level structures within the ethnographic framework. This ethnographic study has revealed why, how, and what issues influence and affect participation of certain community, local institutions, and organizations; and what and how their behaviors are influenced by the cultural, ideological and economic elements. This issue has been brought out into the academic floor for anthropological discussion, which was till now seriously lacking in the Nepalese context.

Existing policy documents and guidelines overviewed so far have followed the principles of mobilization and participation of community people as the base of success. On theoretical ground, the policy documents emphasized solely on the 'people's participation', 'private sectors' and 'community mobilization', 'gender balance' and 'social inclusion in development process', 'sustainability', 'software aspect', and 'poverty reduction', etc., as the major driving and motivating forces for making development sustainable (GN, 1994, 2001, 2004, 2006, 2010). Under these slogans, these principles have still guided all the processes being adopted for the transformation of hygiene and sanitation traditional behavior into modern, which might bring substantial changes in people's hygiene and sanitation behaviors, socio-cultural life, their understandings, perspectives, worldview, and ecology. However, attempts have not been made of ethnographic study to know the implementation of these principles and approaches and its consequences in a particular rural village context. For example, documents showed that school and community have been incorporated in policy and strategies as a central active and effective agent; however, academic study about the role and significance of them has not yet been taken into academic consideration adopting anthropological ethnographic frame, nor the ethnographic study of people's participation in the issues of hygiene and sanitation development have subsequently been done in the context of particularities of rural Nepal, especially in the area of Lothar VDC. This study is intended to fulfill these gaps.

In the available literatures and other documents, there is serious lack of empirical facts based anthropological perspective on cultural roots of hygiene and sanitation behaviors from the point of view of local people, particularly focusing on rural communities. The questions regarding why community people accept and reject the modern development intervention, how they produce and reproduce the new patterns of behavior in a particular situation, have largely remained to be addressed. Local-level cultural perspective on hygiene and sanitation behaviors has been outside the academic discourse. With the objective to fulfill the gaps and dearth of literature in this field, I have chosen the least studied area in anthropology of Nepal. Here, I have discussed academically the various dimensions of cultural hygiene and sanitation behavioral system.

In the Nepalese context, very few studies have been done on this issue, and they have partly spoken about how people's behavior is conditioned and determined with respect to various issues and experiences. Moreover, some technical documents were based more on macro-level data, which lacked micro-level empirical base. Policy documents (GN, 1994, 2001, 2010) and studies (Burghart, 1988 and 1993; Pigg, 1995; Pokhrel & Viraraghavan, 2004; Victor et al., 2008) have failed to explore and explain and establish the relationship between local level community's cultural elements—perception, belief, and attitudes—and national-level policies. Some studies have tried to address and focus on the local-level issues; however, the major inadequacies of these studies seem that they do not give in-depth insight about the cultural behavioral patterns of local community in different situations. Therefore, through this study, I intended to explore the local-level reproduction of institutional arrangements of the behavioral patterns of rural community in the remote part of central region of Nepal. It is intended to explore how and why local-level hygiene and sanitation practices have been interlinked with the macro-level context (i.e., district, regional, national, and international level). The present study is aimed at exploring how local traditional practices are being replaced and how modern hygiene and sanitation behaviors are being institutionalized in the areas as the part of global connection.

Important insights have been gained from the thorough overview of these larger volumes of studies and documents; however, these studies have not discussed how the factors (i.e., development interventions) induced from outside produce and reproduce the new patterns of behavior; how these newly emerged behaviors create new ecology

in a specific setting; how the interaction and interface/interplay between external and internal culture created various types of behaviors. Nor did these studies address and explain hygiene and sanitation behaviors as an indispensable and as a constituent part of a cultural system for the anthropological discourse.

Previous literatures and policy documents have left and forgotten some fundamental questions to be answered academically. From the overview of literatures, I identified some fundamental issues that need to be brought into academic debate. Why cultural internalities work at local level and are stronger than that of externalities? How development intervention is replacing the traditional practices and has been the means of creating dependency? How dependency has been the means of transmitting the cultural traits into the local community limiting the local ideology and the state apparatus as an instrument to diffuse the cultural elements into the Third World community? Why are variations seen in the behaviors of different human groups dwelling in the same location? How the new patterns of behaviour originate? What is the major role and position of community's worldview in creating new and maintaining prevalent behavioral structures? These have not been yet explored and explained in reference to the particular context of Nepalese rural community. This study has addressed these issues from the anthropological academic point of view.

Another issue identified in these studies is that they did not address the various integrative factors which influence the hygiene and sanitation behaviors of the people living in the rural setting. There is a serious lack of anthropological holistic approach on these factors. Moreover, the problems of why local people participate or do not participate in the development process and why they reject or accept the development intervention in their local traditional world remained to be investigated. Thus, it is necessary to bring the insight of the cultural reality of the hygiene and sanitation behaviors within the academic framework, for which this study has intended to explore the role of internalities and externalities (i.e., organizational and institutional interventions) in producing and reproducing the new pattern of hygiene and sanitation behavior. I have tried to explore carefully the problems anthropologically. Following the major research problem identified above, the major research question is:

How traditional local cultural patterns and modern development intervention produce and reproduce the new form of hygiene and sanitation behavior in the local rural circumstance?

In this study I intended to seek the answers of some other specific questions:

- How local cultures influence, produce and reproduce hygiene and sanitation behavior system?
- How local culture bring variations in health, hygiene, and sanitation behavior among different cultural groups?
- Why there exist different perceptions among various cultural groups towards existing hygiene and sanitation system?
- How development intervention has been functional in respect to a particular context regarding the hygiene and sanitation behavioral transformation?
- How do local people perceive external development intervention?
- Why and how local people accept and participate in development process and reject and do not participate? and how local community people were being the part of larger/global structure through the issues in question?

1.2 Objectives of the Study

The general objective of the present study is to explore and analyze the internal states (cognitions) of the community people and examine the effects and impacts of development intervention over the hygiene and sanitation behavioral system of the entire local community. The specific objectives are as follows:

- to explore and analyze the attitudes, perceptions and beliefs toward traditional and modern hygiene and sanitation behavior system, and
- to examine the effects and impacts of institutional and organizational setting of development interventions on the local hygiene and sanitation behavioral system.

1.3 Operational Conceptual Framework

Patterns of human behavior or practices are the functions and the consequences of prevalent socio-cultural systems. These are also the outcomes of institutional and organizational arrangements directed and guided by internal states (i.e., perceptions, beliefs, norms, attitudes, knowledge, preferences, habits, social relations and interactions, traditions, and values) (Bernard, 1988:122) generated by human beings institutionalized in society. I claim that these factors affect and condition the hygiene and sanitation practices and knowhow of the community people. Additionally, external factors (i.e., planning processes, policy and strategies and intervention approaches adopted by the state, local community and other kinds of organizations,

and institutional arrangement) also affect the hygiene and sanitation behavior of people. Thus, the internal-external forces together influence, produce, and reproduce the hygiene and sanitation behavior of the community people (Justice, 1989; Boot and Cairncross, 1993). Previous studies and other writings of development discourse have not conceptualized these factors as involved in causal relations, and I have tried to conceptualize the relationships among these factors.

The pattern of human behavior changes in respect to the changing global as well as local social, economic, political, technical, ethnicity, and ecological situation. The changing circumstances bring variations in devices, mode of behavior, and activities and survival strategies of human groups (Benedict, 1934; Steward, 1955; Barth, 1964:181; Ortiz, 1971; Anderson, 1973; Bennett, 1976; Hardesty, 1977; Mann, 1984; Seymour-Smith, 1986). Hygiene and sanitation behavior is also the product of local cultural system of a given community and external initiatives. However, existing studies have missed to conceptualize the hygiene and sanitation behaviors as the concepts appropriate for anthropological discourse. I have tried to conceptualize it within the ethnographic context.

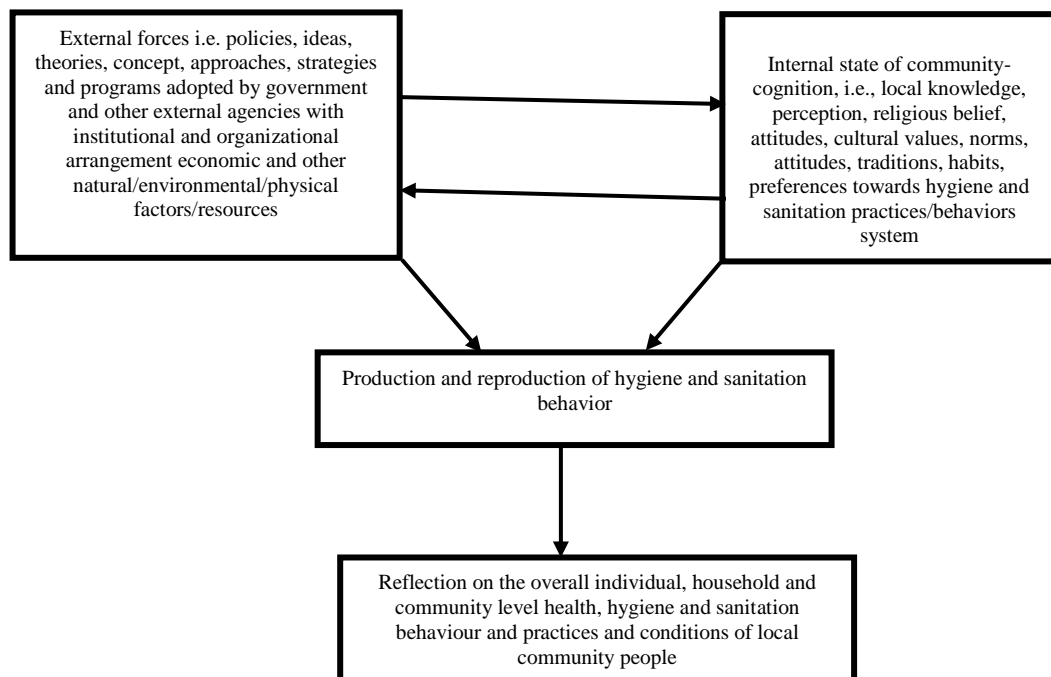
The patterns of use and management of resources (water, land, and other local materials as well as resources induced from outside) depend on the roots of culture, religious beliefs, and taboos. However, the studies above did not properly include these variables in ethnographic context (Yacoob and Whiteford, 1994; Subedi, 2003; Pokharel and Viraraghavan, 2004; Nawab et al., 2006; Avvannavar and Monto Mani, 2008; Amery, 2001). I can claim that human behavior, related to health, sanitation, and hygiene, has also its own cultural roots. Therefore, I have taken sanitation and hygiene behaviors as cultural entities and phenomena, on the basis of which the relationship among resource (inner and outer), culture, health, and hygiene and sanitation behavior can be drawn in the local ethnographic context.

Cultural variables (local perception, belief, attitudes) and effects of development intervention are the basic conceptual parameters on which the theoretical and empirical foundation of my study relied. Present local-level patterns of hygiene and sanitation are the outcomes of both the outer factors and internalities which are primarily connected to one system. For this study, I focused my attention more on local-level in relation to the larger context in terms of how the local people have become part of a larger society and culture through the adoption of various options of modern hygiene and sanitation practices. One fact that should not be forgotten in this context, according to Giddens (1984:2), is that any social and collective practice is ordered itself beyond time and space in which spheres of experience of individual actor or the presence of social totality can be a determinant for creating new circumstances. The hygiene and sanitation behavior can be placed at a cultural

category which people have developed in response to their immediate settings. The exploration of how members of local community are linked with the modern ideas of hygiene and sanitation, why people accept and act for certain gain in a particular situation, how and why community people either individually or collectively learn new ideas and perform according to outer influences has provided a framework for this study to fulfill the objectives. Observing the patterns of hygiene and sanitation behavior at local level, I have tried to link it to the larger-level structures.

The present study is analysis of the process of production and reproduction of different forms of hygiene and sanitation behaviors as the functioning of local cultural system, for which a precise conceptual scheme is required, on the basis of which one can find the way to get in-depth understanding of the roots of human behavior. To conduct the study and gather relevant information required for my study, I have developed an operational conceptual framework which could be helpful to establish conceptual linkages between and among the cultural views and functioning of formal development intervention in a specific context. I have discussed key concepts and theoretical aspects in the literature review chapter, but here I have shown the interconnection among different components with a figure which would provide a conceptual scheme of this study. The following figure shows the conceptual framework of this study.

Figure 1.1: Operational Conceptual Framework for the Study of Hygiene and Sanitation Behavior



The conceptual framework developed above has related the sanitation and hygiene behavior of the entire community people to various aspects. The above figure has

clearly shown the dependent and independent relationships among the variables. For instance, the hygiene and sanitation behaviors and practices are the consequences (dependent variables) of the functions of both internal factors (i.e., local cultural entities) and the external factors (i.e., outer intervention with institutional and organizational arrangement), which are independent variables. I have conducted research and collected data required for my study within this conceptual framework.

1.4 Rationale of the Study

Anthropological approach is a comprehensive viewpoint, potential contribution of which can be applied in any aspect of human behavior to describe and analyze the relationship among the various dimensions of human behaviours (Fricke, 1993). The cultural roots of behaviors related to hygiene and sanitation dimensions can only be investigated through the anthropological lenses. Such investigation involves the concerned people for studying their own hygiene and sanitation behavior on their cultural base (Boot and Cairncross, 1993). As I referred earlier, socio-cultural factors and development intervention produce and reproduce the various form of hygiene and sanitation behaviors in the local context, on which there is a serious lack of anthropological research. Furthermore, there are only limited published data available specifically in Nepal on these issues (Pokhrel and Viraraghavan, 2004:72). This situation inspired me to undertake the anthropological research to find out the functions of local socio-cultural particularities and various aspects and effects of development intervention for the academic discourse.

This study subsequently differs from that of previous studies in the sense that these have not analyzed the cultural approaches of local people towards existing hygiene and sanitation behaviors and practices and development interventions. This study is a new one based on the people's cultural ideas within the anthropological framework.

Without having the right conception based on scientific and empirical data and information, development discourse and academic debates will also be false. Ignoring the local cognitive realities and inappropriate technical designs and strategies (Pokhrel & Viraraghavan, 2004) lead to false generalization. How local people perceive, approach, view, and interpret events from their perspectives and methods is important for anthropological debate, which my study has seriously considered.

However, the issues have not yet been the central elements of anthropological discourse in special reference to rural cultural setting of Nepalese context. The issues have to be brought into anthropological and academic discourse. This study has sought new areas of inquiry that will open new grounds for anthropological debates. For example, this study has made hygiene and sanitation behavior pattern setting by local internalities and by the effects of development intervention as the major focus of academic debates. Thus this study has been an important endeavor in the sense that this has tried to get insight and fulfill the knowledge gaps on the cultural aspects of hygiene and sanitation behaviors produced and reproduced by internal and the external intervention. Thus, this study has been an important contribution to the anthropological study of hygiene and sanitation behavior, particularly in the context of Nepal.

1.5 Organization of the Study

This study has been divided into nine chapters. Chapter one identifies and discusses the statement of the research problem, then presents the context of study, and formulation of the research questions, which are followed by the objectives. The critical idea about the process of formation and re-formation of hygiene and sanitation behaviors in the context of the socio-cultural subjectivities like preferences, perceptions, norms and values, religious and worldviews, belief of local community people have been discussed. These factors have been identified as the major components of intellectual discourse as primary human factors responsible for producing and reproducing the various forms of behavior. Not only these internalities but also the external interventions with certain approaches, programs, strategies, and implementing mechanisms for reproducing, shaping, and influencing the existing patterns of practices and behaviors are also discussed in this chapter. Operational conceptual framework is also presented in this chapter. Chapter two critically deals with both the general as well as particular theoretical perspectives and some literatures produced by empirical studies, approaches and policy measures formulated by the Nepal government on hygiene and sanitation behavior, and development activities done in Nepal and elsewhere outside Nepal. At the end, the research gaps are identified.

Chapter three discusses various methodological tools and techniques applied to gather information on existing hygiene and sanitation practices, fieldwork process, and

personal experiences. Chapter four presents the setting which describes the background information, i.e., features of district and geographical situation and location of research area, population, household structure, socio-cultural situation such as caste and ethnicity, resource, economy and occupation, education, religion, and history of the Lothar VDC.

Chapter five presents the critical analysis of major visions, policies, approaches, strategies and the organizational and institutional setting of the modern hygiene and sanitation development intervention and implementation. This chapter is one of the major analytical parts of this dissertation which discusses the existing modern hygiene and sanitation development policies and approaches deployed in the research area to alter the traditional behavior patterns of local community people into modern ones. The discussion basically includes the brief history of implementation of policies, approaches, strategies of modern hygiene and sanitation development intervention and district- and village-level various program activities operated in the area that range from formation of various level institutions and ODF declaration activities.

Chapter six focuses on the local beliefs, perceptions, and attitudes towards traditional and modern hygiene and sanitation system. This chapter basically deals with the beliefs, perceptions, and practices of the local people and their attitudes towards traditional and modern hygiene and sanitation systems. This includes local perceptions towards modern development interventions; traditional belief and perception towards defecating practices; perception of clean, unclean, and cleansing behavior; belief and perception regarding health care system, nature and other waste, and human dirt and toilet culture; and children's perception towards modern hygiene and sanitation practices.

Similarly, chapter seven presents the major processes and initiatives of development intervention program activities adopted in the local community. This chapter discusses the various activities carried out in the local community studied to change the local belief, perception, attitudes for the alteration of previous situation of hygiene and sanitation conditions. Basically, the activities operated adopting the fundamental approaches, i.e., CLTS, SLTS, and LLTS, in the areas this chapter includes are formation of V-WASH-CC; setting slogan; meetings, rules and decision-making process; assessing the local needs; the state of hygiene and sanitation system prior to intervention; training and exposure visit; contents of the training; patterns of

participation in training; creating of funding at local level for modern hygiene and sanitation system sustainability; major activities carried out in campaigns, i.e., formation of V-WASH-CC, subsidy providing, distribution and use of IEC materials, toilet promoting campaigns, ODF declaration, commitment for future sustainability, etc. On the basis of information gathered from interview of key informants, observation, and concerned institutions, these activities are discussed here in detail.

Chapter eight presents the modern development intervention and existing sanitation and hygiene practices and situations of the areas. This chapter discusses basically the existing practices and the situation of modern hygiene and sanitation development intervention at the local level. In this chapter, pre- and post-ODF situations including hygiene and sanitation at individual, household, community, and environmental level; traditional food patterns, i.e., preparing, cooking, serving, feeding, consuming etc; wild edible things; *jar* as a major food item and its social, cultural, and economic application; use of wild plants used as medicine; use of the latrines in the communities and its cultural group-wise coverage; modern drinking water situation; consumption and requirement of water; water treatment and storage culture; functioning state of water and sanitation user's committee; various hygiene and sanitation behavioral patterns (hand washing behavior; dust bin and pit use; sweeping; face washing; tooth brushing; nail cutting; bathing; cloth washing behavior); and cultural group-wise effects of intervention on death, diseases, and health are critically discussed. Finally, chapter nine presents summarization of the findings and conclusions made on the basis of the findings.

CHAPTER-II

REVIEW OF THE LITERATURE

This chapter reviews various theoretical approaches, perspectives, and empirical studies done by anthropologists, and policy, reports, documents of development approaches as resource materials in various aspects of hygiene and sanitation behavior system, whether these are academic or nonacademic. I have presented and critically discussed available literatures regarding hygiene and sanitation behavior system, which I often loosely term 'anthropology of hygiene and sanitation behavior'.

The review of the literature has helped me conceptualize and contextualize the field and find out gaps of knowledge. It has also provided me with deep insight for identifying field and research problems and research questions, setting objectives, and framing operational conceptual schemes, as well as ways to get insights for garnering information and tackling problems, ways of presenting, analyzing, and interpreting data and information related to hygiene and sanitation behaviors from different angles in both qualitative and quantitative ways. This review chapter has been divided into many sections, from broad theoretical overview to empirical study, both outside and inside the Nepalese context, identifying gaps and major conclusions.

2.1 Theoretical Overview

Generally, anthropology deals with the process of construction of cultural structures and functioning of culture and its diffusing dynamics (i.e., transmitting) through the various mechanisms in any particular natural circumstances and human settlements (Tylor, 1871; Malinowski, 1944; Brown, 1952; Steward, 1955; Geertz, 1973). While analyzing human behavior, classical environment theorists believed that natural factors act as independent variables frequently causing, mastering, and producing various kinds of human behaviors as well as shaping social structure/organization and institutions, and their patterns of culture as the very foundation of human life. Furthermore, all kinds of ritual behavior and 'modes of psychological adaptation' (Fewkes, 1896 cited by Hardesty, 1975), social structure and functions, manners and customs, aesthetics, products and motives, lore and symbolism, and 'creed and cult' (Hodge, 1907 cited in Hardesty, 1975) are perceived as the products of natural

process (Pritchard, 1951 and Bennet, 1976) modifying culture and human affairs (Hardesty, 1975:1).

This theory put the idea that environment induces human beings to produce and reproduce patterns of behavior for balancing the natural system for adaptation. This process also brings effects and variations in lifestyle, human settlement patterns, density, preferences, belief, and attitude towards hygiene and sanitation behaviors as products of it. For example, living environment governs attitudes of persons choosing place for safety and privacy to defecate and urinate, which varies from rural setting to urban, home to office, formal party to camping trip, and with conveniences and facilities available, i.e., water closet and decorated ambience.

Unlike environmentalism, human adaptive behavior is also the product of a particular cultural context, even though the environmental setting is a factor in effectively producing and reproducing behaviors of human being. Environmental perspective, however, assumes that only the pressures of nature are the foundation of human behavior system influencing the human activities in a unitary way, undermining the role of human cultural creations. But in any given system erected on the natural foundation, one could see the effective and major role of culture on the behavioral system. Rather there exists hybrid mechanism from blending of internal (natural) and external (cultural) elements. I have also adopted the environmental perspective while analyzing the hybrid mechanism created by the effects of both the nature and culture in a context of local circumstance relating it with the local hygiene and sanitation behavior system.

Unlike environmentalist, the cultural possibilist model, propounded by Boasian school of thought, emphasized more on the historical contemporaries and cultural particularities of locality, bearing largely on the patterns of human behavior. It claims that the nature is not always in the supreme position but has a bundle of possibilities from where culture selects whatever is vital for human life; therefore, culture was really prior, perceptions and wants of human are conditioned by their cultural milieu, and as the basis for human behavior culture pre-exists the environment (Cited in Hardesty, 1977:1-4; Bennet, 1976:162). Cultural possibilist model assumes environment only as the abundant of possibilities where culture plays its own dominant role in determining and patterning the human behavior. This model always ignores the role of nature which poses the pressures in creating conducive

environment for human behavior system. This study has analyzed the effects of both the role of local culture and nature in a particular reference to hygiene and sanitation system.

In respect to the various forms of human behaviors, the idea of cultural adaptation stressed on adaptive values through cultural apparatus (i.e., technology, social organization, institutions, norms, values, preferences) that are reflected on cultural, institutional, and behavioral level. Cultural relates to values and collective expectations within a specific social setting; institutional relates to the process and patterns of activities done to attain the goal; behavioral concerns tackling to circumstances encountered and fulfilling the needs of individual to adjust with the surrounding environment to use the resources available (Hardesty, 1975; Bennet, 1976; White, 1949; Steward, 1955; Fricke, 1991). However, only the internal adaptive strategy in specific historical tradition is not always effective in guiding human behavior. Some of the outer motivating and driving forces, i.e., development intervention breaking the particular historical tradition, could also be dominant in influencing the local behavior. Here, in the context of my study, hygiene and sanitation behavior system enforced from outside are also considered as the products of strategic system developed in the process intervention, which also could be the means of tackling unfavorable circumstances prevalent in local setting.

The method of cultural ecology interprets human behavior as a mode of adaptive strategy. It aims at finding the roots of culture in human's behavioral capacities and patterns. This is an important method for analysis of human behavior as it presumes human behavior as the outcome of nexus of the technology, environment, and culture based on the idea of reciprocal or interactional relationship among technology, environment, and culture (Hardesty, 1977:8-9; Seymour-Smith, 1986; Steward, 1955; Mann, 1984:162; Fricke, 1989; Frake, 1956; Harris, 1965; Honigmann, 1976).

The focus of cultural ecological model is the reciprocal causality among technology, environment, and culture on the basis of which human behavior is analyzed. While analyzing human behavior, this model has given high value on an interplay between nature and culture through the means of technological apparatus as strategic devices for maintaining adaptive instinct of human being, but other cultural dimensions of human behavior such as social organization, institutions, norms, values, preferences, perceptions, attitudes, habits, outer encroachment in the given region are left as less

effective but are also unavoidable factors influencing behavioral patterns of activities and tackling the circumstances encountered and adjusting with given environment. Hygiene and sanitation-specific behaviors are also the strategic devices for adaptation. In this context, hygiene and sanitation behavior system can also be analyzed in reference to the technology used, environment, and the local culture. Whatever the position of this model, I have adopted this model equally emphasizing on both soft and hard aspects of hygiene and sanitation behaviors of local community.

Actor-based perspective is also important, which views human behaviors as adaptive strategies used in the course of adaptation. It emphasizes on individual level of behaviors rather than collective. It claims that strategic behavior occurs at the level of individual and not at the species or group level, and environmental adaptation is seen as occurring not as a result of natural selection on the culture or social system level, rather it is the result of the outcomes of thousands of individuals' decisions about how best to interact with the environment (Orlove, 1980:246). In highly competitive environments, individuals survive in the selective pressure of the environment (Ostrom, 1998, Gardner and Ostrom, 1991).

Actor-based model emphasizes only on strategic behavior occurring at the individual, not at the group level. However, adaptive strategies can occur at group and collective/community level. Thus, this perspective has also been relevant and was adopted to analyze hygiene and sanitation practices as adaptive strategies of individual, household, and collective/community and environmental level.

Ethno-ecological perspective is also an important viewpoint in anthropology. The approach is based on the cognized perception of local people and indigenous knowledge system about the natural circumstances they encounter in everyday life (Rappaport, 1963; 1969; Hardesty, 1977:14; Anderson, 1973: 188; Mann, 1984:150). Despite its relevancy, sanitation and hygiene behavioral system has not yet been brought into this framework for academic debates. Here, this approach has also been adopted to analyze the behavior of the local people in relation to their perception.

As a useful concept in understanding the functional relationship among various components, system approach analyzes different forms of human behaviors functioning as a unit within a systemic framework (Vander Ryn, 1978; Winbland, 1989; Langergraber and Muellegger, 2005). Rappaport's system idea is relevant to

hygiene and sanitation practices of people in specific environmental settings. Keeping animals has also implication in mitigating unhygienic environment. For example, pig keeping has greater implications to fulfill ritual needs on the one hand, and people letting to consume their excreta to pigs has an important role in maintaining sanitary conditions and hence ecological balance, on the other. Thus, religious rituals, pigs, and human excreta are the fundamental components of the entire ecosystem, among which religious rituals play important role in contributing to maintaining the system (Rappaport, 1967).

Conventional system model explains and analyzes only the functional unity, i.e., relationship or interconnectedness among the internal constituent parts, but ignores how this internal functional system in a particular locality could be stimulated by the pressure of outer factors, how change is possible in its structures and functions. In this study, how internal system has been transformed and stimulated to change from the intervention out of local system is explained. More importantly, system approach is often applied in the analysis of functional unity of natural as well as social and cultural system, but it does not take into account of factors encroaching from outside, i.e., development intervention. This approach has been a useful frame for the analysis of hygiene and sanitation behavior in a given cultural and ecological setting, which I have adopted in this study.

Cognitive approach views that human behaviors are governed by combinations of cognition (knowledge), perception (feeling), and behavior (action) of given social groups. Some writers also say that cognitive factors are strong and important in influencing hygiene and sanitation practices to a great extent (Douglas and Wilddavsky 1982; Krech et al. 1962 cited in Avvannavar and Monto Mani, 2008:2). Other (Subedi, 2003; Rosenquist, 2005; Posely, 1985; Ortiz, 1971; Douglas and Wildavsky, 1982; Yacoob and Whiteford, 1994; Brelet, 2005; Dierolf et.al, 1999; Amery, 2001; Nawab et al., 2006; Krech et al., 1962; Avvannavar and Monto Mani, 2008) have given their views in their respective fields of study regarding cognitive roots of health, hygiene, and sanitation behavior.

According to this perspective, cultures are viewed as cognitive responses made by human groups in the path of successful adaptation. The linkage between diseases, medicine, and culture is nothing other than the outcomes of cognitive structures. Humans through their cognitive systems have devised measures to prevent onset of

disease and curative measures in their efforts to eradicate the disease or at least to mitigate its consequences (Subedi, 2003: 134-135).

Culture as a cognitive system itself reflects in the forms of complex whole of aggregation of human creation. It is seen either in the material or nonmaterial form or in the form of invisible motivations internalized as relatively permanent perception that is socially recognized and is also rooted within human potentiality that affects activities of everyday life world. For example, feelings, preferences, and attitudes of humans influence hygiene and sanitation behavior and habits, and even these factors are related to man's psychic aspects (Rosenquist, 2005:335).

Similarly, Douglas and Wildavsky, Ortiz and Posely view that cognition and socio-cultural capitals of the local community people living in a specific locality provides important information (Posely, 1985) for both development and intellectual discourse to garner data for knowledge. This is why people look at hygiene and sanitation behaviors through cultural lens. One of the most important views is that perceptions internalized and institutionalized constitute the lens through which people view their real world. Communities will not develop unless their culture or cognitive systems are first changed (Ortiz, 1971:332, Douglas and Wildavsky, 1982).

Cognitive approach discusses about the perception, knowledge, and action of human beings in making a particular system, but perception itself is created by cultural needs and nature's pressures. In this study, this perspective is also adopted to analyze the local hygiene and sanitation system. Cognized perception and knowledge system is not always applicable to sustain and operate local system, but the perception of outside actors can also be an effective strategy to sustain the local system that could be made relevant and also adopted in the context of the study of local sanitation and hygiene behavior system.

The theoretical perspectives discussed above have analyzed and interpreted various dimensions of human behaviors in relation to culture and human-nature relationships. However, these have failed to analyze hygiene- and sanitation-specific cultural behavior in relation to human cognition of a particular ethnographic context and to mention how behaviors of a particular local circumstance are influenced by outer forces and how these outer forces create new ecology in a particular historical tradition. They have successfully analyzed the universal relationship and direction of

cultural behaviors, roles of culture, and relationships among the behaviors and drawn conclusion in effective ways, but they have not incorporated the hygiene- and sanitation-related cultural behaviors as one of the most influential and indispensable variables of the system.

2.2 Review of the Concept of Community

The concept of community has a range of meanings in anthropology. However, various anthropologists have given their views in respect to the community somewhat differently. For example, some explained community "as any set of social relationships operating within certain geographical boundary, locations, or territories" (Jary & Jary, 2000:92-93).

Community is viewed not only as a group of people with certain identification in a geographical location but also the 'structures of interests, habits and attitudes', 'a professional group', 'a residential unit' such as a village or town, a sector within such a unit or a club or voluntary association, 'community action', 'community medicine', 'community participation' 'community projects' where it designates a commitment to the interests and welfare of majority, or 'a popular sectors of society' subjected to policies and strategies of 'grassroots' involvement in the planning and execution of individual program or more general programs. Thus, the study of community has been the dominant mode of anthropological analysis which focuses on a relatively small and independent local settlement and emphasizes the practical interrelation of social institutions and cultural patterns within such a community. It aims accordingly at a holistic and complete description of patterns of social relationships, values, and institutions in the community and the manner in which it maintains and reproduces its social structure and cultural system over time (Seymour-Smith, 1986:46).

The concept of community is applicable in relation to this study as the study focuses on a particular community which has its own cultural ground where modern hygiene and sanitation development intervention has operated programs to create new behavior patterns. This study intends to explore cultural roots of hygiene and sanitation behavior in a community living in a specific geographical location, even though it has various cultural groups. Hygiene and sanitation behaviors occur not only at an individual level but also at the community level. Community perception influences and shapes behavior to a large extent. Community is not only the collective

structures of relationship of behavior but also reflections of the nexus of other hygiene and sanitation behaviors guided by both external and internal forces which have to be framed in anthropological academic sphere.

2.3 The Idea and Concept of Hygiene and Sanitation Behavior: An Overview

Etymologically, the word 'hygiene' is derived from the modern Latin word '*hygiene*,' and the French word 'hygiene' means "healthful art" or "art of health", "good for the health, healthy" "healthful, sound, salutary, wholesome". As in ancient Greek religion, Hygeia was the personification of health and hygiene, the term dealing with the promotion and preservation of health and the practice or the principles of cleanliness (Encarta World English Dictionary, 1999), or a way of maintaining good health and preventing disease (Cowie, 1994:602). Simultaneously, the term 'hygiene' is used to understand the set of practices perceived by a community for keeping oneself and one's surrounding clean, especially in order to prevent illness or spread of disease to reduce the death incidence and for the preservation of health and healthy living (Boot and Cairncross, 1993:6). However, the standards of hygiene behaviors are found to be different in different cultures, gender, and groups, vary very widely, and what is considered acceptable in one culture might not be acceptable in another (Yacoob and Whiteford, 1994:337).

Similarly, sanitation, from the Latin word *sanitas*, meaning health, refers to the activities of cleanliness by people; maintenance and delivery of clean, hygienic conditions that help prevent disease through services such as drinking water supply, garbage collection, and safe disposal of wastewater and human wastes for the maintenance of public health and hygiene. Sanitation is a system that protects people's health, especially those that dispose efficiently of sewerage, and a system for keeping places clean by removing human waste and preventing disease caused by poor sanitation. Defined differently, sanitation is the sum of the human activities to be free from dirt or substances that may cause disease, concerned with protecting health (Cowie, 1994:1120; Encarta World English Dictionary, 1999; Boot and Cairncross, 1993:6). When sanitation is related to the development intervention, it is viewed and understood only in respect to the various contexts, aspects, concepts, locations, or strategies that are basically related to the targets, goals, and outputs. However, the

context has not been analyzed through the discourse regarding the hygiene and sanitation variable within its cultural base. Consequently, there is dearth of anthropological investigation in rural context of Nepal.

Hygiene and sanitation behaviors are actually governed by the cultural perception and beliefs; the reflections of the local cultural system and worldviews internalized by the people living in the particular circumstances. The fundamental issues have not yet been brought into anthropological debate in special ethnographic reference of Nepalese context, and this study has undertaken this issue for the anthropological discourse.

2.4 Water, Hygiene and Sanitation: An Anthropological Overview

Most of the scholars often wrote about water only as a natural resource upon which hygiene and sanitation behavior is based. They claimed that for hygiene and sanitation behavior, water is a supreme sanitary agent, the factor that made it possible to bring about major advances in public health and life expectancy. As a cleansing agent, water cannot be surpassed: it has extraordinary power of dilution, dissolution, and absorption (Black et al., 2008:6). However, water is used not only as a natural thing but also has cultural values thus has been an integral part of cultural hygiene and sanitation system.

The Hindu holy texts 'Mahabharat' and 'Geeta' have considered water as one of the five elements (*panchatatwo*) which have multifaceted cultural values and symbols as an instrument of purification and atonement, unifying force, and as an enlivening element (Mahabharat, Gita, Manusmriti cited by Sharma, 2001:40; Goyandaka, 1990). An important part of ritual purification in Hinduism is water that is used for bathing of the entire body. Ritual functions are performed using water via *achamana*—the touching and sipping of pure water while reciting specific mantras—and the application of a *tilaka* on the forehead and *abhisheka* (Sanskrit, 'sprinkling; ablution'), in which the deity's idol is ritually bathed with water, curd, milk, honey, ghee, rosewater, etc. *Abhisheka* is also a special form of *puja* prescribed by Agamic injunction. This act is also performed in the inauguration of religious and political monarchs and for other special blessings. Water has not only the value for electricity, irrigation, and drinking but has the value for health and hygiene, environment,

production, and religious purposes. Thus, water is also treated as the cultural component (Sharma, 2001).

Black et al. (2008) view that water's cleansing, deodorizing, and health-giving properties have always been reversed, in the traditional world, by priests and pilgrims and in the modern by agents of cleanliness. These roles are often conflated: priests and spiritual leaders have been frequent movers and shakers for sanitary improvements. According to the spiritual views, especially in the Hindu society, many of the world's rivers are considered as holy, and taking a bath in them is seen as purifying (Black et al., 2008:6).

Many other writers have put their ideas about water. They perceived it only as an integral part of sanitation activities which has been the means of the optimal way of cleaning and preventing disease in many societies as well as the means of economic prosperity. However, water is used only not as a natural commodity for drinking, cooking, bathing, washing, and other sanitary purposes but also as water travel, tourism, economic purposes, cultural and religious entertainment as well and thus has multidimensional social as well as cultural usage. Thus, hygiene, sanitation, and water have been considered as indispensable factors of a single system (UNICEF, 1993; Esray, 1996; Hoy, 1995, Vigarello, 1988).

From the literatures reviewed, it can be said that water as natural as well as socio-cultural element influences, to a large extent, the patterns of hygiene and sanitary behaviors and the state of health of people that exclusively depend on the availability of water. But the literatures have not analyzed properly the interconnections among health, hygiene, sanitation, diseases, death, etc., and water as the ritual components showing anthropological meaning within ethnographic framework in the context of rural setting of Nepal. Thus, water as the natural resources has been interpreted as the ingredient to the hygiene and sanitation cultural system of the rural community people, which has been an important aspect of this study.

2.5 Hygiene and Sanitation Behaviors: Medical Anthropological Perspective

Medical anthropological perspective overlooks on the environment, culture, and health. It intends to explore the relationship among human health and disease, health care practices, and biocultural adaptation in the context of culture and society, folk

medicinal system, cultural roots of healing practices, and is concerned with empirical research for theoretical knowledge production. It basically focuses on "human health in a variety of environmental and cultural contexts, ranging from isolated tribal people to modern urban communities" (Mcelroy & Townsend, 1998:92).

Most of the medical anthropologists take the process of adaptation as the core theoretical construct. They view adaptation as changes and modifications through behavioral strategies that enable a person or group to survive in a given environment. "A central premise of medical anthropology is the group's level of health reflects the nature and quality of these relationships" (Mcelroy & Townsend, 1998:96). Research in medical anthropology is one of the main growth areas in the field of anthropology as a whole, and important processes of internal specialization are taking place (Pinell, 1996).

Medical anthropologists seek to elucidate universal as well as culturally particular features of the healing practices (Kleinman and Sung, 1979:7). Some of them have explored the relations among resources and health practices of aborigines in different parts of the world, with particular emphasis on their ethno-botanical knowledge. They study the rituals surrounding to construct a scientifically based medical concept which they could use to establish the cultural limits of biomedicine (Pinell, 1996).

According to this view, local people act in light of their cultural values and folk knowledge and take up the medical facilities based on food, herbs, religion, illness, beliefs, and knowledge. They prefer traditional health care system with their folk knowledge encouraging for adaptive behavior focusing particularly on water-related diseases and of water management as the key to improve public health in preventing illness as the central importance (Bhopal, 1986:99).

Medical anthropology also deals with magical practices, medicine, and religion and explores the role and the significance of popular healers and their self-medicating practices in a specific cultural feature of some groups of humans which is distinct from the universal practices of biomedicine. Every culture has its own specific popular medicine based on its general cultural features; it would be possible to propose the existence of as many medical systems as there are cultures and, therefore, develop the comparative study of these systems (Cameron, 2009).

Anthropologists like Curtis, Benin and Jenkins have put their ideas of hygiene and sanitation behavior within the medical perspective arguing that hygiene, in the medical sense, is a core value in modern societies and objects, activities, and people are judged by their medical qualities. After studying the hygienic ideas and practices by mothers in Burkina Faso, Curtis concluded that cleanliness and dirt avoidance were primarily a matter of "etiquette and social acceptability rather than to avoid illness" (Curtis et al., 1998).

Pinell (1996) opines that the anthropological concept of medicine emphasizes on the study of folk medical system as the specific product of each ethnic group's cultural history in relation to personality and the influence of culture on what a society considers to be normal. Since the end of the twentieth century, medical anthropologists have had a much more sophisticated understanding of the problem of cultural representations and social practices related to health, disease, and medical care and attention. However, the verification in different cultures and identification and description of diseases belonging to specific cultures have not been previously described (Pinell, 1996).

Hygiene, seemingly a purely medical concern, lies at the heart of culture and is both a means of political control and resistance. Sanitation policies become most successful when they also appeal to other values in people's lives, such as social decency, respect, comfort, and religion. Otherwise, cultural ignorance and lack of respect for local knowledge and practices of hygiene will be the major problems in sanitation projects of both foreign organizations and local governments in low-income societies. The cultural and religious resistance will be the major hindrance against the government's sanitation policy (Ndonko, 1993).

Michel Foucault (1990) argues that sanitation policy in particular constitutes the link between macro and micro structures and phenomena legitimizing the state's interference in households and private lives of people and thus helps to establish more effective disciplinary power (Foucault, 1990).

There are a large number of contributors to the medical anthropology. For example, Cameron (2009); Geest (1998); Bhopal (1986); Arthur Kleinman (1980, 1985, 1986, 1978); Byron Good (1994); Pinell (1996); Curtis, Benin and Jenkins (1998) are some examples of eminent medical anthropologists who have both practical as well as

theoretical contribution. However, existing literatures in the context of Nepal lacked analysis of hygiene and sanitation cultural behaviours, nor the study has been done applying ethnographic approach in the context of Nepal. Thus, qualitative research with ethnographic approach is essential for understanding the social networks of rural setting, knowledge of local people on health and illness, their experience affected by cultural complexity. The present study has applied this approach in a particular rural setting of Nepalese context.

There is no question that hygiene and sanitation behavior fall under the area of medical anthropology. Anthropological medical perspectives discussed above focused on the relationships among man, culture and diseases, health, healing and medical practices in isolated communities in terms of cultural context but not enough on hygiene and sanitation behavioral system culturally constructed for anthropological discourse. Even the very roots of the health conditions are the outcomes of hygiene and sanitation behaviors guided by the cultural components (i.e., attitudes, preferences, and perception of local people) and the physical environment, which subsequently differ from place to place. They have not included these factors in their analyses. Their study also lacked the ethnographic context of particular medicating practices. They have not analyzed the new forces, i.e., effects of development intervention on the cultural behaviors of the local people. The intention of this study is not to seek particular healing practices; rather, it intended to focus on the change in hygiene and sanitation behavior conditions, perceptions, and attitudes brought by intervention. This is not a study purely based on the idea of medical anthropological perspective but not completely separate from this idea; rather, I attempted to analyze the local hygiene and sanitation behavior in relation to medicating practices. The medical practices and hygiene and sanitation behavior of the people living in the study areas have their own cultural structures. I have tried to relate local medical ideas with hygiene and sanitation behavior and analyze the factors within ethnographic context and framework.

2.6 Ethno-Medicinal Perspectives on Hygiene and Sanitation Behavior System

Ethno-medicinal perspective in anthropology is a folk worldview which deals with knowledge and perception of local indigenous people in relation to traditional cultural

histories and social explanations of health, culture-specific folk illnesses and diseases and their healing practices. It emphasizes more on ethno-botanical knowledge of a particular cultural group for using medicinal plants when sick.

According to this view, local indigenous people construct multiple and discrepant worlds by means of different traditions of knowledge as the result of a learning process influenced by a number of factors. Once internalized, this knowledge becomes belief that marks the cultural reality and the world people construct in the course of their collective life. This can only be understood by examining the specific context in which an ill person's socio-cultural organization and dominant world views are patterned (Subedi, 2003: 133).

However, this perspective examines the disease only in terms of the indigenous cultural limitations. But the hygiene and sanitation behavior and the reflection of it is heavily influenced by the relations among various groups. It analyzes the disease and its healing practices only in relation to the medication but fails to relate it with the hygiene and sanitation behavior in a particular circumstance or different rural cultural circumstances. This perspective has also been relevant in this context to analyze the hygiene and sanitation behavior in relation to other groups and outer pressures, not only the single cultural group.

2.7 Hygiene and Sanitation Practices in Symbolic Perspective

Hygiene is the essence of cultural behavior in its symbolic form. Douglas (1970) applied the cultural symbolic and relational point of view. She conducted cross-cultural research on bodily purity, impurity, and dangers created through defecation practices as symbolic manifestations of purification among the Coorg community. Douglas's theory of dirt as matter out of place becomes more true to life and effective as an interpretative tool (Douglas 1970: 15).

Hygiene and sanitation behavior has symbolic meaning. Geest also has given symbolic meaning to hygiene and sanitation behaviors. According to him, in Akan people's cultural system, dirt and cleanliness have symbolic meaning which denotes social, moral, and aesthetic phenomena. Cleansing is a ritual practice in Akan people. He states, "in the Akan's cultural system dirt means ugly, unattractive, nasty, bad, uncivilized, shameful, not respected, and on the other hand cleanliness is to express

positive appreciation such as clean, beautiful, attractive, good, civilized and respectable" (Geest:1998:8).

Curtis used the ideas of 'disgust' as a powerful human emotion and a symbolic action. This can be related with hygiene and sanitation behavioral system in the community. A study by observation over 40,000 individuals from a web-based survey using photo stimuli holding a potential disease threat reported that females have higher disgust sensitivity than males. These data provide evidence that the human disgust emotion may be an evolved response to objects in the environment that represent threats of infectious disease. However, there was a constant decline in disgust sensitivity over the life course; and the bodily fluids of strangers were found more disgusting than those of close relatives (Curtis et al. 2004).

The disgust, as an adaptive system for disease avoidance, is also a system for protecting organisms from infection, which is related to many phenomena and activities, such as defecation, sex, food, and drink (Miller, 1997). "But disgust, coupled with taboo, is not an adequate disease-avoidance strategy. Knowledge, too, and the conversion of knowledge into changed behavior is essential" (Black et al., 2008:78).

The belief of purity and pollution has also been a disciplinary concern. Major religions (Hinduism, Judaism, Buddhism, Christianity, and Islam) also variously elaborate the matters of sin, taboo, pollution, and purity. Steiner, Sharma, Durkheim, Mary Douglas, Smith, Frazer, and Khare also talk about the purity and pollution regarding human behavior.

Manusmriti, mentions about the idea of human behavior regarding pollution and purification. Pollution means unsanitary, dirt, and ritually clouded environmental situation, and purification is the process of getting the holy and sacred state through various cleansing activities (Manusmriti, 200 AD, citing by Sharma, 2001:40).

There are linkages between taboos regarding ritual purity, pollution, and hygiene and sanitation behavior. Every human society subscribes to ideas of human purity and pollution in some form. Certain agents, activities, contracts, periods, and substances are known to pollute, while others purify. Pollution, as opposed to purity, disturbs equilibrium, destroys or confuses desirable boundaries and states, and engenders destructive natural forces or conditions and also to modern temper, for example, as in

food, medicine, and environment. Khare wrote about the rules of holiness (purity), ‘magical’ uncleanness, pollution or taboo. According to him, societies desire to be sacred and continually try to separate and protect themselves from the dangerous profane by suitable rituals (Khare, 1962)

Some societies treat pollution as danger to social order. However, there still was no scheme for clearly organizing and explaining the baffling diversity in rules and practices on purity, pollution, and taboo in different cultures. Societies related pollution to their moral values, with rites and practices aimed at reducing risk and danger to their people by devising ways of clearly demarcating, ordering, and controlling sources of pollution, with the overall goal to protect their social and cosmological orders. Khare opined that pollution helped explain rules and practices found in ‘primitive worlds’ as well as complex civilizations concerning the sacred and the secular, the inner and the outer, and the physical and the symbolic. The notions of dirt, hygiene, uncleanness, and symbolic representations of the human body occupied the centre stage to explain how—and why—different peoples treat contaminated foods, bodily fluids, secretions, excretions, remainders, and refuse (Douglas, 1966; Smith, 1927; Frazer, 1890; Steiner, 1956 cited in Khare, 1962).

This perspective emphasizes on the behavior of pollution and purity in symbolic framework, which to some extent influences the human behavior. For example, some people may learn it indirectly. However, human hygiene and sanitation behavior not only rests on symbolic structures but it is also the manifestation of formalized rules and regulation. The human behavior always not limits itself in its primitive spiritual views. New pressures in a particular situation create new patterns of behaviors. Disgust as a symbol may not work always in the same manner and may not be possible in a varied community. Development intervention may produce new kinds of behaviors, which would be the new structures of behavior in the rural settings. Rules as formal taboos also function effectively to avoid unsanitary manner which shapes hygiene and sanitation behaviors of the particular community which has been remained to be brought into anthropological discourse.

2.8 Religious Perspective on Hygiene and Sanitation Behavior

Some writers are of the opinion that religious issue is spiritual that is often characterized under cultural factors. They opined that it is directly related to the

spiritual view which influences or dictates an individual's hygiene and sanitation approach in a social environment. Various kinds of diseases, healing practices, health and ill health are directly related to the spiritual view of the community, such as belief on gods, demons, and fate (Avvannavar and Monto Mani, 2008:2-5; Subedi, 2003:144). Thus, religious or spiritual approach has a significant role on human behavior, which may lay down strict rules for the position and use of latrines and cleaning after defecation (Winbland and Kalima, 1985:1).

Some other links religious factors with defecating, urinating, cleaning and purifying practices of human beings. They spoke about various religious thoughts regarding hygiene and sanitation behavior; for example, Islamic religion demanding all possible cleaning as a part of purification rituals for praying, Christian view regarding defecating and urinating that emphasizes on sexual morality, personal hygiene, and burial of human excreta (Avvannavar and Monto Mani, 2008). Lots of notions can be found also in Chanakya ethics. According to these notions, urinating or defecating near a house or place will cause nuisance, and in a neat stream from which people take water is strictly forbidden in Hindu society. Chanakya ethics also stresses on bathing to purify human body (Chanakya:Chapter:1:9, 6:3, 8:6, 8:7, 15:4, 17:12).

The Aryan scripture Manusmriti Bishnupuran (1500 BCE) talked about the code of conduct as rituals at the time of defecation for different groups of people. For example, in the high caste Brahmin community, the sacred thread has to be worn, and ears and head have to be covered with cloth before and during excreting. This is a symbolic part of culture which is related to being free from vector attack and to attain good hygiene and sanitation status. However, believing in reincarnation and promoting the concept of recycling life treasures, Buddhist culture treats human excreta as earthly resources (Nawab et al., 2006; Zimbelmann and Lehn, 2006; Jenssen et al., 2004; Avvannavar and Monto Mani, 2008:6).

The above religious views on hygiene and sanitation behaviors are pertinent to this study. Religious and spiritual view is intimately attached to the belief and perceptual system of the community people, the diversity in which might have brought variation in behaviors among human groups. There may not be similar patterns of behaviors due to the differences in religious views. Health, hygiene, and sanitation condition is, in one sense, a reflection of religious worldview of the local people, which has great influences over their various dimensions of life. However, religious factor in relation

to hygiene and sanitation behavior has not yet been the matter of anthropological discussion. The above writers have described the spiritual views and tried to link hygiene and sanitation practices to spiritual belief in general, but no study has been done on hygiene and sanitation behavioral system in special reference to the Nepalese context. This study has tried to make anthropological sense to the spiritual worldview of local people.

2.9 Societal and Cultural Perspectives on Hygiene and Sanitation Practices

People's cultural perspective and attitude to a large extent influence the hygiene and sanitary activities of people at individual, community, and household level. Socio-cultural factors determine the hygiene and sanitation behavior of the people. Writers like Balfour (1926); Winbland and Karima (1985); Black et al. (2008); Geest (1998); Rheinlander et al., (2010); Rosenquist (2005); Whiteford (1993); Yacoob (1994); Simpson (2004); Avvannavar (2008); Mantomani (2008); Rosen (2008) express their views in this context opining that every culture has developed methods of cleansing and dealing with human excreta and other wastes for hygiene and sanitation purpose.

There is an interconnection between culture and cleansing activities, i.e., preventing dirt making, a complex system for getting rid of dirt, creating and restoring order. Thus, prevention itself is culture and culture is linked to the process of prevention within which total system of preventive thought and action takes a central position (Geest, 1998).

In his article 'Akan shit, Getting rid of dirt in Ghana' (1998) Geest has shown the function of peculiar culture dealing with human dirt, i.e., feces. He also dealt with the interconnection among "shit, culture and well-being" of the rural people and ups and downs of the public and private toilet behavior of elderly people in a Kwahu rural town. He states that culture concerns with cleanliness and removing dirt from the bodies and bowels for getting rid of human waste. Cultures and behaviors react negatively to filth and human excrement that is expressed both in language and action. The cultural system functions as prevention through the feeling of dirt and danger. Thus, dirt is unwanted things coming from outside and attaching to the bodies, to clothes, to objects, or to houses and something one should get rid of (Geest, 1998:1-5). Culture is not only preventive, but some culture, society and people accept culture

of dirt (Horan, 1996:8). Whatever the ideas, it can be said that cultural norms make people avoiding or denying the subject on a psychological level that is considered preferable in most cultures (Rosenquist 2005:339).

Some writers are of the opinion that there are two types of cultures, fecophobic to fecophilic. Most world cultures, however, occupy a position somewhere in between these two extremes of fecophobic and fecophilic attitudes. Fecophobic cultures are common among people with a tradition of Hinduism and in Africa south of the Sahara. This tradition has had no use of human excrement in agriculture, as a result of the people's semi-nomadic lifestyle; nor has there been any tradition of building permanent wells or toilet. Yet the fear of human feces, related to the fact that they are malodorous and potentially dangerous—a fear which to some extent is rational—has proven one of the key obstacles for implementation of sustainable sanitation, and the smell of other people's feces was perceived as a warning signal (Winbland & Simpson-Herbert 2004; Avvannavar and Monto Mani, 2008:5; Rosenquist, 2005:338). Unlike this, at any places (i.e. in China), human excreta has been used as fertilizer for several thousand years, is a fecophilic culture, in which excrement is seen as a valuable product (Winbland & Kilama 1985).

Rosen opines that certain universal norms, i.e., written and unwritten laws, govern the behavior of individuals in society. However, as societies differ, so must their norms. Whatever the norms, both traditionalism and scientific spirit play a fundamental and beneficial role in balancing societies. For example, China is the archetype of traditionalism, where conservatism has long been too dominant. Therefore, hygiene and sanitation is practiced beyond acquisition of food, water, and shelter. Cultural factors must be considered and celebrated, as these values have direct implications on how a society, region, or nation develops standards of hygiene and sanitation. However, the need for cultural and political sensitivity in the analysis of hygiene and sanitation standards becomes clear in even the most superficial of accounts (Rosen, 2008).

He is also of the view that social standards of hygiene and sanitation practices do not develop in a vacuum; existing cultural norms, the political climate of the time, and available technology all play a role in guiding these practices. Additionally, as illustrated by the historical need for the forceful application of the West upon the rest, European ideals of health are not suitable for everyone. By examining the progress of

hygienic reform and its influence on colonization, we learn that universal norms toward the practice of hygiene and sanitation simply do not exist (Rosen, 2008).

Falkenmark (1998) argues that spirituality and ethics is the driving force of influencing human behavior. Therefore, the efforts towards improving the hygiene and sanitation conditions must be considered religious, cultural, and spiritual values in the design and introduction in any cultural context (Falkenmark, 1998; Nawab et al., 2006).

Cultural attitudes and beliefs are important motivating factors for hygiene and sanitation behavior, but these are not fixed and may be adapted because of other changes. People's behavior, hygienic or otherwise, has a meaning and a purpose. It can be understood only when it takes into account the cultural setting in which people live (Boot and Cairncross, 1993:3).

Rheinlander et al. view that symbolic, societal, and cultural driving forces (i.e., norms) for hygiene and sanitation practices are also important and very influential elements. The culture of indicating higher social status by having a latrine or signaling good motherhood when keeping children hygienic are seen in every cultural and social system. Social desire for neat appearance was more important (Rheinlander et al., 2010).

Balfour claims that religion and hygiene are both instinctual and universal, the power of modern hygiene and its fate in determining the future of mankind. However, Western-defined universal standards of hygiene and sanitation are not truly universal; the cultural and social specificity of norms stand in great contrast to any attempt at cookie-cutter development and change. Sensitivity is needed in the promotion of social change, and that progress is heavily dependent upon unique cultural and physiological features (Balfour, 1926).

The perception of risk is also an important cultural component of anthropological study regarding hygiene and sanitation practices. Slovic opines that, among other factors, cultural and cognitive processes also influence the perception of risk (Slovic, 2000). At the individual level, the perception of the risk that excrement poses to us seems overestimated in comparison to the actual risk. People avoid talking about excrement. Mentally as well as physically avoiding the matter is a high priority in many societies. On the societal level, the risk seems to be underestimated. In general,

people do not worry about groundwater pollution from excrement or water treatment quality, even though this is a real, present threat (Rosenquist, 2005:342).

The system of removal of human dirt in every society is a kind of hygiene and sanitation cultural behavior which is also directly related to the idea of human social dignity, social development, and prestige, and is an important factor as toilet improvement is promoted (Drangert:2004; UN Factsheet, 2008; EcoSanRes, 2008; Black et al., 2008:11).

Rheinlander et al. (2010) agree with the idea of Craig (2002) and Knudsen et al. (2008) that social and cultural values of hygiene are embodied in everyday hygiene practices and local perceptions of hygiene are inscribed in the social body, and hygiene initiatives are therefore expected to be most effective when building in-depth understandings of social practices and the specific cultural context.

Human settlement, household or community social structure or organization, and personal interests, also affect the hygiene and sanitation behavior related to disposal of human feces; use and protection of water resources; water and personal hygiene; food hygiene; domestic and environmental hygiene (Boot and Cairncross, 1993:1-26).

Community people's knowledge, attitudes, belief, perception and practices are important factors of anthropological inquiry regarding hygiene and sanitation behavior. Thus the socio-cultural factors and defecation, toilet usage, microbial water treatment practices can be linked up with hygiene and sanitation ideals in the spread of diarrheal and water-borne diseases (Kalyan et al., 2007).

The above discussion has provided a way to get in-depth understanding of the root of human hygiene and sanitation behavior. However, the ideas have not been founded on the cultural and ethnographic context. My study is different in the sense that it has been the ethnographic context of hygiene and sanitation behavior of the rural people of Nepal.

2.10 Hand Washing Approach: An Overview

Some writers and technical documents have discussed the hand washing behavior as an important cleansing strategic activity of modern development intervention. Human behavior of washing hands with soap and water or using waterless hand sanitizer is considered as central to preventing spread of infectious diseases in home and

everyday life settings. Available studies regarding this matter focused on the perceptions, ideas, and customs of cleanliness, and the role of soap for hand washing within a socio-religious context of purity versus impurity as well as incremental improvements within the sanitation framework as a better chance of success for behavioral change (WHO/UNICEF, 2008; Spruijt, 2001; Boot and Cairncross, 1993; HMG/N, 1997; WHO/DWSS, 2009).

Aunger et al. (2009), based on empirical results from their studies, claim that washing hands can be the consequence of different kinds of psychological causes. Such causes can be divided into three kinds of control over behavior: automatic or habitual responses, motivated or goal-driven behavior to satisfy needs, and cognitive causes which reflect conscious concerns (Aunger et al., 2009).

There is linkage between hygiene and sanitation behavior and health. Safe excreta disposal and hand washing after defecation are two important hygiene behaviors. Some exponents, for example, Boot and Cairncross (1993:46), are of the opinion that washing hand properly before eating meals and after defecating and touching things are basic to good health, hygiene, and sanitation behaviors that has become a global agenda for development intervention, a global culture of good hygiene and sanitation behavior creating social norms, highlighting disgust of dirty hands, and teaching children about HWWS as good manners (Curtis, Danquah and Aunger, 2009).

Writers and exponents give more importance to the culture of hand washing with soap before handling food and after defecation because there are evidences that proper hand washing before handling food (preparing, feeding, serving, eating) after defecation and after cleaning reduce mortality significantly, by 33%. Thus, hand washing behavior has been conceptualized as one of the most cost-effective strategies in public health (Spruijt, 2001:1).

Current development policies clearly favor establishing behavioral change through hand washing programs but remains unclear on how best to design suitable interventions to enhance these changes. Policies have also suggested some difficulties: (a) lack of basic information about existing hygiene practices and beliefs in almost all areas where improved WS & S facilities—latrines, taps, jars, buckets—have been used as interventions; and (b) gap between research and field experience

with effective hygiene processes and practices (Levine, 1989, Boot, Burgers and Sijbesma, 1988 cited in Yacoob and Whiteford, 1994, 331-332).

Policy documents show that Nepal has frequently included in its policy and programs of hand washing highlighting the major cause of illness and death in Nepal. Childhood diarrhea is very strongly related to adequacy of clean water, hygiene practice, and sanitation provision (HMG/N-NPCC, 1997:I, WHO/DWSS, 2009).

The policies and approaches on hand washing discussed above are intended to transform the traditional cultural behavior into modern ones in its practical ground and provide a perspective to get insight into other cultural contexts. However, the cultural components (i.e., local belief, perception, and preferences) of a particular ethnographic and historical context have not been reflected in the policy documents. Local cultural system and institutions, which might reject and accept modern options offered, are not addressed. These are short sighted with regards to the human behavior of hand washing with soap. Therefore, it has been important to have a broad overview of indigenous knowledge and perceptions in its ethnographic and anthropological framework. My study has explored the perception of people on hand washing practice in a Nepalese context.

2.11 Views on Health, Disease, and Illness

Health, disease, and illness are interrelated to each other and are often understood as the condition of a 'person's body or mind' (Cowie, 1994:577). Health is a state of "complete physical, mental and social well-being and not merely the absence of disease or infirmity" (WHO, 1988) but its meaning varies from culture to culture that involves cultural and social conditions and elements which contribute to the concept of the person and his or her development and relationship to the world and to others. Health is not only geographically and culturally but also historically variable, as they change over time in response to changing socioeconomic and cultural patterns and also to prevailing systems and levels of health care (Seymour-Smith, 1986:135-36).

Some writers view sickness or illness as an unwanted physical as well as mental condition of humans which has its own cultural roots, the nature, effects, and frequency of health-related problems vary according to the socio-cultural structure of a given community. Proper understanding of socio-cultural roots of health and illness

assist with a clearer understanding of patterns of health and illness (Hyland, 1993 cited by Ghimire, 2003:17).

Yacoob and Whiteford argue that an inventory of community acceptance, knowledge, attitudes, and practices relevant to water supply, hygiene, and sanitation improvements should be the starting point while formulating the sanitation policy, strategies, planning, and project technology. However, most of the policy makers, planners, project designers, and implementers have often emphasized only at installing physical structure of latrine construction. Ignoring the issues of belief, culture, and change, socio-cultural issues are bypassed, given less importance and often overlooked; attitudes and perceptions of people towards toilet facility is not addressed even they all come into play (Yacoob and Whiteford, 1994: 332).

The views discussed above have provided a degree of insight to conceptualize about the health, illness, and death. However, health, disease, and illness do not occur in isolation beyond other factors. These cases occur and vary according to the cultural context and roots of hygiene and sanitation behaviors to which previous literatures have abandoned the lots its ethnographic context. Thus, the cultural and its particular historical context of health, illness, and hygiene and sanitation behaviors have been the major concerns of my study.

2.12 Review of Empirical Studies, Policy and Approaches of Hygiene and Sanitation Development in Nepal

There are limited academic literature and studies about water, health, hygiene and sanitation behaviors in its particular historical and cultural context. Few anthropologists/sociologists and others are found who have done studies on these subjects. Even they lack particular ethnographic context. Some of the relevant studies have been reviewed here.

Burghart's (1988) research on cultural knowledge of Maithili-speaking people living in Tarai region, in Janakpur of Dhanusha district of southern part of Nepal, is important in this regard. His research adopts medical anthropological perspective or bio-medical point of view for exploring the folk common knowledge and habitual practices, rather than formulaic knowledge (Burghart, 1988:209). According to him, local people's knowledge is an important factor for water-using behavioral patterns and water-borne diseases. Local people act on the light of their cultural values and

folk knowledge, which is the fundamental basis of adaptive behavior. He suggested that research should aim to investigate the cultural contexts of folk knowledge and water using and safety behaviors so that one can easily relate it to the policy for the promotion of public health and the know-how of people about water management system (Burghart, 1988:185).

From the bio-medical observation on the intersection of human behavioral patterns and water-borne pathogenic agents, he concludes that the drinking and bathing water for the well-being of person, their know-how on hygiene and health care, local water use practices and knowledge for evaluating the use of drinking water, water resources, and methods of treatment are important for illnesses such as diarrhea and skin, ear, and eye infections. Thus, local beliefs and practices are bio-medically adaptive and non-local hygiene and sanitation practices among a people seem maladaptive (Burghart, 1988:186 and 209). However, his study is limited only to levels of knowledge on water use and its quality and lacked the particular cultural roots and ethnographic context of hygiene and sanitation practices.

Justice (1989), a medical anthropologist, has done anthropological research in the field of health development sector of Nepal and the role and effects of cultural factors on bureaucratic organization of Nepal. Justice has basically focused her view on culture and information system of health development intervention and local people, whom all the development programs are directed to. She has examined the Nepalese bureaucratic organization and its culture, the effects of culture on the path of information flow in the planning and policy making process, rural socio-cultural setting in general, people and health care practices in Nepal, and foreign development intervention through aid, its effects on health, use of resources obtained from outside, the role of officials and socio-cultural information for improving the health planning in Nepal, within the anthropological conceptual framework in general (Justice, 1989). Her study shows the national policy of health and its patterns of information system affect the development practice. However, her study has less emphasized on hygiene and sanitation behavior system, which is the very base of health status, and also lacked the ethnographic context of a particular rural community people.

Pigg (1992, 1993, 1995) has done many research works on various aspects of development events, local knowledge and practices and its consequences, medicine, discourse, ideologies, and practices of international development, in respect to the

rural socio-cultural setting of Nepal regarding health-related development activities. Her study has introduced the health practices in Nepal, on the basis of which she formulated the idea of cultural impact of national ideologies and social analysis of development. She opines that the development in Nepal has been limited to the interest of economists, administrators or bureaucrats, and politicians within a framework that separates development from the society on which this process is to operate. The development activities themselves have shaped the Nepalese society as a whole and created a kind of interface between international development principle and local tradition (Pigg, 1993:45). However, her studies focused only on the impacts of Western model of health-related development intervention on the national ideology and the life of rural people but ignored the local cultural system.

Sharma et al. (2002) did their descriptive types of research for development purpose. It was basically to provide ethnicity-wise sanitation situation for formulation of new policy. They tried to sketch out ethnicity-wise toilet coverage. They view sanitation behavior in their own way, such as "personal hygiene practices and community sanitation", "food hygiene practices", "handling, storage, and use of drinking water", "method of disposal of human excreta", "practices of solid and liquid waste disposal management", "animal waste disposal" (Sharma et al., 2000: i-ii). However, their descriptive study lacked anthropological perspective, i.e., emphasis on people's perceptions, preferences, attitudes, values.

Sharma (2001) has done comparative research work on water supply system of very diverse and contrasting human groups living in different geographical, socio-cultural, and religious settings, i.e., Brahmin community of Jhirbhanjyang of Chappani VDC of Palpa district and a Muslim community in Tarai region, Purushottampur VDC of Kapilvastu district. He has taken issues of local practices of sanitation in terms of toilet use, bathing practices and fulfilling the need of drinking water, policy adopted by Nepal government and its implications, the changing nature of policy, and factors that lead to changes in project modalities. According to him, the issue of water supply projects in Nepal has become an integral part of global development discourse. Thus, in Nepal, water supply services, government policy and strategies, implementation modalities, other aid-providing agencies involved in the water supply projects have become integral part of single structure (Sharma, 2001).

However, he used the words sanitation in a very narrow sense, rather focused only on water-using practices. He did not intend to and ignored local socio-cultural or human subjectivity and other integral factors affecting hygiene and sanitation cultural behavior system of the local community people in its particular historical tradition. Moreover, there is no clear distinction in his works as to whether it is anthropological or sociological and has thus created obscurity in perspective adopted (Sharma, 2001).

Pokhrel & Viraraghavan (2004) have analyzed the relations between diarrheal diseases and safe water and sanitation facilities. They have spoken little about socio-cultural factors affecting the health, economic life and death status of Nepalese people. They intended to analyze the incidence of diarrheal diseases, water supply, and sanitation status, and emphasized on the interventions required to reduce morbidity and mortality in Nepal (Pokhrel & Viraraghavan, 2004). However, their studies have been limited only within the descriptive framework and completely lacked the ethnographic context of rural community people.

Subedi has done research work (2003) on traditional healing practices in culturally pluralist society of Nepal. Reviewing his works, one can argue that physical well being and conditions can be measured quantitatively but mental and social well being cannot be, for which one should find out the roots of it within the cultural system of a particular community, behind which cultural components, i.e., perception and belief, have deep effect on the state of health. In this regards, Subedi puts his ideas that human health and illness are not only the biological phenomena and physical condition but a cultural one that depends on the personal understanding and perceptions, perceptual judgment of physical and psychological conditions; their distribution and scale in particular populations are affected by the knowledge and the social ties in terms of which people interact with their natural habitat. Thus, the health status of people is strongly influenced by their cultural backgrounds and experiences; which cultural meanings people made and understood influenced the health care choices and decision. The daily life of health and healing in Nepal is comprised of a wide range of medical beliefs, knowledge, and practices (Subedi, 2003:140).

Although having no ethnographic reference, Subedi (2003) also argued that there are close relations between diseases and the process of getting rid of diseases. He discussed about the different types of health care traditions still practiced within a medically pluralistic cultural setting in Nepal, a kind of medical practices as people's

understanding and the culturally constructed reality (Subedi, 2003:128-132). However, his work is limited to health aspect. He lacked cultural perspective in his writings to analyze the hygiene and sanitation behavioral system.

Hitchcock (1966) applying human ecological perspective had also undertaken the anthropological study in rural context of Nepal and spoke little about the human behavior regarding health, hygiene, and sanitation system. He put his ideas that people's cultural view and perspective, knowledge, tradition, beliefs are most important factors for local indigenous healing practices and the state of health, illness, hygiene, and sanitation management system. For example, the hilly areas of Nepal still have the traditional medicinal practices which might have influenced the sanitation, health, and hygiene situations of the Magar Community (Hitchcock, 1966). In his ethnographic study of Banyan hill he raised issues of hygiene and sanitation cultural behavior system least and rather intended to explore more on cultural and ecological factors. However, he did not incorporate details about hygiene and sanitation behavioral system in its cultural ground and the context of development intervention.

Victor et al. (2008) did their research in rural Sarlahi district of Southern Nepal with the objective to evaluate the relationship between birth attendant and maternal hand-washing practices and neonatal mortality in rural Nepal. They observed hygiene and sanitation behavior at three level categories: (1) birth attendant hand washing with soap and water before assisting with delivery, (2) maternal hand washing with soap and water or antiseptic before handling the baby, and (3) combined birth attendant and maternal hand washing. From the study, they concluded that birth attendant and maternal hand washing with soap and water were associated significantly with lower rates of neonatal mortality. They show that the birth attendant and maternal hand washing could improve neonatal survival rates (Victor et al., 2008). However, they have also been limited to hand washing approach and intended to examine the relation of maternal hand washing practices and birth attendant without having any cultural and ethnographic context and anthropological perspectives. They lacked the cultural roots of hand washing practices and behavior.

Department of Water Supply and Sewerage (DWSS) (1991) had undertaken a study to identify the problems and the root causes for lagging in the development process. It reviewed and assessed the countrywide situation of water supply and sanitation and

identified some needs and problems for prioritization. The major needs and problems identified were implementation of programs of drinking water and sanitation in integrative manner, development of sanitation and hygiene education strategies, mobilization of greater community participation or involvement of the user community, use and mobilization of NGOs and private sectors in implementation, adoption of appropriate technology, better operation and maintenance of completed schemes, preparation and implementation of district-level plans, priority for creating good environmental sanitation, provision of training on latrine construction to promote sanitation education, providing service of sewerage and drainage system in urban areas and institutional restructuring of DWSS in the light of decentralization efforts. These issues occupied considerable space in state policy, particularly since the Eighth Plan (1992-97). However, this effort of reviewing and assessing the country-wide situation could not actually identify the local cultural aspects as the very foundation of the existing problems.

SHMP (2010) is the overall umbrella-type conceptual and guiding principle of authority recently publicized to consolidate and guide the efforts of modern hygiene and sanitation development intervention. It emphasized only increasing toilet coverage as the first stage for total sanitation but less on the change of cultural dimensions. It was neither research based nor any ethnographic information and context was represented, nor were local level cultural dynamics of hygiene and sanitation behavior analyzed and reflected.

Following international principles, Nepal government has formulated hygiene and sanitation sectoral policy, plans, and strategies and other legal documents for sustainable management of drinking water, and hygiene and sanitation services in line with global trends and national requirements. Reviewing the policy documents, visible shift in successive policies and plans is found with due focus on partnership, community empowerment, decentralization, equity, gender sensitivity, and sustainability (MPPW, 1994, 2001, 2004, 2009; DWSS, 2010:3) in one aspect but during the preparation of policies and strategies, it is clearly seen that the representation of the concerned people have been excluded and lacked cultural approach of local community people and were far beyond the ethnographic context.

Approaches (i.e., TS, BSP, SSHEP, CLTS, SLTS, PPP, TPA, ECOSAN etc) being adopted in Nepal seem to change, alter, and replace traditional approaches for

creation, production, and reproduction of new patterns of cultural hygiene and sanitation behavioral structures in the local community. However, no approach was found to be based on specific cultural setting and local knowledge. They could not follow the micro-level ethnographic basics of any particular community but rather were based on the outer system of knowledge. All the approaches have been developed and generated in the context outside Nepal and in different cultural grounds and applied to the Nepalese context.

After reviewing the above literature and policy and approaches, one can conclude that there is no debate about local knowledge being a strong and effective factor in determining and shaping human behaviors. Except in policies and approaches, all of the writers above raised from one or another angle the issues about health, diseases, development intervention, policy and its implementation and its effects and socio-cultural factors affecting human behavior. This is the strength of their research and studies. However, the studies so far reviewed above emphasized on the narrow context of local knowledge and were limited to the medical anthropological perspectives which focused more on health aspects, i.e., maternal hand washing and mortality trends, having no proper ethnographic and anthropological sense. Academic concern on the very cultural roots of hygiene and sanitation behaviors were less addressed in their works. Whatever their observations are on the issues, their studies lack ethnographic context of hygiene and sanitation-related cultural behaviors, which has been the major concern of my study.

2.13 Major Conclusions

The reviewed literatures, policy documents, research articles, studies and reports about the effects and changes brought by development intervention in a particular rural context are mostly out of local cultural dynamics, mind, and sight of academia. What kinds of hygiene and sanitation behavior systems are produced and reproduced in the rural area through the implementation of various policies and strategies are completely out of academic consideration, in the dark side of anthropological framework, far from ethnographic context and traditions. There has been considerable documents developed in the field of hygiene and sanitation behavior system, but the exploration adopting anthropological and ethnographic point of view to the micro and local level is hardly found.

Theoretical perspectives, i.e., environmental, cultural possibilist, cultural ecological, system approach, and actor-based models, medical anthropological perspectives, and other approaches, have discussed and analyzed the human behavior but not addressed the hygiene and sanitation behaviors as cultural variables. There are also few studies regarding health and water-related cultural behaviors in Nepalese context; however, they did not discuss the cultural process of hygiene and sanitation behavior in rural context. I have, however, throughout the study taken up these perspectives and approaches and applied these to explore the context of hygiene and sanitation cultural behavior system of the rural people.

Culturally embedded hygiene and sanitation behaviors and its dynamics at the local level must be explored to bring insight about why local people accept and do not accept modern cultural elements of hygiene and sanitation. It should examine the existing institutional and organizational environment which make the existing situation that allow people to participate to transform their traditional practices by exploring people's perception and belief in this regard. I incorporated the socio-cultural elements.

The studies and policy documents reviewed, however, provide a very important basis in identifying the research problems and getting insight and understanding about the belief and perception of local community people in relation to local health, hygiene and sanitation behavioral system, and the effects of the development intervention upon this behavioral system. However, there is limited literature on hygiene and sanitation written by anthropologists. Till date, very little anthropological studies in Nepal seem to have applied anthropological conceptual tools in order to study local-level issues and problems and process of shaping behavior at local level people, indicating a gap as well as scope for such a study.

Different ethnographic contexts may produce and reproduce different meanings, discourses, definitions, concepts, ideas, theories, and conclusions about human behavior. However, how local community people are connected within the network of analysis is the most important for anthropological inquiry. I found that there are considerable gaps in the field of inquiry at both general, i.e., national, as well as particular, i.e., local level. Most of the available literature is not anthropological, far from ethnographic nature, on which present study focused on and looked into. In the context of different ecological and cultural spheres of Nepal, there are a few studies

and those were only partially useful, more descriptive, and lacked the anthropological and ethnographic sense and left the empirical base for research purpose. Most of the studies failed to explore and analyze and explain local people's attitudes, perceptions, beliefs, and situations that are termed as micro and its relation with macro or national and global structure. The studies seriously lacked in terms of these issues incorporated in our context. One of the major weaknesses of these studies is that the studies did not focus on the micro-level hygiene and sanitation system of the local community people before intervention and the influences and outcomes after intervention.

Lastly, there is still lack of cultural and anthropological analysis of hygiene and sanitation behavior of local people. Cultural variables such as beliefs and perceptions and local community's perspectives as the subject of academic concern and proper anthropological and empirical studies on modern hygiene and sanitation development intervention and its effects have not been done yet in Nepal in general and in the research site in particular. Lack of cultural analysis of hygiene and sanitation behaviors is the major weakness and gaps of these literatures reviewed. This study was to get in-depth understanding about the local level hygiene and sanitation practices in relation to global context of development intervention, a perspective which could be brought only by anthropological research. Therefore, I intended to fulfill these gaps and have undertaken the issues in question into academic consideration.

CHAPTER-III

METHODOLOGY

This chapter deals with major aspects of methodology which I utilized in this study, i.e., methods, tools, and techniques for collection of data. I discuss the rationale for selection of the study area, fieldwork and data gathering process, ethnographic sampling, source and nature of data, various tools and methods for ethnographic research, units and mode of analysis, presentation and interpretation of data, personal experiences, and limitations of the study.

3.1 Rationale of the Selection of Study Area

Basically, I was interested to explore and examine qualitative aspects of hygiene and sanitation behavioral system of the rural people where development interventions were already taking place. I wanted to investigate people's beliefs, attitudes, and perceptions regarding both traditional and existing modern hygiene and sanitation practices induced by development intervention. Behaviors related to disposal and management of human excreta, protection of water resources, personal, domestic and environmental hygiene and sanitation situations, organizational and institutional settings of the intervention and its effects, and particularly the sanitary and hygiene behaviors at the individual, household, and institutional level were major components of this study. Thus, the major focus of this study was on cultural aspects of hygiene and sanitation behavior in the local circumstances and on effects of external intervention through government policies and practices.

Anthropology often seeks cultural roots and organizational aspects of behavioral structure and gives importance to the study of processes of producing and reproducing and change of behavior of human beings. Examining the role of development activities in changing and reproducing human behavior is very important for anthropological work. This study was very relevant to understand how people accept and reject outer interventions aimed at changing their sanitation behavior. In order to conduct academic research on hygiene and sanitation perceptions and practices, the rural communities of Lothar VDC, located at the northeast part of Chitwan district of Nepal, was purposively selected.

Ethnographic study in the field of hygiene and sanitation, in the context of Nepal, had not been previously done to assess the belief and perception of rural traditional hygiene and sanitation practices and effects of modern hygiene and sanitation development interventions on the health status and perception of local people. The major focus of this study was on cultural and organizational/institutional aspects of hygiene and sanitation practices. To get insight about this field, I purposively selected the rural community of three wards of Lothar VDC of Chitwan district. The specific reasons for selecting the study site as follows. First, the study area was relatively remote, predominantly a rural setting, yet accessible to the researcher and culturally heterogeneous, with Chepang, Chhetri, Newar, Tamang, Dalit, and Brahmin cultural groups. Thus, different cultural practices of hygiene and sanitation could be observed among various cultural groups in the same place, as well as both the traditional and modern hygiene and sanitation behaviors of the community people and the impacts of outer intervention over diverse groups could also be examined and considered academically. Second, the country's overall status of hygiene and sanitation coverage is considered as low at 43%, compared to that of water supply coverage at 80% (DWSS, 2010). Lothar VDC has the lowest sanitation status amongst all VDCs of the district, although interventions had already been initiated. Out of 664 total households of the VDC, only 62 households had toilet facilities and coverage was only 5.61 percent (NMIP, 2008). Third, the district as a whole has recently been declared as a model open defecation free (ODF) district where the new development approach to total sanitation is being intensively adopted. Additionally, Decentralized Action for Child and Woman (DACAW) program is also being implemented here for years with financial and technical backing from various wings of international development organizations such as UNICEF and WHO. Many other actors and organizations at the district level have also been involved in the development activities to alter the traditional pattern of hygiene and sanitation behavior and to produce new ones. Fourth, the VDC as a whole was being prepared to be declared as ODF zone. Finally, development intervention had made available enough opportunities as well as human and financial resources to the local people to improve and promote their traditional hygiene and sanitation behavior system. In order to alter and transform the traditional hygiene and sanitation behavior, promotional campaigns with financial and technical supports were provided from the outside. But data shows that targeted results had not

been achieved yet (DWSS, 2010). Overall, such situations provided me an appropriate context for this study.

3.2 Sources and the Nature of Data

Data from both primary and secondary sources for quantitative and qualitative aspects are equally important and supplementary to anthropological studies for gaining insight about the integrated representation of the socio-cultural reality being investigated (Uprety, 2007:19; Hitchcock, 1966; Fricke, 1986). Anthropologists use the fieldwork method as the major process of anthropological research to gather firsthand data of qualitative and quantitative nature from the direct study of contemporary people living in a wide variety of circumstances, from peasant villages and tropical forest hunters and gatherers to urban population in modern societies, as well as from the history and prehistory of those people. My study also intended to gather both qualitative and quantitative aspects to get an understanding of hygiene and sanitation behavior. However, most of the data garnered for this study were qualitative in nature.

Considerable amount of data was gathered during fieldwork. The data covers the multidimensional cultural aspects of hygiene and sanitation behaviors of the community produced through local internalities and reproduced by development intervention. Data ranging from physical aspects of the hygiene and sanitation behavior to how local people act, perceive, feel, and think about hygiene and sanitation situations and the functions of development intervention in the local setting and practices were gathered primarily. Some secondary data were taken from the VDC, local sub-health post and schools.

Quantitative data related to land holdings, latrine coverage, drinking water supply situation and sources, livestock raising, bathing, washing, etc., were gathered from household census, and qualitative data/information related to the ideas, perceptions, preferences, views, and beliefs about the traditional hygiene and sanitation behaviors and existing situations and development intervention and its effects were gathered from the qualitative methods, including key informant interview (KII), focus groups discussion (FGD), case study (CS), observation, in-depth interview, and informal conversation. For details of the nature and sources of data, see table 1.

3.3 Unit of Analysis

In an ethnographic case study, there is exactly one unit of analysis, i.e., the community or village or a tribe. Although most research in anthropology is about populations of people, many other things, such as marriage contracts, folk tales, songs, myths, or whole countries or cultures, can be a unit of analysis (Bernard, 1988:45-46). The present study has focused on the community's internalities or cultural patterns directing the hygiene and sanitation behavior, and the effects of outer intervention with formal rules and regulations, structural arrangement producing and reproducing the new pattern of hygiene and sanitation behavior in the community were studied.

3.4 Sampling Procedure

Sampling is a basic process of research and is used in any kind of research. It is also an important phase of anthropological research. Regarding sampling process and research sample, Goode and Hatt write, "a sample in a research process is a smaller representation of a larger whole" (1952:209). Likewise, Bogardus states "sampling is the selection of certain percentage of a group of items according to the pre-determined plan" (1933:548). In the context of the statistical sample in social research, Young states, "a statistical sample is a miniature picture of cross section of the entire group of aggregate from which the sample is taken. Instead of studying every case only a small portion is selected for analysis from which to draw conclusions" (1982:325).

However, in the anthropological research one concentrates on data which are not only random but he/she may purposely choose a small field within which all the observable phenomena are closely interrelated and interdependent (E.R. Leach, 1958:78). Thus, following the tradition of anthropological study, I confined to a very small geographical area to investigate the various dimensions of hygiene and sanitation behaviors existing within that small area.

I purposely selected Lothar VDC of Chitwan district in the central development region as the geographical area for research. From the whole VDC, only three wards were purposely selected for intensive study. Reports by Central Bureau of Statistics (CBS) show that there were various ethnic and caste groups living in the area, among which a larger portion of the population was dominated by Chepang, literally called Praja, Tamang, Newar, and Chhetri/Brahmin (CBS, 2001). So the composition of the

universe of the population of this study area was not homogeneous; rather it was more or less heterogeneous in nature. As the universe of the population was heterogeneous, I have also purposely selected all the cultural groups for my study.

There were a total of 287 households in the three (ward no. 1, 2, and 3) wards chosen. Out of the total households, Dalit comprised only 1 household. Similarly, Newar households comprised of 1 and Brahmin/Chhetri households were 2. Tamang comprised 125 and Chepang 158 households. All of these majority and minority households were taken into consideration. However, considering the social structure of the area, representative cases or items were purposely taken for in-depth study. Basically, non-probability purposeful sampling was adopted for representation of all clusters and cultural groups, i.e., caste, ethnic, religious groups, age, and sex. The purposively chosen sample from the three wards was thought to be aptly representative for basic socio-cultural setting, which was used for collecting the qualitative data/information through intensive study. The quantitative data were gathered from the census of 287 households of the three wards for intensive study.

Criteria of the Purposive Sampling

The socio-cultural universe of the area was heterogeneous. The cultural groups in the areas were Chepang, Tamang, Brahmin/Chhetri, Dalit, and Newar. In the study area, there were 18 clusters, which were highly scattered. Some clusters were mixed and composed of communities of various cultural and social backgrounds. Some were homogeneous in nature. From the mixed clusters, some households of each community representing the community and clusters were purposely selected. All the households, including key informants and interviewees, were selected on the basis of the following criteria:

- a) Cultural groups in all clusters were represented.
- b) All cultural groups and clusters were accessible to meet for interview.
- c) Even minority cultural groups were incorporated from each cluster.
- d) Informants and interviewees had specialized knowledge in the field of hygiene and sanitation behaviors and development intervention.

This study required both nominal parts of quantitative and mostly qualitative data. To gather the relevant data, I adopted various techniques of collection related to

multidimensional aspects of hygiene and sanitation behavioral system of the rural community people, for which different types and numbers of informants were selected. All the informants used for gathering information/data were purposively selected except household heads for census. For the types and number of informants selected in this study, see table 3.1 below.

Table 3.1: Types and Number of Informants

Types of Informants	Number of Informants/Groups
Household Head for Census	287
Males and females for KII	55
Males and females for Case Study	10
Group of 9-12 persons (male and female) for FGD	8
Representatives (male/female) of concerned organizations/institutions, groups for In-depth and Unstructured Interview	27
Males and females for Personal Interaction	26

3.5 Ethnographic Approach

The essence of research methodologies, in any field of research, lie in seeking answers to the basic questions: How can we find "true and useful information about a particular domain of phenomena in our universe" (Pelto and Pelto, 1978:2)? Ethnography is often understood as both a process and a method to assemble the descriptions of the worldviews of people living in a particular contemporary historical tradition and circumstances and delineated geographical location. Broadly speaking, it is a representation of broad descriptions interpreted by the human collectivity as well

as individual based on the view, perception, attitudes, and beliefs of local people towards certain events and things.

As an instrument to triangulate appropriate data on any aspect of human society, I utilized this method in choosing appropriate key informants, setting venues and dates for interviews, and building the rapport in the community (Pelto and Pelto, 1997; Uprety, 2007:9).

As an analysis and interpretation of culture in details and in a thick form, ethnographic method seeks the meaning of culture seeing things from the actor's point of view (Geertz, 1973). As an essential process for my anthropological investigation, I used ethnographic method particularly for investigating the local cultural dynamics of hygiene and sanitation behaviors in its institutional and organizational arrangement. The social and cultural domains within which formal and informal situations which people adjusted with and the various aspects of hygiene and sanitation behaviors people manifested were the major focus of analysis.

Sanitation, health, and illness behavior occur within a cultural context. The ethnographic method involves a complex admixture of observations, structured and unstructured interviews, and other procedures. Regarding the data collection and usefulness of ethnographic method in the context of cultural diversity in illness, health, hygiene, and sanitation behavior, Mildred H.B. Robertson and Joyceen S. Boyle say:

Ethnographic methodology facilitates an investigation of the context in which people's health beliefs and practices evolve as well as serving to identify the cultural components of health and illness. It is primarily an inductive mode of research which may utilize several methods of data collection. Participant observation, used in conjunction with interviewing, is the most frequently used data-gathering technique. Sampling procedures in ethnography are addressed in relation to persons interviewed and/or observed, events to be seen, topics to be considered and time frames to be established. The lengthy stay in a community, as well as the extensive and in-depth data-collection procedures contribute to validity of the findings and their interpretation. Thus,

ethnography is a means for gaining access to the health beliefs and practices of a culture (Robertson and Joyceen 2003).

This is the ethnographic study of hygiene and sanitation behavior system of the rural community people which explored the cultural dimensions of hygiene and sanitation practices and examined the effects of modern hygiene and sanitation development intervention on their behavioral patterns of the people of multicultural human groups living in a particular geographical location and rural setting. My aim was to carry out a study on grounded reality of rural hygiene and sanitation cultural behavior, which could be possible only by ethnographic fieldwork; therefore, it took me to a rural location to take context into consideration.

With a combination of various tools and techniques, I have adopted ethnographic method to understand health, hygiene, and sanitation related disparities, inequality in knowledge, and perception of different cultural groups which is also used for better understanding of the social process that underpins racial and ethnic health disparities (Champan and Berggren, 2005:145).

Basically, ethnographic research method focuses and depends on the views, knowledge, understandings, and experiences interpreted by local community people. Islam, Hossain, and Anwar applied the ethnographic method for the research on water, sanitation, and hygiene behavior and rituals in a Murang community of Bangladesh (Islam, Hossain and Anwar, 2000:151).

Ethnographic method entails and seeks more qualitative data/information applying qualitative methods and tools such as participant observation and in-depth interview. However, considerable amounts of quantitative data are also required. Ethnographic method includes many forms of data collection such as intensive interviews with key informants, direct and participant observation with emic and holistic approach, focus group discussion, and case study as major methods, tools and techniques, which I adopted under ethnographic methods to gather primary and firsthand data related to hygiene and sanitation behaviors. However, KII and observation were mostly employed for qualitative data, which was largely determined by field situation. Here, I summarize the diverse methods, tools, and techniques utilized in this study and the nature of data corresponding to the objectives of this study in tabular form.

Table 3.2: A Glimpse of Techniques of Data Collection, Nature and Sources of Data

Techniques Adopted	Types/Nature of Data Required	Sources of Data	Units of Sources of Data
Household Census (HC)	Quantitative	Primary	Households
Key Informant Interview (KII)	Qualitative	Primary	Individual/Persons
In-depth interview	Qualitative	Primary	Individual
Unstructured Interview	Qualitative	Primary	Individual/Groups
Case Study	Qualitative/ Quantitative	Primary	Household/Persons
Focus/Group Discussion	Qualitative	Primary	Group/Gathering
Participant/Observation	Qualitative/ Quantitative	Primary	Communities/ Groups/Institution/ Situation
Interview	Qualitative	Secondary /Primary	Organization/ Institutions/ Individuals
Personal Interaction	Qualitative	Primary	Individuals

The methodologies, tools and techniques, sampling for representation of various cultural group, wards and clusters, organization, natures of data, numbers of informants were identified as above. I have discussed each method and tool utilized in this study in the later part of this chapter.

3.6 Fieldwork: Methods, Procedures, Tools, and Techniques for the Generation of Data

Most of the primary data in the social sciences come from three sources: directly observing human behavior, listening to and noting the contents of human speech, and examining the products of human behavior—particularly those products found in archives, museums, records and libraries (Pelto and Pelto, 1978:1-2 and 1997). As an essential tool, I adopted fieldwork and carried out research activities in the field and gathered necessary data from the universe. Fieldwork is an important and essential process of the anthropological research. In ethnographic research, fieldwork is an essential assemblage of activities that help get close contact with local population,

which makes favorable environment to observe the life ways of people: economic, ritual and social acts and other actual cultural aspects of their behavior.

As I mentioned earlier, ethnographic method constitutes various tools and techniques. I used a combination of various tools, methods, and process during the period of fieldwork study for gathering the qualitative and quantitative information about the cultural domains of hygiene and sanitation behavior of rural communities. However, the methods and tools used in this study had been modified many times to make precise the research work as my objectives of research guided. For the details about the various techniques, see table 3.2. The methods, processes, and techniques I adopted in this study were as follows.

3.6.1 Household Census

A questionnaire is a set of questions to be asked to informants to gather details and required information. Census, as a tool enumerating and collecting the information about a population according to the actual location of people at the moment they are counted for a complete count of all persons in the population being studied, is done through using a set of questions (Scott, 1999:40-41).

Census is a universal and obligatory survey of all individuals and households of a chosen geographical area. Census has a number of important applications for study and analysis of changing trends reflected in housing, education, and work of a particular group. Following the demand of local authorities, academic researchers, organizations, government, and market researchers conduct various research of their respective field (Jary and Jary, 2000:62).

Census through structured questionnaires is one of the techniques often used to extract not only quantitative data related to the composition and characteristics of the population but also people's general views and attitudes on issues of interest, such as hygiene behavior, disease and disease transmission, priorities and constraints (Boot and Cairncross, 1993:78). It basically provides foundation information of the nature and patterns of human life of the community people as a whole. I utilized this tool for collection of quantitative data. It was also very relevant in my ethnographic research context in order to bring the pictures of the system and to find possible relationship between the patterns of behavior of community and other components that affects the behavioral system. Moreover, the descriptions of background information were of

help to discover the more interpretive aspects of variables prevailing to create the situation.

I conducted the census with structured format or questionnaire (see Appendix 1) to collect the quantitative data related to multiple dimensions from the total 278 households (see table 3.1.) of the purposely chosen three wards of Lothar VDC. This provided the background information and insight on the basic hygiene and sanitation situation and other fundamental socio-economic characteristics of the areas that helped me draw the conclusion. I gathered basic quantitative information related to some issues from the census survey which covered the major part of quantitative aspects of data. Through the census, I covered all households of all social groups for gathering the data on economic, family and household structure, land holdings, occupation, population, age, sex, literacy, livestock, death incidence at home, latrine construction and use, types of diseases, water supply facilities, and other information about hygiene and sanitation behavioral features of the community. I presented these quantitative data in a simpler tabular form and analyzed.

3.6.2 Key Informant Interview

Key informant interview is used by a researcher seeking to learn something on the subject of interest by asking questions. Two persons are necessary to meet together face-to-face. Whatever the type of interview is, i.e., structured or unstructured, in face-to-face conversation two persons talk and share ideas on various subjects. Key informant interview is an important data collection tool in academic research and an integral part of ethnographic research, through the use of which qualitative data are gathered from the people (Bernard, 1994; Uprety, 2006). I also adopted this method in this study.

The purpose of the interview is to find out what is in the mind of the person being interviewed. We interview people to learn about those things we cannot directly observe. We cannot observe behaviors that took place in the past, we cannot observe behaviors where we cannot be present, we cannot observe feelings, thoughts, beliefs and intentions, and we cannot observe people's perceptions. We have to ask people questions about those things (Patton, 1980, cited by Boot and Cairncross, 1993:67).

Key informant interview is often conducted with most powerful and knowledgeable persons. A key informant, in an ethnographic sense, is a person who is especially

knowledgeable, at least in some subject or topic of interest and with whom the interviewer develops an ongoing relationship of information exchange and discussion. Thus, a key informant is a kind of expert on some cultural, political, or health aspect of the community beyond his or her own personal beliefs and behaviors. Both men and women, formal or informal leaders, professionals or ordinary people can be key informants and their views and knowledge represent those of a larger ground and that they like to communicate and exchange information with the interviewer (Pelto and Pelto, 1991 quoted by Boot and Cairncross, 1993:72).

Key informant interview often occurs on a very informal, impromptu (unprepared) basis. The interviewing is based on mutual trust between the interviewer and the key informant, and this trust can only be built up through a series of contacts. The emphasis will be more on exploring and learning, for example in the field of hygiene and sanitation, of local terms and ideas in relation to hygiene and health; daily water and sanitation practices; household and community social structure; economic conditions and local politics; important events (Boot and Cairncross, 1993:72-73).

However, in KII, semi-structured interview is also used. It is conducted with a set of questions prepared beforehand. It is a kind of semi-structured interview which is guided by a list of questions that are asked in the exact wording and order as they have been written down. Preparation of a semi-structured interview for KII requires that first a qualitative investigation is done to gain a deeper understanding of what questions should be asked from whom, how, and in what order. The answers are still open-ended, and the informant is free to give his or her own words, thoughts and insights in answering the questions (Boot and Cairncross, 1993:77).

I used this method to gather qualitative information on the cultural and institutional aspects of hygiene and sanitation behavior of the communities. The information on attitudes and beliefs of the community, individuals, organization, and groups towards traditional and existing hygiene and sanitation practices and behavior, and effects of intervention on the hygiene and sanitation conditions of the people were collected using this method. The KIIs were local persons selected on the basis of their ability to express. A checklist was prepared to guide the interview (see Appendix II). The total numbers of KII were 55; among them 30 were male and 25 were female (see table 3.1).

3.6.3 Direct and Participant Observation

Anthropological research is based on the participant's point of view (Mann, 1984: 149). I used participant observation method extensively to collect data on qualitative aspects. Direct observation of events at the time of their occurrences is important for anthropological study. It is a useful instrument for gathering information about the geographical/physical locations and conditions of the research areas, social infrastructures, topography, settlement patterns, agricultural practices, physical constructions, and everyday activities (Uprety, 2007:9). I utilized the direct observation method to know the events and activities of the people as they existed in the areas.

Participant observation method is often used as the methodological component in anthropological research that involves the ways of establishing rapport with a new community people, learning to act so that people go about their business as usual when you show up; and removing yourself everyday from cultural immersion so you can intellectualize that you have learned, put it into perspective and write about it convincingly. It is a strategy that facilitates participants to share information and researchers in collecting all kinds of data in the fields, helps in reducing the reactivity from research population, formulating sensible questions to find out the local reality, providing intuitive understanding of local cultural and life world (Bernard, 1988:148-51), and follows the processes of seeing, touching, tasting, hearing and smelling (Boot and Cairncross, 1993:49).

I adopted both controlled and structured and unstructured observation under participant observation to collect information for in-depth insight of social and natural process of the specific human groups with surrounding environment.

As a qualitative method in anthropology, I adopted participant observation for the collection of qualitative data/information required for my study which could provide in-depth insight about my field of inquiry. I used intensive observation in purposely selected KII households of all clusters. The behaviors related to disposal of human feces, personal hygiene, kitchen and food hygiene, washing behaviors, domestic and environmental hygiene surrounding the homes and public places (Boot and Cairncross, 1993:35) were observed in various functions in all wards and clusters representing all castes, cultural groups, and sexes.

This provided me with an in-depth understanding of hygiene and sanitation perception and practices of the people living in the rural settings. While using this method, I focused my attention on individuals as well as households for various domains of hygiene and sanitation behaviors and activities.

I gathered some important data through observation, especially at the time of interviewing with key informants, both male and female, and others at their homes and the time of conversation. Health campaigns organized on a regular basis for family planning and vitamin A programs at the village were utilized as an opportunity to capture valuable information and to observe women's hygiene and sanitation condition.

During the stay in and rapport building with the community, I initially noted down typical issues to look in households for observation. My attention focused on observing strategies basically of domestic and personal hygiene, feeding, food cooking, children caring, dying, sanitation facilities such as toilet using, water sources, streams, ponds, taps, utensils, farming and animal caring activities, fetching water, storing, bathing, drinking, eating, location of defecation, and streets at the movement of various social events and ritual practices, which were all observed and noted in the diary.

To gather qualitative data, I took part in their various activities when local people were engaged in work in their field and at the time of washing, fetching water, or using toilet. I adopted this method for the collection of information related to defecation and urination, washing hands, cleaning, cleansing, nail trimming, bathing, child caring, kitchen hygiene and sanitation, and food hygiene, by indirectly hiding and siding, and by using the cross eyes. Behaviors related to sweeping, drinking *jar* and *arni*, food cooking, cloth washing, management of animal dung and domestic wastes, using soap, and activities at feasts and festivals were observed by directly participating in these events with the local people. When the collective feast took place, I was invited, and I accepted their respect as an important opportunity. I was involved in the school environment and sometimes accompanied the students and teachers to observe their behavior, however, not fully engaging into their personal tasks. However, I could not follow their path to the site of defecating and urinating. Most of the information from observing was collected during my 25-day-long rapport building with community people. I scheduled in my note the time they performed the

sanitation and hygiene tasks. Sometimes I used to be involved in the public debates carried out by the local people themselves concerning the crisis of water supply and filthy situation in the public places in the village. When they organized meetings and discussed solutions to the problem of water supply and open defecation, I used to participate in their meetings and explored their views, preferences, perceptions, and strategic options. For public opinion, I observed the public places where people often gathered. I used to engage with groups of people gambling to watch their personal hygiene and sanitation situation; i.e., the clothes they wore, hair on the head, and nails in their fingers before they take meals, in tea shops where people took tea and mostly while consuming alcohol and local beer, while people were bathing and washing their clothes at the stream and wells, and in their home also. This process of participant observation helped me collect more quantity of relevant data.

Basically, physical features or topography/landscape around the community (altitude, climate, land type, slope), settlement pattern (clustered, scattered), housing pattern, features and nature of community (mixed/complex, homogenous/heterogeneous in terms of religion, caste, ethnicity) were directly observed. Similarly, five sanitation and hygiene behavioral patterns and dimensions of each household—i.e., safe disposal of human fecal/excreta; use, consumption, and protection of water sources; water and personal hygiene, hand washing after defecation and before eating food, bathing; food hygiene (i.e. weaning, preparation and storage); domestic and environmental hygiene (i.e., animal management/safe waste disposal, drainage)—were observed directly, indirectly, and with participating. I basically focused on household surroundings, areas inside and outside home, domestic animals, sanitary status of children and other household members, child caring practices, work in the field, facial conditions, cooking, eating, washing clothes, using soap, latrines and defecating practices, etc. Additionally, data on cultural perceptions regarding hygiene and sanitation practices were also captured through observation. Observation was also guided by checklist to make it more directed and focused. (See appendix IV for the details about the checklist of observation.)

3.6.4 Case Study

Case study method is often used as an important strategy for gathering empirical data and phenomenon within real-life context. As a method of presentation of detailed information of a particular participant or small group, I used this method in my study

to have in-depth knowledge on various aspects of human life and society, family health, hygiene and sanitation background and present situation, beliefs, income, education, life history, important incidences, and major aspects of hygiene and sanitation behavior of one household, person, or group (Boot and Cairncross, 1993:38).

Using this method, I gathered information on the traditional cultural hygiene and sanitation behavioral patterns of cultural groups existing in the areas and effects and changes in their behavioral patterns brought about by the processes of modern hygiene and sanitation development intervention. I carried out intensive case study on purposively selected ten households and individuals representing all wards, village/clusters, and communities. (For details, see table 3.1.)

During the time of household census and walking throughout the hamlets, I captured some salient events, i.e., preparing food, working, clothing, dressing, bathing, defecating, washing hand and facing, habits of using modern sanitation facilities such as soap or shampoo, housing conditions, conditions of water and sanitation facilities, community level sanitation, and outlook of children and their parents. Caste and ethnic positions were observed, and household cases were selected on the basis of these features for detailed information. Both qualitative and quantitative data were gathered through this method. Case study was guided by checklist. (For details, see appendix VII.)

3.6.5 Group Discussion and Personal Interaction

Both group discussion and personal interaction are frequently used to gather qualitative information in respective fields of inquiry, even carrying and deserving, to some extent, different meanings. This process of capturing data includes various processes of communicating and obtaining information such as storytelling, joking, arguing, boasting, teasing, persuasion, challenge, and disagreement. Focus group discussion is used when the objective of the research is primarily to study talk, either conceptualized as a 'window' on participant's lives or their underlying beliefs and opinions, or as constituting a social context in its own right, amenable to direct observation, and a powerful method to explore subject of interest and to gain a deeper understanding of attitudes, perceptions, beliefs and wishes of the group participants for larger body of qualitative data and knowledge. In this interaction, what, why, how,

when, and what next queries are asked. This provides flow of information consistently on the issues from the members of the concerned groups (Wilkinson, 2004:177-194).

As a technique, I used group discussion to gather qualitative information on collective as well as personal view on the hygiene and sanitation situation and development intervention from both formal and informal situations. I conducted this method adopting the process of observing, asking, listening, learning, and writing. Engaging in a small number of people spontaneously gathered in an informal way, I focused my strategic attention around a particular topic or set of issues and problems and I raised queries among them. I also conducted focus group discussion somewhat differently from that of group discussion in formal and systematic way. The checklist to conduct and guide discussion was prepared. (For issues raised in group discussions, see checklist of appendix V.)

Discussion is a kind of interactive process of exchanging views and ideas in a reciprocal way. Discussions occurred time to time in the field, in which I deliberately raised issues. It is useful when it comes to investigating what participants think, and why participants think as they do (Boot and Cairncross, 1993:73-74). As they perceived it as an open discussion amongst a small group of people on a specific subject, emphasis was given on free exchange of views and experiences of local people chosen for the discussion. I conducted such types of discussion at the group and personal level during the fieldwork. During the fieldwork, I requested representative informants to gather at one place to get contrasting and collective views on the issues raised. My role was to act as a facilitator, stimulating them to discuss on topics until no new points emerge. During this process, I also asked and raised some issues and questions previously prepared, however loosely, related to my universe of investigation. Water supply facilities program, campaigning of toilet construction, demonstration, hand washing for building good health, hygiene and sanitation, school sanitation and hygiene education, existing situations and practices of sanitation were the major subjects and issues for group discussion and interaction. I gathered considerable amount of in-depth information in a relatively short time through this topic-focused group interviews.

Different from that of group discussion, personal interaction is also an important tool for gathering relevant information (Subedi, 2003). I used it to gain different views on different issues in question. I conducted it deliberately basically when some secret

information has to be gathered. During fieldwork, I conducted conversations informally, on a request basis, related to attitudes, practices, and perceptions regarding modern hygiene and sanitation behavior brought on by development intervention. To gain the personal ideas on the matters, I asked some local persons about the field of inquiry. Whatever the processes, formal or informal, GD or FGD or personal interaction were, I emphasized more on group discussion method to generate contrasting and differing as well as similar views and building consensus on information on the relevant variable.

During fieldwork, I carried out eight focus group discussions. To organize the formal and informal discussions, I requested each person purposely to be participants in discussions. Participants were selected from communities of different socio-economic and cultural background. The number of persons involved in group discussion varied from 9 to 12. A separate women group discussion with the help of women health worker in the village was also conducted. Besides these, I joined spontaneous personal discussion with community persons of different age group, sex, caste, and class encountered along the way to their home.

3.6.6 Unstructured Interview

Interview can be held with individuals or with groups. Groups may be credit association, women's club, water committees, neighborhood or community groups, teachers, and visitors at a water source. The purpose of unstructured interview is to learn about people's views on the behaviors of interest, to learn their terminology and judgments and to capture their perceptions and experiences (Boot and Cairncross, 1993:70-78). Unstructured interview method is nondirective. Either open ended or informal or conversational does not contain any set of questions, however 'focused on a topic' (Bernard, 1988, p. 207). "Unstructured interviewing is the most widely used method of data collection in cultural anthropology. We interview people informally during the course of an ordinary day of participant observation; we interview people on their boats and in their fields; and we interview people in our offices or theirs" (Bernard, 1988:203).

I, without any plan, however, keeping loosely some sets of questions and topics in my mind before conversation was conducted, interviewed various persons informally to collect data from whoever was available and was encountered during the course of

fieldwork. During my fieldwork, I selected some concerned persons for unstructured interview. As an important approach, I used unstructured interview to gather personal views, views representing the community perception and views on traditional practices as well as on modern development intervention. Face-to-face encounters with informants capturing the perspective, understanding, perception, attitudes, experiences, and preferences in verbal expression in the local language became a major tool for me to garner qualitative data. (See table 3.2.)

These informal types of discussions/conversations and unstructured interviews were also held with local witchdoctors, lamas, small shopkeepers, owner of rice mill, political cadres, local club members, and mother groups to gather qualitative information. I gathered information on how the local people perceived and reinterpreted the process of development and hygiene and sanitation options. During conversation with each person, the interview lasted up to one and a half hours. The information on these issues was primarily qualitative in nature. (For more information, see table 3.2.)

3.6.7 In-depth Interviews

In-depth interview is generally a lengthy procedure designed to encourage free expression of affectively charged informants. Skills, cautions, and specialized training are required for in-depth interview for understanding behaviors, attitudes, and opinions, which reveals important aspects of given situation (Karpf, 1953 quoted by Young, 1982:220). In-depth interview is held also repeatedly through face-to-face encounters with informants for understanding their deep views, perceptions, perspectives on the experiences, situations as expressed in their own words (Tylor & Bondga, 1998 quoted by Dhakal 2012: 30) However, this requires deep rapport so that one can bring full and frank expression (Kinsey, 1953 cited by Young, 1982: 221) from the ordinary people. I, however, without having special training, also used this method which was easy to utilize in my research area and issues in question. I conducted in-depth interview repeatedly with various persons at different times to understand their deep views on existing hygiene and sanitation behavior and development intervention. To get their deep views, I requested them for interview, and when they consented I prepared and conducted interview. Experienced, old-aged males and females whom I thought were appropriate and available to express knowledge, perceptions, and practices about hygiene and sanitation at the local and

district level were selected carefully on a purposive basis, representing various castes, ethnic groups, communities, and clusters from different backgrounds. I made a list of key interviewees before conducting interview so as it could be easy to manage. In-depth interview was also guided by checklists (For details, see appendix III).

I also visited the district headquarter to conduct in-depth interview with personnel of District Development Committee (DDC) and Water Supply and sanitation Division Office (WSSDO) who were assigned the responsibilities and tasks of sanitation promotional part. For interview, I prepared checklists; however, I needed to change and modify them many times. The interview was held at the district headquarter when new events occurred that could bring variations in hygiene and sanitation behavior. When new ideas and issues emerged during the interviewing, I developed new questions for further conversation. During my fieldwork, I selected concerned persons for unstructured and in-depth interview, which included local political leaders, local health workers, schoolteachers, household heads, VDC secretary, staff of WSSDO, DDC personnel, chairman of SMC, students, I/NGO personnel and representatives, local club members, and KII. They were asked informally relevant questions regarding perspectives on hygiene and sanitation practices. Key persons were interviewed to know their perceptions, beliefs, attitudes, and views on modern health practices, water supply facilities and quality of water, hygiene and sanitation standards, diseases, death cases in the community, village hygiene and sanitation, and development intervention policies. The number of selected and interviewed persons was 27 for both in-depth and unstructured (see table 3.1. for details).

Besides this, to gather specific data, for example on women's hygiene and sanitation practices related during menstruation and washing at the time of sexual intercourse, women-specific interviews were also conducted. For the purpose of gathering women's specific personal hygiene and sanitation habits and practices, local female health workers (maternal health worker) from the sub-health post were requested to help to ask women patients of different backgrounds and write down the information on the diary given. She helped me by asking women randomly from different social and cultural backgrounds.

3.7 Participatory Rural Appraisal (PRA) Method

Participants themselves are let and kept at the center to play the prime role to learn appropriate tools to conduct baseline studies for both practical and academic purposes to gather information on communities or local people's behavior (Chambers, 1990 and 1992). This was not a major method for my study. However, it was appropriate for my study to efficiently generate various kinds of information required to define and describe strategic hygiene and sanitation behaviors. For participation of local people in research, there are various tools used in PRA methods. I used it partially for investigating the local realities of existing hygiene and sanitation behaviors and practices and effects of development works. Under this method, I adopted transect walk, however loosely, for salient physical features of hygiene and sanitation behaviors. This tool enabled me to gather relevant information and find out what kinds of hygiene and sanitation behavioral structures, organizations, and climate exist in the entire community. This technique is also discussed below.

3.7.1 Transect Walk

As one of the data-capturing tools, I adopted transect walk at the research site with some informants. This was used to gather information through watching the entire location, viewing the actual situation for necessary information by walking in the communities with groups of men and women representing poor and rich classes and some representatives of water supply and sanitation user committee. Semi-structured type of forms for systematic observation were also repeatedly used to collect information on latrine use, sources and status of water supply projects, taps, water availability, location of defecation, and domestic situation of hygiene and sanitation. After observing the situation, I discussed it with community members and recorded important information and findings.

3.8 Mode of Analysis, Presentation, and Interpretation

The analysis, whether qualitative or quantitative, is the search for patterns in data and ideas that help explain the existence of these patterns (Bernard, 1988:319). Furthermore, analysis of data means the process of contrasting, classifying, and comparing data. It also includes the process of reviewing the collected information, formulating additional questions, verifying information and drawing conclusions, categorizing, ordering, manipulating and summarizing of data to obtain answers to

research questions with the aim to reduce data to small-scale business intelligible and interpretable forms so that relations of research problems can be studied. The analysis and interpretation provide contextual meaning, social process and participant's worldviews, their daily hygiene and sanitary life, and cultural roots of hygiene and sanitation situation (Thesis and Grady, 1991; Corlinger, 1983; Uprety, 2007).

In research, presentation is a process of showing data and information in a meaningful way so that one can easily understand and make sense relating to each other. The data can be presented either in the form of description or in the tabular form. Interpretation is a method of understanding intentional human activities (Jary and Jary, 2000), a fact-finding process which applies a conceptual scheme or model to observe data in order to relate a fact logically to other facts and explanations (Scott, 1999:213). Furthermore, it is a process of explanation and the establishment of the meaning and significance of something or a translation of what is said in one language into another (Encarta World English Dictionary, 1999). For example, any account presented by persons is interpretation (Jary & Jary, 2000:313). It is also a mode of explanation of something, making a difficult sense understandable (Cowie, 1994:657).

Both qualitative and quantitative data on social structure, social subjectivities, organizational and institutional arrangements are frequently presented, interpreted, and analyzed in any anthropological research work (Uprety, 2007:13). In this study, the qualitative data on the belief, opinion and knowledge, idea/ideals, preferences, perception, attitudes, people's approach, individual, household, community, or organizational level hygiene and sanitation practices were analyzed by using thematic classification system as used in most ethnographic studies. Quantitative data on population composition in terms of household, age, and education as well as number of community people involved in modern hygiene and sanitation activities, people adopting various kinds of modern hygiene and sanitation options are presented in simple tabular form using frequency distributions and percentages.

A small part of quantitative data has been presented in simple tabular forms using frequencies, percentages, and averages/means. These were manually processed. Quantitative data were used to illustrate qualitative analysis and verification of presentation. Sets of qualitative information have been explained and interpreted in an analytical way. Conclusions have been developed on the basis of findings and also were explained qualitatively.

3.9 Fieldwork as Personal Experience

A qualitative methodology was used to take into account. However, asking the question, observing, gathering and capturing the information about the sanitation and hygiene behavior like hand washing, toileting, bathing, defecating, urinating, brushing, nail trimming, sweeping, and face washing behavior and inquiring the actual practices, opinions, positions, viewpoints of members of each group; culturally rooted attitudes and perception of each household, individual, selected cases and other ordinary persons of both men and women was not an easy but difficult task; rather it was risky, challenging and sensitive. As a learning anthropologist, I forwarded myself to complete the study in areas in question and collected information from various sources.

In order to gather in-depth information about the cultural roots of hygiene and sanitation behavior and the impacts of development intervention on life ways of the rural multicultural communities, I did various activities and experienced constraints, difficulties, warm sympathy, and help from the community people. Despite these situations, I performed all the research tasks to fulfill the objectives.

On 19 September 2010, I planned to go to the research area. Carrying baggage and necessary things required for field research, I started my journey from Kathmandu at 9.30 a.m. riding my motorbike and reached the district headquarter, Bharatpur, at 2 pm. When I reached there, I first consulted with the personnel of Water Supply and Sanitation Division Office (WSSDO) and managed to stay there in the office quarter. The objective of my stay for some days at the headquarter was to collect some information regarding the issues of research area and to get help from officials for other related matters.

During that stay, with a letter administered by the TU Dean Office, I spent five days in the district headquarter to meet concerned government officials. I visited district administration office to consult with the CDO for security concerns. I introduced myself to him and explained my purpose of visit, objectives, and the area of study. He committed to support me by saying that he would provide support to collect information. After meeting CDO, I visited the LDO of DDC of Chitwan district with the help of the staff. I also introduced myself with various stakeholders involved in WATSAN sectors and discussed with them from different angles to get their views on

existing hygiene and sanitation situation and development activities in the district in general and in my chosen area in particular. The DDC office staff, involved in various organizations and actively participating in water supply and sanitation sectors, cooperated and provided me district-level data on hygiene and sanitation development activities. I requested Ms. Bindu Kafle, staff of Red Cross Society involved in WATSAN activities, and she provided me with documents of programs and decisions taken for the promotion of hygiene and sanitation situation. During that period, I also received a map of the concerned VDC from the DDC office. These visits provided me with lots of ideas and information required for my research.

After staying for some days at the headquarter, I managed myself and caught a bus to go Bhandara Chowk (25 km east of Bharatpur), from where a Jeep could be found to go to the research site. However, I was confused about the roads leading to my research site. On the way, I met Mr. Raju Gautam living in Bhandara and Mr. Krishna Bahadur Biaba, locally called Biaba Kancha. I requested them to find the easiest way to get to Lothar VDC. They helped me to find the way to Lothar VDC and asked a Jeep-owner to take me there. They pointed the direction of Lothar VDC. Fortunately, one Jeep was waiting for researchers visiting Euralitar of Lothar VDC. The Jeep used to operate its services from Bhandara to Lothar via Thakaltar through newly opened miserable track road. Raju and Krishna also suggested me about many other sensitive matters while staying in the field. I bought some things needed in the field from Raju's shop and a first aid kit from a dispensary. Following their suggestions, I caught the Jeep waiting for passengers. I requested the staff of the Jeep to carry my baggage to Euralitar, and I decided to stay and settle. I rode in motorbike and left Bhandara and rode ahead of them to the area. In the evening I reached the core area of my research site. On the first day, in the late evening I stayed at the hut of Sant Bahadur Thing, a local small shopkeeper near the Ganesh Middle High School. In the early morning the following day, I met the headmaster of Ganesh Middle High School and stayed at a nearby village. Sant Bahadur Thing requested the local school teachers and the president of school management committee to help me to manage a room in the village. He called and informed Ramesh Tamang, the headmaster, about our arrival. With the help of Thing, I was introduced to Ramesh Tamang and talked about my arrival and explained my purpose of arrival. I also requested him to find a room for

my stay during my research period. While introducing me, he showed deep sympathy and interest to help in whatever I required in the field.

With the help of the headmaster, I also introduced myself with Mr. Kul Bahadur Sayngbyang and Dal Bahadur Thing. They kindly suggested a proper location to stay. Mr. Chandra Bahadur Tamang, president of School Management Committee (Ganesh Middle High School, located at ward no. 3, Euralitar) and Ramesh Tamang, headmaster, decided to provide me a room to stay and the necessary facilities in the school compound for almost one year during the fieldwork. I also decided to stay in a room in the school compound. At the beginning, I started to manage the baggage and bed and other materials in the room required to collect data for the study.

Rapport building was an important and essential task and initial step for this anthropological research. I made many efforts for building rapport with local people. When I finished managing the room for staying in the field, I planned to build rapport with local community people. I requested heartily Biraj Chepang and other local school teachers and students and my assistant to help me in the process of rapport building by introducing me to the local people. They kindly did so, and it became easy and possible for me to deal with community people.

Without any hesitation and feeling strange, I introduced myself to local people. I also asked questions frequently and shared ideas with local people. People responded me showing naturalness rather than artificiality. They seemed enthusiastic to give information about their hygiene and sanitation behavior. With some hope, honestly and friendly they wanted to share their view, feeling, and perception. Some villagers expected benefits from me and asked me as if I was a development worker, but honestly I introduced myself as a student of anthropology and a researcher. I told them I had nothing to offer them but rather came to learn from the community and would receive things from the community which I needed at the time of fieldwork.

When I settled in the field, I began to feel difficulties on how to start research activities, how to sample and collect data. I decided first to walk through the whole VDC. During walking throughout the various hamlets, I visited each household member and met them either at their home or encountered them in the fields and conversed with them, asking about hygiene and sanitation practices, history of health conditions, and development intervention activities done in the VDC. I walked almost

the whole day for 25 days. While walking in the communities, I captured the salient features of the community of different ethnic groups. I maintained diaries that contained family descriptions and observation records and views garnered from the interviews. Sometimes I snapped photos of them and their circumstances, taking full consent of them.

After visiting the whole VDC and building rapport with local community people for some 25 days, I prepared and developed a description in loose paper, which I called 'a short village profile' about the descriptions of hygiene and sanitation behavior, including environmental hygiene conditions and other fundamental aspects of the community. Based on the loose profile, I decided to purposely select three wards (ward no. 1, 2, and 3) for intensive study. I selected these areas on the basis of non-probability purposive sampling, representing all these groups based in different locations. The population characteristics of the chosen areas were not similar. It comprised multiple ethnic groups: Chepang, Tamang, Brahman, Chhetri, Newar, and Dalits. These groups had their own locations. The population was scattered in three elevations: low land, middle land, and high land. Most of the Tamang households were located at lowland. Middle land was occupied by both Tamang and Chepang. Nominal numbers of Brahmins and Chhetris rested on high or low land. The majority of Chepang settled on high land. I took census of all households in chosen wards by visiting each household and getting information on the fundamental characteristics of the village: age, sex, household structure, income, land holdings, toilet using practices, etc., with the help of questionnaire which I used to fill myself.

When I was busy there in the fieldwork, my assistant informed me from Bharatpur headquarters about a three-day training program on ECOSAN with the financial and technical support of WHO, organized by DWSS/ESS. I decided to go to the district headquarters and attended and observed various activities at the training. I sought new concepts and approaches appropriate to the present research. After the training was finished, I returned to the field again and followed the tasks remaining to be completed in the whole research cycle. I continued the research and visited the household members in the area.

My experience while obtaining data is of a typical type. It was not an easy task to obtain data from the ordinary people of rural settings about hand washing, defecation, urinating, bathing, etc. When I needed information on toilet use, I asked informants

about defecation. When collecting data on toilet practices, my question was, “Where is your toilet, please? I need a long toilet? Is there water for cleansing and hand washing?” This method helped me to find out the actual information. Most of the data from the ordinary households on this regard were collected through this method. Moreover, I used to ask for drinking water for myself. When they provided water for me, I observed the glass, mug, and jug, inside and outside, to find the practice of washing utensils. I followed this method in each household while conducting census, case study, KII, interview, and the like. Difficulty in communicating with the community people also hindered me to collect data easily. To solve the language problem, I requested a local teacher of Chepang background, who showed deep sympathy on my request to help.

With regards to ethical issues in anthropological fieldwork, I adopted the principle of frankness and openness from the beginning of the rapport-building stage. Insisting on the principle of openness in an anthropological study makes it easy to observe over frequently occurring empirical phenomena (Baszanger and Dodier, 2004: 9). It is an important manner for rapport building which I frequently adopted during the rapport building. This manner provided me with a base to get faster consent of people. Shown this principle and manner, people became ready to express their views and answered to whatever questions they were asked. I could not find any surprise among them and did not feel strange in the community during the fieldwork.

Considering ethical issues, the names of informants interviewed have been kept anonymous to maintain and protect the right of the informants. During the period of research, I tried to maintain and create neutrality to make participants enthusiastic to give their views spontaneously. Due to remoteness, difficult foot trek, lack of convenient facilities required completing the research work, lack of people's interest, and innocence, I experienced some constraints during the time of fieldwork. It was quite difficult to gather required information by meeting the informants. To collect the data on cultural and subjective aspects of the community, tapping their individual opinions, positions, and attitudes and winning the hearts of people was rather difficult task.

In this situation I felt it was very difficult to gather the community people to share their views because most of the people were poor and busy in their daily business and tasks to earn livelihood. They had very little time to spend for conversation and give

information because of their business. It was difficult to find them in their own home at the right time. I had to meet them in the field where they were working. Clusters were scattered over long distances. It took 2-3 hours to go from one hamlet to another. Going to one cluster to another to collect information from the informants was rather difficult due to the distance. I used to call them in their own clusters wherever was favorable for them to share their views. I let them to express their views in their own words. In this situation, I again requested the local teachers to facilitate me to explain what they meant actually. Using the group discussion tools and personal interaction, I obtained the perceptions, views, and attitudes of local people on the hygiene and sanitation practices at the individual, household, and community level, views on the diseases and health hazards, death and mortality cases, and attitudes towards development interventions and its impacts on the life of the people.

Sometimes, I felt that local people showed their prejudiced feeling toward me as I identified myself as a Brahmin. Some people used to hide their reality. It created some confusion and problems to garner the data. Beside these, there was no electricity, which impeded reorganizing and writing field notes at night. The additional problem was of language. However, not in all community but only in a few remote Chepang communities was it a problem.

For ethnographic study, fieldwork is essential for collecting the data relevant to the field of investigation. For this study, I began fieldwork in September 2010 and continued till August 2011, followed by regular field visits which lasted one year. Thus, the total duration of this fieldwork was one year, which was sufficient to conduct research and collect relevant data for this study. During the fieldwork, I collected enough data and information required for this study on hygiene and sanitation behavior system of the rural communities.

3.10 Limitations of the Study

The objectives followed and methodologies adopted in this study have clearly shown its limitations. For instances, it is a micro-level qualitative ethnographic study which was carried in 2010 and 2011 in a particular rural village context of central region's of Chitwan district where one and a half decades of formal/modern hygiene and sanitation development intervention programs were being implemented. Before generalizing the findings, one should give careful attention to the fact that up to the

present considerable changes and new forms of hygiene and sanitation behaviors and development may have taken place. Therefore, it can represent only hygiene and sanitation behavior system of people in a particular area within a particular time period, which may not be compatible to the situation of other places.

This research was an attempt to gain in-depth understanding about the system of hygiene and sanitation behavior and practices of the local community people. The perceptions and beliefs of community people towards the organizational and institutional aspects of the hygiene and sanitation development intervention vary one place to another. The study of impacts of development interventions on hygiene and sanitation behavior of the rural community of the Lothar VDC of Chitwan district may not represent the hygiene and sanitation situations of the whole country, where different cultural groups live in different parts. The findings of this study have been limited to the fieldwork research in three wards of the Lothar VDC of Chitwan district.

The data/information in this study was collected through both the quantitative and qualitative tools used in survey and ethnography, including other tools used in PRA methods. However, the largest part of the data was covered by the qualitative aspects of hygiene and sanitation behaviors. Qualitative research methods—case study, observation, unstructured and in-depth interview, key informant interview—were used and formal and informal discussions held at group and individual levels. Most of the qualitative methodology was used to get viewpoints of members of the groups of diverse cultural backgrounds.

In addition, this study is based on basically qualitative data even though significance part of quantitative data was also gathered through the use of ethnographic methods. Qualitative interpretation based on qualitative data has been done. Major part of this study has been limited to the qualitative analysis. Therefore, being qualitative findings, interpretation and also conclusions may differ from those of others according to their research objectives and designs.

Nevertheless, the dissertation may serve as a basis for many others who are interested in the future research in this field and topic. In this research I have tried to show the various dimensions of human hygiene and sanitation behavior system are influenced and guided by people's own cultural world view, perception, attitudes, preferences, beliefs, and other various factors at the local level. Moreover, how people participated and became part of the modern cultural structures or did not become, and why they accepted or rejected them, could be the burning issues for further anthropological investigation.

CHAPTER-IV

THE SETTING

This chapter describes salient features of the Chitwan district and details of the research area of Lothar VDC. This includes geographical situation and location, population, household structure, socio-cultural characteristics such as caste and ethnicity, resources, economy and occupation, education, religion, landholding status, production, food supply, and history of Lothar VDC, which provides background information for the study of hygiene and sanitation behavior system.

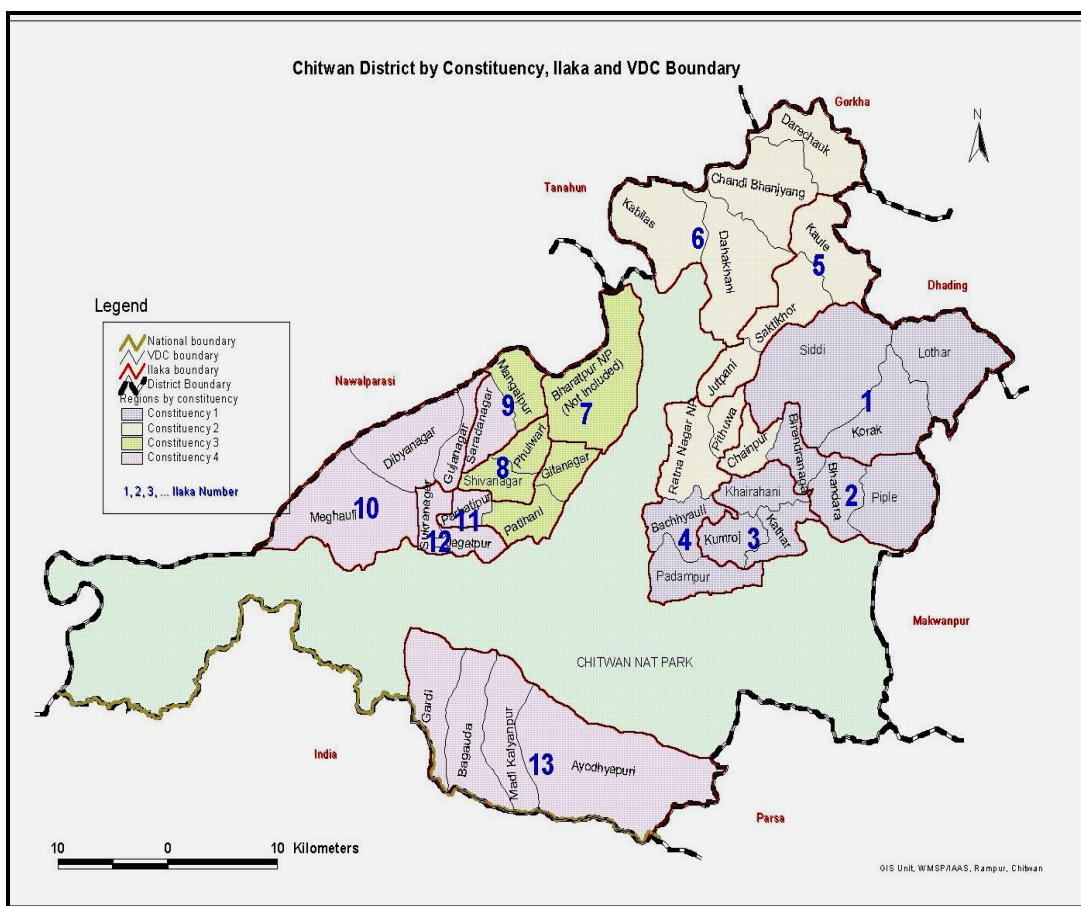
4.1 Chitwan District

Chitwan is a centrally located district in Narayani zone of Central Development Region. It is situated in the southwest part from Kathmandu, capital of Nepal. It is surrounded by Makawanpur in the east, Nawalparasi in the west, Dhading and Gorkha in the north, and India in the south (see the district map). Administratively, the district is divided into 36 VDCs, 2 municipalities, and 7 constituencies. The population of Chitwan, according to the census report of 2001, is 623,676 (CBS, 2003).

Geographically, the district has been divided mainly into two belts: hilly and Tarai or plain regions. The district ranges from hills to the plains of the Madi Phant adjoining India. Trisuli (later to be known as Narayani, a confluence of nine rivers) is the major river, which flows from the northeast part of the district bordering Dhading, Tanahun, and Nawalparasi districts. Rapati is the major stream which originates in the northeastern belt and flows from middle part of the district. Chitwan National Park, the largest national park of the country, is situated in the southern part of the district which covers the largest portion of land of the district, extending to the Indian border.

The Mahendra Highway passes through the middle part of the district. Narayanghat-Mugling road, length 36 km, is the transit route. Prithvi Highway is also a major road to Kathmandu from Mugling which passes in the northeast direction up to 23 km.

Figure 4.1: Map Showing Details of Chitwan District and Lothar VDC



The total number of government schools (primary, middle high, high, and higher secondary level) was 386. Except in some schools located at remote and hilly belt, school sanitation and hygiene programs were operated in all schools of this district for about a decade. The total number of households in the district was 98,710, where 84.22% of the population were supposed to be have benefited from water facilities. The sanitation coverage in terms of toilet constructed and used in Chitwan district as a whole was 68.89%, which served 499,747 people. The district has been declared the Model District for Total Sanitation, adopting various approaches i.e. TS, BSP, SSHEP, Ecosan, TPA, PPP, CLTS and School-Led Total Sanitation approach (DWSS, 2008). However, figures had shown that the water supply and sanitation situations were not similar in all VDCs of the district (DWSS/NMIP, 2008, DDC Chitwan, 2008).

4.2 Lothar VDC: The Study Site

A brief history of the people in the area, ecological situation, population, landscape, settlement patterns, resources, occupation and economic activities, religion, schools, and literacy status of Lothar VDC are described below.

4.2.1 Altitude, Access, and Surroundings

Lothar is one of the remote VDCs of Chitwan district situated in the northeast hilly belt. It is bordered by Dhading district in the north and west, Kaule VDC in the west, and Korak and Siddhi VDCs in the south, and Kankada VDC of Makawanpur in the east (see the map above).

The research area (ward nos. 1, 2, and 3 of the VDC) could be reached via Lothar Bazaar and Bhandara Chowk situated along with the Mahendra Highway. These places are almost 40 km far from the Bharatpur Municipality, the district headquarter. It takes 8 to 9 hours' foot walk (20 km) from Lothar Bridge and 30 km from the Bhandara Chowk to reach the research area. The VDC ranges from east to west, crossing the Lothar stream. The altitude of this VDC ranges from approximately 100 to 1,500 meters from the sea level.

4.2.2 Ecological Situation and Variation in Hygiene and Sanitation Behavior

Environmental variations bring and determine adaptive tools and technology used in any purpose. Therefore, variation in environment has important bearing on shaping certain patterns of activities of mankind (Hardesty, 1975). Most of the landscape of areas of the VDC is hilly. The physical feature of the land of the study area varies from one setting to another. Topographically, Lothar could be divided into three ecological zones: lower belt, situated near Lothar stream bank; middle land; and topmost upper land. For example, Dihitar of ward no. 1 lies at the lower belt, at about 100 meters. On the other hand, Wakarang, the highest peak of the study area, lies at 1,500 meters from the sea level.

The geographical aspect of the area also varies on the basis of the slope and facing. South-facing slopes are generally dry and steeper. Due to this, variation in human behavior could be seen. Hygiene and sanitation behavior is also influenced by the environmental component. For example, the behavioral pattern of the community people living in upper elevation differ from that of people living in low and middle part of the areas in terms of defecation and cleansing activities. The variation occurs according to the access of people to water resources, and sanitation facilities, which results in differences in sanitation behavior patterns and health status among the population of diverse cultural groups.

Three wards of Lothar VDC were purposely selected as the research area of the study. Ward no. 1 holds all zones: low or *tar*, middle, high, and upper land. *Tar* means “plain”; therefore, Dihitar of ward no. 1 is situated in low land. Jyamire, Sagade, and Chatrang belong to middle land of ward no. 1. Similarly, Kyangsirang, Metrang, and Parkhal are situated in the highland of ward no. 1. The climate is not significantly different between lower and middle land, but the upper land is vastly different from that of the other places. Kapartak Bhanjyang belongs to the middle land of ward no. 2, Tiruwa in upper land, and Wakarang in far upper land. Wakarang, the highest place, is in the upper part of the research site adjacent to and bordering Dhading district. It is situated at approximately 1500 meters from the sea level. The high ecological zones were mainly inhabited by people of the Chepang community. They lived in dispersed, semi-dispersed, and concentrated settlements. They were engaged primarily in dry land cultivation farming and herding for household consumption.

The two clusters of the ward no. 1 and 2 were somewhat similar in socio-economic and geographical setting: high land and low land proximate to the jungle. Other villages are scattered in plain and low land with similar geographical features. In ward no. 3 there are only two ecological zones—middle and low land—where Tamang inhabit predominantly. Other clusters are located at different zones where Chepang and Tamang people together inhabit.

4.2.3 Major Streams

There are three main streams in the study areas. Lothar is the major and biggest among the streams. Lothar stream flows from the west-south to the east of the VDC, which reaches the Lothar Bridge Bazaar. After crossing this bazaar, Lothar stream joins the Rapati Khola. Rewati is another small stream in between the border of ward no. 1 of Lothar VDC and Makawanpur district. This flows from the northern to the southern belt. Another stream is Yonkti, which flows in between ward no. 1 and 3 of Lothar VDC. These streams are the major sources for water, the basis of survival of humans and domestic animals.

4.2.4 History of People and Settlements

Reports from the KIs suggested that the history of the study area was the history of migration. The area was inhabited by people migrated from various places outside the study area at different historical times and periods. Chepang, Tamang, Dalit, Newar,

Brahmin/Chhetri were the major cultural/ethnic groups living in the areas. The history of these groups was not the same. They came and settled there at different times.

Chepangs claimed themselves to be the first settlers in this VDC. This community has a 350-year long history of settling here. During the time of Ram Shah in Gorkha for some 350 years ago, Chepangs came to settle in this area. When the Shah dynasty chased them from various parts of Gorkha, they escaped from their places and started to inhabit there.

The origin of Chepang is not clear, nor has any document been found yet regarding the history of this community. According to the local legends told by a key informant, an old local Chepang, they were the descendents of God Rama. God Rama had two sons. One was Lava and another was Kusha. They claimed that they were the descents of Lava. Chepangs are short in stature, with Mongoloid features with flat noses and black hair.

Chepangs are one of the more isolated tribal groups of Nepal. They live near the Lothar Khola region, east and west of Kandrang Garhi of Chitwan district. They also inhabit the region of the Mahabharat hills situated at the peak bordering the two districts. The Chepang household numbers 158 in the sample area, the largest group. They were found in significant numbers in all sample wards and clusters of the study area.

They were quite familiar with modern development activities, including health care, roads, and modern agriculture equipments and techniques. During their nomadic life, they came in contact with Tamang communities and started to settle permanently in villages. In the past, lives of Chepangs depended completely on nomadic system and survived by fishing and hunting. Nowadays they have started to live in houses and sheds made up of wood, stone, and tree branches. They cultivate crops such as maize and millet. Using traps to catch birds and gathering various forest products were other sources of their livelihood. After settling permanently, they started to raise goats, cows, bulls, pigs, and buffalos.

The second largest group in the area was of Tamangs. The history of Tamang is comparatively recent. Tamangs started to settle here 40 to 55 years ago. Buddhi Bahadur Tamang, 75 years old, said that his family started to inhabit there 45 years ago. His family shifted here from the high land of neighboring Yogner village situated

on one of the topmost hills of Dhading district. Similarly, Prem Bahadur Tamang, 64 years old, and his family came there to settle here from the Jorung village of Dhading in 2013 B.S. All other Tamang families also migrated from different places of Dhading district at different historical times. The Tamang communities were scattered in all wards except in Wakarang of ward no. 2.

Brahmin and Chhetri were other cultural groups in the area. They came from the eastern parts of Nepal about 55 years ago. Before Maoist insurgency was at the critical stage, they were in considerable numbers. Now they are nominal in numbers. When the conflict aroused all over the country, significant numbers of them migrated outside to seek relatively safe places, and their numbers decreased.

Out of 287 households, there was only one household of Newar, in Tiruwa of ward no. 2. The head of this household told me that they migrated from Trisuli village of Nuwakot district about 50 years ago, and he married a Chepang woman. His major occupation was farming and livestock, i.e., goat, buffalos, cattle. There was only one Dalit household, which was in ward no. 2. This family had come there with Brahmin and Chhetris to serve them with traditional occupation. Nowadays, this family has left the traditional occupation and some of its members have gone abroad for earnings.

4.2.5 Population Distribution of the VDC

The settlements of Lothar VDC were scattered in various clusters and ecological belts. Thus, the population distribution of the VDC was not similar in terms of the number in wards, castes, and cultures. The following table shows the basic features of population distribution of the VDC.

Table 4.1: Population Distribution of Lothar VDC by Ward and Sex

Ward No.	Household Number	Total population	Male	Female
1	109	755	380	375
2	68	490	243	247
3	110	764	375	389
4	94	731	365	366
5	59	360	170	190
6	50	372	184	188
7	65	494	237	257
8	68	500	226	274
9	100	750	365	385
Total	713	5216	2545	2671

Source: Field Census 2010

The VDC as a whole comprised 713 households. The total population of the VDC was 5,216, in which male comprised 2,545 and female 2,671. The figures show the

number of women is greater than that of men. The total number of households was significantly less when compared to that of previous national census report, which reported 1,113 households (CBS, 2001). Key informants informed me that the past political circumstance in the area was responsible for the massive scale of migration, causing population lower than that of previous national census. Settlements in the VDC were highly dispersed, comprising 2 to 60 families, with 4 to 8 members. Only a small fraction of these people migrated seasonally to urban areas.

4.2.6 Settlement and Social Structure of the Sample Area and Households

Only three wards were deliberately selected as the sample area for this study. Intensive study was undertaken in different clusters of three wards. There were not equal numbers of clusters and households in the selected three wards. In ward no. 1, there were seven clusters situated in all ecological zones: low, middle, and high land. The clusters were locally named Dihitar, Jyamire, Sagade, Chatrang, Metrang, Kyangsirang, and Parkhal. All of these clusters were predominantly inhabited by Chepang and Tamang. Ward no. 2 as a whole was situated in the upper land, having three clusters: Kapartak Bhanjyang, where Tamang and Chepang inhabited together; Tiruwa, where one Newar, one Chepang, one Brahmin and one Chhetris, and two Tamang inhabited; and Wakarang, where only Chepang community was found, which comprised 38 households. Among them, Wakarang was situated at far and further upper places from other settlements. Similarly, ward no. 3 had also eight settlements: Pakhari, Damaitar, Euralitar, Dhanmang Gairi, Matani, Devitar, Hungpung, and Kamidanda. The majority of the households in this ward were of Tamang community.

The clusters of the sample area were also diverse in terms of socio-cultural background, that is, caste and ethnicity. The nature of community was mixed/complex and heterogeneous type with different socio-cultural, religious, caste, and ethnic backgrounds. There were five cultural groups living in the sample area. Tamang, Chepang, Brahmin/Chhetri, Newar, and Kami or Dalit were major caste and ethnic groups. Some houses were jointed and some scattered over large areas. The social composition of the sample area is given in the following table.

Table: 4.2. Population Composition of the Sample Wards by Ethnicity and Household Size

S.no.	Ethnic group	No. of households	Total population	Average H.H. size	Population Percentage
1	Chepong	158	1214	7.68	60.42 %
2	Tamang	125	767	6.13	38.17%
3	Brahaman/Chhetri	2	13	6.50	0.64%
4	Kami/Dalit	1	7	7	0.34%
5	Newar	1	8	8	0.39%
Total		287	2009	7	100%

Source: Field Census 2010

The figure above shows that Chepong, Tamang, Brahmin, Kami, and Newar were the ethnic groups predominantly living in the area. The sampled three wards as a whole comprised 287 households, with total population of 2009. About 35% family households lived in extended families with 7 to 12 members under one roof. The figures depict that the largest portion of people living there was of Chepong, literally called *Praja Jati*, which holds 60.42 percentage of the total population. The second largest group was Tamang, which holds 38.17 %. Brahmin, Newar and Kami/Blacksmith were in small numbers, which altogether holds the remaining percentage of the population.

4.2.7 Resource, Occupation, Economy and Activities

Agriculture

Except for a few cases, agriculture was the major occupation and source of livelihood. Their economy is of subsistence type; hence, the livelihood of the community people depended upon subsistence agricultural activities based mainly on various cultivations. The bulk of their food comes from two kinds of land: *khet* and *bari*. Families who own their land mainly grew paddy, maize, buckwheat, dry land rice, millet, barley, wheat, and other types of pulses and lentils. Paddy and mustard were grown in low land and millet, maize, ginger, and sorghum in high land. Moreover, numerous maturing root crops, shrubs, legumes and tree crops, intercropping of many types of domesticated plant, asparagus beans, sieve beans, hyacinth beans and cows peas, pole-climbing yam vines, heart-shaped taro leaves, ground-hugging sweet potato

vines, and many other vegetables, spices, and non-food crops were grown simultaneously.

Most of the grains they grew were consumed at the household level to fulfill domestic need. The major portion of their food demand was supplied by agriculture, which was also the very source of their food hygiene and health. Thus, the people of the areas have a mixed economic base, that is, agriculture and livestock rearing.

Livestock Raising

Livestock system is an integral part of the household economy and of the farming system that supports and supplements crop production. Therefore, animal husbandry is an indispensable part of their economic activity. Animals kept were consumed to fulfill household needs of nutrition. Some were sold for cash as an additional source of household income. It was closely associated with social prestige and religion. Thus, almost every family of the area maintained livestock, i.e., cattle, buffalo, goats, pigs (only by Chepang and Dalit household), and poultry (fowl, chickens, ducks). For instance, Sita Ram kept cows, a couple of oxen, buffalos, pigs, and chickens. He also kept wild bees in his home for harvesting honey. He sold this and earned little money.

Livestock is one of the main economic components of the area which was also closely associated with hygiene and sanitation behaviors, such as handling dung for composting and recycling. Therefore, animal husbandry has not only economic meaning, it has also cultural implications and has been closely interlinked with the human behavior regarding hygiene and sanitation. Additionally, animals are sources of diseases. Livestock may transmit various diseases to humans, and animal husbandry has also been practiced for ecological adaption. Livestock plays an important role in maintaining the environmental condition by consuming human body wastes as well as domestic wastes, i.e., residues produced by agricultural products. Behavior related to the management of livestock is a part of hygiene and sanitation system. Proper management of livestock is to protect the health of people. The people of the areas kept animals for manure, draft power, and milk for consumption during festivals. Pigs, chickens, goats, ducks, male buffalo, and pigeon are of utmost importance to their hygienic life.

Through sale of animals and their products, livestock also provided a source of cash income for subsistence as well as for purchase of various sanitation materials: soap,

brush, jug, mug, bucket, toilet construction materials like pipe, towel, shampoo, toothpaste, etc. Animal husbandry has an important role in economic, cultural, and ecological aspects, which have important influences on hygiene and sanitation behavior. Thus, quantity and quality of animals bring variation in and affect health, hygiene, and sanitation status. The following table shows various animals kept by the people in the area.

Table 4.3: Households Keeping Various Animals by Different Ethnic Groups

Ethnic Groups	Number of Households	Buffaloes (He or She)	Oxen	Cows	Goats	Pigs	Fowl	Ducks	Pigeons	Dogs	Bees in Ghar
Chepang	158	85	56	79	245	102	540	14	10	65	38
Tamang	125	98	78	86	534	-----	1060	76	23	76	23
Brahmin/Chhetri	2	2	4	6	17	-----	21	-----	17	2	1
Dalit/Kami	1	1	1	----	3	6	8	-----	3	4	2
Newar	1	2	2	6	8	-----	15	3	7	2	3
Total	287	188	141	177	807	108	1644	93	60	149	67

Source: Field Census 2010

The table above shows the sum total of different kinds of animals that people kept. The area had a mixed livestock population including buffalos, cows, oxen, goats, pigs, and chicken. Cattle were raised for dung and draft power. They were the forms of wealth and also had an important social and cultural function as well as provided milk and skin. The people of the study area raised certain animals like pig and chicken for their religious activities besides their economic and nutritional values. Ducks and pigeons were kept and raised for various *poojas* (worships). Most of the people were often companions of domestic animals, either by looking after them or managing them and their dung in their houses. They always touched them and were prone to infection through animal dung and other wastes. Households with greater numbers of animals seemed to observe better hygiene and sanitation precautions because of their capability to buy the sanitation materials such as soap, towel, medicine, toothbrush, and toothpaste, and other construction materials through sale of animals. Some people reported that their earning from the sale of animals, to a large extent, supported to buy the materials needed for maintaining better hygiene and sanitation situation at their homes.

Types and Possession of Land Providing the Base of Health, Hygiene, and Sanitation Behavior

Land is the principal basis of subsistence production for livelihood and the predominant form of property as well as a source of income in general. In other words, land is considered to be the most stable source of income, desired form of property, and an indicator of social, political, and economic status. The more the land occupancy, the higher will be the social status in an agrarian rural society. The land tenure system of the study area is *raiker* (registered land owned by individual household), in which the state retains the ownership while the cultivators retain their right to cultivate it by payment of a stipulated rent to the state.

Two types of land, *khet* in lower elevation and *bari* in upper elevation, were referred to in the previous section. The objective of this study is to relate land to the context of hygiene and sanitation behavior of the people. Thus, not only the land is required for cultivation, but it is also the basis for any other activities: sanitation practices.

It has significant bearing on hygiene and sanitation behaviors by various means. Generally, one can presuppose that the land sizes held by family and individual also determine, to a large extent, their hygiene and sanitation behavior too. However, in culture specific places, if proper sizes of land occupied by any households, it is not so hard to make easy access to get a place for defecating or making a toilet. Even if a family possessed a sizeable piece of land, the hygiene and sanitation practices were found to be controlled by the very deep cultural habits, beliefs, and perceptions of local people to a large extent. Moreover, individual households who had enough land and could grow more produce, supporting the family members, and who could afford easily the facilities of modern hygiene and sanitation are protected, and their lives are safe from infectious diseases as they get cured at the right time. However, it depends on the cultural preferences, feelings, and knowledge of the community people. If a lot of free land (i.e., jungle land) is available around the community, it might provide opportunities for the members of the communities residing in the forest to hide themselves while defecating and they can hide fecal matter. As a result, people may not be motivated to construct toilet at their homes because there is easy access for defecation in the field. Thus, land is the basis for hygiene and sanitation behavior. The following table shows the total land occupancy by the local people of various cultural backgrounds.

Table 4.4: Land Possession by Different Ethnic Groups

S.N.	Ethnic Groups	No. of HHs	Types and Total Land Holdings in Ropani		Plot		Average Land Holdings of HHs in Ropani		No. of Family Without Khet and Bari	
			Khet	Bari	Khet	Bari	Khet	Bari	Khet	Bari
1	Chepong	158	236	1060	113	230	1.49	6.70	87	13
2	Tamang	125	553	1350	219	375	4.42	10.8	3	1
3	Brahmin	2	37	47	13	6	18.5	23.5	-	-
4	Newar	1	7	9	3	4	7	9	-	-
5	Dalit	1	3	7	1	3	3	7	-	-
Total		287	836	2472	349	618	34.41	57.00	90	14

Source: HH Census, 2010

Among the 287 households, 90 households did not possess any *khet* and 14 households do not possess any *bari*. The Tamang community occupied the largest portion of the land. They occupied 553 ropanis of *khet* out of the total *khet* land of 836 ropanis and 1350 ropanis of *bari* land out of the total *bari* land of 2472 ropanis. Most of the low land had been occupied by the Tamang community.

The Chepong community owned the second largest portion of the land. In average, of the total *khet* land of 836 ropanis, Chepong households owned 236 ropanis, and 1060 ropanis of *bari* out of the total *bari* land of 2472 ropanis. However, only a few households of Chepong community owned *khet*. A large number of Chepong households had no registered land. Families not possessing any type of land were share cropping. More or less, all the households owned land enough for making toilets and huts for sanitation and other purposes.

Unlike these two types of land where people cultivated grains, there were lots of unregistered land available for grazing, dwelling, providing wild foods, herbs, medicines, roofing materials, and various purposes: economic, religious, medicinal. People used bushes for urinating, defecating, and other various purposes.

Food Supply Status and Hygiene and Sanitation Condition

The people of the area used land basically to cultivate various kinds of grains and lentils. A very small portion of their land lie in the *besi* (plain land) where irrigation facility can be extended, and the rest are all found on the steep mountain sides far above any running water source. They grow paddy twice a year but can hardly make their survival. For their crops, water is of paramount importance. As the farming system in Nepal is like gambling with the monsoon, every crop grown in the area totally depends on the monsoon rain. The crop yield in a year corresponds significantly to the amount of rainfall. There was no managed irrigation system. *Bari*

land totally depended on rainfall. Only a few small channels were constructed with tradition technology, which seemed to be inadequate to irrigate the fields. In Dihitar and Euralitar of ward no. 1, there were small dams made only for paddy in summer, which might be destructed by landslides from above the hills in rainy seasons. If rain does not come at the right time or in the right amount, their crop yield might be reduced. When the spring rains are sparse and late, their major crops (corn, ginger, millet) in their terraced field would grow poorly. One helpful thing about their agricultural cycle is that as other people living in similar altitudes and landscape, they also planted corn on burned-over mountains (Sharma, 1995).

The major part of the food of the people of the study area, like in many other villages of Nepal, is derived from agriculture, which involves the production of food grains, cash crops, and various kinds of vegetables. Agriculture is highly labor-intensive activity, particularly in a traditional agrarian community. Domestication of animals, cereal production, and forest resources were the bases of their subsistence livelihood.

They grow various food grains in the dry terraced fields surrounding the village along the higher mountains, slopes, and in the wet fields lower down and along the river valley in significant quantity. Besides this, they grow many varieties of vegetables and fruits; however, they were not self-sufficient.

Whatever crops they grew, poverty and inadequate food supply hampered situation, which influenced behavior related to health care, hygiene, and sanitation. The information gathered from the household census found that 85 percent households of the sample area were surviving under conditions of food deficit.

Current government policy intends to mitigate poverty through providing sanitation, water and hygiene facilities and improving health. For example, Urban Water and Sanitation National Policy (2009) for safe drinking water, sanitation, and sustainable environmental condition in urban areas following cost effectiveness and cost recovery principle emphasizes on access of people to safe drinking water supply and sanitation services as the fundamental components to improving public health and aims to meeting national poverty reduction objectives through improvement of health and hygiene of people (MPPW, 2009:1). But in the case of study area, poverty seemed to be the major problem. The policy for reducing poverty through WATSAN facilities could not effectively work here.

It was reported that the people were facing problems of poverty. I interviewed a woman who came from upper part of ward no. 2 to the health post to treat her three-year-old female child who was seriously suffering from diarrhea for five days. At that time I asked her, "Why did not you bring your child for treatment at an earlier time when she first had diarrhea? Don't you believe in treatment at this health post?" Then she answered, "Because of overburden of household work. The work to be done in the village took our time and made it late for me to take my child in this sub-health post. I believed on it. However, household work burden confined me to be at home instead of carrying my child to health post to treat at an earlier time." It was an indicator of food supply situation for the majority of the people, if not for all. This also proves that her attitude towards modern treatment represents positive views; however, the hygiene and sanitation conditions of the child and the parents in household seemed poor due to the burden of work. The household work load was one of the major causes of poor sanitation and hygiene conditions. "Poverty is the major cause for not keeping hygiene in the village," said a local teacher. Thus, problems of feeding the children due to scarcity of food and children's sickness clearly show that there has been a relationship among food supply situation and modern health, hygiene, and sanitation status. Overburden or workload and low production in the village life was the major cause of poverty, for which present policy alone was not enough. The following table shows the situation of poverty of people with various cultural backgrounds under food deficit situation.

Table 4.5: Ethnic Group-wise Status of Food Supply and Poverty

Ethnic Groups	Total No. of HHs	Household Under Food Sufficiency	Household Under Food Deficit
Chepang	158	15	143
Tamang	125	75	50
Brahmin/Chhetri	2	2	-----
Newar	1	1	-----
Dalit/Kami	1	-----	1
Total	287	93 (32.40%)	194 (67.59%)

Source: Field Census 2010

Out of total households, only 93 households were able to feed their family from their own production. Largest portion of HHs were under acute food deficit. More than 67% household could not feed themselves from their own production. Among them,

50% household could provide food only nine months and others were not able to feed for more than five months. The households which were under food deficit coped their food deficit months by engaging in agricultural labor and other wage labor. Wild edible plants and roots were other sources of their livelihood, which supported up to two months. About three percent of households, especially Chepang households, were found to be still dependent upon hunting and gathering activities, and they still settled in cave. Their life completely depended upon nature. Majority of the informants reported that the major cause of the food deficit of the areas was the lack of agriculture land.

Food production throughout the year is the goal of a majority of the households in the area. Only 93 households (32.38%) have food grains adequate to support the requirements of their family. They also have surplus grains, and 194 households (67.59%) do not have adequate grains to meet the demands of its members. They could not meet the annual requirement of grains. Their production could support their family for three to eight months. They supplemented their food requirement for the rest of the months by working as wage laborers. This was also not sufficient to support family needs. So they were forced to borrow money and sell their marginal livestock like goats, chickens, and pigs at a cheap price to support their family. This condition of food deficit has compelled the people to migrate annually to Punjab and Delhi and various other cities of India and also work as laborers at various road construction sites within Nepal.

The living conditions of the people of the upper land differ significantly from those of the rest of the clusters. The upper land village was located on a steep hill. It depended on adjacent large forest area. Almost 45% households relied on cultivation of maize grown on sloppy landscape. Of the total households, 10% lived in the forest covering the sloppy areas, and working conditions were hard and harsh because of cultivation in sloppy high land fields.

Most of the villagers only produced enough from their field to feed themselves for six months of a year. From their slash-and-burn type of fields called *khoriya*, they got another three-month supply of corn. Another three months they lived by selling or trading bananas, orange, sweet potatoes, ginger, and occasionally goats. This was still not sufficient to survive, so they dug large quantities of the bitter-tasting *githa* root (*nakti* in Tamang and *lak* in Chepang dialects). The earning level of the majority of

the Chepang people was found very low. More than 80% of the households of the Chepang community were under food deficit. They could not provide food to their family members from their own products. To fulfill the household requirement of food and to tackle the problems of food scarcity, they sought other ways to earn. This situation had deep effects on their health conditions, hygiene, and sanitation behavior. The following case would further demonstrate the situation.

Case: 1 Our Life Passing Through Difficult Stage

The house of Sita Ram Chepang was built up of stone and mud and roofed with bush. He grew sorghum, millet, and maize in his sloppy terraces. The grains he produced from his own field were not adequate to feed his family over the year. Food was not sufficient in his family. It covered only for three months. His household food supply often depended upon wild roots, bulbs, and wild vegetables.

Whatever the situation of food supply, economic conditions, occupation, resources, and economic activities were, their economy and survival was also based on naturally available foods, i.e., wild edible plants and roots.

Other Occupations and Sources of Income

Besides the main occupation, most of the people in these communities were also involved in wage labor and other occupations. Those who were involved in labor work used to go outside the village, mostly outside district. They were found to go to various parts of Gorkha district, where road was being constructed. A nominal number of local people were involved in small-scale businesses, government service, and teaching. Some of them worked as soldiers outside Nepal. The following table shows the number of people involved outside agriculture activities.

Table 4.6: Number of People Involved Outside Agriculture

S.N.	Activities/fields of involvement	Number of People involved in
1	Wage labour	435
2	Teaching	3
3	Government service	2
4	Ex-Indian Army	2
5	Working outside the country	28
6	Hunting and Fishing	75
Total		545

Source: Field Census, 2010

Besides agriculture, 545 people were engaged in other sources of cash income. The above table shows that out of total population, 435 were involved in wage labour. Only three people were involved in teaching and two persons were involved in

government service, out of which two of them worked in sub-health post. Among them, two were ex-Indian soldiers who were receiving pensions, and the number of working outside country was 28. Besides this, 75 persons said that they were still involved in and practiced hunting and gathering for their survival. Most of the hunting and gathering people were Chepang who lived near the forest. Chepang people who were involved in hunting hunted birds sometimes killed wild pigs, from which they fulfilled their household food requirement. Sometimes they also sold *kalij* hunted for additional income. They also collected and ate wild vegetables like wild mushroom and yams.

Level of income affects the behaviors of the people. It is also an indicator of ability to buy things required to maintain the hygiene and sanitation condition. Almost 35% household had no stable income source. Most of the adults and able males and other members of the household were hardly found in the area. They presented in the village only in the cultivating seasons. They would go out of village when construction work outside the village began. Most of them were engaged as unskilled laborers in construction work (i.e., road construction work in Gorkha district for daily wages). For example, Sita Ram Chepang had 7 children living together. Of them, two were young and other five were adults. The adult members of his family used to go to work to the construction projects for wage earning in Gorkha district.

People reported that unskilled persons, including women, earned Rs. 450 per day. Skilled laborers (e.g., masons) earned Rs. 800 in a day. However, the income levels of the households of the areas were not similar. There was a significant difference, which could bring variation in hygiene and sanitation situation among the various ethnic groups. There were some differences found in attitudes, perceptions, and beliefs among them due to economic disparities. The effect of this could be found in their health, hygiene, and sanitation conditions. The following table shows the average yearly income of the household of the selected three wards.

Table 4.7: Approximate and Average Yearly Income of the Households

Ethnic Groups	Total Number of HHs	Number of HHs (in Percentage) Falls under Different Level of Average Yearly Income (Rs. In Thousand)		
		Below 20	20-40	Above 40
Chepang	158	43 (27.21%)	109 (68.98%)	6 (3.79%)
Tamang	125	47 (37.6%)	38 (30.4%)	40 (32%)
Brahmin/Chhetri	2	-----	1 (50%)	1 (50%)
Newar	1	-----	1 (100%)	-----
Dalit	1	-----	1 (100%)	-----
Total	287	90 (31.35%)	150 (52.26%)	47 (16.37%)

Source: Field Census 2010

Out of the total households, 90 households (31.35%) fell under acute below poverty line. Majority of the households (150, or 52%) were in the middle class. Similarly, 47 (16.37%) households were in relatively better economic position compared to that of

others. Among the all poorest households, the major part belonged to the Chepang community.

Water supply, hygiene, and sanitation facilities are considered as major indicators of well-being. The Nepalese government has set its sectoral policy to reduce poverty by increasing the facilities mentioned above to all the Nepalese people. Poverty reduction approach has been tied up with increments of water supply, hygiene, and sanitation facilities. Despite the government's poverty reducing efforts through implementation of various policies and strategies and programs of hygiene and sanitation promotion, and to improve living standard since the last decade, majority of people of various ethnic groups living in the study area experienced acute poverty and were economically deprived. The economic deprivation among the Chepang community was the typical feature of the area, which was reflected upon their low hygiene and sanitation conditions.

Another source of their cash income in the areas was small-scale business (tea shops, sale of local goods such as chicken, fruits, and goats). Besides these, food grains were also sold for cash; however, they varied according to seasons. For example, rich and wealthy households who had surplus grains could sell it to the local people for cash. Lending money for interest and sale of animals were also sources of income. People also planted summer vegetables such as cucumber, pumpkin, chilly, beans, and tomato. Garlic, onion, mustard, and radish were grown and eaten in some areas in winter season. Similarly, various fruits like orange, lemon, jackfruit, and banana were grown for consumption and were marketed by some households in significant amounts. Additionally, people sold herbs and other medicinal plants for cash income.

Selling and buying thatch for roofing was also practiced for cash income. Some people also made brooms (*fya* in Tamang and *fek* in Chepang language) from the tip of *amriso* to sale for earning. Some households adopted small businesses for cash income. Only two small tea shops were in the low land area. These were owned by Tamang households. They sold modern market foodstuffs and other materials required for households. Local *raksi* and *jar*, fish, soap, noodles, biscuits, cigarette, tobacco, tooth paste, brush, and other materials were sold in the village. All of these earnings have more or less bearing on the hygiene and sanitation behaviors of the local people and that will be described and analyzed in a later chapter.

4.2.8 Average Household Expenditure

While conducting the household census, the data on the expenses on various items of the households were also gathered. The staple foods of this area were rice, millet, maize, and sorghum. Majority of the household members worked to earn for fulfilling their subsistence requirement. They were not worried about and often did not allocate expenditure for hygiene and sanitation purpose. General household expenditure of the community in various categories is presented in the following table.

Table 4.8: Approximate Household Expenditure of Various Things Per Day/Month/Year

Particulars	Per Household Per day/month Expenditure in Amount and Quantity
Agriculture purpose	Rs. 3000-6500 per year
Schooling	Rs. 1300-3000 per year
Clothes	Rs. 1000-3000 per year
Medicine	Rs. 100-5000 and above per year
Rice/food/meal	5 Kg Per day
Pulses	2 Kg Per day
<i>Pidualu</i> /potato	3 Kg Per day
Firewood to cook food	15 Kg Per day
Mustard oil	1 and half Ltrs Per month
Jar	5 Ltrs per day per person
Maize dried	4 Kg
Salt	5 Kgs per month
Kerosene oil	7 Liters per month
Sanitation (Soap, tooth paste, brush, and other things)	Rs. 170 per month
Expenses in feast and festivals (<i>Dashain</i> , <i>Tihar</i> , <i>Poojas</i>)	Rs. 200 Hundreds-10 thousands per year

Source: Field Census, 2010

The expenses on various *poojas*, feasts, and festivals in the area depend upon on and differ according to caste, ethnicity, and economic status of the households. The families whose earnings are high spend more on *raksi*, *jar*, meat, and rice. The average expenditures were approximately Rs. 2000 to 8000 in *Dashain*, excluding homemade *raksi*, *jar*, and food; Rs 2000 to 2500 in *Tihar*; Rs 600 in *Sankranti*; Rs. 200 to 400 in each *pooja* on the average. But the poor family cannot spend much. They used to borrow money from rich families to buy pigs and chicken for feasts if not available in their house. They spend approximately Rs. 700 to 800 in *Dashain*; Rs. 200 to 300 in *Tihar*; Rs. 200 in *Sankranti*; and Rs. 80 to 100 in each *pooja* on the average. This was their custom for which they spent more money which otherwise would have covered their daily food requirement at least for four or five months.

All the figures mentioned above in the table were taken through household census, which shows that the expenses were different for different feasts and festivals in

different households. Only the lowest and highest were presented, but not the total expenditure of all the households. The expenses on hygiene and sanitation purposes seemed very low, or least, compared to that of other categories. This proves that the preference of people in hygiene and sanitation facilities was low. However, the amount mentioned above is an average only. The poor condition was the major cause for not preferring to afford the hygiene and sanitation facilities. It was due to not only their lack of awareness but also the absence of facilities. The socio-cultural system compelled them to spend more on festivals than on improving the hygiene and sanitation condition.

4.2.9 Schools, Literacy, and Education as Basis of Hygiene and Sanitation Status of the Community People

Education makes people aware and able to understand their situation. It brings modification in their beliefs, skills, perceptions, values, concepts, preferences, attitudes towards various options in the sense that educated people are supposed to be able to choose better ways of life according to changing circumstances. It builds the capacity of people of knowing, analyzing, making favorable the situation around them. Thus, people who have got better education, knowledge, and technical knowhow could get better conditions than those who have not. It brings variations in everyday life behaviors in the community. In the context of this study, education also has deep implications on hygiene and sanitation behavior.

There were 11 government schools in the whole VDC (10 primary and one middle secondary). The total number of enrolled students in the whole VDC was only 541, among which boys were in majority compared to girls. Dropout rate was insignificant compared to that of enrollment. The number of teachers involved in all these school was 30.

Among the 11 schools of the whole VDC, only four were in the sample area. These were two Rastriya Prathamik Vidhyalaya situated in Dihitar and Parkhal of ward no. 1 and one was in Wakarang of ward no. 2, and one was middle secondary school (Ganesh Middle secondary School) situated at Euralitar of ward no. 3. There was no high school. School-led total sanitation (SLTS) was operated only in Ganesh Middle Secondary School. The following table shows the level of education of community people of sample areas.

Table 4.9: Literacy and Educational Status of People of the Sample Wards and Sex

Level of Education/Sex	Ward No. 1		Ward No. 2		Ward No. 3		Total	
	M	F	M	F	M	F	M	F
Literate	70	27	60	21	102	94	232	142
1-5 class passed	60	11	17	3	65	8	142	22
6-8 class passed	7	1	11	3	8	6	26	10
S.L.C. Passed	4	1	2	1	7	3	13	5
Intermediate Passed	-	-	-	-	4	1	4	1
B.A.	-	-	-	-	2	-	2	-
	Total						419	180

Source: Field Census 2010

The above figure shows majority of the people in the area were illiterate. Nearly 71% of people could not read or write. The literacy in sample wards as a whole was 29.8%, out of which 67.6% was that of male and 32.4% that of female population. Among the literate population, there were a few people attending higher education. Among the total population of the sample area, only 2 persons attended bachelor's and 5 attended intermediate-level education, among which only one was female. The state of literacy and education has influenced on and brought about the significant variation in the sanitation conditions and behaviors of the people of various ethnic groups residing in the area.

4.2.10 Tools and Technology Used

Technology, here, means a combination of material and nonmaterial elements such as knowledge, organization, skills, instruments, and power used for any purposes. All these things are incorporated into a system, by means of which human groups interact with their environment and operate their various activities. The people of the study area used various tools. The materials implemented by the local people reflected their patterns of behavior, with the help of which they make their relation with the situation around them. In order to adjust with the given environment, the cultural ways of dealing with the situation (e.g., patterns of keeping animals, management of animal wastes, plowing and digging, cleansing) determined and conditioned their hygiene and sanitation behavior. For example, they frequently used animal dung as manure in their fields, which affected their sanitation and hygiene condition. They used various tools and materials in kitchen, which also related to their everyday sanitation and hygiene behavior. Tools for agriculture and domestic and livestock raising purposes also affected their hygiene and sanitation aspects.

The implements used by the local people showed that they depend heavily on human and animal labor and simple tools and technology rather than modern mechanized system for their daily life. The plow was made of wood with an iron bit, *jotara*, *nara*, and hook. The digging tool *kodalo* was used mostly in making *aali* while transplanting rice and digging the land in preparation for transplanting millet and weeding maize. Tools used for extraction of forest materials are axe for cutting tree, saw for splitting wood for making construction materials, *khukuri* is used for slaughtering pigs and other animals. They used oven for cooking. Sickle is mostly used for cutting firewood and grass. Similarly, a tray is used for winnowing; *thunse*, *doko*, *dalo*, *dalidhakiya* all made of bamboo splits used for carrying manure, seed, water, grass, etc.; *jato*, made of stone, is a domestic appliance used for grinding grain, and a *dhiki*, made of wood, is used for beating grain, particularly paddy. Other things like *taulo*, *ghaito*, *gagri*, *bata*, *balti* are also used for using water while taking bath and defecation.

4.2.11 Religion

In Nepal, a culture cannot be studied as an isolated unit. Deeply ingrained, highly traditional, exceptionally pervasive intercultural contact is the basis for Nepal's socio-cultural system (Fisher, 1987:45), of which more or less common impacts can be observed in any aspects of human behavior. The religions and the socio-cultural variables can also be very important elements for shaping, reproducing, and reshaping the patterns of hygiene and sanitation behavior. The belief and ritual systems under different religious groups perceive disease, illness, healing, and hygiene and sanitation behavior differently. For example, the people belonging under various religions (i.e., Buddhism, Islam, Christianity, and Hinduism) perceive and treat differently dirt, pollution, bathing, and other hygiene and sanitation related behaviors ((Winbland and Kalima, 1985; Avvannavar and Monto Mani, 2008; Blacke et al. 2008).

As Shepherd stated elsewhere in his works, a grudging ancestor could demand virtually all of one's chickens, pigeons, goats, and pigs for sacrifice to please the god so as to have a future free of diseases, fear, and failures of life (Shepherd, 1982:108). Similarly, the people of the area under different cultural and religious background believe in supernatural powers and do sacrifice animals in the name of ancestors to be freed from diseases and illness and for better life. Most of the people of the area believed that death, illness, diseases, and other human afflictions are the results of the system guided by supernatural forces. The various groups of the area have also

different religious perspectives, which caused differences in behavior and sanitation practices.

The people living in Lothar VDC practiced various religions. The major religions in the area were Buddhism, Hinduism, Christianity, and nature worshipping. Summing up the information gathered from the household survey questionnaires, the majority of people in the area were Christians. This group comprised the largest portion (45%) of the total population. The nature worshippers were found at 13%. The portion of Hindu and Buddhist was 36% and 6% respectively. Differences in religious views and socio-cultural practices have brought variation in hygiene and sanitation behaviors. The situation of hygiene and sanitation and the behavioral patterns in all religious groups were found somewhat different.

Hygiene and sanitation is defined in terms of human activities related to cleansing; however, in anthropology both terms deserve ethnographic importance in relation to local cultural system. These terms often carry the meaning of strategy deployed by local people in their different cultural spheres and sanitation and hygiene system. However, in Nepalese context, modern hygiene and sanitation practices have taken as a value-laden approach for the last four decades, making it ideal and linking it with the right of people to be freed from unfavorable conditions.

Some literature overviewed in previous chapters helped me to know that hygiene and sanitation is conceptualized and practiced differently in different places and cultural domains and exist in various forms with various dimensions. It is influenced by various factors like poverty, culture, education, natural setting, land available, ethnicity, religions, perceptions, beliefs, and so on. Most of the anthropologists doing research on hygiene and sanitation behavior have argued that hygiene and sanitation behavior has deep cultural roots and grounds in specific historical experiences. Therefore, it is necessary to search it in a specific cultural domain (Burghart, 1988; Boot and Cairncross, 1993; Anderson, 1996). Bringing insight of various kinds of collective action, traditional and modern forms of hygiene and sanitation behavior, organization and institution are essential for the broader understanding of hygiene and sanitation systems of a particular setting. These sets of information were relevant for this field. While studying the hygiene and sanitation behavioral system, the above conceptual schemes in particular circumstances (i.e., caste, ethnicity, geographical location, conditions of schools, food supply situation, gender inclusion, development intervention, religion, occupation, cultural views, income, tools and technology, education) and other references (socio-cultural and institutional arrangement and organization) have provided me with the basis of ethnographic context for this study of the hygiene and sanitation behavior system of a particular rural community.

CHAPTER-V

VISIONS, POLICIES, APPROACHES, STRATEGIES AND THE ORGANIZATIONAL AND INSTITUTIONAL SETTING OF MODERN HYGIENE AND SANITATION DEVELOPMENT INTERVENTION AND IMPLEMENTATION

This chapter is one of the major analytical parts of this dissertation which discusses the existing modern hygiene and sanitation development policies and approaches deployed in the research area to alter existing behavior patterns of local community people into modern ones. The discussion basically includes a brief history of implementation of policies, approaches, and strategies of modern hygiene and sanitation development intervention and district- and village-level various program activities, such as ODF declaration activities, operated in the area that ranges from formation of institutions at various levels.

5.1 Brief History of Sectoral Development Intervention in Nepal and in the Study Area

The concept of modern hygiene and sanitation development practices, along with the ideas of proper disposal and management of human as well as other wastes, was developed in the western world and entered Nepal at different historical times along with the overwhelming global process of development intervention, basically after the political change in 1950. The concept and strategy for health, water, hygiene, and sanitation promotion date back to the 1980s along with the United Nations declaration of the IDWSSD. However, the major formal sanitation promotional efforts were started and specified from the early 1990s. Since then, there was introduction of the modern system of hygiene and sanitation development intervention. Since that time, promotion of hygiene and sanitation has been taking place as an integral component of water supply projects. Right after the period, various sanitation and hygiene development initiatives in Nepal were undertaken for behavioral transformation (Sharma et al., 2000; HMG, 2002; WHO, 2005).

The evolution of domestic water, hygiene, and sanitation system, and investment in and prioritization of this sector, as well as its implementation within Nepal was

heavily influenced by international development discourses. The creation of the Department of Drinking Water and Sewerage during the early 1970s, its rapid expansion during the 1980s, and contestation regarding its role in the domestic water sector in the 1990s could be traced to the dominant discourses of the times (Sharma, 2000).

Looking again back to the historical processes, formal efforts for providing improved services of safe drinking water, hygiene, and sanitation facilities to all Nepalese people from the state and external intervention began along with the emergence of basic needs approach which aimed at fulfilling the fundamental needs of the community people. It was first linked up to the Basic Needs Programs in 1978 with some fixed measures. Prior to this, systematic effort had not been in Nepal (Sharma et al., 2000: ii; GN, 2011).

As a specific field of development, provision of water supply, health, hygiene, and sanitation services had been started as an important function of the Nepalese state since the Eighth Plan (DWSS, 2010; GN, 2011:10). Relating these efforts to sanitation during the period of Eighth Plan, the actual coverage of the sanitation, i.e., toilet, as a whole, was 20%. Then the plan target was limited only to raise awareness on latrine construction for sanitation (DWSS, 2008).

During the initial years, sanitation was often combined with water supply projects. In the course of formulating various policies and strategies, the systematic and modern health, hygiene, and sanitation-specific development intervention programs with the formal principle, policy, and approaches in Nepal began only from the 1990. In its initial stage a program was developed in 1993 under the joint effort of World Bank and MPPW named *Janatako Khanepani Ra Sarasafai Karyakram* (Public Drinking Water and Sanitation Program) for promotion of drinking water and sanitation sectors (DWSS, 2010). On the basis of this information, one can say that the conceptualization of the fundamental elements of modern sanitation ideas developed in the decade of 1990s. Thereafter, sanitation-focused program packages were launched by different agencies along with different names, approaches, and modalities. The modern sanitation and hygiene system in Nepal started to get its own separate field of development from the 2000s.

In 1994, Government of Nepal for the first time developed sector-specific policy and guidelines for implementation of sanitation program at the local level. It focused on the recognition of sanitation as a basic right of citizen, stating that access of people to water and sanitation is not simply a technical issue but the basis for protecting the environment, improving health, and alleviating poverty. It also emphasized equally the promotion of hardware and software aspects of sanitation and hygiene, identifying the linkages of sanitation with water, health, education, and local development, defining sanitation as a package of facilities and services related to personal, household, and environmental hygiene rather than latrine construction alone. The major goal of this program was to bring changes in people's traditional sanitary and hygiene practices through health education, information, community mobilization, and involvement, particularly women, in water management, hygiene education promotion activities, and participation of NGOs and community-based voluntary organizations (HMG, 1994; DWSS, 2010:4). In the course of implementation of these policies in the district as a whole, the concepts of promotion of existing hygiene and sanitation conditions started to be familiar to the local community people. However, the initial concept of sanitation entered to this area before this policy was implemented. Before this intervention occurred through primary schools with its curriculum and health check posts with its health campaigns that tried to impart partial knowledge about the issues to the school students and teachers.

The concept of modern hygiene and sanitation system entered into the area along with the initiation of water supply projects since vs 2061. For the operation of modern WATSAN system in the area, WSP entered there with some WATSAN initiatives. These initiatives were undertaken through the formulation of water users' committee. The idea of modern hygiene and sanitation development spread out in the area along with the formation of this committee following the spirit of national sector policy. The movements further spread out by expanding its relation with other institutions, i.e., schools, health posts, and other local organizations. Local informants reported that at the beginning the members of this committee were introduced with various dimensions of water and sanitation system through training. In the orientation training, they were taught about the importance of sanitation, various diseases, routes of disease transmission, and ways to mitigation such as clean and safe water, hand washing, and bathing.

In the initial period, some of the components of BSP, SSHEP, CLTS, and SLTS were introduced in the district as a whole, along with the operation of various projects within the approach of DACAW program. Later, it was combined with WS project operated in the areas. On the basis of these facts, one can say that WSP had provided the basis for publicizing the basic information of modern sanitation and hygiene system in the area. Along with the introduction of these concepts of TS in the district as a whole, it was expanded up to the area with the objective to alter and change the existing hygiene and sanitation conditions of the local community people. However, it could not become effective in promoting the hygiene and sanitation conditions. For example, people who had participated in this training did not follow the ways they learned. Policy emphasized on equal values but more emphasis was given to water supply and its physical aspects because of the technocratic dominance. The breaks in continuity in working conditions of the officials, ignorance and lack of accountability of authority, absence of monitoring and lack of incentives for local people, innocence and illiteracy of local community people together made the policy ineffective. Policy and approaches demand participatory process in which the presence of local community in programming and implementing was necessary, but in practice policies and guidelines were not followed by its implementers; thus, disobeying these formal norms by the local people was not unusual. Information gathered from the informants showed that the policy and program did not seem to be successful. The facts, which will also be interpreted in later chapter, would prove that it could not be so because of not only the community people themselves but also the functionaries could not identify and address people's priority and increase the feeling of ownership. The software part, i.e., community preparation on which the success of policy is based, was also lacking. Historical facts pointed out that it was far from their cultural perceptions and beliefs, which could be the very basis of sustainable hygiene and sanitation development.

5.2 District-Level Initiatives for the Deployment of the Program Activities in Local Level Community

All the formal and modern sanitation and hygiene development intervention activities done in the local areas were related with and guided by the district level initiatives. During and after ODF declaration, various actions were taken and activities were done at both VDC and district level to institutionalize the modern hygiene and

sanitation system in the district and village level. Except district level institutional patterns which will be discussed in another subheading, some of the pertinent activities related to the subject in questions done in the district level and the research area in the course of hygiene and sanitation development intervention are critically discussed below.

5.2.1 Process of Making the Decisions and Rules and Its Patterns

Various decisions and rules were made at the district level to launch programs/activities by various organizations in various VDCs, including the research area. One of the major decisions/resolutions made by D-WASH-CC with the full bench of members of the committee was that there should be yearly strategic action plan in each VDC, which had to be finally approved by this committee. However, overview of district-level reports found that the decision regarding these issues was not followed into action by all VDC and institutions involved in this committee. Another decision was the establishment and formation of information desk at the district level to disseminate the events occurring in VDCs of the district and the progress achieved in the course of implementation of strategies. Call for all stakeholders to carry out activities/programs related to water, sanitation, and hygiene complying with D-WASH-CC and V-WASH-CC action plans was made compulsory.

Similarly, other creative ideas were also generated and undertaken for making program effective in the local areas. It was also said that national festivals like *Teej* and *Tihar* and other local cultural activities had to be tied up with the sanitation campaign. Likewise, decision was also made such that no water supply project implemented by either government or nongovernmental organization would be considered complete unless each household in the service area builds toilets. However, the facts gathered from the areas proved that this was not effective; rather it was nonfunctional. For example, community people in the areas were not in the position to obey this rule. They were operating water supply projects even though they had not constructed toilets in their home. Another decision of allocating compulsory budget for the sanitation promotion following the spirit of national policy was also made by D-WASH-CC to conduct sanitation activities in water supply projects. All institutions have to allocate 20% of water supply budget for sanitation promotion as per the provision made in Sanitation and Hygiene Master Plan. However, this was not followed by all VDCs and other concerned stakeholders. Any

VDC could violate it because of lack of rules for punishment if not followed. Reports showed that the Lothar VDC had not followed this decision. Actually, the VDC did not give priority to it. It was the duty of D-WASH-CC to make all the VDC strictly follow this rule, but in this regard D-WASH-CC itself seemed irresponsible, though it was the major agency leading and regularizing all the modern hygiene and sanitation development activities in the district as a whole. Because of dependence upon outer agency for managing resources, it was unable to decide on its own modality of planning and local interest and requirements.

Other major decisions were also taken for various sanitation campaigns, including the rules for institutions to make model toilet in their respective areas in accordance with designs of toilet favorable for children, women, men, and differently-abled persons in schools and public places. However, seeing it in the context of local areas, schools except GMHS had no toilets as designed in the program. Rules were promulgated demanding local leaders (political party activists), teachers, government and non-governmental organization staff, women health volunteers to be examples for constructing and using toilets, issuing identification cards to households with toilets, and updating inventory of household with toilet by VDC (D-WASH-CC, 2010). However, most of them had no model toilet in the area studied, nor had all local political leaders and institutions made toilets in their homes and institutions. No continuous follow-up and monitoring efforts were made to streamline the tasks of the concerned stakeholders within the system. Violation of rules became the culture at both the local and district level.

Another resolution was made for sanitation promotion programs in each ward of the VDC. Various activities were also incorporated within this program, one of which was capacity development. This included a two-day orientation program targeted for VDC secretary, political party representatives, and focal persons, teachers, representatives of SMC, women and local groups and clubs to conduct sensitization programs for women and children comparing health status of women and children using toilets and those not using it. However, participation of women was found very nominal despite the mandatory provision for involving the women in policy measures. In the local perspective, women were viewed as the reserved force and they were limited into the household affairs, not in the public concerns.

Likewise, one-day facilitator's training with the aim of introducing sanitation development approaches, i.e., CLTS or SLTS, was held. Four facilitators from each ward of the VDCs/municipalities were nominated to take part on it. It was also required in the policy that it should be reflected in the real practical ground; however, proper replication of knowledge learned from the training in behavior was very low. Provisions of reward and punishment were also made to make people feel the compulsion of construction and use of toilet. VDCs were said to provide prompt recommendation for citizenship certificate and passport to those who had toilets in their homes, and for others only after getting commitment to construct toilets. But the local people were not still ready to accept it. It was because they could not believe in these rules. Decision also was made to provide additional 10 marks to the students up to grade 9 in the final exam if they can convince their parents to construct toilets in the homes. A district-level official reported that this was followed in other schools of the district but not in the study area because the schools were not in this position. Private partners or donor agencies like UNICEF, WHO, Red Cross Society, and WSSDO were assigned to conduct training for volunteers, but they did not follow it sincerely and timely to enhance the capacity of volunteers. A decision was made that the VDC could request and recommend to District Education Office to take responsibility for such provision to set the rules for the construction of toilet as a pre-condition for approving building permit. All the rules formulated by district-level institutions, i.e., D-WASH-CC, were said to be implemented by the all VDCs. However, the rules formulated at the district level did not seem to be properly obeyed by concerned section of the population. It was because the decision making process bypassed the local people's approach. While formulating the rules, local people's participation and their cultural perspectives had been denied. The suggestions and cultural preferences of local people should have been included but were exclusively excluded. So, programs and rules were not followed by the local community people. Consequently, no proper program could get continuity in the local area.

5.2.2 Declaration of ODF District

Each event occurring at the district level influenced the local level movements. The ODF declaration occasion was taken by the local people as a great festival, a great achievement. It was also a great opportunity for me to observe the facts about the activities done in this function, and this provided additional insights to this research.

During the research, Chitwan was declared "Open Defecation Free" district on 2068/06/06 B.S. It was the second district to have such status in nationwide sanitation movement. While organizing the program, advertisements at national, district, and VDC level were made on a massive scale for a huge participation of community people. The advertisement penetrated also into the remote parts of the areas. As per calling, local people of various sectors seemed actively present. Representatives of international donor agencies and stakeholders at international, national, and district levels participated in this function. Miking with loud slogans got highest importance. Rally with placards, banners, and demonstrations made the place romantic and very interesting. Majority of the people present there were women and school children, who were apparently seen in the masses. Speeches by the chief and special guests emphasized on the importance of this function. Representing the participant's spirit, some persons also put their commitments for further improvement and active participation in promotional activities in days to come. However, during the research period, no actual effects were found except a very few people had mind the program. People of the areas who participated in this function took it only as an interesting event but could not seriously understand its long-term benefit.

5.3 Major Vision, Approaches, and Strategies Deployed in the Areas

Every society has developed certain approaches, sayings, guiding principles, slogans, and proverbs in its prevalent cultural foundation to direct and allow behaviors of its members. These cultural driving forces are supposed to be mandatory to adopt in their daily life of the members of given society. In the traditional societies, some of the well-understood approaches and principles, e.g., 'clean environment leads longevity', 'cleanliness is next to godliness', 'where there is cleanliness there reside the goddesses' (quoted in DWSS/UNICEF/WHO reports, 2003), are still perceived as the driving force for promotion of health, hygiene, and sanitation conditions. For example, the holy Vedic texts have emphasized on certain patterns of behavior to have good health, hygiene, and sanitation for human life. Charak mentions that to attain mental, economic, moral, spiritual, and artistic prosperity and development of men, sanitation is a must. As driving and motivating forces, these sayings have given the importance of effective hygiene and sanitation behavior as the ethical and moral pressures for

human behaviors. It is believed that to follow these ideal codes of conduct is to enjoy a long life and social prosperity.

However, there is no perfect approach towards rural sanitation; any more than there is any other development context. Indeed, in some contexts it may be best to leave well alone, or simply add scientific knowledge about pathogen avoidance to the local context. Approaches that have worked well in one place cannot be transplanted to another without sensitive and creative adaptation, although there are some useful principles to be learned from the many experiences which now exist in different settings. In every setting, for an approach to be successful, it will have to take into account local considerations, i.e., beliefs, income levels, costs, political and popular attitudes, and the availability of official and external support (Black et al. 2008:98).

Not only in developed countries but also in the Third World like Nepal, modern health, hygiene, and sanitation have been major issues of development. Regarding the spirit of global sanitation development, Nepal has also set the vision of providing universal sanitation access and facilities to all Nepalese people by 2017. Following the international right-based approach, government of Nepal has made many efforts in its policy for hygiene and sanitation development in the changing socio-politico context of Nepal. The Ministry of Physical Planning and Works (MPPW) developed a vision paper in 2007 with a slogans "New Physical Infrastructure-foundation of the New Nepal" and "Safe Drinking Water is Everybody's Right and Good Sanitation is the Hallmark of Healthy Living." This vision regarding the water supply and sanitation promotion recognized the infrastructure as a backbone of national development, providing safe drinking water supply and sanitation as the fundamental or basic need and duty of the state. Nepal has been moving many steps towards institutionalizing hygiene and sanitation development applying the right-based approach (WHO/MPPW, 2007).

The approaches and modalities were found to have been modified from time to time after gaining lessons and learning. Child-to-child, child-to-parent, school and community, adult learning are the examples of major approaches adopted to increase the number of toilet coverage at local level. Besides these, Nepalese government has adopted other various approaches to get the state of total sanitation. The integrated and combined form of these fundamental and recommended approaches being adopted for producing and reproducing the new behavioral patterns at local level are

TS, BSP, SLTS, CLTS, SSHE, Ecosan, LLTS, and LTPA, etc for the modern hygiene and sanitation development intervention in Nepal (DWSS, 2010:7; WHO, 2007) not only these but also other strategic measures i.e. i.e. National Sanitation Week (NSW); Global Hand-washing Day (GHD); World Water day (WWD); World Toilet Day (WTD); Community Led Total Behavioral Change in Hygiene and Sanitation (CLTBCHS); World Environment Day (WED); Nepal Water Hygiene and Sanitation (WASH) campaign; End Water Poverty Campaign; Human Value Based Water, Sanitation and Hygiene Education; Water and Sanitation Accelerated and Sustainable Universal Coverage, Ecological Approach on Sanitation as a movement are also being introduced and deployed at national and local level showing a great shift of approach from the conventional awareness raising approach to a behavior change (DWSS, 2010:7; GN, 2011).

Observing the consequences of implementation and practices of various approaches mentioned above to increase awareness at local level, very nominal was found to be completely adopted in the local areas. Majority of the local community people were found to be completely ignorant of these approaches. One of the facts behind this situation was that the approaches were not actually based on the need of local community people. These were developed outside the rural people's access; rather it was meant for the interest of policy makers, and even of outsiders and authorities. Local situation in general shows that such efforts have not yet attained the declared goals because of the policy was not based on the local people's norms, thrust and aspiration, preferences, attitudes and perceptions, which are the very basis of sustainable achievements. Facts show that concerned people were completely excluded from the process and never got services that were to be delivered by government and other stakeholders.

Interviewees of concerned sectors reported that the government had made Chitwan district a model place for deploying various approaches and package programs and activities for hygiene and sanitation promotion. The vision and some of the pertinent approaches employed in the area for hygiene and sanitation behavior transformation are analyzed and interpreted here.

5.3.1 Total Sanitation

In existing global level policy, Total Sanitation (TS) is a broad and time-bound vision in respect to the hygiene and sanitation system development in rural parts of the world intending to make society eco-friendly and completely free from open defecation or

human excreta and other human wastes from the community. TS tries to push community people from the traditional and unsafe risky state to the state of completely stopped or zero open defecation or absence of human excreta in private as well as public places, use of individual or shared hygienic latrines for the management of all human excreta, keeping latrines clean and functional and 100 percent of excreta hygienically contained, washing hands with soap and water after defecation and after handling infant feces and before preparing food, use of safe drinking water and disposal of domestic solid and water waste in a hygienic manner (UNICEF, 2008; DWSS, 2010).

As a new vision, TS was set during the course of implementation of previous approaches, i.e., Basic Sanitation Package (BSP), School Sanitation and Hygiene Education Program (SSHEP), Community-Led Total Sanitation (CLTS), etc. Most of the least developed countries have adopted this vision of TS. They have followed the fundamental guiding principle of the vision committing for increasing safe drinking water supply and modern hygiene and sanitation facilities in their respective countries, making provisions in the national-level policy for increment of facilities of quality water and sanitation (UNICEF, 2009). The other approaches are supposed to be complementary to contribute and intend to have a state of total sanitation.

TS was introduced in Nepal in 2005. The existing hygiene and sanitation development policy documents (NPC, 2003; DWSS, 2010; WHO, 2007; GN, 2011) of Nepal have also given high priority and emphasis to TS to develop open defecation free communities, school catchment areas, or VDC to improve the hygiene and sanitation condition in rural parts of the country. For example, following the spirit of TS, Nepal's Tenth Plan targeted to provide universal access of safe drinking water and sanitation facilities to all Nepalese people by 2017, committing further to get the state of TS.

Since 2006, TS was implemented in Chitwan district to get the state of open defecation-free communities and school catchment areas or VDCs through CLTS and SLTS (DWSS, 2010:7). TS was also introduced among the local community people in all VDCs in the course of extension of the modern concepts and principles of hygiene and sanitation system.

Following the government policy of achieving 100% coverage of safe drinking water and improved sanitation facilities, i.e., household latrine and its proper use, by the end of 2017, government departments, district office, and other large numbers of agencies in the district (GOs, NGOs, and INGOs) were working in water and sanitation (WASH) and health sector to support local community people to achieve the TS state. Many approaches were applied for increasing coverage of latrines in the district. Massive sanitation campaigns were also conducted for achieving open defecation free status of the district and community, ultimately to achieve the TS status. Chitwan district as a whole, including Lothar VDC, was declared as Open Defecation Free zone through various development activities so that community people, school children, and other ordinary dwellers of the areas could learn the cultural elements of modern hygiene and sanitation system and replicate it in their daily behavioral patterns. TS was the ultimate target of development interventions in the research area, which was communicated to all the concerned institutions, i.e., VDC, school, local clubs, and local ordinary people. Through these institutions, it was tried to deploy in the area connecting it to sustainability of modern hygiene and sanitation system in the local community life. However, information proved that the efforts could not affect the local cultural settings and local people's approach. Policy (2010) recognized community people were as repository forces which could lead to the state of sustainable hygiene and sanitation, but during the time of research it was still found to be unfamiliar to the local community. Community people were not properly informed. Some informants reported that they had just heard about this but had not clearly understood.

The vision of TS expected consolidated structure of human behaviors, i.e., behavior stopping open defecation using hygienic toilet, washing hands properly with soaps and water before preparing food, eating and after using the toilet and contact with animals, birds, baby's feces, and practice related to wise management of domestic waste to make surrounding environmentally clean and safe. Total cycle of modern hygiene and sanitation behavior system supposes TS as a lifelong process for demarcating its criteria. For example, complete elimination of open defecation (OD) from community for sustainable hygiene and sanitation behavior is the prerequisite for TS, meaning that universal access for all people to proper management of human waste (WHO, 2010). But the information of the local situation of hygiene and

sanitation proved that it was worse than that of the aspiration of spirit of TS; it was not able to alter the continuation of traditional system. At policy level, TS has been connected to social prestige, self-esteem, dignity, and pride of the local community people. But seeing the personal sanitation and hygiene condition and environmental and household level of hygiene and sanitation situation, TS spirit seemed neglected because of innocence of local people and passivity of implementers and incompatibility of TS spirit in the context of local cultural setting. Institutional and organization setting was also improper and major reasons for being unable to sow seed to the local cultural setting. It seemed ineffective to overcome the strengths of traditional and local cultural hygiene and sanitation practices. Organizational arrangement had to try to change the perception of local people and to prepare the community first, but the process of this changing the worldview of local people was not found to be operated. Because of having no efforts to alter the local view, TS remained a dream in the context of rural and isolated Lothar world.

Simply understood, TS does not demand complex natures of human behaviour: every adult can internalize its fundamentals and perform it everyday life in simple ways. However, in the existing rural context of Lothar village, TS seemed imaginative and difficult. Geographical nature and its remoteness, level of awareness, lack of availability of things required for total sanitation, overburden of filthy work, poverty, illiteracy, traditional habits and cultural attitudes, values and preferences of local people collectively functioned as hindrances to grasp the spirit of TS movement. It is suited to and practical in highly developed countries in terms of sophisticated technology, high level of income and affordability, and culturally acceptability. The data and information related to behaviours, if not for all but among the majority population, households and families, regarding the existing behaviors like construction and use of toilet for defecation, hand washing with soap, safe drinking water and food, regular bathing and household, public and environmental conditions prove that TS for these rural settlements was unapproachable. The vision of total sanitation, its strategic programs related to it has not been found to be suitable and responsible mechanism for transmitting new cultural traits to the traditional communities of Nepal.

TS seemed hypothetical and unpractical in the rural community. That is why in its philosophical ground the concept of 'Total' and 'Perfection' has been proved as dogma

because dogmatists often use the term 'heaven' where perfect life is imagined. Just like this, if TS has been impossible in so-called civilized and urban, how can modern hygiene and sanitation system be possible in rural world? Although, among the development practitioners, the proponents of this vision defined it as inspiring force to make active the community who were lacked basic requirements of sanitation and suffered from the various diseases. Generally, the imposers and followers of this concept are from cities, especially from the capital, who carried it to rural villages. One may raise the question: Could they have performed the 'total' sanitation tasks in their life? It is hard to believe because they themselves came from the very polluted urban areas where they often live.

To attain the TS vision, various approaches and strategies were adopted in the area. The fundamental approaches being implemented to get TS reproducing the new hygiene and sanitation behavioral patterns in the areas in particular were BSP, SSHE, CLTS, SLTS, TPA and Ecosan. The major elements and implementation and their effects are analyzed below in detail.

5.3.2 Basic Sanitation Package (BSP)

BSP itself was both the theory and practice intending to increase and to enhance the knowledge of local community people and to reflect it as the patterns of cultural behavior in the everyday life. The major intention of it was to alter the traditional behavior of local people through taking on cultural element of modern hygiene and sanitation system. As a conceptual and strategic approach, BSP comprises various hygiene and sanitation promotional strategic activities and package programs, i.e., Teacher's Training (TOT) to increase and enhance people's knowledge at the local level; formation and training of sanitation users committees and users with identified roles; opening and mobilization of revolving funds for the community hygiene and sanitation condition promotion purpose, access to safe latrine and other sanitary facilities; improved hygiene practices at the household and community levels; community mobilization and organization; sustainable access to credit for households; incentives for the private sectors to support sanitation delivery; collection and safe disposal of solid and liquid wastes (Black et al., 2008; UNICEF/DWSS, 1999). Mobilization of revolving fund, rewards and recognitions for good hygiene and sanitation promotion activities of communities, and providing nutritional foods to improve mother and child health were major aspects of this package.

Poverty reduction policy of government has also been related to BSP. It was said that BSP has to contribute to reduce poverty through hygiene and sanitation promotion. It was also expected that poverty will be reduced through the various programs by reducing health hazards and promoting the existing hygiene conditions of especially mother and child under five. Community people were said to change their traditional habits using modern toilets, hand washing with soap, using safe water and food, and properly managing the domestic as well as community waste.

BSP was a package focusing mother and children under the program of Decentralized Action for Child and Women (DACAW). In Nepal, this program was introduced in 1999 (UNICEF/DWSS, 1999; UNICEF, 2006), which was also operated in Chitwan district as a whole as well as in the research area, which incorporated mother and child focused various dimensional components of modern health, hygiene, and sanitation system. Basically, this strategic package program was implemented by district level functionaries of DWSS, DDC, and VDC in coordination with other stakeholders in both areas, i.e., ongoing water supply projects and in communities.

Report from WSSDO showed that for the implementation of this package program effectively, women workers (WW) were centrally selected for each district on the basis of interview. It was said if they are interested and have ability of bearing the responsibilities in the field they could be selected. Facilitation in group formation and mobilization of community people for health care, and sensitizing people to adopt modern sanitation options (i.e., toilet) were their fundamental roles to be performed in the field. Basic sanitation training was organized for them. They were trained and oriented for one month to make them able to handle responsibility in the field. They were taught about the various dimensions of the DACAW program, i.e., how to facilitate community to adopt the norms of modern sanitation options substituting the traditional practices (DWSS, 2001). However, there was no any WW previously selected and trained to implement the program in the area. It was the task of district level authority. But district level authority was not able to impose rules over its staffs. Besides this, nobody wanted to go there due to inaccessibility and remoteness of the area. Instead of this, one local woman was appointed for the implementation of this program, extending this program to all the places of the VDC and for handling the program activities and providing the service to the local people. Later, one female facilitator (Bindu Tamang; she left this post and went to teach as a teacher at Rastriya

Prathmik Bidhyalaya in Korak VDC) was also appointed and assigned the responsibility to facilitate the local program.

Progress reports from the WSSDO show that in the initial stage weight of children were taken and mother's health was checked on a regular basis, and a package of *Sorbottum Pitho* was also distributed among mothers and children in the area. However, this new concept of sanitation was dismissed. WHO and UNICEF, which had taken initiation, later became passive. A facilitator engaged in this program, who often remained in the district headquarter, reported that "the organization could not continue to implement this program in this area due to the ignorance of local people." However, an official put his idea toward the failure of this program as: "It was not only due to the ignorance of people but there were defects in policies and strategies themselves, which alone could not motivate people to adopt the strategies. The policy and program was set without addressing the local needs and cultural perception of people. The policy was set centrally by the government with support of donor agencies and was tried to be implemented without informing and getting consent of local people. In this situation, people naturally think it as the duty of outsiders. Not only this but also people's low level of knowledge and consciousness and lack of local monetary resources were other causes of this package being ineffective. Due to these causes, we are also in a confusing situation." This shows that this strategic package program was tried to operate in the areas but was limited to only a short period of time and was dismissed without completion of its cycle. Information from key informants made it known that the programme was not culturally acceptable. Local people did not prefer the facilities provided by concerned authority. Community people did not show their interest towards this package program because of the facilities to be provided to the actually needy people were not enough to win the belief of people to meet their fundamental requirements on the one hand, and the institutional backup with sufficient resources seemed very weak. It was like fulfilling the needs of concerned office but not the needs of targeted fractions of population. Training which was attended by outer functionaries was also not effective, nor able and committed manpower was used to deliver it, nor did they try to prepare local concerned people to accept the program. This shows that the functioning of institutional modalities was not appropriate for the local circumstances. As a result, the program seemed swept away from the mind of local people. In addition to these

causes, official reports suggested that inadequate budget, discrepancy in budget allocation, weak information system within the institution, lack of continuation of budgetary backup, lack of follow-up and monitoring, exclusion of local people's concerns and school's participation, lack of community contribution, underutilization of available staffs, and short duration of projects were the major weaknesses (WHO, 2003) behind the failure of this program.

However, reports by DDC (VS 2063) claim that it provided some insight and improvement in hygiene and sanitation life of some community members. Reports again mention that due to this program people learned about the benefits of latrine use. After the implementation of this program, diarrhea incidence decreased significantly in the village. People learned some good things from it. But due to the lack of resources, the package was not continued because of termination of this DACAW program from the village.

A local teacher reported, "The package could not be continued. After a short time, instead of this, another concept and strategy of SSHE was introduced here. We were also confused by this program." Not only this lack seemed to have been the cause; besides, it had focused only on mother and child health. Major and basic cultural components, i.e., perception and beliefs, were not yet included and addressed in this program, because of which the program could not create the ownership feeling among the community people and did not succeed. Observing the overall scenario of the local circumstances regarding this program, one is compelled to assume that the program was not for the local people but for piling the piles of program in the name of thirsty and needy local community people.

5.3.3 School Sanitation and Hygiene Education Program (SSHEP)

School Sanitation and Hygiene Education (SSHE) or WASH in school programme is another conceptual framework of the modern hygiene and sanitation behavioral transformation. This intended to improve the hygiene and sanitation conditions of the community people by making schools more attractive, improving cleanliness of schools, and building personal habits of school-goers so as to entrench them for the future. In this program, children were considered as a critical subgroup for the new sanitary revolution. According to this approach, school children were expected to be the effective and possible key actors who can bring hygiene and sanitation behavioral

changes in the community life as a whole. It is one of the most important international sanitation initiatives currently underway which intends not only to provide decent toilet and hand washing blocks but to inculcate in children a culture of personal cleanliness and toilet use and the desire to continue to apply such ideas back in the home (UNICEF, 2000; Black et al., 2008:225).

In the policy it was said that it was based on the child right. It tries to establish collaboration between school and households, specifically among students, teachers, parents, and other community members. The nexus of children, teachers, and parents were considered as the major mechanism of behavioral change in community and schools. Bringing communities and schools, parents, and teachers closer together is the fundamental principle behind this approach. Children were put at the forefront of change while helping to build community ownership of improved sanitation. Changing the behavior of school-going children was considered as a potential way of changing behavior in the whole society. Child-to-child method was adopted in this approach, which included the mechanism of circulation of knowledge from school kids to community via family. The philosophy behind this approach was to create conducive environment in school so that boys and girls could easily learn about its benefits, trying to reduce diseases and worm infection, focusing on the clean environment. Enhancing and building capacity of concerned bodies; constructing sanitation facilities in schools; planning, campaigning, and assessing the situation; making school as a model institution; recognizing students as change agents and role models were other major components of this approach.

The program intended to enhance the health of school children, improving the quality of education, and effective implementation of development projects. Thus, hygiene education has been viewed to lead to certain kinds of cultural and behavioral change, such as washing hands or using soap, improved appearance and better dress, but not necessarily lead to the construction or regular use of toilet (Black et al., 2008:137 and 147; UNICEF, 2009:23).

Documents report that School Sanitation and Hygiene Education Program (SSHEP) was introduced in the 1980s; however, since late 1997, UNICEF took initiative to implement it in partnership with Nepal Red Cross Society (NRCS) and Nepal Water for Health (NEWAH) adopting child-to-child approach. Then, it was piloted in Chitwan district in 2000 (UNICEF, 2006). Various hygiene and sanitation

promotional programs and activities were still implemented in the schools of other parts of district, which was also brought to the research area.

SSHE basically focuses on life-skills training and promoting children's creativity, confidence, and leadership. This approach emphasized on the mobilization of local NGOs to conduct workshops at village level, impart skill required, and get schools seriously locked into SSHEP as one way to make things happen. But there was no effective NGO. Things were in the sole hands of bureaucrats and contractors. Increasing the number of toilet construction at community through the initiation of students and parents was the major goals for the behavior change and sustainability. Well designed and separation of boy's from girl's facilities, and age-sensitive sizes of toilet and participation by students, teachers, and community members were emphasized in policies (Black et. al., 2008:147). However, in practice, there was assessment of the situation only for the sake of assessment. Physical construction was done without addressing the software elements. Results were poorly maintained and dirty facilities, unhealthier schools, and no change in children's and their family's hygiene behavior of the community people of the area.

Informants reported that this approach was adopted once in the areas but could not continue as a long-term process. It had been already terminated before the research was carried out. Instead of continuing this program in school and community, this approach was stopped. Neither the program nor any authority presented again to extend this program.

It was said to implement by imparting knowledge and principle through training to the local trainees, especially to those who was solely responsible for promoting the hygiene and sanitation conditions in the community. However, this program was skipped without proper implementation. According to a local teacher, "under this approach nothing was done except short-term training was given to two local teachers. Later it was converted into SLTS." The major causes behind this were institutional inefficiency, lack of adequate monetary and human resources, and also the remoteness of the areas. According to key informants, no one was interested in going to this remote part of district. In addition, majority of the people were illiterate and poor. They could not easily understand. No adequate facilities and incentives were provided by this donor-driven office. Incentive provided was not enough even to take meals. "Who can fight in the battlefield without arms and weapons?" said a

junior official of WSSDO. He claimed that persons near to the office head could gain all things, but those who work hard in this office could get nothing. Interviewing a facilitator involved in an NGO, it was found that teachers, SMC members, and community leaders also did not show their interest to implement and follow this program. Other causes for implementing this programme were that the program was not set at the right time. Lengthy process was followed. Budget was not allocated adequately. At the time of programming and implementing, confusion was always created. For example, prior to implementing and completing one program, another approach was brought to discussion and developed by exponents. Before the project cycle was finished, another new named program was proposed among stakeholders. The new one replaced the old without achieving implications. The field-level implementers were compelled to follow them. This was the major obstacle to implement the program.

SSHEP was adopted as a process of transmitting new patterns of cultural behaviour and habits in the rural setting. Other strategic concepts, i.e., hand washing with soap, tooth brush, and toileting under this approach, were tried to institutionalize in school. This approach had also considered and caught the schools as the institutions and school children as the most effective agents for transferring the modern culture of hygiene and sanitation to the local life. It was thought that because of the learning age, the teachings of present would sow the seeds to the children which will become the very base of their future life and ultimately for establishing modern social and cultural sanitation system in the local community. Thus, the school and children were considered as an effective institution and best instrument for transferring the modern cultural traits to the local life ways.

It was said in the policy that community people of the school catchment areas were to teach about and make the local people learn and internalize the norms and ideas of modern sanitation system; individual, domestic, and environmental level hygiene sanitation; use of pan, pipe, tooth brush, soap, shampoo, hand washing, waste management, drainage system, use of dust bin, pit and nail trimming, etc. But the discussion above spoke that the problems and needs of this program was not based on the actual need of the local people. In its progress reports, the needs, situation, problems were assessed but the assessment was not the interest and needs of local people; rather it seemed that it was developed for the sake for policy makers only

because there was no relation among community people, service delivered, and implementing mechanism. It was designed out of mind and beyond the values, preferences, and feelings of local people, which were always bypassed. They could not perceive the program as it was for their own sake. Due to these reasons, the system could not be institutionalized in the rural community.

5.3.4 Community-Led Total Sanitation

In the context of some other developing countries, the term Community Approaches to Total Sanitation (CATS) is used instead of CLTS. Whatever the term used is, both the terms CLTS and CATS are used synonymously. 'Communal disgust', 'clean village' and 'freedom from open defecation' are the major thrust inspiring and driving forces of these strategic approaches which are considered to be the breakthrough for management of fecal matter in the community and as an entry point for social change and potential catalyst for wider community mobilization where community itself takes initiation without any outer subsidies. Social marketing, training of local sanitary entrepreneurs, annual sanitation weeks, a strong emphasis on knowledge spread were the key strategic activities under this approach. Thus, CLTS is said a community driven approach under which the roles of outsiders have been limited to facilitating and guiding the community to assess its sanitation situation, determine a strategy for improvement, and implement the solution and development as a way to measure success, emphasizing and encouraging communities to take full ownership of schemes and allowing scarce resources to use optimally (Black et al. 2008:96-97; UNICEF, 2009:5 and 12).

Principally, CLTS was followed by the idea of sustainable promotion of hygiene and sanitation system in the community, for which both community- and school-led total sanitation approaches were considered as appropriate in the research area. Both were said to be deployed there for transforming the existing traditional hygiene, and sanitation perceptions and practices of the community people into the modern system. However, leaving some exceptional cases, the huge portions of the facts show that it was not completely adopted by the community people of the area. "It could not completely succeed, results were not achieved as expected in policy," said an official of WSSDO. Policy, technical documents, and concept papers seemed ineffective in the context of this cultural specific area because people were not made first aware or prepared to adopt fully the approach, nor were the local people informed or concerned

in the process of designing and planning. This can be proved on the basis of information delivered by a DDC official: "Community people were not ready to adopt because their concerns were not properly included. Without informing and preparing local people, no program succeeds."

The core idea of this approach was also related to promote toilets in the area. Policy has also stressed on the protection of drinking water source from the contamination of human excreta, so the proper disposal of feces and other sanitation practices such as hand washing were major behavioral factors to make successful the project and the design. It had also given importance to change the perspective of local people towards the intervention, thereby enabling planners to determine the changes that could reasonably be introduced within the community so that plans could also encompass existing hygiene behaviors that must be changed to ensure the community for utilization of facilities (GN, 2010; Yacoob and Whiteford, 1994:330). But in real practices community people were not eager to adopt the norms of policy because they still had not been convinced properly and also because of institutional inefficiency.

CLTS was also said to be applied again after the initiation of V-WASH-CC was formed. But some leaders of this institution were found not ready to adopt this approach because they never understood the meaning, objectives, or reasons. They felt that the meaning was hard to understand, so too difficulty to deploy it in this area due to the illiteracy of community people. Majority of the people were Chepang. Most of them were poor and illiterate. Informants reported that it was hard to convince them. However, it can be said that it was because community choices and preferences were neglected and ignored in the program, due to which majority of the households avoided and did not show interest in constructing toilets. The people thought that it was not for them but for outsiders.

Sanitation and Hygiene Master Plan (SHMP) formulated in recognition of the need of reducing the existing coverage gap between water supply and sanitation which recognized modern hygiene and sanitation system as the basis of good health, dignity, and development (DWSS, 2010:1). It has been continuing previous ideas, i.e., active role of local, regional, and central level functionaries, to enhance service delivering state mechanisms aiming to mainstream the effort of all stakeholders at various levels, accelerate the pace of sanitation promotion, and ultimately achieve the set targets within the given timeframe through collaboration emphasizing on effective

implementation of policy and strategies (GN, 2011). But the local situation is not achieved as this policy envisioned.

The impetus of CLTS approach was limited only to the participants of trainings, participants who received the allowances from the training. Seeing the outcomes, the training on this approach seemed only for distributing and receiving allowances. The spirit and the knowledge were not found to be disseminated throughout the community. The disseminating campaign was limited only to the low belt of the area. Therefore, majority of the people did feel the need of sanitation activities to be initiated by community people themselves. If the community had accepted and understood the importance of this approach, it could have succeeded. When asked about the prime role of community to promote the modern hygiene and sanitation system in the village, a 57-year-old informant in Kapartak Bhanjyang of ward no. 2 reported, "We were not yet informed about this program; therefore, nobody wanted to be ready for collective action for sanitation purpose in this village. Villagers did not understand about this, so they did not give attention to this even if this was for good purpose. In this village one can do nothing alone." This shows that the intervention was not able to penetrate the minds of local people. It was beyond their feeling and perception. Therefore, local people did not participate in the process of developing these programs. Majority of them were completely unknown before this approach operated in the area.

Communities of the research area had not demanded the projects. One district-level political activist put his ideas that "professionals involved in planning and executing development projects at the district level designed the projects without having know-how of people, identifying local people's aspiration, their vision of the world, needs, and cultural elements. The existing situation so far proved that the process of development of training, contents, methods, and materials in their project designs were incompatible to the local context. People did not know about the design and its immediate benefits as it was for their own. Instead of involving the local people, they were excluded from planning and deciding of program activities. Without taking due consideration of traditional practices, gender and age differences, outsiders examined technical alternatives at the district level, ignoring the best way to meet the people's expectations. Only then did they inform and appeal to local people to be involved in applying this design. From the interview with district level informants, it was found

that administrative authorities forced the grass-roots organization representatives, local men, women, boys, and girls to create demand for launching the program at the local level for improving community sanitation situation. Responsible males and females of the community members were requested to be familiar with the latrines and its technical features in the name of improving living conditions and protecting health only during the intervention period and for social implications and recognition. Due to this process, local people became disenchanted and began to think how to best adopt these options offered from outside for their own sake. This proved that people were not interested to accept the intervention. This attitude was reflected in their traditional behavioral system of defecation, hand washing, and existing patterns of domestic waste management.

The perception and attitudes of some community people were found different regarding the importance of the program. For example, some informants in the spontaneous group discussion at village level reported that "this movement had no immediate benefit for us." Regarding the necessity of support to construct toilet in community, a local facilitator involved in international donor agencies to support the program at local level said, "There is no need of support to build latrines for them. Community people themselves are not willing to get options for better sanitation. Their traditional cultural perception and unwillingness are the major hindrance to extend the modern sanitation system and practices." Some people put their views that human feces does not matter and is harmless to their health. The material for construction of modern latrine seemed very expensive to some local people and hard to afford by rural poor people. The intervention was said to address all above deficiencies, but it could not reach its ends. On the basis of the above facts, it can be said that there have been clear reasons for the programs being ineffective. One of these was innocence and unwillingness itself for not changing their habits, but the unaffordable materials and institutional mismanagement and ill operation of system were causes of the existing situation. The approach addressed the word 'community' but the question such as what the community actually is, how they are to develop and change, how people are made to accept the new cultural elements of intervention, were to be found before the intervention was launched. It was the perception of local people, to which responsible institutions did not try to alter for the sake of local community.

Through the operation of modern hygiene and sanitation development intervention systems various dimensions of local community life, i.e., cultural norms and values, belief, attitudes, perspectives, perception, traditions, and their economic, water supply, health, environmental circumstances all were tried to change. The effort continued through the hygiene and sanitation promotional activities in the name the communities. However, from the facts above it can be said that the development intervention has been ineffective to bring considerable impact in the perception and attitudes of community despite the national policy had addressed in reducing the poverty through improving the hygiene and health status of the marginalized people of this areas. The process of institutionalization of modern hygiene and sanitation practices in local level under this approach seemed poor and worse because of both people's their own perception as well as worldview and the defects in operating system itself. Only local people and their own initiation for making good health and hygiene would be more effective solution to improve the poor health, hygiene and sanitation conditions of the people, but this remained unfinished.

5.3.5 School-Led Total Sanitation

SLTS was developed on foundation of the basic concept of previous SSHE approach, which included the package of innovative activities for enhancing the existing conditions of school and community sanitation intending to eliminate open defecation practices in community catchments or settlement areas through the construction and proper use of latrines on the leading role of schools, school children, and other institutions. Child- and gender-friendly latrines were said to be built within school compound areas. School, school children (both girls and boys), communities, parents, and teachers were said to be brought under this as the major functioning agents and were altogether encouraged to build and use latrine properly (WHO, 2009:17). School children were more emphasized rather than other as the active mobilizers and effective change agents because school children were thought to be more catalytic power for hygiene and sanitation behavioral change and transformation, because children could learn some of the most important hygiene skills at school, and for many this is where they are introduced to hygiene practices that may not be promoted or possible in their home. At institutional and organizational level, school and child clubs formulated in the school were considered as a core, an effective and focal institution for transforming the modern hygiene and sanitation cultural traits in rural

areas. Thus, the SLTS was expected as strategic approach as an entry point and effective mechanism for sanitation and hygiene initiatives. In policy, active participation and mobilization of school and its children was the key forcible actor to build latrine use habits in the community for the elimination of open defecation practices around the school catchment areas. It had also given importance to the joint efforts of public, private, and community partnership (PPCP), including government, donors, private sectors, I/NGOs, schools, and community people (WHO, 2009:17; UNICEF, 2009:23).

Hand washing with soap, face washing, food hygiene, protection of water sources, proper managing and handling of waste water, household technology and materials for treatment of water, minimization of indoor air pollution, management of solid and liquid waste including animals waste, effective management of hazardous waste, and awareness creation activities were also additional and important components of SLTS approach (WHO, 2009:iii).

Policy documents had clearly set-out objectives, giving topmost importance on personal hygiene for attaining the ultimate goals of TS. The major objectives of this approach were to have 100% coverage of latrines in catchment area; enhancing the personal, household, and environmental hygiene and sanitation facilities; empowerment of children in the development activities, thereby enhancing their personality, behaviors, and leadership; increasing ownership of school and community in hygiene and sanitation activities; and maintaining sustainability of water, hygiene, and sanitation facilities in school and communities (DWSS, 2006).

Regarding the rationale of this approach, it was said that the school would not be viable to operate this approach if there were no facilities mentioned above: if children who were not very clean turned out to have suffered abuse and humiliation from teachers and peers and left schools because of this, if girls were withdrawn at puberty and repeatedly stayed at home not only because they were embarrassed about using the same toilet as the boys but also because they had no secluded place to change clothes or pads during menstruation. Lack of separate toilets could expose them to talk and loss of modesty, not to mention sexual taunting or actual attack. In this situation, they must either run home, which is not possible if it is miles away, or find some piece of waste ground to squat on nearby (Black et. al. 2008:140-141).

Policy had also clearly delineated the criteria and fundamental requirements of SLTS, i.e., gender- and child-friendly toilet access facilities with adequate availability of water in schools and school's catchment area for completely free from OD, child- and disabled-friendly taps near the toilet for hand washing facilities with soap, etc., to solidify and increase dignity, identity, and pride in schools and communities (WHO, 2009).

There were only four schools in the study area, namely, Ganesh Middle High School situated at Euralitar of ward no. 3, Rastriya Prathmik Bidyalaya situated at Wakarang of ward no. 2, other two Rastriya Prathmik Bidyalaya situated in Parkhal and Dihitar of ward no. 1. Among them, Ganesh Middle High School was taken as the model for the operation of this approach. This school was established in 2039 BS. At the beginning, it was a primary school. It was upgraded to lower secondary school in 2061 BS. The total number of students in this school was 150, among which 63 were girls and remaining were boys. There were 7 teachers working in the school. School management committee, parent-teacher association, and child clubs were already formed in this school. The school catchment area included seven households. One sub-health post was also there attached to the boundary of school.

SLTS was adopted as the major approach in the areas for six years for ODF. The program activities under this approach were said to be initiated and headed by the school-level sanitation coordination committee. It was said in reports that child clubs, students, and teachers of this school displayed interest in making this school a model for sanitation. In the case of school sanitation in the area, one gender- and child-friendly latrine was constructed in this school.

School sanitation program in Ganesh Middle High School started to operate since 2065 B.S., two years before the research was carried out. There were already two toilet blocks, containing one urinal and two pans for boys and one urinal and one pan for girls. The toilet was supposed to be user-friendly and gender-friendly. Doors had locks at the height suitable for school children. Urinals and pans were of appropriate sizes and properly placed so that there were no difficulties for children to use the toilet. There were one septic tank and two soak pits made for excreta and waste water disposal. The urine and the waste water containing soap could be directly disposed of to the soak pit. One polythene tank was also put over the roof of the toilet but was without water. Observing this toilet constructed under SLTS model it was found that

the toilet was full of filths and was completely left without using, maybe due to the lack of water. It was dirty. It was dark inside the toilet, with leaves of trees and dried feces, dry fecal matters on the floor and full of odor. The children used stone, leaves, and paper for cleansing because of lack of water. The latrine was constructed in a modern style with water seal, windows, and ventilation but was left unused. "As in other schools, lack of water is the major problem of this school for the operation of modern hygiene and sanitation system," said the headmaster of Ganesh School. The inside and outside walls of toilet were full of filthy words and obscene pictures, due to which girls always felt disgrace and embarrassment. They also suffered from boys' ridicule. As Black et al. viewed in the school's children's behavior of other countries, the poor condition of facilities was a problem for the children of this school. Decaying toileting places, violent and bullying behaviors, assaults on girls, and instead of respect and helping children adopt good toilet practices and hygienic habits, there were filthy facilities and threats of harassment to girls and younger children to use school toilets. No toilets had provisions of safe disposal of the sanitary pads used during menstrual period. There was no hole in the toilet for disposing used pads to the collection chamber outside.

The guiding principle of policy (GN, 2010) had stressed on mandatory provisions of sanitation facilities in institutions; toilet in new built-up public buildings; and focus on hand washing with soap and other behavior buildup; access to safe drinking water and improved sanitation facilities (i.e., toilets) in the school premise with adequate water to flush and for hand washing so that students learned the basic life skills of personal hygiene and environmental sanitation. However, attention was not given to these requirements. There was no sufficient water supply in the school to fulfill the demand of students, teachers, and staff. There was one tap previously made within the school compound; however, the pipe line was open on the ground, disobeying the existing norms. But the tap could not supply adequate water, nor was there any reservoir to store the water. Water was seldom available, with inadequate quantity.

For the collection of information, discussion with students above grade 4 was organized. The students who participated in discussion were asked about various aspects of school sanitation approach. From this discussion, it was found that majority of boys and girls could understand the bad aspects of open defecation. They were all found to be aware and sensitive towards the modern hygiene and sanitation program in terms of harms of open defecation and benefits of hand washing with soap, personal hygiene, and environmental sanitation. They had already learned about it

from their class curriculum even before the intervention programs have been operated. But the concerned institutions had not accepted providing the facilities as their responsibility.

For the implementation of SLTS in school, a leading child club was said to form and the members of the club were also said to be trained for the effective operation of sanitation activities in school and community. It was also expected to be followed by them for better sanitation outside the school compound and within the catchment area (the service area of school from where students are attending the school). The sanitation subcommittees were said to have formed in each community with the support of SMC, containing both females and males, hoping the active participation by women participants in these committees. The combined efforts of child clubs, school, and sanitation subcommittee and campaign were said to be responsible for the ODF, for which the role of child clubs in school had been given upmost importance to catalyze the situation.

5.3.6 The Nexus of Child Clubs in School

During the session of training program given previously under the SLTS approach, teachers were instructed to form child clubs in their own schools for active implementation and replication of knowledge, ideas, and concepts learned from training and exchange visit. Following the instructions, child clubs were formulated in the schools assuming that they would be the effective seeds to sow the elements of modern hygiene and sanitation cultural behaviors. One 11-member major committee (club) in Ganesh School was formed. Other sub-clubs above grade 4 in each class supporting and contributing to the major committee were also formed. The members involved in the clubs were selected on the basis of their will, interest, and capacity to follow the instructions given by the teachers and able to understand the concept of modern hygiene and sanitation system. For instance, the representative structure of the child clubs in the Ganesh School is given in the following table.

Table 5.1: Major Clubs Showing the Nexus of Class and Sex

Class	Number of Student		Total
	Boys	Girls	
4	1	-	1
5	2	1	3
6	1	1	2
7	1	2	3
8	1	1	2
Total	6	5	11

Source: Field Census/Ganesh School, 2010

After formation of this child club, students involved in these clubs were trained by the teachers for routine-wise cleaning of classrooms and school compounds. Students were taught once in each class about the importance of sanitation. The initiative of hand washing with soap was also organized. At this moment, all the school children

were called and gathered. They were called to demonstrate the modality of washing hands with soap to the ordinary people and among themselves and replicate it in their daily behavior.

However, in the study area, the regularities in student's daily behavior were found to be discontinued due to the passivity in the teachers. The passivity seen in teachers was also reflected on the children's activity. Instrumentalization of teachers and students was not as effective as expected in the whole cycle of intervention. "*Pahila Pahila Sadhain Yasto Garthyo Tara Ajabholi Chhaina*," (At the beginning, this kind of activity was done but now completely absent) reported a student of grade 8. Consequently, the catchment areas of the school were also not functional in terms of modern hygiene and sanitation system. This was the case of Ganesh School.

There were no child clubs in other schools of the area, and teachers were found to be completely passive. According to local teachers, the major cause of being passive and inactive was the lack of budget. The materials required such as dust bin, sweeping tools, and soap for hand washing could not be bought because of budgetary constraints. Not only budgetary constraints and teachers' passive role but also household tasks needed to be performed by the school children in their homes compelled them to be so. Most of the community people were not interested in involving in any functions organized in the schools. When put the query about the passivity in students and teachers, local ordinary people said, "Our children have no time to involve in such activities in school." Thus, guardians of students did not allow them to spend their valuable time in the school. They call it "unfruitful tasks."

The concept and significance of modern sanitation system and related technologies were said to transfer the cultural elements of modern hygiene and sanitation system from school to catchment area and catchment area to other areas of the VDC. From this process all the people of these areas were also expected to be motivated towards modern and improved sanitation system through training, demonstration of hoarding boards and posters on *chowks* carrying the sanitation messages, and rally with placards and miking, which were to be regularly done for sanitation promotion in the community and school.

After formation of child clubs, orientation/training for children and teachers on the importance of sanitation, diseases, and prevention methods were organized once. Children performed street drama, organized rally, made social map, and undertook other activities related to sanitation. Such activities by school children and teachers were expected to make people in the village within the service area of the school aware of sanitation, including importance and use of toilet, hand washing with soap, waste management, and keeping environment clean. It was claimed that this school had played important role in declaring its catchment area Open Defecation Free Zone.

However, the situation of the school and its catchment village as the claims by authority was not found. Due to the passivity of school itself and its concerned stakeholders, school sanitation programs in this school was a failure.

Policies and strategies of SLTS emphasized to form child clubs in each class, which were said to be effective for sustainable hygiene and sanitation system and behavior transformation in the rural community. The members of clubs were also said to get training from time to time. Clubs were formed but training was not done except once. They were assigned routine work to keep the classroom, toilets, and school environs neat and tidy. Cleaning classroom, including surrounding of the school building and playgrounds, was made routine work instructed in the classroom. Maintaining the school environment neat and tidy as a habitual activity of the school children and staff was also made mandatory. All students were said to carry out these tasks turn by turn. However, observation in school compound found that the required situation as policy and approach demanded was not actually seen despite the policy has given more importance to Child to Child Approach (CCA) borrowed and adopted in 1997 to transmit the modern cultural elements to the local level rural community for enhancing the sanitation and hygiene promotion activities.

Awareness in hand washing and personal hygiene was found to have really risen among the children. They understood the bad effects of filthy environment. Students above the fourth grade could answer the question about how human fecal material is harmful for human health. However, around the catchment areas its real effect was hardly found. For example, while asking questions about the modern sanitation and hygiene system and practices to adults and old age villagers of catchment areas of school; they were unknown about the program and only could hardly express the benefits of intervention. So there could be hardly seen the effects. Most of the villagers still used to go to jungle for outing. Their children were not still taught, they were let to defecate in yards of houses and paths. These practices were the results of neglecting culture of local people. Their perception was responsible for it as they used to feel that baby's fecal does not matter and was less harmful and as well as the lack of accountability of concerned authority; i.e., partner organization, DDC, DEO, WSSDO, schools, VDC, user's committee and V-WASH-CC etc were rather responsible for being the program ineffective.

Except for some level of knowledge, impact in behaviors and practices of students could not be seen in school areas. School surroundings and catchment area had also been seen not affected from implementation of both the SLTS and CLTS approaches.

Data gathered from the observation proved that there were no other options available at school. For example, no availability of water and soap in the toilet for students for practicing hand washing. Due to this, SLTS approach adopted in this school could not give any positive results; rather it became a failure. Initiation was to be taken to improve the situation. As Sharma et al., (2000:71) pointed in their works, government institutions often tend to focus on monitoring only on 'inputs'. Attention to developing appropriate measurement tools and monitoring performance on 'outputs' and 'impacts' would be critical to finding the cause of effectiveness of programs. However, no part of monitoring taken and evaluation of local village level situation was done. "Lack of monitoring, follow-up, and continuation from the authority was the major causes of the failure," said a local political cadre. The development intervention on hygiene and sanitation to change the traditional behavior into modern one through school sanitation program could not become successful. In this context, the following case box will further illustrate the failed intervention.

Case: 2 The Model Ganesh Middle High School and Its Surroundings

Ganesh Middle High School was said to be a model and center for all school sanitation activities in the whole VDC. This was chosen for the operation of school sanitation programs to bring change in traditional hygiene and sanitation behavioral patterns of students and local community people following the approach popularly known as SLTS. The declaration of ODF was also held within this school compound. The people committed to follow the rules during the initial stage of intervention, but now the school could not become as expected. From interactions with students, teachers in the school, and some ordinary people living near the school, it was found that there was still problem of odor coming from dirty toilets. The surrounding of the catchment area was also affected by odor from open defecation. Children appeared in school and on the way barefooted and dressed in dirty clothes while going to school. Human excreta were also found in the school surroundings and streets. Among the 7 households near the school, only 3 households had toilets; however, these were not well managed. The members of those households who had no toilet in their homes used to go to the jungle and bushes near their houses. One dust bin and pit were also made available for waste segregation inside the school compound. Each student was said to support the school helper for these works. Dustbins were said to have been in place at each classroom so that solid waste such as waste paper, plastics, dust were not seen here and there. The school was also said to have an incinerator for burning waste papers; however, nothing of that sort existed except a pit for burning wastes.

Putting the queries to a local guardian who lived near the school about the situation of school sanitation, he said, "*Afno khuttama uviyapo hunchha ra. Arkako bhar garepachi kehi hundain. Afnai pourakha ma rahematra yo afal huncha*" ("It is not possible to get success depending upon outside. It would be possible and sustainable if everyone depends upon own efforts"). Information garnered from the informants proved that weak leadership of local social workers, misuse of resource as well as

misleading and mismanagement of personnel and man power available within the existing institutional arrangements, community people's innocence and false perception, remoteness of the areas, lack of will power of local people and leaders were the major factors for being failures of the program in the school.

The situations and the problems of remaining other schools were the same, rather worse than the school previously discussed. They exclusively lacked and did not have access to modern child- and gender-friendly toilets. School children of these schools were compelled to go to nearby jungle to defecate and urinate due to lack of toilets. Teacher and staffs used to urinate in a temporary pit latrine covered and fenced with tree branches and roofed with local material, i.e., bush. Defecating was also a problem for both teachers and students. Both used to go to the jungle for defecation, carrying plastic bottles of water. "We and students go to the jungle to defecate," said a teacher of RPS situated at Parkhal. Even temporary types of toilets made up of local materials, i.e., stone, mud, roofed with tree branches, and were not well maintained. In spite of the temporary toilets in these schools, school children were forced to go outside the school to defecate and urinate.

The toilets made in other schools, even the temporary, were also only for teachers. As in other places of the world the problems of discrimination in use of toilet facilities were big. If there is a toilet, it may well be locked or reserved for the use of the teachers, or it may be so exposed to view that children are embarrassed to use it (Black et. al. 2008:140-141). Just like this, teachers used a separate toilet constructed in the corner of school compound even though the lack of water also was apparent. Only they urinated in the toilet inside the school compound. Students were not let to do use. Maintenance and cleansing of toilet was also very poor. Due to not using the toilet properly, odor, which everyone could feel, was around the school surroundings. When asked to a teacher of Rastriya Prathmik Bidyalaya situated at Parkhal of ward no. 1, he said, "The authority has not given attention towards building the toilets in this school. Once we requested them, but they did not show their interest thus ignored our request. The major cause they claimed for not being interested to take over the school was the lack of monetary resources and availability of sources of water and water supply facilities in school. We did not follow and demand again for the program." Observing the outing activities of students of this school it was found that boys used to urinate in jungle without any hesitation, but girls always were found to

feel inferiority whenever they needed to urinate. They also had to face sexual harassment by male students. Thus, the situation was not conducive especially for girl students. "We feel very difficult and shameful when we defecate and urinate in bush and jungle. Boys often watch on us while urinating. Moreover, our menstruation period additionally hampers us. During the time of menstruation, we need to go multiple times to urinate. These problems compel us to be absent in schools. We often avoid coming school during this period. We are often absent due to this problem," said girls of grade five of Dihitar School.

Even though boys had no difficulty to urinate, girls felt great difficulty while urinating and defecating. They had to face various social, physical, and psychological problems when they had to urinate and to defecate. They used to hide in bushes and open places, especially for the problems of maintaining privacy. Development advocator often said in their reports that problems of girls in this situation is very sensitive as they report that growing up girls who lacked latrine facility may lose their confidence; these girls cannot express themselves in front of others; compared to boys, girls need more privacy (UNICEF, 2009). However, facilities were not built regarding this requirement. Due to these reasons, seasonal absence of girls was high in the schools. Girls could not attend school during menstruation period. In addition, these girls were never trained and taught about safety pads, nor were the pads provided by schools. "Two months ago, five girls of class 5 dropped out due to the lack of latrine in school. Lack of proper toilet facility and school administration being less gender sensitive are the major causes of this situation," said a female teacher of Rastriya Prathmik Bidyalaya of Dihitar. These were the fundamental problems not in one but common for the girls of all four schools of the chosen area.

Enough information were gathered from the concerned institutions and presented publically. School with poor water, sanitation, and hygiene conditions and intense levels of person-to-person contact were of high risk for children and staff and exacerbate children's particular susceptibility to environmental health hazards. Good hygiene behavior and effectiveness of hygiene promotion in schools were severely limited where water supply and sanitation facilities were inadequate or nonexistent (WHO, 2009: 5 and 17). But the alternatives were not still sought out in the areas of study.

Observation of the school situated in Wakarang of ward no. 2 found that children were in crowded classrooms and playgrounds and were vulnerable to infections of all kinds, especially those connected to dirt. The place they had to use was filthy. Children in this school were rarely taught to wash their hands however without water and taps, hand washing and flushing after the use of toilet was not possible there.

The major problem of lack of sanitation facilities in this school was connected to the lack of resources. Lack of budget is a big problem of this school. "Our school is always facing budgetary problems. We have no other alternative sources and remedy to improve the unsanitary conditions of schools. The authority does not consider this problem, nor do they incorporate it in policy. They do not keep it as a part of child healthcare concern. Local people in this area are also innocent and also ignorant. They could not care it. Members of SMC also do not give importance to it," said the headmaster of National Primary School situated at Wakarang of ward no. 2. Consequently, instead of providing the facilities the sanitation and hygiene situation in this school and in the area have become big problems due to lack of water resources, toilet facilities, and sewerage system. "Concerned offices and agencies did not show interest to take these schools under the program because of lack of budget and other human resources. Due to this, they left the schools of the area," reported a member of SMC.

It is claimed that school led total sanitation approach and hygiene strategy is an effective global issue of airing principle; the school and its students could be a force for persuasion at home and in the community. More broadly, this notion of teaching school children to use toilets and practice hand-washing might be a shortcut to bring about adult behavioral change. It might be easier and more long-lasting than efforts directed at adults. Behavioral change from the various cleansing activities was successful. WASH campaign in schools can really become practicable to transform the general sanitary behavior of the local community people. The results of sanitation and hygiene practices would be progressive for the management of infant's feces, toilets, showers, soak pits, drains, and basins, which would also be the simultaneous path to parents and householders, schools, and other public places in the community (Black et. al., 2008:152). However, the facts from observation proved it too. Such as influencing children to adopt new behavior and habits in relation to modern sanitation and hygiene became rather unreliable in these local circumstances.

For example, the schools of the study area were very poor in terms of water supply and sanitation facilities. Except in Ganesh School of ward no. 3, schools in the remaining areas were built without toilets or access to water. It was found that the facilities were rare; the temporary toilet was decaying and was neither separated according to sex and age nor suitable for small children and the disabled to use, nor ensured privacy needed especially for adolescent girls. Due to these situations the learning process of children in the areas also was affected intensely by inadequate water, sanitation, and hygiene conditions. Poor environmental and untidy conditions in the classroom as well as outside the classrooms in all schools made teaching and learning very difficult. In one sense, girls and boys were altogether affected by inadequate water and lack of sanitation and hygiene facilities in schools but there was no equal learning opportunity for girls and boys in the area. Girls and sometimes female teachers were found to be more affected than boys because of lack of sanitary facilities, i.e., gender-friendly toilets.

The facilities were not properly built in this deprived environment. There was no commitment to maintenance according to the doctrine of cleanliness. There was no proper mechanism in the schools till date to implement effectively the approach. Even where such facilities do exist, i.e., Ganesh Middle High School, there was often inadequate water. Hence, facilities of modern sanitation practices, i.e., toilet and hand washing, and others in schools were in very poor conditions.

On the basis of the facts observed above one can easily put the questions that, could intervention have brought the changes in this rural settlement? It was claimed that only this type of intervention could improve the situations bringing the changes in existing hygiene and sanitation behavior system of rural life. But except a few numbers of population adopted the modern cultural elements of this system, the situation was found to be a dream, and nothing has gained even at the cost of huge expenses. Fact itself speaks no one could be proud to say in favor of intervention.

5.3.7 Ecological Sanitation (Ecosan) Approach

Ecological sanitation (ecosan) approach is called one of the modern sanitation development systems, a radical alternative to conventional hygiene and sanitation systems which emphasizes on maintaining the system among interrelated constituting parts, i.e., local knowledge, values, norms, preference, perception, attitude, habits,

morals, local environment, locally available materials or resources, and technology, both traditional and modern representing a system in which people think and act upon own excreta. It is said to empower community through the nutrient and energy cycle that intakes nutritious food and makes social harmony and integration among different components based on composting or vermicomposting toilets where an extra separation of urine and feces at the source for sanitization and recycling has been done. It is an innovative sanitizing and reuse model for improving hygiene and sanitary condition of the people emerging in some parts of the developed world applying the principle of 'don't mix', 'don't flush', and 'don't waste' the human excreta. In this system, urine and feces are separated, pathogens are killed, and nutrients are recycled through composting aiming to eliminate the creation of black water and fecal pathogens among the communities (Vander Ryn, 1978; Winbland, 1998; Langergraber and Muellegger, 2005 quoted by Nawab et al., 2006:236; Esrey, 2000; Bhattarai et al., 2006). This approach also was perceived as a multidisciplinary and multi-stakeholder perspective providing conceptual model reflecting the interplay and reciprocal process between human culture and entire nature with which communities manipulates environment surrounded for its adaptation and survival (Adhikari, 2007:48).

Reports show that traditional ecological sanitation system was being practiced in different rural parts of Nepal before the scientific forms of this model was first introduced in 2002 and was experimented first on the pilot basis in Siddhipur and Khokna VDC of Lalitpur district of Nepal (Sah, 2008:42). It was also being practiced in Darechowk VDC of Chitwan district of Nepal as an alternative model for behavioral transformation through modern facilities. Despite the study areas were not familiar with this modern model of ecological sanitation system the community people traditionally practiced, to some degree, without having modern elements of this system. Burying fecal matter after defecation under mud (i.e., cat method) could be taken for example. As in other rural places of the world, people of the areas practiced cat method prevalent there. For example, when people worked in the field, they adopted the cat method. They buried their fecal matter when they defecated in their field. While asking the question—What do you do when you need to defecate in the field? Does not it harm you and other people?—to some informants working in the field, a man working in the lowland field replied: "It does nothing; rather, it becomes

manure, even a least, which makes land and soil fertile for cultivation. When we defecate, we bury it by putting mud over it and placing bush and stone over it so that it cannot spread out to other places and harm anybody." This kind of cat method was their cultural practice. This proves that local people unknowingly practiced this model, however, even not compatible to modern ecosan system but the process of nutrient cycle, to some extent, could be seen in this practice.

Use of natural ecological processes is effective for excreta management, including consumption by scavenger dogs and pigs. As in some other communities in the world (Black et al., 2008), similar traditional cultural practices and behaviors were also found in the Lothar VDC. Most of the people interviewed from most of the villages believed that domestic animals like dogs and pigs contribute in eliminating the faecal wastes and filth near their houses. Tamangs do not keep pigs. By culture, keeping pig is strongly prohibited in Tamang community. However, Chepang people often kept pigs for ritual purposes as well as for nutritional values. Not only such but also hidden aspect such animals contributed to make balance the ecological system. Observation showed that some Chepang households used pit latrines for defecation even in close proximity to their homes. However, the pit was not sealed because they allowed pigs, dogs, and chickens to consume their excreta. From this fact one can say that pig keeping culture, to some extent, prevents and minimizes harm because in this system domestic animals are allowed to eat human excreta.

Most of the Chepang people living in the upper land of the study area defecate over pig's pen to let pig to consume fecal matters. They also let dogs to eat baby's excreta. When asked the question—Why do you practice such behaviour?—to a key informant of Chepang household, he said, laughingly, "This is our life. This is a better way to feed pigs. Nothing is wasted. By feeding our excreta to pigs, we do not need to construct latrine. This practice saves our grain. Instead of feeding the grain to pigs, the grain is fed to our children. Feeding fecal matter to pigs is advantageous for us; it keeps us away from the blowing smell." This proves that there is no fear or feeling of risk of fecal contamination possible to be infected to their body. They did not know the root cause of disease. Therefore they did not worry about the threat of diseases to them. They perceived that defecating over the pig shed and open places allowed pigs to access the fecal matter, and thus it was vanished. Some risk of fecal odor was perceived by them as harmful. However, a Chepang informant said, laughingly, "We

do not let it to be smelly and dirty to harm other people; it is left to pigs to be consumed immediately after defecating."

Existing policy and strategies (2012) also emphasized to deploy this system where feasible but the intervention could not introduce this system in the areas. But while judging their perception and preferences, it was found that people did not prefer to the construction of modern ecosan latrine for making compost from human fecal matter was also unpopular among the local people. Using fecal matters as manure knowingly and systematically was strongly avoided by both Chepang and Tamang including other cultural groups because of their avoiding attitudes towards composting human excreta but hazardously and unknowingly most people used to defecate in their field, even spreading odor and filthy which provided the nutrition to crops and vegetation.

In some households, members slept outside in the corridor in a bed made of bamboo branches, under which goats and chickens kept. Sleeping outside was for security of domestic animals. People reported that tiger and jackal may attack on and take them away. In the areas most of the family's hygiene in the kitchen, bathroom, and toilet was found to be poor. Observation revealed a higher tolerance in Chepang community toward disorderly maintained kitchens and dirty surroundings inside and outside of home. At the household level, chickens were frequently roaming on the yard and inside the home. However, there had been a kind of ecological system where one could view that animals like, dogs, pig, chickens, goats together became the integral part of one system of which man also become a constituent part. Whatever the situation even traditional practices, a kind of ecological system can be seen in local areas unknowingly. The culture of letting domestic animals to consume human excreta is, to a large extent, to maintain ecological process and some degree of balance of hygiene and sanitation system. Modern ecological approach to sanitation with precise policies, strategies, new model and conceptual frameworks intended to manage this kind of hazardous condition replacing the traditional practices but found unsuccessful.

5.3.8 Public Private Partnership (PPP) Approach

Existing policy framework (GN, 2010, 2004, 2009; DWSS, 2008) adopted public private partnership (PPP) approach for effective mobilization and operation of hygiene and sanitation development intervention in Nepal emphasizing the

involvement of private partners and donor agencies in WATSAN sector to promote water supply and sanitation situations of the country as a whole. It was said that the joint efforts, integration, and consolidation among government and private organizations are considered the fundamental features of this approach to enhance the awareness and increase the knowledge of people to alter the existing hygiene and sanitation behaviors. In practice, reports showed that as an effective mechanism policy of involving private partners was basically adopted in hand washing initiatives for traditional hygiene and sanitation behavioral change and transformation. Soaps, toilet pans, and toothpaste producers, and towel industry owners were said to be private partners and were expected to organize the sanitation promotional initiatives trying to extract the resources of private soap manufactures and means for publicizing and social marketing the initiative throughout the country to alter the traditional and create new hygiene and sanitation behavior system. However, this approach could also not be caught in the local context during the period of intervention. It was because this was not properly taught and publicized in the local community. People were out of knowing about this approach.

5.4 Gender-Inclusive Policy and Practices

Gender refers to individual's self-conception as being male or female, as distinguished from actual biological sex. Gender is socially and culturally defined roles of men and women that may be different and changed according to specific culture, religion, politics, economy, and society. The sanitation approach of people begins with their requirements and varies as per individual's social positions. However, gender inclusion in development policies has especially focused on the inclusion of women's role in hygiene and sanitation development projects and program activities. Consequently, gender component has become an important issue in global- as well as local-level modern hygiene and sanitation development system.

The issue of gender has occupy the considerable space and also been incorporated in the policy (GN, 2004; 2006; 2010) of Nepal government. Attention regarding the role of women has been given universally on water supply system and hygiene and sanitation development policy and strategy at global, national, and local levels (UNICEF/WHO/MPPW, 2008). For example, Rural Water Supply and Sanitation National Policy, Strategy and Sectoral Strategic Action Plan (2004) is more gender inclusive and gender sensitive and gender mainstreaming in respect to the water

supply, hygiene, and sanitation development. It intends to maintain the compulsory inclusion of women in all stages and processes of formulating project planning and benefit sharing in theoretical level considering the gender perspective as a key factor to water supply, hygiene, and sanitation development activities. In various sanitation promotional activities, 50% involvement of women in community level and girls in school has been provisioned and institutionalized (HMG, 2004), which could be taken as an example of gender inclusive policy.

As crucial part gender balance and active involvement of women in decision-making is said to be maintained for safe and appropriate water supply, sanitation, and hygiene programming to address the specific needs and use the knowledge of the entire community. That is why in many societies of traditional cultures the responsibility for collecting and raring children water falls on women, especially girls. In respect to improving the hygiene and sanitation behavior, the requirements of privacy and safe location for defecation and urination, from abuse aspect as well as health aspect has been a significant component (Balfour, 1926; Avvannavar and Monto Mani, 2008:9).

Women's perception and knowledge on sanitation, sanitation techniques used by women, and social communication systems for sanitation were said to be considered as important components. However, in real practice, proper and serious attention has not yet been given to the issues (Islam et al., 2000). Sanitation and hygiene behavioral transformation has been combined with the inclusive principle of involving women as equal to school children. They are considered as gatekeepers for its use in hand-washing, bathing, or personal grooming (Black et. al., 2008:153-54). However, while talking about the gender perspective in water supply, hygiene, and sanitation practices, the effort has been limited to the analysis of women's roles only in relation to men. Women's reproductive value, role in water management, and socializing children for hygiene and sanitation behavioral transformation have often been ignored (Honnán, 2000). Women are said to be conditioned and limited only to accept the waste handling and managing task. Thus, gender perspective on water supply, hygiene, and sanitation development practices has not been taken adequately into account. Except in a nominal case, even for the development purposes, women's point of view has not been properly addressed and women's roles are ignored (Drangert, 2004; EcoSanRes, 2008). Where women are in positions of responsibility as a group and are charged with spreading sanitation, progress is highly expected and better

guaranteed. But in many traditional societies, women's ideas and opinions on this matter beyond the purely domestic do not carry clout: they have little or no say in decisions about the allocation of household resources and expenditures (Black et al. 2008:140). In the areas, in events of hygiene and sanitation development and promotional program, the participation of community women, except schoolgirls, was found to be negligible. Women were not involved or participated in decision-making process. Due to the over burden of household task was on them they did not present there in the various functions during ODF. They were found to be limited to their household domestic work.

Present hygiene and sanitation sectoral strategy in Nepal is said to encourage active participation of women in planning, designing, implementing, and in the operation and maintenance of the sanitation schemes. Most of the stakeholders involved in the sector said that they placed women in the central position in water supply, hygiene, and sanitation programs. However, in practice, as mentioned by some others (Thapa and Shah, 2008) the lack of gender sensitivity was found there in the villages of the area. Lack of sanitation facilities hindering latrine take-up by women in these rural areas even women hold core responsibility of family health, waste management, fieldwork, cooking meal, and looking after animals was prevalent. Due to this, they also suffered from many water-related problems and diseases because of unsafe water and improper sanitation and hygiene practices.

Women are said to be the primary consumers and harvesters of drinking water, very important agents of hygiene behavior transformation influencing mostly the hygiene and sanitation activities in rural areas. Almost in all cultural groups in the area, women always were assigned the responsibilities for everything to do with domestic management of wastes, water, washing clothes, household waste, kitchen, and children's toilet, and other hygiene and sanitation practices at home. For example, as described by some writers elsewhere in their works, where people do not have taps of their own, they have to fetch all the water for the household, often in heavy containers over long distances. They were understandably careful about every drop of water, cooking, feeding water to animals, sweeping, and child caring (Black et al. 2008).

Workload in every household in the study area limited women within the boundary of their home tasks. They had no opportunities to participate in the issues of public concerns. These facts show that the policy and intervention could not bring any

change in the existing common attitudes and understanding of male towards women in the local setting. Women were still considered responsible for every domestic task, i.e., water collection, caring and management of children's excretory behavior and disposal of their feces, washing up, food preparation, and hygiene in the home.

In the study area, the representation of women in the decision-making level in the context of water and sanitation development practice lagged behind. As Rai (2003) notes, cultural perception of men and the whole community perceiving women as dependents of men was major cultural feature in local community. Discriminating biases towards the role of women for public concern were still existent. Nothing change intervention has brought in this area. They were always out of public concerns. It was the traditional cultural worldview, attitudes, and perceptions of community people towards women and their roles. These features were found relatively common in Tamang, Brahmin, Newar, and Dalit except Chepong community. When asked about the present situation of women's public role in respect to involvement of women in hygiene and sanitation development intervention in the area, a women working in village level NGO reported that "women may be polluted by menstruation. They are not able to take public responsibility. They cannot take duties of public issues. They are inferior. Public responsibility is not their duty. They are said only to fetch water and care for children. When they become absent in home, all the work would be delayed and hampered. Household balance would be disturbed."

People of the area often said that women were inferior to men; they could not work as much as men could. So they were left behind and limited within the household chores. That was not only the male attitude, women themselves considered them as inferior category of the society. For example, while asking the question 'Why women did not participate in this activity?' a woman in the Kapartak Bhanjyang said, "*Aimai ko ke kam chha ra taha budhaharu gayat bhaihalyoni. Hamro kam ta gharamai chha. Bakhralai ghans dina paryo, charaunparyo, pani khwaunuparyo*" (Women have nothing to do there, husbands are enough. We have lots of duties in our home. We have to feed cattle with water and grass and look after goats). However, in the context of Chepong community, living particularly in the upper land, the situation was somewhat different compared to that of other castes and ethnic groups. Most of the Chepong people in the study area were simple and living in natural conditions. The

roles of both men and women within the household of Chepang were not seemed different. The public/social milieu was not their major concern. Situation of them was not as harsh and different as in the formal world. The situation of decision-making, division of labor within household, and responsibility outside home did not matter for these rural people. Most of the women and men had no time to attend the events of public concerns. Regarding the responsibility for the management of drinking water and sanitation in community in general and each family in particular, it seemed similar and common between male and female. However, discrimination was also found there among them regarding household work burden. Seen from the macro level, the role and responsibilities of male and female in terms of sanitizing children at home for hygiene and sanitation was not significantly different because of their innocence. Most of the women as well as men in this rural and remote village were innocent they worried more about their livelihood than public concerns. The interrelations and vicious circle of and among dimensions of diseases and its causes and results did not affect their attention. Majority of the households were ultra poor who could only feed their family for hardly three months from their own production. They depended mostly upon nature and seeking for wage earnings. They could not think to seek the right of women in the modern hygiene and sanitation system, nor did they understand the suitable way to escape from disease.

However, some differences, including discrimination, were found even among Chepang community in relation to some practices. For example, toilet or defecating places for men and women were traditionally separate among those in the Chepang family. Men and women avoided using the same places for defecation. They used to go outside at different times. It was directly connected to cultural ideas of respect. Father and daughter-in-law used different defecation sites. This was common in Chepang groups who had no toilets. Some members of Chepang community believed that any mingling of male and female feces, especially with the addition of menstrual blood as said by Black et al. (2008), was inauspicious. Following this cultural idea, men and women avoided using the same places for urinating and defecating. This culture was same in other Chepang households which had already owned modern types of toilet. In some households which had built pit latrine, women were prevented from using it because women were treated as lower, as in other social structures of Nepalese society. They are considered as bodily filthy: at the menstruation period

they become polluted. Men also refused to let women use the same pit. The prevention of toilet use for women was a typical feature of the studied area. The culture of defecating for Chepang women was harsh due to the poor conditions, innocence, illiteracy, cultural values and perception of male towards females as well as the physical condition of the area.

As in other places of rural setting of the world, as stated by Black et al. (2008) elsewhere in their works, the situation of the areas was very hard for women and adult girls where intervention could not have brought any change. Their outing practices were very hard in the sense that for example, in some places of the research area, they had to rise before dawn and go there under the cover of darkness, carrying a small pot of water for posterior cleansing. There was also fear of being alone in the dark, fears of hostile circumstances, such as wild animals or snakes, as well as of attacks by unfriendly neighbors. Adolescent girls feared for being harassed when they needed to go to the bush for daily outing, i.e., defecation and urination. Distances of several hundred meters they had to walk for defecation (Black et al., 2008). Hence, the traditional cultural systems made attaining bodily needs, i.e., urinating and defecating, for women and girls in the area, especially in Chepang community of the upper land were found to be very difficult because of having no toilets in easy access. This shows that the intervention could not be able to deploy the spirit of policy and seemed failed in the areas.

Despite the lots of policy and strategies regarding improving the hygiene and sanitation conditions of the local people the situation was not changed and still remained the same. Data gathered from sub-health post also proved that poor health, suffering of children, infant and child deaths in considerable numbers, diarrhea from impure water and food-borne diseases due to the lack of safe water and proper sanitation and hygiene practices, nutritional deficiencies, chest infections, and other communicable disease and maternity-related diseases were still present as big threats. Even though there are reduced numbers of deaths compared to previous records, raising and realizing the policy priority and attaining meaningful changes in the attitudes and behaviors of local people on sanitation and hygiene remained as the major challenges for the concerned bodies.

5.5 Organizational and Institutional Arrangements for Deployment of Policies and Strategies

Institutional setting and organizational arrangement, whatever its degree, i.e., national and local, is the foundation for directing and guiding the tasks to be performed at any time frame. Making any tasks success or failure depends upon the nature and setting

of institution and organization. Viewed in the historical background of the hygiene and sanitation development intervention in Nepal, the sector has its own history of progression. For example, before the sector got actually an institutional shape, various sanitation projects were operated along with the community water supply system under the Ministry of Local Development. Later, the responsibility of operating the modern hygiene and sanitation projects at local level was transferred to and brought under the Department of Drinking Water and Sewerage, which later on became established as DWSS in 1972. Till date, it is a department level leading sector agency in the country. Today DWSS is supposed to provide a nationwide hygiene and sanitation service through 5 regional, 42 Divisional and 28 Sub-divisional offices having about 1660 staff with a fleet of more than 170 professional experts from Engineering, Chemistry, Sociology, Finance, Administration backgrounds (DWSS, 2010).

Steering Committee for National Sanitation Action (SCNSA), chaired by DWSS and comprising of members from ministries, departments, donor agencies, civil societies, and I/NGOs, was established in 1998 as a wing within the department leading the sanitation promotional tasks in the country as a whole. At that period, it was a major mechanism playing a proactive role to mainstream the efforts of sector stakeholders. It was claimed that it has been contributing to promote multi stakeholder coordination; program integration with health, education, local development; and strengthen the capacity of stakeholders at the national, district, and local levels.

After many efforts along with various policies, approaches (1994, 2004, 2006), and its recognition by interim constitution (2007) and relentless attempts of concerned stakeholders, sanitation sector became a specific concern. Afterwards, it achieved a clear and separate position in national and local level development domains. SHMP was the latest achievement of this incessant effort. The broad and umbrella-like guiding principle or institutional framework, consolidating the dispersed efforts, was developed as a latest achievement foreseeing multi-stakeholder platform at national, regional, district, and municipality/VDC or local levels for better coordination, collaboration, and harmonization among the efforts encouraging key stakeholders to develop consensus and realize shared responsibility for enhancing the collaboration among stakeholders. Joint planning, adequate and wise financing, and accelerating the rapidity of sanitation promotion movements were the major thrust and driving force

claimed as the fundamental attribute of this framework to be adopted as major guideline principle to operate the modern hygiene and sanitation system at grass root levels. Seeing its structural form and functioning modalities, there have been systematic arrangements of its functioning components horizontally and vertically set in structural and institutional form to bust and feed backing the program. Such structural arrangement, highly bureaucratic nature, include (i) National Sanitation and Hygiene Steering Committee (NSHSC), which included ministerial-level representatives and international-level partner and donor agencies; (ii) National Sanitation and Hygiene Coordination Committee (NSHCC) that includes department-level government representatives and other private stakeholders supporting to formulate and implement the policy; (iii) Regional Water Supply, Sanitation, and Hygiene Coordination Committee (R-WASH-CC), in which regional administrator holds the position of chairman and other regional-level concerned line agencies are involved; (iv) District Water Supply, Sanitation, and Hygiene Coordination Committee (D-WASH-CC), comprising other district-level concerned stakeholders including representatives of donor agencies to which where LDO leads; and (v) Municipality level Water Supply, Sanitation, and Hygiene Coordination Committee (M-WASH-CC), in which sector stakeholders working in municipality are also involved; and (vi) VDC level Water Supply, Sanitation, and Hygiene Coordination Committee (V-WASH-CC), in which sector stakeholders working in VDC are involved.

Besides this, it could be seen that there are other various acting components embodied in this institutional structure. National policies on water supply and sanitation have recognized MPPW at ministerial level and DWSS at department level as the lead government agencies in the sector of water and sanitation development intervention. The MLD, MoH, and MoE are other key ministries responsible for improvement of hygiene and sanitation. DOLIDAR, which is established under the Ministry of Local Development and RWSSFDB, has been expected to play role to contributing to promote sanitation and hygiene in rural areas through mobilization of NGOs and CBOs. UN agencies, donors, international/NGOs, media, civil society organizations, and private sectors have been other supporting institutions. They were supposed to facilitate the national as well as local level government to implement national policies

and strategies in partnership with local bodies, schools, users committees and CBOs for promoting sanitation and hygiene conditions in local level (DWSS, 2010:8).

Viewing the structural arrangements in addition to this network, there could be seen that the cross-sectoral institutional linkages among the various agencies. Such major sectoral representations in this structural form were of health, education, local development, environment, private organization, rural energy, users' committees, school- and community-based organizations, media, civil society organizations, agriculture, and forestry development. The roles and responsibilities of each level committee and institutions have been explicitly delineated. All the institutions are said to be responsible to facilitate the smooth implementation of sanitation and hygiene policy and master plan (DWSS, 2010:8-9; GN, 2010). Seeing its nature, one could say that above the municipality and VDC level the institutional structures are bureaucratic in nature. These include only the institutional representation. No local representatives of concerned people were incorporated in these structures, thus is non-participatory. Above the VDC level, the district level organizational and institutional arrangements are illustrated below for example and discussed accordingly.

5.5.1 Structures and Functions of D-WASH-CC

Modern hygiene and sanitation system itself is the conglomeration of various components acting towards making the larger structures encompassing local level micro to district level macro system. Following the ideological norms of national level policy district level institution was set to systematize and stream line all the local level activities. In order to lead strategically the sanitation promotional activities in all VDC of Chitwan district as a whole the committee was formed containing the various acting components. The major function of this committee was to feed backing the activities doing in the local level providing the concepts and regularizing the rules for making the development uniformity.

Under the chairmanship of LDO and with the representation of various government and nongovernment agencies and stakeholders, District Water, Sanitation, and Hygiene Coordinating Committee, usually known as D-WASH-CC, was formed in order to handle the various initiatives in the district. To implement the policy of TS in all the VDCs of the district as a whole, the major responsibilities were brought under

its leadership. It intended to make strategic decisions at the district level for the operation of programs in all VDCs of the district.

Government agencies like Water Supply and Sanitation Division Office (WSSDO), District Technical Office (DTO), District Development Committee (DDC), District Health Offices, Women Development Office, District Forest Office, Rural Water Supply and Sanitation Fund Development Board (RWSSFDB), Water Aid Nepal, Village Development Committee (VDC), and NGOs like NEWAH, local community organizations, Nepal Red Cross Society, Offices of Chamber of Commerce Bharatpur and Ratnanagar Municipalities, representatives from political parties, District Administration Office, District Police Office, District NGO coordination committee, and other local community bodies working in water and sanitation sector in Chitwan district were the members of this committee. There were about 282 local NGOs, UN agencies like UNICEF, WHO, UNDP, and other INGOs involved to support the programs at the district and VDC level. There were also volunteer groups and district-level trainers working and supporting the district and village level activities towards making modern hygiene and sanitation system sustainable. The members of volunteers groups were from local NGOs and INGOs working in this sector. All these organizations were included in D-WASH-CC, which was said to be the major institution to regularize norms and rules and to consolidate the acting partners and programs for making intervention effective.

It was decided that D-WASH-CC had to organize the meetings at least 6 times in a year to review and assess the campaign for ODF at the VDC level. The district council meeting under DDC was also said to hold time to time to make appropriate decisions on the issues. Decisions and rules on various aspects of modern hygiene and sanitation development activities were made at the district level. These rules and conditions were said to be mandatory for all VDCs of the district. However, the violation of rules and decisions started immediate along with the formulation of these rules and norms and setting the institutional body. One active member reported that "Most of the concerned stakeholders rarely attended the meeting, most of the time they were absent, nor did they fully carry out assigned roles". When asked the query during the interview with focal person of committee about the situation, it was found that the passivity and out of their values and interests were the major reasons for not actively holding the meetings while taking decisions at district level regarding the

issues. One argument was ought to be put here regarding this situation. Seeing from the macro perspective, the committee was made up from the native components, but in the hidden part its theoretical and conceptual force required to operate and sustain the institution was supplied and handled by others. Its strengths and backbone was boosted not by native force but activated by outer interest and sympathy. For example, all the meetings were sourced and enforced directly and operated indirectly by the representatives of outers sourcing the financial requirements. Due to the effects of this process decisions were often influenced and made following the values and ideas endorsed by them.

Information tells us that undesirable situation was found also within the existing organizational and institutional setting. On discussing about the institutional arrangement, its stability, actors and their functions in relation to making the hygiene and sanitation development intervention effective, there seemed various components hindering the overall process of development. Similar to what other writers noted, in the process of institutionalization of the hygiene and sanitation development, I also found the culture of 'sources' and 'forces' (Justice, 1989), '*aafno manchhe*' and '*chakari*' or familial and personal alliance systems (Rose and Scholz, 1980), the culture of 'nepotism' and 'sycophancy' in selecting and rewarding the persons within the organization, and backbiting against coworkers, and disobeying organizational and institutional rules in behalf of personal interest.

In this context, one could put his\her ideas that rule ought to be the central institutional driving force of organization, operating force and backbone for enhancing the institutional and organizational efficiency; heart and life of institutions should be made to strictly follow not for violation. While governing the acting components of institutions and organization, it ought to be able to compel actors recruited in organization to follow it. But the situation was not in this ideal position everywhere. While delegating authorities and responsibilities in the context of performing the tasks, infringement of rules could be observed in each step. No rules were followed even by the leadership of institutions. While queried to a department-level official about the institutional and organizational arrangements at district and local level contextualizing it to the effective implementation of the projects, he reported, "Institution was made not performing its natural roles by its operator. It was compelled to take misleading role. For example, violation of rules in each step,

misuse of resource (the resource made available for official work but not for private gain) extracted for personal gain from authority, especially from those who have been assigned to control the official environment, withholding and passivizing staff deliberately from his responsibilities, assigning the authority to those persons not judging the performance but by personal affiliations, have become the subject of pride in this institution." Due to this situation, the institutional setup itself never seemed stable seeing its nature to overcome the challenges of present development and could not represent the verdict of local community people.

Unlike this, other contrasting views could also be found. For example, two staffs from UNICEF and UN-Habitat at the district level put their ideas and perceptions jointly, "The better ways to improve the prevalent situation could be sought within the existing institutional and organizational setting making it effective mitigation measure to reduce diarrheal diseases in Nepal through making the operation of effective environmental health education and awareness programs in massive scale along with the existing water supply and sanitation intervention system." But no authority was found taking concerns towards this option. But reports (2001) pointed out that there were great weaknesses already identified in the existing institutional arrangements at national as well as local level. Additionally, there were lots of problems found, during the data collection, hindering the institutionalization of modern hygiene and sanitation development in Nepal as well as in local level due to various reasons. No accountability and lack of appropriate institutional and participating systems for performance monitoring were major factors weakening the institutions. There were other many defects in institutional settings and various weaknesses in latest institutional guidelines as well as in its operation.

5.6 The Patterns of Information and Communication System

Reports (Sharma et al., 2000:ix) already indicated that the weak system of information within the lead agency for institutionalization of service delivering has been one of the biggest problems in this sector. However, the concerned and responsible agencies claimed that great progress has been achieved in improving sanitation conditions in Nepal. But on the basis of facts it could be claimed that service levels found during the research were still very low, progress was slow, and, more importantly there was inadequate emphasis on the qualitative aspects of sustainability of sanitation due to the lack of community acceptance. Lack of proper data identifying the root base of

activities, and being out of cultural knowledge, preference, perceptions, attitudes, values of a particular community in the overall planning and designing process might be the major cause of the present situation.

Even though located in central development region, Lothar as a remote area was often excluded from the message about the events of sanitation occurring at district headquarters and outside the district. The major portion of the local people themselves could not seek the information about the modern hygiene and sanitation system and its immediate advantages. Mechanism of transmitting the information from market areas to the remote rural community regarding the development was not precisely made. Concerned agencies seemed not serious to communicate the message effectively to the areas for development of this place. They were limited to the places where motorable access was available. Sometimes VDC and schools were tried to use to transmit the message to the areas, but these were not effective. Ignorance of local community people was hindering the communication process. Due to these, information system regarding extending the hygiene and sanitation services from the outsiders to the local people seemed very negligible. As Justice (1989:7, 151) pointed out earlier in her writings, rural isolation, poverty, and illiteracy along with linguistic, ethnic, and religious diversities were also the factors hindering the communication system due to which the extension of government services to this places became harder. Thus, the organizational and institutional setup and culture of information and exclusion of local people from the planning process have been the major hindrance of planning, policymaking, implementing process, and perceiving information. Thus, the problems hindering the service delivery were the communication gaps between concerned institutions, community and resource utilization mechanism. It was found that socio-cultural information at any level, i.e., national, regional as well as local, was found often to be flowed through outside planners and partners, which was found to play dominant role in planning process, representing the cultural values of foreigners instead of the culture of the recipients, i.e., villagers.

Great achievement of progress was claimed in reports claiming effective deployment of various norms, visions, policies, strategies and approaches in the local context emphasizing to child-friendly, gender-friendly, and differently-able (CGD)-friendly process, community friendly tools and materials. But the facts show that outcomes were seen not as claimed in reports. It could be said that it was because the intervening approaches were not effective because it was not found to be based on the actual need, realization, cultural perceptions and preferences of local community people. The intervention movements bypassing the local cultural approach were guided and directed in line to the interest of interventionists, not really the common people of the areas.

CHAPTER-VI

LOCAL BELIEFS, PERCEPTION, AND ATTITUDES TOWARDS TRADITIONAL AND MODERN HYGIENE AND SANITATION SYSTEM

This chapter deals with the beliefs, perceptions, and practices of the local people and their attitudes towards traditional and modern hygiene and sanitation systems. This includes local perceptions towards modern development interventions; traditional belief and perception towards defecating practices; perception of clean, unclean, and cleansing behaviour; belief and perception regarding health care system, nature and other waste, and human dirt and toilet culture; and children's perception towards modern hygiene and sanitation practices.

6.1 Local Perception Towards Defecating Practices

Some writers (Avvannavar and Monto Mani, 2008:2-6) have already put their ideas on the role of socio-cultural factors bearing on the configuration of various levels of hygiene and sanitation behaviour system. Cultural and social conditionings have varieties of influence on hygiene and sanitation activities of individual, groups, and community. Society's cultural traditions, norms and values, cultural perceptions, preferences, attitudes are crucial and determinant factors which have significant bearing on the way a community performs various activities. These factors have also effects on sanitation activities, approaches, habits, and beliefs of individuals and community as a whole.

Every society encompasses strict and unwritten rules and taboo about how to behave when urinating and excreting. Perceptions and ideas about what is dirty associated with daily habits greatly influence sanitation approach and behaviors. For example, another's excrement is often perceived as more disgusting than one's own. People's perceptions, feelings, beliefs, and practices related to satisfying the need to defecate and urinate and the disposal of domestic wastes as well serves as a crucial link between a healthy and unhealthy living environment (Drangert, 2004; Avvannavar & Monto Mani, 2008:1, 9-11). Regarding sanitation and hygiene, Manusmriti has suggested not wearing garment while eating; not taking a bath in naked; not urinating on the road, on ashes, in a cow pen, around the home or temple, cultivation, plow

land, in water, on a hill, in a cave, on the bank of a river, stream, pond; no one is allowed to defecate or urinate while looking at fire, a priest, sun, water, or a cow (Manusmriti, 4:45-48; Sharma, 2001).

Traditional defecation cultures have many problems, i.e., ill health, possibility of being raped or attacked by snake or tiger, and bad smelling. A number of people in the world refrain from using a toilet after dark because of the threat of getting raped, harassed, or murdered at the toilet or on the way there (Winbland and Kalima, 1985:1-2). Urinating and defecating practices are often said to belong to essential body functions. Avoiding physical contact with excrement is high priority in most cultures. In all cultures, there are more or less taboos regarding defecation practices. People without access to sanitation deposit their excreta somewhere, and many deploy methods which they regard as correct and acceptable from a cultural point of view. Regarding the management of fecal matters, 'cat method' and 'hanging latrines' are still practiced in many traditional societies of the world (Black et al., 2008:4-5).

There was a clear way of social and cultural regulations that governed the behaviors regarding the disposal of excreta in all the communities of the study area. As referred by Black et al. (2008), people in the study area disposed of their excreta in different places, according to their work and time. They have mainly two types of spaces they generally used for these functions. For example, small children relieved their bowels near the house, in the backyard, or behind the house walls. Children used areas near their homes, while grownup men and women go further. They avoided using footpaths, private properties, or exposed places for disposing of excreta. However, adults of lowland communities preferred open fields, streams, and hills.

The community people of highland and also most of the lowland in the study area were also confronting with various types of problems. These problems were harder, such as privacy for outing, especially for adult girls and women. However, when asked about the existing problems and traditional systems local people did not worry about the problems. It was their life ways to ignore the problems they confronted despite the many difficulties with the traditional practices. Existing intervention along with various policies, approaches, strategies were said to be intended to replace such perceptions and practices. However, the policies and approaches adopted were not effective in altering such traditional behavior despite the intervention.

Cat method and hanging latrine were examples of traditional practices in the areas that intervention intended to change. These traditional models were still adopted, due to which people suffered from various types of problems. In the study area, some people who rested near the Lothar stream used to defecate using hanging latrines. This method was adopted especially by those persons who operated *ghatta* (a traditional local machine for grinding maize and wheat) and persons who carried maize to grind there. They used to adopt this method using a temporary toilet made over the traditional drainage (i.e., *kulo*) and branch of the stream. In cat method, they buried fecal matter under mud after defecation. Some of the people living in low land of both communities used this typical method of defecation.

Using hanging method for defecation was the traditional cultural way of life of the local people. They used this method in flowing stream. There were cultural perceptions and beliefs behind adopting this method. They felt it easy, so they used to prefer this method. They believed that by using hanging latrine over the stream, smell and waste would flow away along with the flowing water of stream. The people reported that it was a common practice for all people living in stream bank. In their perception, "defecating in stream is very easy; we neither need toilet nor need to manage human waste," said an old man. "We do not worry about waste and bad smell of feces because it flows with flowing water. The work for cleansing is not needed," said a 23-year-old Chepang in an informal conversation with the researcher while taking tea in a small tea shop near the bank of Lothar stream. Walking on the way, I asked the question again to a man in Euralitar, 'Where do you defecate if there is no toilet in your home?' He answered, "We often defecate in flowing water through stream bank. When we defecate in the stream water there is no smell. When we go to defecate in open and dry place, the smell comes up to our home and harms others." In the morning, when I viewed the stream belt from the upper side of the village, people were seen defecating there squatting on the stream bank, hiding themselves inside the bush. Thus, even if not for all community people but for the majority of the people, both hanging and cat methods were of culturally high value in their daily life.

Latrines should have been a very suitable and easy means for them to maintain privacy and safety, which development intervention also emphasized on and encouraged to install it in each home. But because of their cultural perception they gave more preference to jungle instead of making latrines at their houses. They acted

upon the jungle because the jungle could provide safety and opportunities for privacy. Open outing system was highly valued, even though the jungle could never be better than toilet at home. But people by their cultural perception more valued and preferred the jungle.

On the basis of these realities one can argue that there seemed a close relation between privacy and natural environment, even though not ensuring the safety. People lived near jungle not only for ensuring extraction of resources from the jungle but for making it easy to defecate and maintain the privacy. They used forest for the everyday need to defecate as they felt secure and safe there. Majority of the community members living in the high part who had not made latrines in their homes went to jungle to defecate. They thought that in jungle it was better to have a permanent location or a place for defecation. A key informant reported that women often used to go to defecate in nearby jungle during the night and dark time because they could hide themselves. In a key informant interview, a man explained, "We have lots of open and natural land to fulfill our bodily needs. Forest is the best place for privacy. People defecate in forest for privacy. No one can see people while defecating in the forest. In forest one can go anywhere. No one is seen in the forest. It is easy to hide oneself while defecating. So we live near the forest or jungle." This saying represents the commonalities of perception of communities residing in the upper hamlets. It can be argued that their values preferring the traditional practices were stronger than modern values. Thus, intervention could not bring substantial change to the worldview and value system of community people.

Different interviewees perceived the defecating practices in jungle differently. While asking the question such as, Why do you use jungle instead of making toilet in your home? Is it not dangerous to you? the responses were: "We owned our private sites in the jungle to defecate. By defecating in jungle far from the village one can maintain privacy. We feel secrecy. One will not see shit and step on it while moving around the village." Thus, due to the long-rooted cultural perception and traditional practices, most of the people in this area still preferred jungle as a safe place for defecation practices.

Community people in the three wards used clearly defined areas for defecation. Additionally, a latrine was there in some households, but they felt defecating in latrine was inconvenient. As in other rural parts of the world, it was related to the feeling of

death and evil beings. Humility was very important to many individuals who felt uncomfortable to be seen going towards or into the latrine. In a house with a toilet, there can be felt unpleasant odor. Lack of appropriate ventilation or pan and blockage due to poor construction and maintenance (Black et al., 2008) were the major causes of nonuse of latrines in the area. In the policy, TS demanded making ODF-declared community settlements completely free from fecal matters in open place. But the situations of the areas were found to be worse and reverse.

While asking about the odor and not cleaning the toilet, many community people, including male and women, said that "cleaning is not enough to get rid of disgusting odors." Therefore, most of the latrines found in lowland were uncomfortable. People felt that the latrine was difficult for women and children to use. The same situation was also found in latrines of poor quality, constructed in an inappropriate location. For example, some were constructed near Lothar stream banks and spring sources and were seen completely destroyed during the rainy season. Some people built latrines far from their houses in order to mitigate and save themselves from odor and prevent harmful flies. Making latrines far from their home was due to their intolerant attitudes towards odor and their belief that their domestic spirits would harm them if toilets are made near their homes. As noted by Black et al. (2008), some communities living in remote places and from low-income families still practice traditional cleansing system such as often emptying their bowels onto the stream and letting the high tide wash the detritus away. Not only this, by being away from their homes and streams, people find distinct places in fields or in woodlands. Just like this, local community people living near stream bank washed their anal in the stream while swimming. Besides this, they much preferred the bush and bank of stream than modern toilet facility in their homes. 'First the stream banks/bush, second the homes' was the local saying. On the basis of this controversial situation, one can argue that intervention seemed meaningless because it could not bring the local cultural life world into the modern hygiene and sanitation system, and the local people by their cultural practice resisted the modern hygiene and sanitation system, which could harm them any time, causing a huge loss.

6.2 Perception of Clean, Unclean, and Cleansing Behavior

Viewing the common perception and beliefs of local people, it was found that by unclean they meant harmful, having socially low level of prestige, and unhealthy. Unclean matter would be harmful for human body. Some people said that it would

infect the human body, due to which a man can die. But there were different views in the local communities from different cultural backgrounds, i.e., caste and cultural groups (Brahmin, Tamang, Newar, Chepang, Dalit). They had different perceptions and understandings of what is clean and unclean. They perceived and defined filth, pollution, clean, and unclean differently. From the observation, it was found that, as said in Manusmriti, also quoted in Sharma (2001:40) and Black et al. (2008), even though some people bathed for ritual purification they also used stone, leaf, ash, and soil for cleansing activities while outing in open places. These kinds of practices preferring open defecation were because of their habits. Using traditional ways of outing was due to easiness.

The existing realities in the areas prove that environmental factors deeply influenced the cleansing behaviors of the community people to a large extent. For example, local traditional materials were used when water was scarce. After defecating, most of the local people used stones or leaves of trees to cleanse their anus. A 63-year-old Tamang who had no toilet at his home reported, "We use stone and corn cobs and other vegetative waste to clean." Information gathered from informal conversation proved that these kinds of practices were more or less similar and tolerable in Dalit, Newar, Tamang, and Chepang community, but in Chhetri and Brahmin community it was rejected. In the community from the orthodox Hindu religion, disgust attitude functions significantly towards such filthy behavior and improper cleansing habit. Reaction to this behavior was prevalent in these communities. Information from informal discussion with commoners indicated that the adult members from Brahmin community often cleansed their anus with water immediate after defecation. Those who do not cleanse properly were said to be hated by these communities. Cleaning the sensitive organs properly with water after defecating had high values in these communities and perceived it as socially respected behavior. Persons belonging to these communities who did not clean with water were regarded as persons of bad manner. They were treated badly, and people avoided touching them. Better situation was found in some clusters where educated persons lived. Persons who often used water and soap to clean their filthy organs after defecation were found to be socially respected in terms of hygiene and sanitation and cleansing habits.

6.3 Cultural Beliefs and Perceptions of the Community People Regarding Health Care System, Nature, and Waste

In a general sense, culture is often understood as a complex system of behavior guided and controlled by various informal and formal elements, i.e. morals, norms,

attitudes, beliefs, and perceptions. However, it cannot be limited to only these concepts. It also involves the social and spiritual dimensions of human life designating the pattern of behavior, thought, thinking, doing, values, knowledge and understanding (Netwa, 2005). The psycho-socio-economic concept influences and determines the person's approach to sanitation system, which is useful in understanding a community better (Avvannavar and Monto Mani, 2008:7). People's beliefs and perceptions in a community are often considered strong factors shaping and designing the health, hygiene and sanitation behavior system. Theoretical and policy frame of modern development intervention was found to be intended to replace the traditional and risky cultural practice that may affect the social relations among the people of the entire community, gender roles, and resources and water handling constituting human settlement with a definite identity, attitude, and response that have often been characterized both at the individual and group level. People's conceptual understanding is important for sanitation behavior.

The social positions, i.e., caste and cultural groups, are said to be inherently interlinked and have a strong influence in creating a different sanitation and hygiene situation. For example, communities with different religions and socio-cultural backgrounds having different beliefs on various kinds of diseases, healing practices, health and ill health, and hygiene and sanitation practices show different kinds of behavioral structure (Winbland and Kalima, 1985:1; Avvannavar and Monto Mani, 2008:2-5). Existing sanitation development intervention was said to change existing cultural beliefs and attitudes towards health, hygiene and sanitation system. Not only this, it also intended to harmonize the different patterns of behavior into a unitary system of configuration. In the belief of local people, waste is a harmful and unworthy thing damaging living body. However, the belief system of the local people was found to come out from their religious views which may lay down strict rules for the position and use of latrines and cleaning after defecation. As a social factor, a belief in supernatural forces influences the hygiene and sanitation behavior of the individual and community in a rural social environment. The beliefs on unseen forces in the area were found to affect the hygiene and sanitation behaviors of the local community people.

The belief of the local people towards nature also affected their hygiene and sanitation behavior. For example, nature was sacred in the world views of the local community.

Local community people believed that nature itself is the deposit of good and evil manners. Disease appears only when the existing social harmony and structure is disrupted. People also believed that nature itself helped in cleaning the excreta. Once they dry up in the sun, they would be carried away by wind and rain, or eaten by animals. While disposing excreta, they perceived that letting nature to clean was practical and effective. People were not aware that the latrine functions as a barrier to the spread of disease. For example, some people, especially living in the open ground of bank of Lothar stream and Wakarang, believed that holes must not be dug to deposit excreta in them. They believed that digging pit and depositing human waste below the ground, as noted by Black et al. (2008), may disturb the soul of dead body. The cultural taboos play an important role in shaping sanitation behavior, i.e., forbidding the use of toilet for the management of human feces. Some belief system is found that storage of fecal waste below the ground by digging pits is held to contaminate the dead (Black et. al. 2008:82, 101-3). Just like this culture, although not exactly the same, some Chepang people said that they did not dig pit to store fecal matter, nor did they make it nearby home. It was because it would harm their household deities like ancestor deities and snake god. If they made pit for toilets near and inside homes, their gods would make them sick. This case could be a suitable example proving the traditional habits of not using toilet and discarding and disobeying the norms of modern hygiene and sanitation system.

Some community people in the areas were aware of the relation between human contact with excreta and diseases like diarrhea. However, proximity of animal shed and contact heavily influenced the sanitation behavior of local people. People frequently came into contact with animals even the houses and settlements were seen in two separately well-defined areas which they considered suitable for living, animal keeping, farming, and for disposing of waste they saw as dirty, i.e., human and animal excreta. They made sheds near their homes and in front of the yard to keep their animals. Most of the households had sheds within twenty steps and attached to their house to keep animals with home they frequently contacted.

The cultural belief of transmission of diseases is very important in this regard which is reflected upon the perception of people that frequently influence the practices of maintaining order by avoiding dirt related to human feces and smell. Majority of the key informants chosen believed on evil/spirit/god when health and hygienic problems

like diarrhea, dysentery, and cholera struck them. They observed traditional healing practices, i.e., *dhami/jhankri* and *fukfak*, when they became sick. This kind of traditional belief was still found in Tamang and Chepang community. Majority of the people living in the upper part of the areas believed in magical practices. It was not easy for them to know about and distinguish between the purity/cleanliness and the dirty environment. People knew and could name various types of diseases but did not know the basic causes of these diseases; that is, from where do they come and harm people. However, some people, even illiterate and poor, believed in modern health care system and yet followed traditional magical system. They adopted it only on a ritual basis, giving more importance to modern allopathic system. The perception, belief, awareness of the people who believed in modern health care system had positive attitudes towards it and development intervention. Regarding the belief on modern health care system, the following case of a Chepang patient in a sub-health post would give the proper message and serve as an example.

Case. 3 A Chepang Woman as a Patient

A 27-year-old woman carrying her 3-year-old daughter to be treated at the sub-health post at Euralitar ward no. 3 from ward no. 2 had no shoes on her feet. Her husband was at home but was not able to handle the family members and responsibilities. So she was responsible to cure the child and do other tasks. She was with a single set of ugly clothes, with mucus and snot in her child's nose, ugly hair, legs with layers of filth and smear, speaking clear Nepali language without any hesitation, believing in modern allopathic medicine. She did not believe in *tunamuna* (magic system). According to her, magic was practiced in the village and in her family also while someone became ill. But she did not believe in it. She said, "Magic does nothing; however, it is practiced only as a ritual." Thus, her thought represented positive attitudes towards modern system, and so she came to the health post after she had observed ritual performance.

Not only were wild plants used as supplementary food, but also they were used as medicine as well. It is well known that the subtropical zone of Nepal proved to be the area richest area of the country in medicinal plants. The system of using wild plants as medicine has its root in the ancient system of medicine. However, it was nonetheless greatly altered by the formation of states. The diseases the villagers suffer from may only be minor, but the treatment they receive is all too often fatal. As a result, probably more people die due to the simple dehydration than from any other cause (Shepherd, 1982:182; Bhandary, 1984: 235-236; Hitchwok, 1966).

Except some families, most of the community believe and practiced traditional system of medication, whereas modern concept of medical hygiene refers to the hygiene

practices preventing or minimizing disease and the spreading of disease in relation to administering medical care to those who are infected or who are more “at risk” of infection in the home (Curtis et al., 2009; WHO, 1988). There were two types of traditional medication practices found in the areas. One was use of plants, and another was magic practice. People of the study area used various medicinal plants found around their surroundings. They used various plants as medicine when infected by diseases and when they suffered from pain. There were some *vaidya* and *jhakri* to make local medicine from wild plants to cure people. For example, a mixed juice of the roots of *beyora*, *birkhauli*, and *siuri* trees is used for irritation due to parasites; bark of *katush* is used for headache; root of *kali neuro* for diarrhea; *seto lahara* for *pilo*.

Buddhi Bahadur Tamang, 63 years old, uses bark or bran and leaves of *saj*, *dhanyaro*, and leaves of mango tree when his family becomes infected with dysentery and diarrhea. When they become ill, they use herbs as medicine. They use *kurilo*, roots of *dhayanro*, leaves of mango tree and guavas for fever, diarrhea, and stomachache. This practice of using wild plants as medicine indicates that people still preferred traditional ways for maintaining their health and hygiene. A detailed list of various plants and their uses as medicine, as informed by an old man and woman, is given in Annex.

6.4 Perception Towards Dirt

The perception of people regarding handling of dirt, i.e., human excreta, has been deeply rooted in cultural concept because of which people often look at hygiene and sanitation through their cultural lenses. In this regard one can say that the hygiene and sanitation practices of the local people are also governed by cultural perceptions and attitudes which include the combinations of cognition (knowledge), perception (feeling), and behavior (action) (Douglas and Wilddavsky 1982; Krech et al. 1962 citing in Avvannavar & Monto Mani, 2008:2). For example, bad smell from human waste is often perceived as socially defiling, people are often concerned with social contamination when seen defecating in the open space (Curtis, 2001 and Geest, 2007). Thus, on the basis of above ideas one can say that people's cultural values, perception, and knowledge for management of waste or dirt-handling behaviors also depend on their roots of culture, religious beliefs, and taboos (Amery, 2001; Nawab et al., 2006).

There is an understanding that most people have no problem managing their own dirt (i.e., feces) but are disgusted by the idea of having to handle others'; however, they may be willing to take care of the excreta of close relatives, for example, small children, but not of strangers. People tolerate their own odor while using toilet. 'Feces are intimate substances which should remain in place', i.e., in the intimacy of the person who produces them. Being confronted with other peoples' excreta is an extreme case of seeing and smelling matter out of place. That is probably the reason that in most, not all, cultures defecation is done in private. It saves members from an extremely dirty experience (Geest, 1999; Drangert, 2004; EcoSanRes, 2008).

Dirt is classifiable as things 'out of order' according to local norms. Dirt and pollution-avoiding behavior can therefore be interpreted as ways of maintaining order and protecting bodily, social, and spatial borders. Thus, socially constructed perceptions of hygiene and dirt operate metaphorically to suggest borders between clean and dirty places (Douglas, 2002 cited by Rheinlanders, 2010).

The toilet itself does allow for other's and one's feces to be seen. Simply the knowledge of someone else's feces remaining or that yours will remain, allowing for others to view them, might diminish the feeling of privacy (Rosenquist, 2005:342). A cultural perception is prevalent in most traditional cultures that women seldom urinate in the open and often socially prohibited but men are not; rather, men are excused for doing so. Defecating in public place is never considered acceptable, with the exception of small children, however, in rural traditional context only. Likewise, in an illiterate society, feces from babies are often perceived to be free from pathogens and less offensive than those originating from older children or adults. The general societal norm is that touching or handling fresh excreta should be avoided. However, babies and sick people in the home who needed assistance to manage defecation and disposing of fresh excreta are not considered as such. So the people come into direct contact with their own feces, but the important issue is how hygiene is maintained (Drangert, 2004 cited in EcoSanRes, 2008:9).

However, dirt is defined by its social and cultural context. Keeping things in various places has its contextual meaning. For example, shoes on the table are supposed to be dirty; under the table they are clean. Saliva safely caught in a handkerchief is hygienic, but when it falls in a plate it is disgusting. However, absolute dirt does not open new windows in the study of hygiene as a cultural phenomenon. It is a disorder

and carries an invitation or rather an obligation to restore order: Ideas about separating, purifying, demarcating, and punishing transgressions have as their main function to impose system on an inherently untidy experience. Hygiene is a basic cultural act: it distinguishes dirt from what is clean and thus creates cultural order. For example, enculturation of small children starts with teaching them what is clean and what is not clean. What is dirty is of less importance. Crucial is that dirt exists. Without the concept of dirt, people cannot formulate the norms and values of culture (Douglas 1970).

There is a general belief found in most literatures that most of the diseases depend upon the know-how, belief, and patterned behavior related to handling the excreta. For example, most of the household heads believed that cattle dung was less hazardous and harmful than human excreta, baby's excreta was considered less harmful than that of adult's. During observation, it was seen that children were frequently defecating in their house yard and their body was dirty with excrement. The parents did not care them. However, this was found significantly different according to the socio-cultural background. For example, this was seen worse in the Kami and Chepang houses than that of others.

The perceptions and beliefs of local community people discussed above were the typical features regarding dirt. The fundamental principle of policy of intervention was to alter the existing traditional perception and beliefs of local people but was seen limited only to emphasizing to install the toilet in each home without having known to change the culturally rooted perception and beliefs. The approach hinged in policy and principles was not deployed properly in the local community, nor was it able to make people adopt in the future. Consequently, the perception, to a large extent, remained unchanged. One can say that intervention seemed to have completely failed because of the misleading skills and inappropriate working modalities. Whatever the scientific ideas are discussed above, the people of the areas were always companioned with the dirt of human as well as animals. This showed that even policy emphasized to alter the local traditional perception intervention could not teach about from the various kinds of dirt and diseases or to keep them at bay.

In the health and sanitation development intervention perspective, one can often find in the literature a popular proverb—no toilet is better than a dirty toilet. This is often repeated again and again in this context. It was also found in the documents that a

toilet facility may be a health hazard if not well kept. Development documents often said that numerous diseases are spread through the usage of toilets and water contaminated by leaking toilet reservoirs and latrines. If pit toilets are installed badly or not kept clean, they may actually help to spread infection (Yacoob and Whiteford 1994; Rosenquist, 2005:338; Black et al., 2008:98). Despite big efforts, the local context still represented the hazardous situation. A few households, by force and threats, installed the toilets in their houses. But the major concern claimed in policy framework was to alter the existing local perception and beliefs. Some households of Chepang and Tamang of Dihitar were found to have a badly used pit. Some latrines were relatively strong and safe but their pits were damaged, open, smelly, and infecting people's health. The situation was left unmanaged. People due to their cultural perception did not give attention to improve this situation. They did not worry from the danger of this situation. There was no risky feeling of odor and possibility to be infected by disease among the people from the improper use of toilets. Additionally, instead of using wisely, they were habituated to going to jungle and finding open places for outing.

Construction of toilet and its proper use is a fundamental requirement of modern hygiene and sanitation development for improving health condition of rural community people. But most of the people perceived it as for not their own benefit. Even the clusters of different locations, the cultural perception of the majority of the local community about the human waste and latrine use had not differed substantially. Their perspective on hygiene explanation was found similar. But in a few clusters, differences in practice were found among different groups. Some people expressed their unpleasant notion about the human excreta; they perceived it as harmful and dangerous. But some people ignored as well as did not mind about it because of lack of awareness and their innocence. For example, the Chepang people of upper land never used any type of latrines to manage human dirt but lowland people used the latrines and even pit. A Tamang community member who had not used the pit put his notion: "We do not use pit latrines built nearby or located close to our homes because bad smell enters into the home from smelly pit latrine." Unlike this, some people preferred it and showed positive reaction towards the use of modern latrine. They thought it as the best way to get rid from human waste and dirt. The following case would be an example.

Case. 4 Toilet is Necessary for Good Health and Social Prestige

Kul Bahadur Tamang is 65 years old, living in Dihitar. He started to settle there since 2027 B.S. His family came there from Talti Mahadevstahngadi, upper place of Malekhu of Dhading district. He has made toilet in his home yard. He has also made a small pit for garbage collection in the backside of his home. Source of water is not near his home. He carried water from Lothar stream to fulfill his household requirement, including of family and animals. Regarding the use and importance of toilet, he put his notion ironically: "The man who lives in the city goes inside the home to defecate, but here people enter inside the forest and bush for defecation. But I think human feces are harmful for all. Toilet helps manage harmful human dirt and controlled disease. Therefore, toilet is necessary for us for good health and sanitation. It saves our life, prestige and pride in the village. If we have no toilet in our home we have no life, we will lose our social prestige. Toilet is necessary to preserve our life and social prestige."

During informal group discussions conducted in the upper location, informants of a few (three) households not only preferred toilet to control possible diseases but also tried to link toilet to social position of persons in the society. They positively perceived the cultural habit of using modern toilet as socially prestigious. However, information from group discussions and mostly key informant interviews showed negative perceptions towards toilets for managing human dirt. They perceived latrines as an unsanitary option. Therefore, most of the households were found to prefer going into the surrounding areas of their homes to defecate.

In contrast to the negative ideas and attitudes towards managing human fecal matter, a harmful dirt, through toilet use as the notions put by Curtis and Biran (2001, p. 22), the idea of disgust attitudes in local human groups was seen along with the attitudes of avoiding dirt and promoting hygiene and sanitation situation of the village. This attitude could be related to the fear of dirty things preventing and defending against pollution. Even usually an unconscious mentality, disgust of dirt is a survival strategy. People perceive dirty objects and activities as imposing danger to human health, so disgust is a behavioral defense against disease apparently seen in some villages of the areas where the human groups were from traditional system and guided by the notion of orthodox Hindu perspective. They supposed animals like pigs, dogs, rats, snakes, worms, cockroaches, maggots, lice, and flies as danger and human dirt as disease-carrying agents. People also are disgusted to those with signs of sickness, dirt, or deformity, and strangers when they are forced to come into close contact.

To take caution from harming and to be far from disease-transforming agents and preserving the health and social status from discomforting matter, disgust behaviors were also found in the local context. It was common in Tamang and Brahmin community. Local people who were from educated families and socially higher class

showed disgust attitude towards persons who suffered from disease, looked ugly with filthy clothes, seemed not using toilets and not cleaning properly, and treated as lower status. They also avoided contacting with animals supposed to be carrying diseases. The discrimination attitude was also seen high in local community towards Chepang and lower castes because of their unhygienic outlook, the cultural behaviors. and values. The policies were said to eliminate all kind of disgusting and discriminating attitudes among the community people through developing the similar behavioral system of modern hygiene and sanitation, but they could not succeed.

6.5 Local Community's Perceptions and Attitudes Towards Development Intervention

Development is viewed as a process of social and cultural change, the transformation of economic, political, social, and cultural attitudes, perspectives, preferences, values, and other characteristics of underdeveloped nations impeding their progress. Among them, some say it is "a historically specific configuration of knowledge and power" (Foucault, 1980), "discursive and ideological structures through which development agents try to improve the conditions of life in poor regions of the world" (Sharma, 2001:26), "a historical discourse through which people of the world have been recognized as 'developed' and 'underdeveloped', an apparatus of world power of western knowledge system" (Escobar, 1995 and Ferguson, 1994), "imposed knowledge which excluded local level knowledge from the development process" (Pigg, 1993; Escobar, 1995:9; Fujikura, 1996; Harper, 2002; Hindman, 2002). Others also viewed it as a particular manner in which developed nations may diffuse or transfer technological, cultural, or other elements in favor of developing ones. However, contradiction between traditional socio-cultural patterns and the needs of economic and technological development, strategies for the mutual accommodation, and adaptation of old and new may appear during the course of development process (Seymour-Smith, 1986:75).

Transmitting the cultural traits of one society to another through adopting various policies and strategies changing the quality of human life is the basic objective of development efforts. It focuses on social action made by different agents/actors to modify the technical, cultural, and social life of a given place in the world, especially in developing nations. Some understood it as the process of formulating and deploying a particular knowledge. Development is also said to be concerned with

human progress through culture change in general and focuses specifically to alter and improve the overall conditions of marginalized poor sections of people. However, policy, strategy, concept, theories, and the idea of development itself have become invasive, controversial, and problematic, hence cultural dimension of development became an important part of theory building and project design, a central organizing principle of social life (Escobar, 2001:500-502).

Hettne (1995) and Potter (2002) also point out that development comprises three basic categories of concepts: theories, strategies, and ideologies. Through the nexus of these three concepts, development is linked to the desirable and progressive process related to the ideas of raising the living standards of poor and disadvantaged section of people, improving the general well-being of people, environmental sustainability, and globalization (Willis, 2005; Esteva, 1992).

Some give more importance to development intervention, emphasizing it as a necessary process for changing the social and cultural life of people of impoverished regions of the world. However, development often conceived local culture as a residual variable, to disappear with the advance of modernization. Thus, development became a force so destructive to third world cultures, ironically in the name of people's interest (Escobar, 1995:10-44). Development is also viewed as an integrated approach, i.e., the interlocking system of theory, practices, and actors, basically the interface between bureaucrats and local ordinary people. It is not a time-bound process; rather, it is an ongoing process of social construction through the process of negotiations among multiple actors or agencies, nor a presumed mode, nor is it the stepwise social and cultural progress (Long, 1992 and 2001).

Some villagers gave more importance to modern hygiene and sanitation development in the village, claiming that the backward communities, like the study area, entailed the development intervention. The idea of Kul Bahadur Tamang, 65 years old, living in Dihitar was unique. He believes in modern medicine, not in *jhankri* and *fukfak* or *tantra mantra*. According to his ideas, traditional magic and witch doctor system leads to conservative belief. Only modern public health and sanitation development campaign and other organizations could bring awareness among local people, which has decreased disease and illness in this village. He said that with doing daily tasks of sanitation no disease would attack anyone. He emphasized on modern development interventions. However, he was not satisfied with the role of development leaders, i.e.

development advocates. He said that they were corrupting country and people. "No leaders are ready to change the situation of people's health and development. No leader is born for us. Leaders have done nothing for villages. We are helpless. Leaders are not honest. They could not bring development in our village. Development intervention is a must for us, but no one gives attention to this issue. Leaders raise slogans only for cheating the mind and property of people. They are *bhatyaune fatahaharu matra hun* (They are just like fox crying for cheating). We should care for ourselves and give attention to sanitation and health."

Unlike these opposing views, some of the people showed positive attitudes towards modern hygiene and sanitation development intervention. They wanted to be intervened from outside. Some community people were very enthusiastic to consume, enjoy, and observe the modern development facilities. Most of the people in the area learned about the use of latrine and benefitted from it. The positive attitude (i.e., accepting intervention) and changes of some people's perception was found during the study. For example, just a couple of years ago, Sita Ram Chepang had heard about modern hygiene and sanitation development intervention. His son had participated in sanitation campaign held in Euralitar and learned a little about the benefits of latrine use and told him after this campaign. After that, he started to believe in modern development. He said that latrine construction was necessary for good hygiene and sanitation. Inspired by the intervention, he became ready to change his perception and made a latrine recently in the backside of his home. He built this latrine with local materials, i.e., bush for roofing, small branches of trees for fencing the wall, plaster of mud. This proves that intervention in rural place created a little awareness among some local community people. The following case would further justify for the feeling of necessity of development intervention in the area.

Case. 5 Development Intervention is Necessary

Ek Kumari Sedhain is 47 years old, living in the area for 23 to 25 years. She is literate; however, she has no formal education. She was alone at the time of my fieldwork. Her husband was a wage worker and had gone outside home to Manang district for construction work 6 months before. She used to serve community people as a social mobilizer when UNICEF had operated DACAW program in the district and in the area. She also drinks boiled water when dry and rainy season comes. She prefers modern toilets for defecation. She has made a toilet at her home for her household use. She believes in use of toilet for her own safety. "Using toilets for defecation reduces filth, flies do not come to harm us, and diseases will not exist. Community people in our cluster understand about the importance of toilets, but not all practice it. Lots of poisons are not necessary to harm our health. If one household does not make toilet and defecates in open place, that may harm our health. We have made and always used toilets for 8 years, but most of other households in this village still have not made toilet. It is our problem. People are to be more sensitized

by bringing the development in this village for safe life. Development efforts were good, but people from outside have forgotten to come again in this place," she said.

Buddhi Bahadur Tamang, 63 years old, has own perception and attitude toward development intervention. According to him, modern development had various unexpected consequences in food patterns and health. "Due to development, local chickens have been replaced by broiler, the meat of which is not good for health. It damages the engines of our body. Our ancestors lived long, more than hundred years, even carrying loads and huge cargos. They ate digestible food of maize and millet. Modern man eats indigestible food mixed with poisonous medicines and other junk foods like *chauchau*, biscuits, *poka rakshi*, etc. These invited many diseases which came from *bikas*. If one eats anything mixed with poisons, then *amrit* or *okhati* (medicine) also becomes poisons. In this situation, *amrit* does not matter," he said when he was looking after cattle and resting on *chautara*. He was very bothered that present generation has forgotten the good things of old generation, due to which our descendents have lost many good things. "*Bajele bhatyaundai garyo natile birsandai gayo*" (Grandfather kept saying but grandsons kept forgetting), he said. From the above versions, one can say that the intervention could not divert the traditional perceptions and attitudes of local people into a modern system due to the weak mechanism of development and cultural ideas of local people also.

A 35-year-old local teacher lived in Damaitar. His families did not believe in witch doctors. He believed more on modern allopathic system and doctors than traditional medicating system and healing practices with *dhami* and *jhankri*. "Only modern doctors can cure better and help us to get rid of disease, which local witch doctors cannot do. Some people still adopted traditional conservative methods. Magic is ritual, but the major thing is *sarasafai* (sanitation), hygiene (clean), toilet, health posts, and medicine" he said. Unlike the previous ideas, this idea showed the reformist and hopeful attitudes towards intervention. This indicated the controversial situation between traditional and modern system of behavior.

Prem Bahadur Chepang has made a hut without toilet near Lothar stream along the way to village. People often would rest on his shop for refreshment. When people rested in his hut and felt the need of outing, they used to defecate in the beach of stream near his hut. Fecal odor could be felt while seating in his hut. His attitude towards development intervention regarding declaration of ODF zone seemed

affirmative, but he himself used to defecate near the stream, although he understood the bad sides of open defecation. "ODF is good but people do not believe and follow it. Open defecation brings many diseases but people ignore. Some people who are uneducated and have no knowledge do not understand. All of us should use latrine because when filth spreads it invites many diseases and kills us," he said at the time of KII. But he did not replicate his positive attitudes in practice. This showed that intervention enhanced, to some extent, the level of knowledge but could not make people adopt the cultural elements of modern hygiene and sanitation system.

Regarding the situation, AHW put his ideas and stressed on development intervention. One staff of WSSDO also emphasized on modern intervention. He said, "Modern development intervention should be one of the integral parts in national development process. Therefore, in this traditional community, it is also essential for bringing positive changes through introducing new ideas, technology, and contact with outsiders. Regarding the promotion of health, hygiene, and sanitation status of the community, the new intervention program is most necessary and should immediately be taken into action in this area. However, interventions should address first the community's priorities and software to increase awareness of people to effectively prevent hygiene-related diseases."

Sita Ram Chepang living in Wakarang had showed little negative attitudes towards development. In his opinion, the modern health, sanitation, and hygiene development has replaced and detached the local people from natural life. He said, "Development increased facilities and expenditure and decreased our health, replacing the local herbal medicines and local food items like soya beans and bread made up of millet and maize. Due to imported foods, our health has been damaged." However, when his family members were infected from diarrhea, he used to take them to the sub-health post in Euralitar for treatment.

There were distinct but extreme versions seemed among the local community people. Those supporting intervention could understand the long-term benefits of modern hygiene and sanitation system, but who were still not in favor of development could not leave their traditional habits and did not wanted to be changed. The poor socio-economic condition and cultural perception, negligence in practices of the majority of the people not accepting the intervention even they understood, were the major factors hindering them from the modern hygiene and sanitation practices. The households

with low social-economic status and the Chepang communities in the highland with difficult living conditions had no response to the intervention. Due to the sense of helplessness and marginality, dependable and intimate relations with nature, they wanted to be far from the effects of intervention. They clearly distinguished themselves as disadvantaged, marginalized, remote, other culture, culturally backward, inferior, and hygienically underdeveloped compared to that of other families of lowland. Intervention with various policies, approaches, and strategies intended to orient people towards modern cultural thinking, concept, perception and knowledge but could not change the worldview and practices of local people.

Observing the institutional situations, it was found worse, although the policy has tried to make schools and students a focus of concerns, catching it as the major and effective change agents for altering the traditional beliefs, habits and perceptions into modern hygiene and sanitation cultural system in the study area. With this objective to change the local sanitary circumstances, school children were trained as the major and active key to transmit the modern cultural elements of hygiene and sanitation system to the local community. It was anticipated that after influencing the school children, each person and *tol* of the local community could be affected (DWSS, 2006).

The modern concept of hygiene and sanitation development in the area was under the process of institutionalization ongoing through adopting various concepts, theories, strategies, cultures, and use of other luxurious things, creating favorable environment in the schools. Students and teachers were taught about the proper use of soap, toilet, tooth brush, towel, hand washing, which are modern cultural goods, and tried to transmit to the local level through the schools in the name of hygiene and sanitation development.

By observing the perception level of school children, it was found that there were considerable effects of intervention on various kinds of behavior of school children, i.e., toilet using and hand washing. Discussing in the classrooms with school children of grade 5 and 8, it was reported that this type of intervention was effective and meaningful. For example, most students involved in discussion opined that to wash hands is for safe future life; washing clothes and hands with soap is to protect their life from infectious disease. It was also said by the students that intervention developed a good habit for becoming safe from being inflected and to become prestigious and secure. They showed their awareness for eliminating dirt from their body to strengthen well being. However, one could easily find institutional defects.

For example, school compound seemed filthy and not cleaned regularly. No routine plan was made there despite the policy clearly emphasizing to make school effective institution to transmit the modern cultural elements of system not only within school compound but also in catchment areas. Not only the students but teachers were also not active to continue the practices in schools. This fact shows that children's knowledge and awareness had been increased a little but the replication of it in community and within school itself was found lacking. The sayings of students in school were forgotten in community and at home. Due to being incompatible with local context, people did not become ready to adopt and develop modern hygiene and sanitation system in their local context.

On the basis of above discussion, one can argue that intervention was taken into action with the objective to change the life world of local people of the areas. The policy of intervention was also said to be intended to produce and reproduce and change and reshape the health, hygiene, and sanitation behaviors of the local communities at collective as well as individual actor level. The change in traditional perception and attitudes of some local people was found, but not to a large extent. In the process of perceiving and adopting the modern cultural hygiene and sanitation system, there were controversial situations. For example, majority of the local people still followed traditional habits; for example, they used forest and bush for defecation as secure, easy, and suitable place for maintaining privacy. Their relationship with nature in terms of hygiene and sanitation behavior had not been yet detached. They used naturally available materials such as stone, corn bark, leaves of bush for cleansing. Their worldview and belief, despite the massive scale of intervention, still preferred tradition. Majority of them still preferred their traditional belief, attitudes and habits, i.e. traditional healing practices, instead of adopting modern ways of treatment and available hygiene and sanitation facilities. However, due to the effects of intervention, their attitudinal patterns seemed to be at inception stage, bent towards modern intervention, diverted from traditional, showing more or less positive and sympathetic attitudes. School children also seemed to adopt the elements of modern hygiene and sanitation cultural system.

CHAPTER-VII

THE PROCESS AND INITIATIVES OF DEVELOPMENT INTERVENTION PROGRAM ACTIVITIES ADOPTED IN THE LOCAL COMMUNITY

This chapter discusses various activities carried out in the local community to change the local belief, perception, attitudes for alteration of previous situation of hygiene and sanitation conditions. Basically, the activities operated adopting the fundamental approaches, i.e., CLTS, SLTS, and LLTS, in the areas are formation of V-WASH-CC; setting slogan; meetings, rule and decision making process; assessing the local needs; the state of hygiene and sanitation system prior to intervention; training and exposure visit; contents of the training; patterns of participation in training; creating of funding at local level for modern hygiene and sanitation system sustainability; major activities carried out in campaigns, i.e., formation of V-WASH-CC, subsidy providing, distribution and use of IEC materials, toilet promoting campaigns, ODF declaration, commitment for future sustainability etc. On the basis of information gathered from interview with key informants, observation and concerned institutions, these activities are discussed here in detail.

7.1 Formation and Structural Setup of V-WASH-CC: A Local Level Leading Institution

SHMP recognized VDC or municipality as the minimum planning unit of sanitation program intervention; the leadership of local bodies for overall program process at local level; provision of coordination mechanism at central, regional, district, municipality and village development committee levels; consideration of toilet coverage, and household-level waste management as key sanitation and hygiene components for open defecation free (ODF) situation and total behavioral changes for sustainable hygiene promotion (GN, 2010). As the leading institution for promoting the sanitation condition at the VDC level, Village Development Committee Water Supply, Sanitation, and Hygiene Coordination Committee, known as V-WASH-CC (GN, 2010:50), was formed on 2067/7/25 B.S. Policy (2010) had already declared the criteria of representations that should incorporate all the aspects of population.

Following the criteria as much as possible, the VDC level committee was formed. The committee included 17 members representing women, however nominal, compared to men, VDC, local CBOs, cultural groups, Dalit community, local activists of political parties, and school management committee including parents, child clubs, GOs, and NGOs in the VDC. The V-WASH-CC was headed by secretary of the Lothar VDC. The health post in-charge had taken the post of member-secretary. The representatives were from various walks of life, i.e., members of different castes and ethnicity (Tamang, Chepang, Brahman, Chhetri, Dalit, and Newar), and women and different clusters were represented in the committee. The institution-wise representation structure is given below in the table 7.1.

Table 7.1: Representations in V-WASH-CC by Institution

S.N.	Representation	No. of Persons involved
1	VDC	1
2	School	1
3	Local Clubs/CBOs	2
4	Dalit community	1
5	Women group	1
6	Forest user committee	1
7	Sub-health post	1
8	Ward representatives	9
Total		17

Source: Lothar VDC Report, 2010

To make the modern hygiene and sanitation campaign effective and sustainable and to institutionalize the concept, village-level subcommittee at each ward or cluster had also been formed. It included seven to nine members or above on the basis of population. Representatives from various walks of life were included.

This committee was assigned certain tasks and basic responsibilities to bring the fundamental hygiene and sanitation behavioral changes in the community. First was to formulate the strategic action plan to activate the program on a regular basis in the community. But it had not yet formulated the plan of action. When asked to the VDC secretary why it was passive to continue the plan, he answered, "People involved in

the committee want only to occupy the position without having any conscience. They dreamed sweeping benefits, were utopian, and often exaggerated the reality without having ability to perform the responsibilities of their own. It is very hard to convince them to take the responsibility. Majority members of the committee are very busy to earn livelihood. They are also illiterate. Their food crisis problem always keeps them far from action. Members always are late to attend meetings, affecting minute taking and deploying decision." School teachers also reported that in the initial stage members were very enthusiastic to run various program activities in the area. At the starting, they had tried to do considerable work to operate the program in the areas. However, later members themselves became passive and left their responsibilities. People were not able to take decisions over this task. As a result, it had, to a large extent, become dysfunctional. At the time of ODF declaration, the committee more or less seemed active and functional, but when the formal program of ODF was finished, it became again passive. The committee could not be continued. In response to the question, Why the committee could not perform the tasks? one can find the answers that it was because members themselves started to feel that it was the task of the authority. From the interview, it was found that intervention could not create the ownership feelings among the community members for the sake of their own. The lack of regular feedback, guidelines, suggestions, and monitoring from the concerned agencies were the major reasons for the committee being dysfunctional. Responsible agencies should have prepared local people by first convincing them towards the challenges of intervention prior to operating the intervention but did nothing prior to operation the program.

From the deployment of various approaches of modern hygiene and sanitation development, some of the parts but not a whole, the new forms of cultural hygiene and sanitation behaviors in the area were tried to be created. Compared to that of previous situation of health, hygiene, and sanitation situation, seeing the mechanism of unitary cultural hygiene and sanitation behavior system among the different worlds, it cannot be denied that it, to some extent, brought some changes in the traditional hygiene and sanitation practices of the existing cultural groups of the area. However, community could not yet adopt and fully obey the elements of modern cultural practices of hygiene and sanitation system induced from outside through the development intervention. They could not exclusively change their deep-rooted

cultural habits and belief systems. Despite the efforts of changing and replacing the traditional cultural elements of hygiene and sanitation behavioral system by implementing the various strategies, on the basis of analysis of empirical data, one can argue that outside intervention alone could not alter the isolated cultural world and could not bring the change at the local level as well. On the basis of above findings, one can argue that the perception and belief system of local community actors are to be changed first for altering the traditional practices of local people.

7.2 Setting the Slogans as the Culturally Driving Force for Effective Operation of Program Activities

To institutionalize the modern hygiene and sanitation cultural system in the life of rural people, there were lots of sanitation slogans for boosting and stimulating the local people. There were not only slogans but also notices set and disseminated in public places through which it was expected to make people beware of various diseases that may infect the community people. Slogans were written on walls of houses to create awareness among the local community people about modern hygiene and sanitation cultural system. The sanitation slogans and driving forces such as "*Khulla Disha Anta Garna Suchhana Jari Chha, Jathabhavi Phohor Gare Rogako Bhari Chha*" (There is notification to eliminate open defecation; if filth is thrown haphazardly, there would be burden of disease), which notified ordinary people not to defecate in open places. This slogan cautioned and educated community people about the bad aspects of filth and fecal matters. However, people were neglecting the spirit of this slogan either because of their negligence or because they could not understand it. Their natural habits and selective perception were apparently seen in their everyday sanitation behaviors and also in the *tol*, footpath, and public places where human fecal matters and waste could frequently be seen. This shows that their cultural value is not compatible to the modern complex system of sanitation. The driving force could not internally motivate and attract the community people to adopt the system.

Another slogan stressing the importance of toilet and water was also publicized in the public places: "*Ghar Gharma Charpi Tole Tole Ma Dhara, Swasthya Jeevanko Sahara*," meaning that toilet and tap in each house of each cluster are the supporting basis of healthy life. However, the absence of tap for water supply and toilet in the majority of the households of the study areas proved that this was not viable to the

local people. The majority of the population to whom the intervention was targeted could not read and write. In this situation, this written message did not matter to the innocent and illiterate community.

Likewise, there were other important slogans to enhance the knowledge of local people, such as "Phohor Phallaun Uchit Thaumma" (Let's throw filth in proper places); "*Sapha Rakhaun Hamro Gaunma*" (Let's keep our village clean); "*Ghar Gharama Sapha Rakhaun*" (Let's keep each home clean); "*Sarasafai Nai Swasthya Ho*" (Health is sanitation); "*Swasthya Nai Dhan Ho*" (Health is wealth); "*Charpi Prayog Garne Bani Basalaun*" (Let's make habit for using toilet); "*Afno Ijjat Aphain Rakhaun*" (Keep our prestige ourselves). These were advertized in the public places, considered as the driving forces to stimulate and encourage the local people for operating the modern hygiene and sanitation promotion system in the local areas. Basically, these slogans were meant to make local people use toilet to properly manage human excreta. Proper management of domestic waste and proper water supply were perceived as the basis of healthy life, which is also expected to sanitize and sensitize each individual in each village and house. It was believed that the options of modern toileting system and other sanitary elements available intended to dignify the local people for their social morals, prestige, and identification by making toilet facilities in each household and keeping each cluster clean. The slogans discussed above were appropriate only for school students who can read and replicate and teach the local illiterate people but were meaningless to ordinary people of the community. The process and the methods of publicizing the cultural elements of modern hygiene and sanitation were not appropriate for old age persons and illiterate of the local community.

7.3 Meetings and Configuration of Decisions and Rules

There was a rule that the committee should hold meetings every month until they achieve the declared state, i.e., ODF status. However, meetings hardly took place, according to the report in minute book. Only two meetings in a year were held among the V-WASH-CC members. The committee held two meetings before declaration of ODF VDC to implement the decision taken regarding the sanitation promotion. Whatever the times of meetings were, the documents taken from the VDC reported that the meetings had taken important decisions to operate and direct effectively the program. The decisions taken through the meeting were: fixing the standard of toilets

to be constructed in each household; providing rewards of Rs. 60,000 to those wards which became the first ODF declared wards for the motivation and incentives to boost up the local people to operate program activities actively; and formation of monitoring committee in each ward to monitor the progress and tasks performed by all the households.

Similarly, decisions were also taken that all the wards were assigned the right to decide for the area to spend the amount received as the prize as per their needs; the subcommittee of ward level should also hold regular meetings and report the activities and progress to the V-WASH-CC and disseminate the information obtained from V-WASH-CC to the people in the ward/*tol*/cluster; every ward was obliged to have maximum utilization of locally available resources for latrine construction as much as possible; and lastly, the decision was taken that every committee had to contribute to make VDC declared ODF by the end of 2067/7/14 B.S.

The very first meeting of V-WASH-CC had discussed about deciding the type of toilet to be constructed during the campaign. However, no specific type of toilet was prescribed to and preferred by the people, but they were advised to manage the excreta properly. It was decided and advised to community people that the toilet should at least consist of a pit, a pan with a lid to prevent flies from the excreta in the pit, and partitions made of bamboos. The superstructure can be made according to one's capability to afford. Villagers were just encouraged to build as per their affording capacity.

However the decisions taken up at the village level also could not address and were based on the actual needs and status of local people and convinced them to adopt the system. The office assistant reported that at the beginning people seemed to be active and interested to adopt and involve themselves in various activities, perceiving it for their own sake. They seemed to build toilet in their homes, showing commitment to perform the tasks. A small number of households completed and started to use latrines. They cleaned up their yards and swept waste from and around their home. However, the committee itself became passive on the one hand and it also could not teach the community people. Because the committee members were very busy in their household work, no monitoring could be held from village level committee. Only nominal households made toilet, but majority of them did not follow the decisions because of their own passivity, weakness, and lack of awareness.

By reviewing the reports, it can be found that the program could not follow the principle of knowing where to hit for positive change in traditional worlds. The program emphasized only to increase the number of toilets superficially but was not worried about how to change people's traditional attitudes, belief, perceptions, and views. It did not give importance to make people to internalize the norms and implications of modern sanitation system.

Another reason for the failure was that except for a nominal number of local teachers, the concerned people of the village were completely excluded from all the phases of designing, planning, and development of the program. People's participation and ownership was not represented there. The program was induced from the top of the policy level bureaucrats and interventionists to local level, due to which people could not accept and adopt. Therefore, local level community people could not feel that it was for their own betterment. As a result, they returned to nature for their own traditional practices.

7.4 Assessment of Local Needs

During the course of intervention, needs assessment/situation analysis was also done at the VDC level in its inception stage. For this, a baseline survey of the Lothar was done by Water Supply and Sanitation Division Office (WSSDO), Bharatpur, with the help of volunteers and facilitators involved and working in other organizations, local teachers, some community people, and NGOs/CBOs working in the village/cluster. The survey collected data on population and number of households with and without toilets, the existing cultural groups, and their economic status. Community WUSC had also played the role of facilitators in such work. The survey had identified the problems and assessed the needs. From this work it was found that only a few households had made toilets in their homes and majority were without toilet. On the basis of their findings, needs, and problems identified, the intervention was also declared to be taken from the concerned agencies. However, the problems identified were only the toilet construction. Actually, the need for identifying the local perception, belief, and preferences and cultural roots of practices were not realized and were not taken into the consideration. In addition, the local community people were not participated in this process from the very beginning of the intervention process. It seemed that the program had not addressed the needs and voice of local

community people. Only descriptions of problems were not enough for finding and addressing the actual and inherent problems of the rural community.

7.5 The Hygiene and Sanitation Status of the Study Areas Prior to Intervention

Reports tell us that nearly half the world's population lack basic sanitation to protect their environment from human fecal contamination. In this situation, it is realized that building a latrine is the first step on the sanitation ladder in developing countries, where a majority of the population defecates in open or public areas. To improve the situation, public health programs to improve hygiene and sanitation conditions are consistently framed in promotional messages in terms of fecal-oral disease prevention. Drives varied with gender, occupation, life stage, travel experience, education, and wealth, and reflected perceptions of the physical and social geography of the village, linked to availability of open defecation sites, social structure, road access, and urban proximity (Jenkins and Curtis, 2005), but the efforts seemed to have largely failed to motivate changes in sanitation behavior of local rural community people.

Official documents reported that prior to the ODF declaration of Lothar, only nominal households had access to and had built the toilet. Out of the total census households of 287, only 25 households had toilets before the formal sanitation development intervention penetrated. Personal hygiene and environmental sanitation situation of the villages were very poor prior to the sanitation campaign (DDC, 2010).

For the intervention to get to the state of total sanitation in the villages, adequate information was required. To collect required data and information, a special sanitation survey was conducted in the village by the district-level officials with the help of local teachers. The overall situation of sanitation and local needs were analyzed. Salient features of sanitation behaviors of local people were outlined. Problems were identified on the basis of analysis of data gathered from survey. Conclusions were also drawn. Conclusions demanded immediate intervention in the areas. Any kind of survey requires qualified expertise. However, this survey had not incorporated social experts, so socio-cultural factors—people's perception, approach, cultural habits, attitudes, preferences, knowledge—were not taken into consideration. Only situation of water supply and use of toilet was accounted.

Whatever the nature of survey, the situations found were not impressive. The number of toilets and their use in the village was very negligible. A 54-year-old Tamang key

informant, living in Dihitar of ward no. 3, said that most of the people used to go to open spaces for defecating. Feces were seen on the foot trails, footpath, banks of streams, farmland, and jungle, causing bad effect on the environment. People did not worry about it. "Open defecation exists. It is our traditional practice and habit," an old man of ward no. 3 reported. Due to people's traditional habit, the environment of the village, even near the school, was poor. No care for children's personal hygiene was found. Children seemed very ugly and untidy. People did not give importance to modern options. Poverty and lack of knowledge were the major causes. People did not take precautions for better hygiene and sanitation. The sub-health post staff reported that people often suffered from diarrhea due to their unsanitary manner. Child mortality often occurred from diarrhea, round worm, dry cough, fever, etc. The practice of washing hands with soap was seen in very few houses. No attention was given to cleanliness of utensils and safe handling and storage of water. People's daily life and health had become miserable due to poor sanitation practices (WSSDO, DDC, VDC, Sub Health Post, 2067).

Reports discussed above proved that open defecation was the major life way widely practiced in the village. It was their traditional cultural practice. They preferred to go outside for open defecation to fulfill their body need. Not only the defecation practices but also other behaviors related with waste management, sweeping, hand washing, and bathing were not proper. Majority of the people did not adopt modern hygiene and sanitation behavior. They believed and depended more on their traditional beliefs. Most of the people from all cultural background sanctioned this kind of behavior in this locality. Nobody cared nor minded this situation. People were unknown to and did not believe in modern development intervention. Their cultural perceptions, preferences, and traditional habits were mastering over their behavior. It was normal behavior in the areas. Whatever the facts and situations were found from the survey, intervention to be taken was decided. Immediately sanitation programs in the communities of the study areas were decided to be implemented adopting both the CLTS and SLTS approaches.

7.6 Trainings and Visit Programs

Training is an essential part of any development activity. It is an act and process of imparting or acquiring particular knowledge or skills of related fields through which appropriate solution could be achieved. It also provides feedback to mitigate social

problems, especially to abolish attitudinal prejudices (UNICEF/DWSS, 2003). Thus, education through training was considered as a key activity for hygiene and sanitation development to improve health and maximize benefit. In the study area, as a core part, training was central to sanitation development initiative, which had laid special emphasis on health education and on creating awareness towards sanitation and environment.

Training is often organized to adopt a new way of getting cleanliness and maintain sustainable environmental sanitation in local community hoping that it brings changes in social values and hygiene habits of the poor section of the population (WEDC, 2008:73). After reviewing its theoretical framework, one can argue that training program organized for the local community intended to bring considerable awareness and create a sense of importance of community, environmental, household, and personal level hygiene and sanitation through latrine construction and its proper use. However, the situation and consequences of training found was not as defined by experts and expected in policy. For example, training was limited within the boundary of district headquarter, therefore not made accessible to the local concerned people, beyond their touch and feeling.

According to a local teacher in the study area, only one training adopting SLTS program was held in the district headquarter, instead of conducting in the local area. The major cause of calling the participants at district headquarter was due to the hostile political situation and terror created by Maoist insurgency. While putting query to a local teacher about the situation he said, "Nobody could arrive here from outside due to the threat posed by revolts. Otherwise, they could easily conduct in this area. So participants were compelled to go district headquarter to attend training."

Not only this basic training but also other training and workshop were organized in a convenience place for ease of supporters and facilitators. A local teacher reported that trainings for imparting knowledge on hygiene and sanitation promotion were frequently conducted in the district headquarter in the name of improving the hygiene and sanitation conditions of rural/village community people. Emphasis of training was to impart the knowledge among the participants about the existing poor hygiene and sanitation conditions in the country as a whole. The budget allocated was considerable, focused on increasing coverage of latrine use and water supply in rural areas rather than extending the existing know-how and altering the perception and

outlook of the local community people. One DDC official also reported, "For the training, consent was taken only from the policy level. The personnel only from technocratic domain of various level institutions were given first priority. Not only this but also the ideas and strategic theories derived from outside, not generated in accordance to the local need and circumstance, induced into the national policies, strategies, and programs were recognized. At last, local-level community people including us were compelled to implement this program into the local level without adequate incentive. But people felt excluded from this processes and were not readily prepared to support and follow this program."

The process of training preparation was lengthy. As Escobar noted, this became the way of transmitting the ideas of developed countries to traditional societies via state apparatus, i.e., bureaucracy. Through this process, knowledge and preferences of exponents are tried first to institutionalize and reflect in state policy through the means of top-level bureaucrats. In the first stage, the exponents, who were often from outside the host country, make draft of policy and program with their ethnocentric concepts and theories and put it to be approved by the authority (Escobar, 1995). Just through this process, the eastern philosophical base regarding hygiene and sanitation system has been a matter of pride but was undervalued, and no attention was given to this culture. This way, development intervention through training class tried to transmit the outer cultural ideas and concepts. For the local level, seminars and training package were developed and recognized at district level and taken into local community, and finally this process is said to be adopted by local-level school children, but it begins from the state policy mechanism, bypassing the local knowledge. Because of being not matching and incompatible, these outer ideas and strategies could not penetrate fully into the local areas. The evidences of this process could be seen in existing situation of hygiene and sanitation behavior system of the local community.

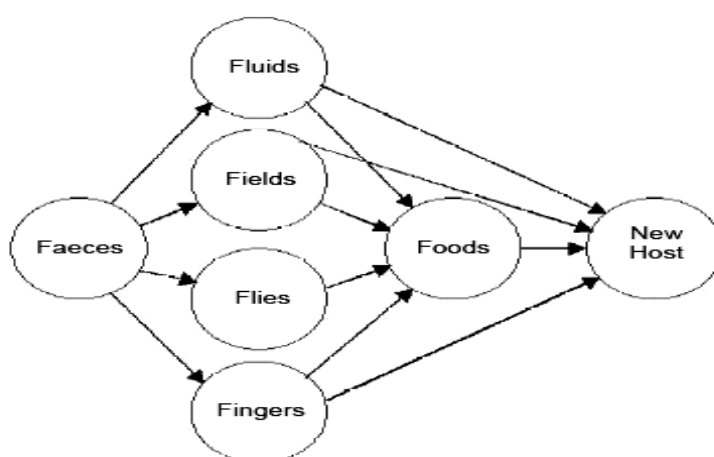
Venues for trainings were often fixed at Hotel Century located in Bharatpur along the Mahendra Highway to make convenient and accessible to the exponents. The training lasted up to 3 days, containing two days for theoretical class with the view to impart the understandings of the new concept of hygiene and sanitation development, and remaining one day was allocated for exposure visit. Information gathered from the seminars and workshops organized at the district level by government functionaries

with the financial and technical support of the donor agencies prove that lack of local-level representation of needy people had always been the typical feature of the trainings.

7.7 Contents of the Training

When the major causes of diseases were identified in public health, the various ideas and concepts were generated for capacity building trainings, workshop and seminars to improve the health conditions of the local people in general. The various ideas and concepts were also developed in modern hygiene and sanitation development intervention system. During the 1990s, the fundamental conceptual framework, i.e., 'F-Diagram' (BSP, 1999) indicating cause and effect relationships among the roots of diseases and its results and breaking and blocking the pathogenic ways, was developed to simplify its complex nature intending to investigate the knowledge level of community people. It is often adopted and taught during the training as one of the fundamental tools to make it easily understandable for ordinary people, aiming to describe in detail the fecal-oral transmission route of diarrheal disease as the basic and elementary principle carrying five messages for behavior transformation through hygiene and sanitation development intervention, which is said to communicate it in the mind of local people. F-diagram was also incorporated in the course of local level training as the major concept of disease transmission. The F-diagram carrying five messages was as follows.

Figure: 7.1 'F' Diagram Framework Showing Disease Transmission Route



In the above conceptual figure, the very root creating the new host is the human fecal matter. The human fecal matter could be passed through the various mechanisms, i.e., fingers, flies, fields, fluids, and transmitted to the mouth of human through foods. In the above figure:

- Fluids: drinking of contaminated water;
- Fields: contamination of soil, crops, fruits, etc., by human excreta;
- Fingers: fecal contamination of fingers/hands;
- Food: eating food contaminated with fecal matter;
- Flies: spreading diseases from feces to water and food.

During the session of training, this F-diagram methodology was demonstrated and taught repeatedly through a variety of visual tools to advance the knowledge of communities discussing about the relation among water, sources of disease (especially diarrhea), organisms, natural things, i.e., vegetation and other sanitation, and hygiene issues. The remaining other conceptual and variables were moved around this core concept.

Besides these, other major components incorporated in the training course were country's sanitation status and roles and responsibilities of institutions and persons involved in various level committees and user's groups. In the process of training, various approaches, basically child-to-child approach, were taught. It was adopted to spread these concepts and ideas in the communities, hoping that a child would affect his family and the family would affect the community. The concepts of CLTS/SLTS, health and sanitation, toilet construction, environmental sanitation, duties of teachers and management committee were also incorporated as the contents of the training. This was the major process through which the ways of thinking and doing things were transformed.

However, the information gathered from the majority of informants helped me know that the contents of training were not suitable and compatible to local cultural context. The training seemed impractical and ineffective to alter the local behavior. The training was only for training. According to the informants, it was not replicated in everyday sanitation behavior of local community people. Replication of knowledge into practice learnt from the training was expected in everyday behavior of ordinary people, but in reality this could not be seen. It was because the contents were not based on the local needs. Participants of training could not perform their duties of communicating the message in the community. As Justice mentioned in her works, neither donor agencies nor government officials recognize a need for cultural orientation of community people. Deeply rooted informal networks based on personal

ties influenced on how things are done and what things are incorporated in training (Justice, 1989:20-21 and 42). Local cultural approach was excluded from the framework. Concerned authorities never bothered to address local problems. Despite the program was said to be based on the local problem, it was intended to promoting the power of authority, reproducing its own institutional power. As Pigg already outlined, the existing working modalities such as the suffering of community people in underdeveloped countries shield the principles behind international development from scrutiny, placing them above politics and above question. The agendas of major development donor institutions are made to seem like the only possible way to deal with problems of poverty and social inequality. Taken for example, training is neither culturally appropriate nor is it clear how indigenous practices are to be respected, nor does it identify right persons, whom to train or to communicate, nor addressed local knowledge, ideas, and practices, nor touched a piece of local realities. The idea of Pigg is that unintended consequences created by the external actor which mastered the process of dismantling and bypassing the local level knowledge, interest and politics have deep effect on the state apparatus. Without incorporating it, development initiatives result and end in rudimentary dreams, and serious problems have come with this initiative (Pigg, 1995:49). Just like this view, development initiative in Nepal did not address local culture and actual necessity and become beyond of local world. The situations and the problems were the same in respect to the study area. The training course had not given values and importance to the local cultural perspective, context, concerns and problems. As a result the fact itself proved that there was no any substantial difference in the conditions of before and after intervention.

National hygiene and sanitation policies strongly recommended mandatory participation of local needy people in developing the training package (DWSS, 2004). For this, emphasis on software was given regarding developing and teaching contents to be taught by social experts. There were considerable numbers of meetings regarding the development of training programs held frequently among concerned stakeholders in the name of enhancing the capacity of government and nongovernment officials and field workers for the promotion of hygiene and sanitation conditions in local level community. However, meetings for designing and planning of the training concerning the matters, i.e., what to do and what not to do at the local level trainings, were decided at the district level. Training course was drafted

by government officials, but they were also finalized by outer exponents. Concepts, ideas, and strategies matching outer interest were set and incorporated in the course, and the materials to be used in training were designated outside the country, which has made it compulsory to be followed at the local level. However, the facts witnessed that community people had never been involved in meetings and decision-making process. They were never called at the meetings. The names of local people were listed in the front of document, but villagers' perceptions and preferences were often excluded from the process of planning and programming. "Authority and exponents never called nor invited us to participate in the meeting regarding training," reported a local informant. This way being dependent upon outside support training process was seen to institutionalize the ideas of the structural domains of other society in to the local community.

While contextualizing it in reference to Nepalese rural context, one could argue that various concepts, approaches, and strategies as the major contents taught in training were developed by outsiders beyond the access of Nepalese concerned people. This process of institutionalizing could only be possible through using the bureaucracy. The modern culture of hygiene and sanitation system used bureaucratic institution for recognition. Viewing the scenario of this process, it could be visualized that for the final approval of new cultural ideas, posed by outside exponents, bureaucrats of various levels were tried to motivate first. For this, policy level workshops and trainings were organized along with the new concepts and theories. Workshops concerning the sectoral issues were often held in five star hotels undermining and devaluing the consent and access of local people. Then the ideas were proposed to incorporate it in the policy. The bureaucrats were led to motivate to approve it offering exposure visits either inside the country or sometimes outside the country. Through this process modern ideas were incorporated in national policy and passed to the local level via district level institutions.

Various tasks were to be performed at the operational level following the spirit of national policies, but the scenario at district and village level was some different. The major activities were done at district headquarters calling D-WASH-CC meetings. D-WASH-CC meetings made some decisions. The decisions taken at district level were further directed to the field workers to implement at village level. The representation of district level concerned agencies was often made mandatory at the meetings.

Representatives were called at hotels for meetings regarding seminars and trainings. Majority of the participants as the facilitators and as the resource persons were invited from outside agencies. Sometimes higher level bureaucrats, as resource persons and instructors from line agencies, came and participated. Allowances were frequently distributed to the participants and instructors. Lunches and dinners were offered with cocktail party for the top level officials. By offering the bags, allowances, lunch, dinner and refreshment functions with heavy snacks, officials were attracted to be ready to accept whatever consent is needed. Through this process, it was seen that the core institutions were becoming dependent upon outside. Through this process, policy making level of the Nepali state was influenced by the foreign agencies in the name of the hygiene and sanitation development intervention process.

Approving finally the contents of the training required big amount of monetary resource and support which was provided by the donors. It was not used directly by donors themselves but used through department as well as local government bodies (i.e.VDC/DDC) and nongovernment organizations. However, the resource controlling and spending mechanisms and modalities are always under the control of foreign agencies.

Influence of technocratic dominance was high in the process of making the training manual, designs and other package activities, which were apparent also in the software part. Technocrats always became dominant. The authority always was in favor of technocrat whatever his or her level of performance, encouraging the persons from technical background and discouraging the personnel even having the virtue to bring the change in the present situation who was appointed for correcting the weak position of social aspects of community. One official put his ideas that the training package was developed by persons from minor technical background. No support from software expert was taken. The social experts deserving appropriate software ideas required to enhance the capacity of the concerned people, were always excluded from this process and out of training. Not only this but also no local cultural perspective was allowed to enter in the training package often even though the manpower for training from the software background was available in the office. This means that no expertise from the social expert was allowed to be used there to spread the knowledge and ideas. This proved that the training was not participatory in the sense that experts, concerned personnel, local community people were exclusively

excluded from the process while planning and designing by identifying the problems and assessing the needs of local people. Due to this process, the training became ineffective and was unable to bring tangible outcomes pertaining to policy and strategies.

The culture of labeling the citizen of two opposite positions could also be found prevalent in this respect. The facts garnered from the field work proved that in the course of modern hygiene and sanitation system development in Nepal, development advocates labeled the persons as said by Pigg (1995:47) with two extreme attitudes. For example, if one wanted to be informed in the context of the culture of labeling the persons to be positive and negative, one could find this culture also in local areas. As Pigg said development has been a historical truth in Nepal creating two kinds of citizens, either supporters of development or those against it. Being against development is to be romantic; conservation stance that idealizes so-called traditional society blames western influences for spoiling them and fails to provide any practical solutions. Being in favor of development is practical, meaning standing in the positive side of social change and betterment of the people's life. What is missing in this polemic about change is a complex historical understanding of the many levels at which development activities affect a society. It works to position development institutions as the locus of authoritative knowledge while devaluing other, local forms of knowledge. This devaluation of local practices occurs even as development programs explicitly seek to work with local practitioners. This way the development process in Nepal has been the means of dismantling the mental of local people of which universalizing principles inherent in development discourse systematically dismantle and decontextualize different socio-cultural realities in the course of taking them into account and development institutions become authoritative mediators of all local worlds but never been quite fit to local realities, rather becoming disjuncture generating a series of persistent problems in program implementation due to which programs appeared to fail, their shortcomings sometimes attributed by program evaluators to inadequate attention to what they call 'socio-cultural factors'. Just like this, formulating the course and designs of training targeted to local community could be found beyond the local context.

Whatever the contents and process of deciding were, the modern hygiene and sanitation system development activities influenced the state approaches and policy as

well as the knowledge of local people on the basis of which local community has been the favorable ground to the outsider to transmit the modern ideas, philosophy, theory, strategies and concepts in the name of improving the hygiene and sanitation situation of the marginalized and underdeveloped society. The bridges along with the new concept and contents made up of the government institutions and organizations and other private agencies involved in the hygiene and sanitation promotional projects at various levels, i.e., center to the local, connected the local community people to the outer world along with the larger structures as a whole.

7.8 Patterns of Participation In Training Program and Exposure Visits

Generally, participation is a buzzword in sanitation as in all areas of social development programming for getting people involved and helping to build their interest and therefore their responsiveness to any intervention. For promoting hygiene and sanitation behavior, participation representing concerned factions of the community was viewed as an effective vehicle of conveying message for improving hygiene and creating better environmental sanitation situation within the school catchment area and community (Black et. al., 2008:147).

Emphasizing the participation of concerned division of population, Nepal Country Plan for the International Year of Sanitation (IYS-2008) also identified the need of the collective action at the level of local and national stakeholders to consolidate the efforts. The idea of collective action was said to be stronger than the sum of individual efforts. It was said that through these efforts Nepal has entered a new era of sanitation and become a forefront agenda in political, developmental, environmental, educational, and health domains (DWSS, 2008). Current national policy SHMP (2010) had also emphasized on the representative participation of targeted people for collective commitment and efforts. It was thought to be the energy and driving force for the hygiene and sanitation promotion movement (GN, 2010), but the facts found were that principles could not be effective and harmonious with the local cultural perspective and locally felt needs. This effort could not reach the local cultural reality and failed to address the needs of people of the local community people.

Ferguson (1994) said that combination and consolidation of individual agency's strategies would create the possibilities of collective action generating social relation

and commitment among the social actors. Development is not only intervention, implementing plan, policy, and strategies; rather, it could be viewed as a continuous process of culture transformation where the interests and efforts come collectively to the existence to take part in actions with multiple foundations. But in local context one could find that continuous collective action became hypothetical premises.

In the policy of government (DWSS, 2006), training of school teachers, representatives of SMC, secretary of VDC, members of parent-teacher associations, health workers, CBOs, and women groups were said to involve in the training. They are said to be altogether trained and oriented to impart knowledge about the various dimensions of programs for the promotion of hygiene and sanitation in school and community. The following table shows the structure of participation.

Table 7.2: Attendance and Representation of Institutions in the Training by Sex

S.N.	Institution	Numbers of Participants		Total	Remarks
		Male	Female		
1	School Teachers	4	-	4	From four schools
2	Sub-Health Post	1	1	2	
3	Members of SMCs	3	-	3	From four schools
4	Representative of VDC	1	-	1	
5	Parent-Teacher Association	5	-	5	From four schools
6	Representatives from CBOs	1	-	1	
7	Staffs of WSSDO	3	1	4	
Total		18	2	20	

Source: WSSDO, 2010

There should be 25 representatives of various institutions in training, according to the government policy. However, the structure of the participation was not following the spirit of policy. Above facts showed that during the training course, only 20 people were involved once in order to impart knowledge about the concepts for the preparation of ODF in the VDC. Additionally, two facilitators and volunteers as masons who could support to construct the toilets in the village selected from the village were also trained separately at separate times. However, facts proved that not only the numbers but the participation was also not participatory nor gender representing. As said by Justice (1989:p.42), undesirable situation was also found there in the selection of participants. The nepotistic culture was prevalent in the grass-roots or micro-level reality which culture becomes functional in local level trainings.

Due to this, the chance of being participants in training, and performing any other tasks is low (Pigg, 1995). For example, when training is going to take place; incentives, reward, chance, and daily and travel allowance are distributed and receiving assets; participants are selected in workshop and training in the name of building capacity of field workers but the selection of participants was not justifiable. Budget was allocated in considerable amount and spent for allowances and snacks for heavy refreshment for participants. Competition was created among them when incentives could attract them to participate. However, it violated the existing norms following the principles of 'nepotism' and 'sycophancy' without valuing genuine personnel. In the context of selecting the participants in training as referred by Pigg (1995), there is a culture of labeling persons to be from negative and positive attitudes. Just like this, 'Yes Man' culture with so called 'positive attitudes' was of central values in also local level. Taken for example, most of the persons were chosen for the nomination in training not on the basis of job performance but on the basis of personal relationship or affiliation, favoritism, and familial and interpersonal relationships. It was determined not by formal but by kinship and caste for getting chance in the training and other opportunities for officials. Thus, the nepotistic culture was also found there in the local areas while selecting the representatives in training. Interviewing a junior level staff of WSSDO claimed that "responsible personnel of line agencies and local field representatives of donor agencies forcefully selected participants for the training. Only those who follow the unofficial directions and interest and bending his head in front of them, called 'yes man,' could be selected. Facts and realities are these, who and how can one contribute well; we never get success in this regard." Not only these claims but also the reports (WSSDO, 2009) and information delivered by informants showed that training was not participatory and allocation of responsibilities was also not justifiable.

The training along with the new concepts and cultural elements was made the means to transmit new idea into the local areas. Additionally, it supported to increase the dependency of native people upon outside as Justice already put her ideas such as there were always lacks of community participation in planning and designing of training, appropriate technology, and sophisticated administrative system and physical materials required for training. All the training programs and required materials were sponsored and controlled by foreign agencies in the name of facilitation. The

resources had always been beyond Nepalese control. This meant that Nepal continued to rely upon foreign aid, both financial and technical, and so it continues to be subjected to the shifting policy of international planners. The planners exhausted their interest at the level of planning; Nepalese officials spent their time and energy dealing with representatives of foreign agencies to fulfill the requirements for continued help at the expense of their own national programs. Rural workers were very far distant. Authority always ignored them from the participating in all functioning network. Local people had had no access to training, or skills. Thus, in spite of all the plans and programs, Nepalese always felt trouble while obtaining basic resources.

Seeing from the eyes of women and from the local people, the attendance of women in the training was nominal, not as demanded by the policy that at least 50% of women participation was mandatory in policy. Beside this, local people resided in the position out of access and did not have the right to select their representatives. Overlooking the reports, one could see the scenario that local people's participation had never been found during the course of developing the training session and they were also excluded from the training. Not only the trainees but trainers were also often appointed from WSSDO. They were all from technical background; thus, technocratic inertia was induced by authority. They taught only the lesson of hardware part, i.e., types of latrines and how to build latrines, nothing more than that of hardware concept. Other trainers were often from junior staff of WSSDO. They were engineers, WSST, and WW. Chief of the office rarely attended to instruct the participants and organizers and share the ideas necessary to enhance the program.

Exposure visit was made mandatory in training program expecting the enhancement of local people to effectively implement of the policies. The training was conducted for theoretical knowledge, and visit programs were organized for observation and exchange of knowledge in the name of increasing the capacities of local community people so that they could easily share and replicate the insight into daily behavior to their own community to promote the hygiene and sanitation condition. Documents informed that during the course of training exposure visit program was also organized once for mutual learning and sharing of experience. Participants were taken to the previously ODF declared VDCs, i.e., Sarada Nagar and Dibya Nagar VDCs. Some of the representatives of media broadcast were also used in exposure visit and training program to advocate, publicize, and disseminate the ideas of intervention. However,

the exposure visit was not made accessible for ordinary community people whom intervention program was targeted to.

7.9 Funds Developed for Community-Level Hygiene and Sanitation Promotional Campaigns and Its Sustainability

SHMP recognized cost-sharing and resources pooling arrangements at local level; establishment of locally appropriate community fund to promote sanitation and hygiene and stimulate ODF initiatives; and alliance building for making better sector efficiency. SHMP has also recognized some guiding principles to direct the hygiene and sanitation promotional programs and activities, and to streamline and synchronize the fragmented efforts and resources of the stakeholders to achieve the national goal (GN, 2010).

It was the provision in policy (GN, 2010) that V-WASH-CC should utilize the internally available resources as far as possible. If necessary, it may collect money at the village level for raising the fund required for sanitation campaign in the village. No fund was raised before efforts of total sanitation campaign in this village. V-WASH-CC had not created any fund at the beginning, but later it decided to open an account. At the beginning, it had deposited 70,000 rupees provided by the VDC, which could be spent through the account of V-WASH-CC. During the campaign, the VDC had spent 50,000 rupees to make success the ODF campaign. The VDC secretary informed that for further sanitation promotional activities the VDC had decided to allocate budget at least the amount of 400 to 500 thousand rupees in the next fiscal year. The fund was generated with the support provided by various institutions was expected to support the local community bodies with financial and in kind for enhancing the capacity of community people, conducting awareness program, and coordinating various agencies for sanitation promotion. The amount (i.e., 50,000 rupees) received from WSSDO for making successful declaration of Lothar the "Open Defecation Free" VDC was deposited. This was the major source of fund and monetary motivation for the campaigns conducted in the whole VDC. The amount of 100,000 rupees provided by WSSDO was spent for various campaign activities, for tea and snacks to be offered to those who were active in this function, and for ODF declaration program. Until the duration of fieldwork, the account of the V-WASH-CC had a total balance of 45,000 rupees.

For the additional expenses to make sustainable hygiene and sanitation conditions known as TS in village, WSSDO in its paper also committed to provide 100,000 rupees for the future after ODF declaration for attaining the TS conditions and future programs. DDC also declared to set aside 200,000 rupees as the prize for ODF declared VDC. However, till the end of the fieldwork, one V-WASH-CC member reported that the amount declared to be provided by DDC and WSSDO to V-WASH-CC had not been handed over. All the commitments became meaningless.

The amount previously received from DDC, WSSDO, and VDC was disbursed to all wards for other development works. At the beginning, the prize declared by V-WASH-CC to the ward being ODF first had created competitive environment among the wards to win the prize. W-WASH-CC, which was financially strong, had to manage itself to bring construction materials (i.e., pan, pipe, cement, etc., in bulk quantity) from Bharatpur/Narayanghat to the wards and store them so that it could be easily available for all to construct toilet. But instead of actively conducting the programs at ward level, the committee became passive. Community people were also said to help economically and physically unable households to provide support as free labor and facilitating in collecting construction materials. Adequate internal sources of budget to sustain the system would be of utmost importance, but the source of funds of V-WASH-CC was the donation from various institutions. Community contribution in this regards was nothing. The resource provided by other could not effectively work as well as could not create ownership feelings among the community members. Another fact found was that the resources that were committed to provide to the villagers flowed from foreigner via top-level officials to rural people. The actual client of the donor agencies was then not the villagers at whom programs are directed. Instead, it was directed to the sake of top-level bureaucrats. Due this process, Nepalese planners and administrators naturally become culturally distant from the rural villagers. On the basis of local reality one could argue that actually, as said by Justice (1989:7, 151-154), the development process was made rhetoric.

In policy (2004, 2010) it was said that community's active and regular participation, dynamic management system were said to be of vital importance for sustainable water supply, hygiene, and sanitation management system. The local people's approach, perspective, and support were also considered important bases for the success to make sustainable water supply, health, hygiene, and sanitation development intervention.

However, due consideration was required to address the community management approach for sustaining the modern water supply system, hygiene, and sanitation and to face the existing challenges (Islam and Sultana, 2000:81). But the ideas did not become applicable at the local level. It was due to the "inability to convince local people and the negligence of district level authority as well as community people themselves" said a staff of VDC.

7.10 Major Activities Carried Out During Campaigns

Information gathered from various sources informed that there were various activities carried out to attain the state of ODF declaration, as the preliminary basis for total sanitation. The details of these activities are discussed in sub headings below.

7.10.1 Publicity and Inspiring Movements

The activities like cleaning of courtyard, school, VDC building, health post, public places like Chautara were major activities carried out during the campaigning for ODF declaration. Media played the advocacy role. Appealing for toilet construction by miking and postering, lagging at openly defecated areas, whistling at people practicing open defecations, and sending messages on sanitation with placards were done. As one of the many approaches appropriate for creating the pressures and for motivating people to construct toilets, whistling was also done near the households which have not used toilets. They were tried to shame by students/children. Members of school management committee, teacher-parent organizations, child club of schools and headmasters of the schools and other volunteers of the village were said to actively participate to play important roles in awareness rising. The child club members had become active in these functions.

Activities like orientation program, training, demonstration of hand washing with soap, household-level water treatment technology, model toilet construction, poster, pamphlet, and street drama, *tole baithak* (cluster-wise meeting), *Ghar Dailo Karyakram* (door-to-door program), mass meeting, etc., were other effective activities carried out during the campaigns for toilet construction.

Local activists and representatives of Red Cross and UNICEF, media, VDC, and schools played important roles in these activities. Red Cross supported for rallies and street dramas. Similarly, schools organized cultural program to convey sanitation messages to the communities. Previously formed Water Users and Sanitation

Committee and the school were main actors for sanitation campaign in all three wards. However, the larger participation in this campaign was of men. The participation of the women was not given more emphasis, and their role was considered less important because they were said to be limited for household tasks.

The campaign and projects of hygiene and sanitation development activities done hitherto were intended to change the perception of local people. It aimed to enable, enhance, sanitize and aware the local people. However, the efforts has become ineffective, the expectation was not gained. Sanitation awareness programmes conducted in the areas with the policy of eliminating the open defecation; however, the envisioned progress could not be attained. The existing vulnerable and poor hygiene and sanitation scenario remained witnessed the reality. One could argue that the local world view and perception rejecting and resisting outer culture could be the major reasons behind this situation.

National Policy (1996) emphasized to enhance the local bodies' competence to provide more skilled and effective sanitation service through the public awareness promotion campaign for public participation in the sanitation works (DWSS, 2010:4) but the role of VDC itself was not effective for sustainability. Providing skilled and effective sanitation from this body was rather imaginative.

In the initial stage, efforts associated with changing and improving sanitation behavioural practices of local community people have, to some extent, been tried to stabilize and institutionalize, for which the role of mass communication and information had become very effective. The local community level bodies or social leadership in the areas once unified and consolidated the efforts and community feeling in line to the modern hygiene and sanitation system, but later it became dysfunctional. For example, integrating local festivals with developmental campaign and activities for awareness raising activities done by local people along with the supports of outer facilitators was found to be the effective and strategic to produce the new forms of behaviour. However, efforts ere disappeared with disappearance of companionship of outsiders.

7.10.2 Providing Subsidy and Support Made to Ultra Poor

Literatures informed that for around 20 years, most rural sanitation programs consisted of building latrines, not only in communal facilities such as health centre

and school but also in households, free of cost or at heavily subsidized rates. In many rural environments, the majority of the people living at or close to subsistence level cannot be expected to install a major item of household improvement, costing more than any building they have previously erected, without some form of financial assistance (Black et. al., 2008:77-115). But community mobilization and action from the inside in some areas counteract the culture of external dependency through resistance movements (Rheinlander, 2010:6; Escobar, 1995).

For attaining state of total sanitation through achieving basic level, i.e., state of ODF zone, Nepal government has also made provision of subsidy for latrine construction for marginalized, disadvantaged, and disabled household (GN, 2011). GN policy (2004) and Master Plan (2010:4) made the criteria for the ultra poor households to identify and address them to provide subsidy for latrine construction. It also has defined and delineated the criteria and indicators of ultra poor in terms of households (i) which cannot provide food enough for less than six months in a year; (ii) in which daily wage labor is the major source of income/earning; (iii) headed by a single woman (widow) or absent adult male head; (iv) which has not received external support; or (v) with physically unable household head; the criteria may also be determined by community themselves.

Some people in the areas who had not yet built latrine said that they were collecting toilet building materials, i.e., soil, bush, bamboo, wood, tin, stone, and pipe, including other subsidy provided by authorities to complete the construction work. Some households made latrine using local materials which were cheap. However, there were different and contrasting views roused among people at the time of informal discussion. Some informants said at the discussion, "We could make toilet ourselves with locally available materials, i.e., bamboo, bush, mud, wood, etc., but it breaks down quickly. We wanted to build permanent toilet with stone, cement, brick, and other modern materials but we have no enough money." Unlike this, a man in a group discussion, pointing to a man who had not made toilet and drank over the day, said, "He has lots of resources to expend for drinking *raksi* and *jar* (alcohol and beer). Why cannot you make toilet in your home for your own good?"

The authority had provided some construction materials (one bag of cement, one set of pan, and three-foot length of pipe) to all households for making pit latrines. These materials were said to be distributed to poor families for construction of simple pit

latrines. But it was found that only a few families were found to have used these materials for latrine construction. Some latrines were unused. Instead of using these materials provided by the authority, they kept them useless. They still defecated in the open field.

The V-WASH-CC itself had not made any provision to provide such support. The ultra poor household were said to be identified and verified by the people from the concerned wards. The ward-level W-WASH-CC had to forward the list of ultra poor to the V-WASH-CC and then to D-WASH-CC. The poor families in the community who really could not afford to build toilets on their own and wanted to build and use it were said to be supported with locally available materials, i.e., bamboos, sand, stone, tree branches, bushes, and labor, by the neighbors. Women group organization and federation was also said to be obliged to provide support to some households. A village woman reported while interviewing, "The households receiving support from woman groups were 12. They were all of Chepang community. However, later they avoided to build and use latrine. They again turned to go to jungle for outing."

Poor families were also given construction materials on credit without interest by W-WASH-CC. SMP had clearly recommended and made limitation of subsidy, to be provided only to the ultra poor (GN, 2010). However, people reported that among 287 households in the chosen wards, almost all households of all caste and cultural groups got the support (pan, pipe, etc.) as per recommendation of V-WASH-CC. The households of ultra poor in this area not benefitted from this support were very negligible. Local people reported that resources allocated as subsidy were also not properly distributed. In contrast to this view, one could find the facts that except a few, most of the households had received financial support from VDC, DDC, WSSDO, and other donors to construct the toilets prior to the total sanitation campaign even the supports provided them were not used properly.

After the distribution of subsidy and support, most of the community people erected a toilet in their home made with local materials only to show to V-WASH-CC. However, they were not yet convinced that it was for them and would be better for their health. Informants reported that a few households constructed toilets in their homes during and after the campaign for ODF towards total sanitation. Most of the households situated at the upper land had not yet constructed. They were practicing and continuing traditional habits. Some of the toilets made prior to the declaration of ODF had been completely damaged and left unused. Instead of using for defecation,

they used toilet as secure places for keeping goats, firewood, and barks of maize. It was the traditional values and cultural perceptions of community people due to of which people could not obey the modern system. In this regards one could argue that intervention would not be possible in this area.

7.10.3 Distributing the IEC Materials and Its Effect

The elements of the culture of modern hygiene and sanitation had been tried to transmit to the local community through the use of informational, educational, and communicational materials, (IEC), i.e., posters, guidelines, placards, kits designed and developed by various donor agencies along with the operation of intervention process. These materials were sufficiently distributed for the promotional purpose to each cluster during the Open Defecation Free (ODF) zone declaration campaign. Placards, guidelines, reports, and posters had been distributed enough to the villagers, health workers, students, teachers, local political cadres, and ordinary people. These materials were distributed also in training to publicize the benefit of latrine use, hand washing, and safe drinking water. These works were done by other private agencies involved in WATSAN sectors for the increment of awareness of people about the hygiene and sanitation promotion. While collecting the information in dwellings, posters were found in public places, and people used the materials for their home decoration. Observing inside the homes of some households, it was found that the rooms of the houses were decorated with the informational materials; however, outside the home it was filthy and seemed to mock the sanitation intervention. The materials were misused. Local people did not give importance to them and could not believe that would be the means for changing their life ways. For example, some people were found to have used these communicational materials as covers for things. They used these things to carry the various kinds of materials such as potatoes, onions, toffees, biscuits, *chiura* (bitten rice), and *dalmoth*. On the basis of these facts one could say that local internalities seemed very strong than that of outer for which intervention was said to try to change the local context penetrating into the hidden aspects first.

7.10.4 Toilet Promoting Movements

Construction and proper use of toilet is said the fundamental and prerequisites of modern hygiene and sanitation system. Toilet is also expected to play the most significant role in breaking the practice of open defecation and getting people into the habits of using a latrine. In some societies, toilet using culture is related with social prestige and pride. The social values and positive impact of toilet using habit is high because it was claimed that it improved community health and the physical

environment and has been beneficial especially for women and girls, who required more privacy and freedom and value the using toilets at any time of the day and night (Kar and Katherine, 2005 cited by UNICEF, 2009:9). Use of a toilet to avoid dirtying the environment has become an integral part of the innate desire for personal and environmental cleanliness and wellbeing. Latrine/Toilet Promotional (LTP) approach has been made the central focus and foundation of total sanitation, the ultimate goal of which is to build toilet in each household and make easy access of people to toilet to hide and manage for completely absence of human fecal matters (Black et al., 2008:5 and 138).

Toilet has been said to be the major base for management of human feces and a crucial remedy for preventing the human health from various infections. Hence, latrine-using practices are also said to be the major and basic starting points of modern hygiene and sanitation system (GN, 2010). It was also claimed that most of the organizations including government, private partners, and other aid agencies in Nepal involved in WATSAN have emphasized and invested on construction of toilet whatever the types i.e., temporary or permanent. Every household is said to be responsible and obliged to have toilet for human excreta disposal as a major key to well hygiene and sanitation to all (DWSS, 2004; UNICEF/WHO, 2009; RWSSFDB, 2005). However, there was insufficient understanding of the social and cultural aspects of people's habits of defecation (Geest, 1999).

Nepal government has also adopted the toilet promotional approach (SHMP, 2010) emphasizing on toilet construction as fundamental for elimination of open defecation from communities targeting 100% toilet coverage by 2017 to get the state of ODF country as a whole essential for total sanitation scaling up toilets and sanitation facilities. It recommended permanent structure up to the plinth level with permanent form and let people whatever they like to construct above plinth-level latrine's house. Whatever is the model, type, or form of toilet, *anyhow gu lukau* (hide feces anyhow) is the ultimate goal of toilet promotional approach.

It was also claimed that in the study areas toilet construction was given great values for TS in the village. VDC office reported that a few households started constructing toilets during the campaign utilizing their own local resources. Before this research was carried out, only 20% households in the VDC as a whole had toilets. Among these, some two or more families used to share the same toilets. These toilets were of

various types. Most of the existing toilets were of temporary types. Some were made up of dry stone masonry, some of stone masonry with mud mortar, some had partition wall of bamboo mats. Thatch or corrugated galvanized iron sheet were used for roofing in some toilets. Most of the toilets were built in separate places, either at the backside of their home or at the corners of their field near the homes. But in some houses, attached toilets inside the animal huts could also be found. Some households built toilet within the animal huts over which household members used to live. Use of both modern type of pans and pans made of slate locally available in the village were found. No modern technical support was provided to the villagers. No training was organized to impart technical knowledge for construction of toilets, but villagers built their toilets by observing the existing ones used by other and seeing in town. Villagers built toilets by providing help to one another in terms of labor exchange and locally available materials.

However, the majority of the households were not impressed by this campaign to build toilets. They did not use toilets even though they participated in those events and received support. Majority of those households which had not built toilet in their homes were of Wakarang, Parkhal, Tiruwa, and Kapartak Bhanjyang. They preferred the jungle instead of making toilet in their homes. Key informants of households who had not yet built toilet reported, "We have enough forest and open land near our village. We enjoy outing to jungle where no one could see us and no one can feel odor." On the basis of this saying, one can argue that majority of the people still value and prefer to their traditional habits. It means that intervention has nothing to do with their lives. Because of this cultural perception and traditional habits using jungle, the influence of the campaign was not seen overwhelming the areas as a whole. Information tells us not only this but also the responsible drivers of intervention did not want to reach to this remote place.

7.10.5 ODF Declaration Program

SMP delineated the criteria for ODF from community having the toilet in all households as the bottom line of all sanitation interventions (GN, 2010). Whatever was the nature of toilets under the initiation of V-WASH-CC, a provision was there in the policy (2004) prior to SMP that a VDC could not declare it without having hundred percent coverage of toilet towards meeting the target of TS soon. After the SMP had been publicized completely, absence of fecal matters in open places had

been made as the pre-requisite for ODF declaration. However, progress documents informed that without having hundred percent coverage of toilet in the VDC, Lothar was declared as an ODF VDC on 2067/08/14. The programme took place by organizing a grand meeting with rallies, songs, and musical programs. Many local people participated in this occasion. The representatives from D-WASH-CC presented there. A number of other representatives of various organizations contributing to hygiene and sanitation promoting campaign had participated in ODF declaration program. Some were representatives of UNICEF, Red Cross Society, WHO, DDC, WSSDO, DEO, sub-health post, and mass communication. LDO, chairman of D-WASH-CC was the chief guest of this function.

Documents provided by the VDC reported that organizations in the village like schools, sub-health posts, child clubs, youth networks, representatives of political parties, and mother groups also had played very important roles in these functions. District-level FM radios broadcasted this functions for disseminating the sanitation messages and songs. A local teacher who was active in this function reported that this program was conducted at the compound of Ganesh School. All and around the surroundings of school was decorated with posters and slogans of modern hygiene and sanitation. A forum was created for guests and conduction of program. The program was chaired by the VDC secretary. SMC chairman was the master of ceremony. Most of the speeches delivered by the guests and speakers stressed on the importance of modern hygiene and sanitation system and ODF declaration program. Black tea in small plastic glasses with biscuits was distributed to all the participants for refreshment. However, the data proved that the ODF had occurred without attaining the pre-requisites. Without creating the awareness among the local people, intervention was operated. Actually, the community people were not prepared prior to ODF. Most of them were not able to understand the importance of ODF. Although the ODF was organized with great hope to attain the ends, majority of people discontinued the movements of modern hygiene and sanitation system in the areas.

7.10.6 Commitments to Way Forward for Making Sustainable Total Sanitation Situation in the Area

Not only to achieve the ODF but also to achieve the TS state through sustainable development was the major objective of modern hygiene and sanitation development intervention. To make sustainable of ODF state to get the status of TS in future, VDC

level concerned stakeholders showed their commitments and sanctioned the various rules and decision. Various decisions were made by the VDC level institution for making the ODF sustainable through various campaigning towards achieving the state of total sanitation. V-WASH-CC in the presence of VDC representatives had clearly defined previously the roles of each organization in the VDC for continuation of ODF towards getting the state of TS movement. It had to prepare the strategic plan for future programs. Being ODF zone, the VDC had to take the major role and responsibility very seriously with the aim to achieve the state of total sanitation. The ward-wise subcommittees were also said to be hold regular meetings under the leadership of VDC and with the support of women groups in each wards. Some rules and strategies in some wards for continuation of ODF for total sanitation movement were also formulated. Some of the resolutions were passed through committee meeting. The rules of compulsions and prohibitions for all community people were made. These were accepted by the members of V-WASH-CC and other stakeholders.

The rules of compulsory construction and use of toilet for the residents of VDC was made. The tasks for continuation of awareness campaign by child clubs and local community bodies were assigned as mandatory rules. The communities were notified that no defecation on the open place would be allowed. The rules were imposed to all the villagers. If one was found doing so, he or she would be warned two times. If the warnings did not work, then one would be fined Rs. 50 to Rs. 500. However, no one had yet been found punished even though open defecation was existent in the villages and other public places. Monitoring and observing each hamlets by both VDC and ward-level committee was also made compulsory that would take place on the 15th of each month. However, no serious monitoring work was found in the whole area. No ward or V-WASH-CC had done this task. The provision of distributing the identity card was also made. It was said that it would be distributed to those who had toilet in their home. Only people holding such cards were entitled to get the services provided by the VDC/DDC, District Health Office (DHO), District Education Offices (DEO), Land Revenue Office, etc. However, people reported that this was not yet done. No agencies took care of this matter. Another rule was also made in the village that every household needed to develop the culture of cleaning village. According to this, village surroundings should be neat and tidy. Villagers had to keep utensils clean and store and handle water in a hygienic way as per SMP guidelines; however, observation

proved that except a few villagers majority of the people in the area did not adopt this modern way of behavior even for their own sake. They were following their traditional behaviors. Because of their economic inability and cultural habit, they again preferred jungles. That is why they preferred nature, which provided lots of opportunities to fulfill their body function, due to which village-level sanitation situation was not in the state as the rules targeted it to be.

To institutionalize the modern types of toilet culture in the village, some of the ideological motivating forces were tried to be communicated to the village people. For example, the slogan "one household, one toilet" was the abiding and motivating, driving force and rule to be followed by each home. The rules regarding the toilets to be made should be of permanent structure up to the plinth level. It was also envisioned in Sanitation Master Plan (GN, 2010). However, most of the toilets made with temporary pit and toilets observed were already damaged; their roof, walls, and pan were broken. But in very few households, it was also found that the pan was made with stone slate, and a bit of brass was used as a pipe to lead the waste to the pit.

It was also decided that mobile meeting should take place regularly in each cluster to implement the decisions effectively. All the members of the community were entitled to give information about their progress of sanitation status when they come to get services from the VDC. Local NGOs and clubs were said to be obliged and responsible to facilitate the creation of intensive public awareness campaign. The conditions for example, mandatorily supporting the ultra poor both in kind and labor, the deprived people who were not using toilet had to be provided the services from the VDC. Award was also said to be given to those people doing an exemplary role in promoting the modern sanitation and hygiene situation in the village.

All the rules necessary for complete development of modern hygiene and sanitation system were made to alter the traditional patterns of behavior to the new one which was said to be better for the local people. However, the rules even made by some forefront activists for the VDC for approval were not actually realized by the major consumer level of people. While making these rules, concerned people were not involved. The rule-making process was not participatory. Local cultural approaches and people themselves were exclusively ignored and excluded. No local participation was felt necessary to be included in the process. Nor were the people regularly taught about these rules. The message was not disseminated through the village as much as required. Hence, the rules were not followed by the community people and not functional because of exclusion of the local people. They were only told to follow

these rules; therefore, people did not do so. Not only people's illiteracy but lack of ability to understand about the modern hygiene and sanitation cultural habits and perspectives were additional factors for disobeying the rules. It was the symbolic way of not accepting the intervention. For example, the majority of local people resisted the outside intervention by avoiding the rules to be followed. It was the result of the local people not being incorporated in the process of development.

In policy it was said that the very foundation of any development activities lies in the internalities of the communities and community should be a focal point (Islam and Sultana, 2000:81), therefore, hygiene promotion programs could change behavior and were more likely to be effective if they were built on local research and used locally appropriate channels of communication repeatedly (Curtis et al., 2001). But in the local context of modern hygiene and sanitation development process, interventionists imposed their approaches and models by issuing a proclamation that people must build toilets under the threat of a fine or worse. However, merely posing solutions is rarely effective. Without incorporating the local behavioral component, the facilities constructed are unlikely to be properly used and maintained, the program is also unlikely to be self-sustaining. The existing pattern of behavior has not suited perfectly well because that is imposed from outside. It concerns matters which are not intimate to locally felt needs. The intervention has not worked well in local settings. The study area is an exact and correct example. For example, most of the local people discarded and avoided some imposed solution and options beyond their sight and mind. Project planners have frequently focused on this intervention without first surveying the existing sanitation practices of the community. Without an understanding of current behavioral patterns, perceptions, and beliefs, the imposition of outside motives becomes a risky effort and misused (Curtis and Cairncross, 2003 citing in Rosenquist, 2005:344, Black et al., 2008:76 and 87).

As Brelet (2005), Dierolf (1999), Yacoob, and Whiteford (1994:331) claimed, the perceptions and cognitive aspects of communities of the study areas in the development intervention process were often found to be ignored. Whether the local religious and cultural ideas, a deep local awareness of the local living condition prior to developing any new behavioral change initiatives had to be clearly understood for making the application of development program practical. That is why local knowledge and experience could be appropriate and dynamic; therefore, gathering

and sharing local knowledge would facilitate the adaptation of appropriate technologies in the local context. In the study area, development efforts were often imposed by outsiders reaching the village and building the pit latrine in everyone's backyard whether they wanted to it or not. Consequently, these enforcement and imposition approaches could not succeed and usually failed. Local people did not tend to use latrines. For a short time they followed the rules developed for the implementation of declaration of open defecation free zone; however, it soon failed and disappeared. As Black et al. (2008) referred elsewhere in his work, some households kept timber and sticks of firewood inside the latrine homes. Some used the latrine houses as permanent and good alternative places for keeping domestic animals like fowl, goats, and chicken.

Other examples of these kinds of results were found in the study area. The improved gender-friendly latrine was constructed with an excellent technology in Ganesh School for students. However, soon after its construction it became useless. The latrine was called student friendly but immediately after, it was found totally misused and left damaged. Thus, modern latrines in households in the community also became failures. *"Bahirakale garer ke hunthyo ra aanphai lagna pardacha. Aphaima Bhar Garnuparcha. Yesale ta jhana dela ra khaula bhanne lobha ra asha matra jagayo"* (No one from outside can make better for us, we should depend upon ourselves. Building toilet with external support has created rather the feelings of dependency among the mind of some local people), said a Tamang adult during the key informant interview.

CHAPTER-VIII

MODERN DEVELOPMENT INTERVENTION AND EXISTING SANITATION AND HYGIENE PRACTICES AND SITUATIONS

This chapter discusses the existing practices and the situation of modern hygiene and sanitation development intervention at the local level. Specifically, this chapter discusses pre- and post-ODF situations including hygiene and sanitation at individual, household, community, and environmental level; traditional food patterns, i.e., preparing, cooking, serving, feeding, consuming, etc; wild edible things; *jar* as a major food item and its social, cultural, and economic application; use of wild plants used as medicine; use of the latrines in the communities and its cultural group-wise coverage; food and kitchen hygiene; modern drinking water situation; consumption and requirement of water; water treatment and storage culture; functioning state of water and sanitation user's committee; various hygiene and sanitation behavioral patterns, i.e., hand washing behavior; dust bin and pit use; sweeping; face washing; tooth brushing; nail cutting; bathing; cloth washing behavior; and cultural group-wise effects of intervention on death, diseases, and health.

8.1 Post-ODF Hygiene and Sanitation Status of the Village

Policy expected that after declaration of ODF, the community would go ahead towards the state of total sanitation. There was some kind of change in ideas and values, but not in practices too. Sensitive discussions with local people revealed their willingness to adopt modern toilet facilities than traditional ones. As noted by Black et al. (2008:87), needs based on privacy, modesty, respect, security, social status, disgust reduction, environmental cleanliness, protection against sorcery, and other ideas seemed to shape the natural sanitary systems of the local community.

As a phase of development, policy (2010) demanded a state where communities have all the arrangements, i.e., sustainable facilities and transferred behavior of WASH movements, for post-ODF stage in the designated areas. By policy, post-ODF expected basically five key points of behavior, i.e., use of toilets; regular personal hygiene; use of safe drinking water; proper managements of waste in home and

community level; and clean kitchen for attaining the state of total sanitation in the entire community and its surroundings.

The declaration of ODF brought a little change in a few households of the areas. The various messages of new concepts and ideas about the modern sanitation development seemed to have taken a considerable space of local community people. For example, some people of the areas have become conscious about hand washing practices, use of safe water, toilet, safe food, keeping courtyard and surrounding of the houses neat and tidy, and maintaining personal hygiene. This can be seen in the behavior and practices of some local people regarding personal hygiene and environmental sanitation but only the nominal level.

Development ethics emphasize on the matters of consent and commitments to be taken from ordinary people as most essential. For the process of intervention in the areas, consent and commitment of villagers once was taken for using toilets and carrying out other activities for better sanitary conditions in the village. Majority of the households gave oral consent. Not all households but only a few households showed the interest to make toilet and septic tank with concrete and/or brick masonry walls for toilet. In some household's latrines, CGI sheet and thatch were used as roofing materials. Some pits were lined with concrete rings and the others with bamboo mats. However, beside this unsystematic animal keeping tasks and the lack of proper disposal of animal dung and dirt had still been existent there. However, post-ODF status, in terms of latrine coverage, modern piped drinking water facilities in villages, environmental sanitation, change of cultural habits and behavior regarding the proper management of human excreta and other domestic wastes, was not seen getting towards significant progress in their existing behavioral system.

Policy of modern sanitation and hygiene system anticipates the various activities related to the appropriate disposal of human excreta that includes pit latrines with various kinds, septic tanks with soak-away fields, sewerage and wastewater-treatment facilities, reusing disposal that includes recycling of valuable materials, re-use of organic materials as fertilizer, burying waste in pits in the ground, incineration, and vector (rats, flies, fleas, mosquitoes) control. It emphasizes on improving excreta-disposal method, improving refuse-disposal facilities, improving drainage to remove standing water, and chemical and biological methods of vector control (WEDC, 2008 Pp 73-76). However, local community people's behavior and various factors play role

for making poor sanitation conditions. Such factors increasing disease were poor sanitation, poor water supply, poor knowledge and practice, poor drainage and housing patterns, which created the low sanitation status.

Domestic environment was found as traditional as they practiced previously. For example, domestic animals were kept closer to home letting them to wander freely around the house yard. Dirty animals such as pigs and dogs were kept in a pen near or attaching the house. People kept animals (goats and chickens) in front of their home yards or inside the home. Due to their cultural perception, a sense of construction of latrine was found vulnerable. Dirty air and bad smell from human feces could be easily felt around their cluster. Feces of children were found at yards, near the foot trails, and on the ways to the clusters.

Most of the household heads of the lowlands of ward no. 1 and 3 reported that they still used the place near Lothar stream, well, and pond, when they defecated. Defecating nearby the sources of water made it easy to get water for cleansing. The people living in upper land frequently used jungle and open field for defecation. Each often used a fixed open place, claiming it as their place of toilet. It was their life way even after intervention. This condition proved that their hygiene and sanitation cultural behavior has remained unchanged.

Present policy claimed that the provisions of toilets in school and facilities for drinking water in the places where intervention took place would be guaranteed and made available, but in three schools there were still not child-friendly toilets. There were no toilets for school children. The matters of child- and gender-friendly toilets were rather far. On the basis of these facts, one could say that it was the violation of rules prescribed by the department. Till now, they were completely damaged and useless. Students too were opted to go to open areas for outing. "Exclusive lack of appropriate toilets in school compelled students to go to open areas for defecating," said an adult man. In Kapartak there were no drinking water facilities made available for the operation of modern hygiene and sanitation system. The environment of the school surroundings, including school catchment village, was also poor. A heap of solid waste was seen on the corner of the schools or school courtyards. Many of houses were found dirty and untidy. Children were also seen playing with mud and wastage things whereas policy recommended all kinds of facilities should be existent there in the school areas. The community people seldom cleaned home surroundings

in their own ways but not by the influence of intervention. "No care for children's personal hygiene seemed in school," said a local woman teacher of the National Primary School situated at Dihitar of ward no. 1. The situation of the whole surrounding of the study area was, to some extent, the same.

Viewing the situations above discussed, one could argue that the authority and concerned stakeholders seemed not serious and sensitive in this regards. However, it was said in report that after intervention occurred there it could be able to attain the state of TS and to get success altering and transforming the situation produced by the traditional perception and habits of local people. Perception and belief of local people, to some extent, was also found different and they intended to get modern ideas on hygiene and sanitation. But one could not find the situation as expected by the policy even after the ODF. Intervention rather created the feeling of discrimination among the community people. In clusters situated in difficult conditions, such as Wakarang and Parkhal, the community had a sense of being marginalized from the intervention. From the informal conversations, it was found that they could not feel that they were affected by the sanitation interventions.

8.1.1 Patterns of Foods and Kitchen Hygiene in the Areas

Literatures show that human behavior related with modern hygiene and sanitation development has various dimensions: food or culinary hygiene; water treatment and safe storage practice related hygiene; hygiene in the kitchen, bathroom and toilet; laundry hygiene; medical hygiene; body hygiene (Curtis et al., 2009; Boot and Cairncross, 1993). Existing policy also hoped to achieve these kinds hygiene in the areas after the intervention. As opined by Curtis et al. (2003), present policy of TS considered social acceptability particularly in low-income communities as an important part of modern hygiene and sanitation system claiming that it would encourage people to use toilets and wash their hands. Along with these components, intervention expected that cleaning of toilets and hand wash facilities as important means to prevent odors and make them socially acceptable. Routine cleaning of contact objects (hand, food, and drinking water sites, door and tap in the kitchen, bathroom, and toilet) were said to reduce the risk of spread of germs. It also claimed that risks of infection from the toilet itself is not high if it is properly maintained, although besides some exceptional cases some risks could also occur if someone in

the family has diarrhea. Water left stagnant in the yards and filthy pots can be contaminated with germs.

Regarding food hygiene and sanitation, safety policies and programs of modern development efforts have desired to get regular practices that preserve the quality of food to prevent contamination and food-borne illnesses. Culinary hygiene refers to the practices related to food management and cooking to prevent food contamination and food poisoning and minimize the transmission of disease to other foods, humans, or animals (WHO, 2006; Curtis et al. 2003). Regarding food hygiene, WHO (2009) recommends five key principles: prevent contaminating food with pathogens spreading from people, pets, and pests; separate raw and cooked foods to prevent contaminating the cooked foods; cook foods for the appropriate length of time and at the appropriate temperature to kill pathogens; store food at the proper temperature; and use safe water and raw materials.

But unlike this principle, people in the areas usually used to eat stale food. They did not know that stale food is not useful for health. It is because of their belief that throwing remaining food will make the god angry and bring famine. But it was poverty of people due to which people were compelled to eat stale food. From these observed facts, one could argue that there was no considerable effect of modern hygiene and sanitation development intervention in the area in the context of food, whereas the intervention claimed that it would be the only way in improving the poor conditions of rural people. The study showed that it became only sweeping dreams. The following case could be the best example of the food hygiene practices.

Case 10: A Negligent Habit and Attitude towards Food Hygiene

Mr. Sant Bahadur Thing was 24 years old. He was newly married. He installed a small tea shop near the school compound erecting a hut. He also used to sell tea and curry and sometimes cooked food for customers. When I requested him, he agreed to manage to cook food for me up to my stay during research. There was a cot for sitting customer while having foods. No kerosene oil and LP gas was available there. He used to use firewood to cook food and prepare tea and other fast food. He often cooked food in an open place outside, in front of his hut. He seldom washed vegetables before it was cooked. He carried water from the well near his hut and sometimes from the school compound. He cooked vegetables without washing properly because of lack of water. When I questioned about it, he became angry. He seldom cleaned his hearth. One day, in the morning of April 15, at 8.30 he prepared food and called me to eat. Mat was laid down on the cot. Washing hands with soap and water, I sat on the cot to have meal. He gave me rice on a plate and pulses in a bowl. When I put pulse on the rice in the plate, I saw a spider cooked with pulses. I called the host and showed him. He apologized and realized his carelessness. He picked the bowl and threw the pulse outside. The remaining food I ate hesitatingly. Later, remaining pulse in the pot was given to and was eaten by other guest. The host was aware about such kinds of harm. However, this neglecting attitude was common in this village. This negligence and ignorance was seen in the field. From this case, one can presume that how the food hygiene situation, perception, attitudes, and behaviors were there in the community.

Modern intervention policy recommends that hygiene in the kitchen must be well maintained with soap for washing hands to prevent odors and dirt in kitchen and make them socially acceptable (Curtis, 2009; WHO, 2006; Boot and Cairncross, 1993).

Regarding proper hygienic conditions in kitchen, policy (2010, 2004) also recommended for improved cooking stove, biogas, electric heater, and proper ventilation in kitchen. But hygiene in the kitchen in the most of the households studied was found to not obeying the principles because the principles were out of understandings of the local people. For example, Kul Bahadur Tamang, 65 years old, living in Dihitar, could not understand how maintain the kitchen hygiene, how utensils in the kitchen were to be made safe and clean, how pot was to be kept neat and clean. When I asked for water to drink, he gave me the water in a small mug called *amkhara*. The inside bottom of this pot was covered with filth. Fowls and dogs were frequently moving around the inside of his kitchen. Cattle, pigs, chickens, dogs were freely roving in yards. Dogs were around the outside kitchen and in front of main door of house, waiting to pick leftover food. Utensils were scattered and thrown outside the home and in yards. Dogs used the utensils and would catch them with mouth. House yards, kitchen, and hearth were not timely cleaned up. The inside of the house became full of smoke during cooking of food. Flies were found everywhere in the kitchen in some households. While taking meals, flies jumped on the food. Situation found was that guests and hosts who were taking food needed to shake their hands to chase flies from the plate. After the meal was finished, utensils were thrown outside the kitchen to let the dog and pig to take the leftover and lap the plates. This proved that people had no feeling of dirt and danger of infection from the animals. In the policy, it was claimed that intervention would be the best options in making the better hygienic and sanitized environment, but data showed that even after the intervention the situation was not found better than prior to the intervention.

Food or culinary hygiene is often understood as the conditions and practices that preserve the quality of food to prevent contamination and food-borne illnesses. Policy further emphasized on the idea that properly handling and preparing food greatly reduces the risks of getting food-borne illnesses. But all foods could become contaminated if not properly handled. In scientific domains it was believed that red meats, poultry, eggs, dairy products such as cheese, raw sprouts, and raw fish or shellfish contains high-risk foods. Poor food handling and inadequate food safety could also cause infection, i.e., food-borne illness. Symptoms of food-borne illness vary from culture to culture and society to society but it could usually bring stomach problems that may be severe and life-threatening, especially in young children, older

adults, pregnant women, and people with weakened immune systems (Boot and Cairncross, 1993).

Modern development intervention also expected culinary hygiene after intervention. It expects proper food management. Cooking food to prevent contamination, poisoning, and minimize the transmission of disease to other foods, humans, or animals are some exemplary cultural practice of culinary hygiene. It was said a safe ways of handling, storing, preparing, serving, and eating food and cleaning and disinfecting of food preparation areas. It intends to alter the human behavior from traditional to modern, i.e., carefully preparing raw meat and vegetables, extreme care in preparing raw foods, sanitizing by washing with soap and clean water; washing of hands thoroughly before touching any food; washing of hands after touching uncooked food when preparing meals; not using the same utensils to prepare different foods; not sharing cutlery when eating; not licking fingers or hands while or after eating; not reusing serving utensils that have been licked; proper storage of food so as to prevent contamination by vermin; refrigeration of foods and avoidance of specific foods in environments where refrigeration is or was not feasible; proper disposal of uneaten food and packaging (Curtis et. al. 2003). Unlike this, majority of the people did not take caution while making and eating foods. People could not follow these basic principles of hygiene system. Water supply was not adequate in the area. This always created the hygiene and sanitation problems not all season but mainly dries and winter. In rainy season, people often used and drank contaminated water while preparing food. People in the areas normally ate rice, pulse, *dhindo*, green curry, fish, meat, beans, and milk, sorghum, maize, wheat, millet, *phaper*, mustard as the major food grains. However, here these items were not problems themselves, the major problem was not its quality but unconscious towards its hygienic preparation. In addition, instead of depending on their local natural foods, hygienic food grains and resources, they shifted their food pattern from traditional to marketable goods. They used to sell their natural goods and bought junk food as their daily food patterns. Local people often used to eat low-quality junk food brought from market. People also frequently ate unhygienic food stuffs, i.e., stale or dirty and excess food.

Hygiene and sanitation policy has also been combined with poverty reduction approach. Policy claimed to reduce rural poverty through providing health and sanitation facilities so that people could easily divert their time and resources towards

income generation instead of cost expended for cure. But People slept around the hearth during the night. Most people did not have a hygienic bed due to their poor economic condition. Their beds seemed filthy, cracked. Mat on which they slept was made of local materials and was also odor full. Unlikable smell and dust with goat dung frequently spread out to the house yard and inside the home, even near the hearth. People tolerated this situation easily. Nothing other better options were available there for them. This proved that intervention could not bring considerable changes in the economic conditions through improving the health status of the community people.

Viewing the information on the traditional patterns of using wild edible plants, unhygienic manner could be seen even wild edible plants and fruits found locally still play an important and very popular and a significant role in the human nutrition and supplementary food, especially in the hilly regions where food scarcity is a very common phenomenon for many tribal people (Bajracharya, 1984:144).

The wild vegetables used by the people of the study area form an important part of their diet, which to some extent offset the problem of food shortage. It is not a surprise to see that generally poor families were forced to use wild vegetables during food shortage, but rich families also used various wild plants as vegetables. The people of the study area had equal access to these resources even through their economic status differed. Out of 287, a large number of households had to face the problem of food shortage. They used wild plants found in the jungle and shrubs to supplement their diet. The skill and knowledge of the people exploiting the natural environment is the most effective method of survival in a difficult environment. The extraction of wild vegetables from the surroundings provided them foods during the unfavorable season for crops.

Umbrella-like mushrooms as edible plant popping up abundantly were found in monsoon on the humus rich soil of the areas. Different castes and cultural groups perceived it differently. Regarding mushroom as food, it has been generally believed that mushrooms were not worth eating for all culture despite to many impoverished people, mushroom serves as a reliable, openly accessible, and less expensive article of food.

People of the areas could easily recognize the edible mushroom and poisonous mushroom. The mushroom with an umbrella with rounded ring growing in elbowed

timber or paddy straw is considered edible and the ones without ring are considered poisonous. Similarly, any mushroom that grows near or under the bamboo and rhododendron is considered poisonous. They tested a mushroom's poisonous capacity by boiling it in a pot and putting a small piece of silver in it. If silver became green or changed its color, it was poisonous; if it did not change, it was not poisonous. Buddhi Bahadur Tamang, 63 years old, used to eat mushrooms after it was well identified that it was not poisonous thus could be directly connected it with health and hygiene of people. Despite its prominent contribution for supplying nutrition to health, sometimes health problems could be created from the unconscious use of wild plants as food. For example, poisonous mushrooms terribly infected and threw them to death. The knowledge of the people recognizing various wild plants as food could be an added asset for this context. For example, bud tip of *pakari*, *siphligan*, *kauro*, roots of *githa*, *bhyakur*, *kurilo*, fruits such as *pani amala*, *amala*, *bimiro*, flowers such as *koiralo*, *sittalchini* were also used as food or vegetables. It was the *githa* (round hairy bitter roots) and *tarul* (wild yams) that virtually kept the Chepang and Tamang people alive in years of poor harvest. The people of both community of this area ate by digging the *githa* that must be boiled in ashes to take the worst of the bitterness out of it.

Chepang people living in the upper part of ward no. 2 Wakarang consumed various wild plants and roots as food, which supported them to sustain in the period of food deficit. Wild mushroom, *sisno* (*Urtica dioica*), *kurilo* (*Asparagus affinalis*), dried curry of *sipligan*, *niuro*, *tanki*, different aspects of *chiuri* (i.e., oil, pina), wild yams, *githa*, *bhyakur*, *honey*, *aringal* were used as wild edible and supplementary food, but their manners of preparation seemed unhygienic. Prem Bahadur Chepang's strategy to manage his food crisis would be an example of this regard.

Case 6: Wild Vegetable as the Source of Survival

Prem Bahadur Chepang was 64 years old, living in Parkhal. He came there from Jorung of Malekhu in 2013 BS. He could feed his family from his own production hardly up to six months. He fulfilled his additional food requirements from wage earning. He had one *pani ghatta* (a grinding local machine), from which he earned some cash and in kind. He had also a small shop, from which he could provide food for his family. When food crisis hampered his family, he sought *githa* and *vyakur* (wild yams) in the jungle to feed them. He also sought *tanki*, *niuro*, *jaluka*, *kholesag*, and other green leaves found in the beach of Lothar stream to sustain his family.

Besides this, people not only used wild plants as food but also hunted wild animals in the jungle for meat. People hunted various birds such as *titra*, *kalij*, and *budrun* and animals such as *wild pigs*, *kharao* and *mirga*, which provided them with lots of nutrition. However, the manner of eating meat of wild animals could be seen unhygienic. For example, they cut the meats in unhygienic places, such as over the leafs of trees, as well as they used to keep it in open air, and flies would roam over

meat and could easily infect and transmit diseases. While observing their activities, it could be seen that they often ate raw meat lightly dried in fire, which could be harmful for health. Thus, their overall food and consumption patterns were likely to be dangerous and harmful and not conducive for ordinary health, whereas policy claimed that intervention would be able to replace such unsafe manner with regards to food pattern, which could not be seen possible at the local setting.

It is also relevant to relate the local beer (*jar* in local terms) with food hygiene, as it is another major food item of the area, especially of the Chepang and Tamang communities. It is the most favorable dish for all except Brahmin and Chhetri. It is eaten as normal food, breakfast, and refreshment in their respective time when they feel need of it. As referred by Shepherd (1982) elsewhere in his work, for midday meal, beer mass of fermented corn and millet was the most convenient and common food in the areas. "*Jar* is drunk as a major food item: *jar* as breakfast, *jar* as lunch, *jar* as *arni* or *khaja* at midday in *mela* (working in the field), *jar* as dinner, every time *jar*, everywhere *jar*; without *jar* we cannot live," said a 51-year-old Chepang living in Wakarang. While talking about the food hygiene, he said, "*Hee anna, timi dhanna, timi nabhaya ma ekchhin rahanna*" (Hi grain *Jar*! you are my life; without you I won't be alive even a little longer). This version proves that their traditional food item was deeply rooted in their cultural perception, habits and preferences and was strongly attached to their belief despite the many safe options they understood.

Different cultural groups within the same environment used the same production techniques, but their consumption patterns differed. As referred by Sharma (1995), high-caste Hindus of the local community did not produce *jar* or drink alcohol, whereas low-caste Hindus, Tibeto-Burman, and Bhote groups used to drink and devote some percent of their barley or millet as wages or to distill alcohol.

Jar has great economic, social, and cultural values. Socially, it is the most important thing for welcoming guests, particularly in Chepang and Tamang communities. For example, the community people, except two households of Brahmin/Chhetri, while performing various *poojas* consume a large quantity of *jar* and *raksi*. In fact, *jar* or alcohol could be taken as a socializing component and a key base for group harmony in the community of the areas. People's believed that *jar* could be used instead of rice, which would give also enjoyment and cleaned the stomach. They believed that alcohol may cause tuberculosis but *jar* causes nothing. *Raksi* could not fulfill the need

or substitute the meal but *jar* could. However, it seemed that the preparation of *jar* and its consumption pattern had become the major cause of their poor economic condition, health, and hygiene status. "Overexpenditure on alcohol and *jar* has caused economic and food deprivation in the village. It has been reflected on the poor hygiene and sanitation conditions. The culture of drinking *jar* in large quantities created misfortunes and results in poverty and health hazards," reported AHW of sub-health post.

8.1.2 Environmental or Community, Domestic or Household and Personal Level Hygiene and Sanitation Situations

Even though exclusively intended to serve only urban specific population, narrowing down only to urban areas and small town and ignoring rural community people and their actual problems, present policies (2009) have categorized all the sanitation activities into various levels, i.e., environmental, collective, and institutional, groups or household, and individual offering precise framework to systematize the system in local communities. Environmental sanitation refers to the wider concept of controlling all the factors in the physical environment that may have a deleterious impact on human health and well-being. It normally includes drainage, solid waste management, and vector control, in addition to the activities covered by sanitation. Sanitation, at domestic and individual level, broadly includes provision of a healthy living environment, viz., safe handling and environmentally sound disposal of human excreta (urine and feces), waste (solid and liquid) disposal, vector-control, and water drainage. Thus, sanitation is the process of safe management of human excreta, including the hardware (latrines) and software (regulation, hygiene promotion) needed to reduce faecal-oral disease transmission (MPPW, 2009:27).

Structures of house also affected the hygiene and health conditions of local people. It was said that the various parts of house should be properly arranged and maintained hygienically, but large numbers of houses were not built in hygienic ways. Rather these were hazardous and roughly erected. For example, most of the houses were made of mud and roofed with locally available bush and tree branches without having modern hygienic systems, well ventilated but erected walls covered with clay. While observing the situation it was found that most of the houses had dirty yards with animal dung and feces of children. When adult members needed to spend long working hours and sometimes at the season of cultivation several days needed to stay

in working field they erected small temporary huts built with bushes and bamboos on which one could see dirty floors inside home and moistures and feel odor.

The environmental condition in general in all the clusters of highland was not significantly different in terms of hygiene and environmental sanitation conditions and hygiene and sanitation practices. There were residues or garbage, animal dung and human feces scattered along the foot trek. The sanitation activities at collective levels, i.e., cleaning and maintaining the safe environment at the community level, were rarely done in the area. Human excreta were frequently found within and outside the village, in and around the cluster/ward/community road, streets, foot trails, fields, and other places. One could feel odor while walking and crossing village through the foot trails in and outside the village, whereas modern hygiene and sanitation system emphasized on the completely absence of feces in the village surroundings. It is believed to indicate high hygiene standards or general cleanliness and good environment (Drangert, 2004). However, the situation could be felt as the intervention was not operated there in the past.

The data collected from key informant interview and observation also proved that the level of knowledge and perception of majority of the community people about the environmental sanitation seemed low. People threw dust and leftover things collected from their household. Not only public places but also surrounding areas of schools were not free from refuse, whereas intervention preferred that food, houses, streets, markets, working places, holiday camps, public transport, and visitors should be clean and not pose a danger to health (Curtis et al., 1998). However, local people do not always make that explicit link between health and dirt.

By policy (2001), open defecation free situation demanded the no feces are openly exposed in the air and preventing the access of flies to faces. In addition to this, the policy expected some of the criteria and indicators to be prevalent in any delineated areas and had given time in order to attain the state of ODF: there no OD in any given areas; all institutions and households in designated areas should have access to improved sanitation facilities (i.e., toilets) with proper use, operation and maintenance. Despite the ODF zone one could find human feces in open ground.

The data from the household census proved that because of not having latrines in all households, adult people used to go to jungle for defecation whereas their children

were seen to defecate on the pathways near house and house yard. Open defecation was still prevalent. The bank of Lothar stream near settlement was very vulnerable in terms of open defecation. In the dry season, the place was very dirty due to the smell of human excreta. Some people had named the place as *guhye chaur*, literally meaning "fields of shits" whereas policy of ODF assumed the conditions that the places were exclusively absent of human feces in open grounds of the designated areas. For example, three years plan approach paper (2010-2013) highlighted and pointed out the government's commitments towards the attainment of ODF status through the promotion and use of household toilet, and implementation of the program with various forms of campaign committing for promoting total sanitation campaign with the collaborative efforts of stakeholders and mentioned the gradual adaptation of sector-wide approach to planning and emphasized on the institutional capacity for a sustainable service of drinking water and sanitation (DWSS, 2010:6). However, the above policies seemed ineffective because the policies were made without considering facts based on scientific research. These were brought from bureaucratic level, which had no cultural base representing local people's need, preferences, and problems.

In this regard, some technical perspective forwarded the ideas that sanitation constitutes an important and critical dimension of the living environment, whose neglect leads to major costs of human suffering and economic losses. Besides the conventional meaning of sanitation as access to safe facilities (i.e., toilets) for human excreta disposal, sanitation has increasingly been recognized as a wider concept, a perspective incorporating other aspects such as hygiene and sanitation in public spaces, a system of disposal management of human and other solid and liquid wastes, cleanliness in public spaces, and control of environmental pollution due to the inadequate treatment and disposal of human, animal, and other wastes (Sharma et al., 2000:1). Despite these understandings, sanitation still receives low priority among policymakers and local people also. The continuing neglect of sanitation in policy and mind of local people led to poor environmental conditions and lack of hygiene among rural populations. For example, local initiatives were not seen effective for the management of collective hygiene and sanitation system. As Sharma (2001), Pokhrel and Viraraghavan (2004) already pointed out in their works just like the situation of other hilly parts of areas have been more suffering from lack of water and various

diseases due to the lack of sanitation facilities the areas studied had greatly been affected by attitudes and cultural behaviors of the local ordinary people, which were also because of cultural disparities and cultural differences.

Waste management policy (2010) strongly recommended that every household should give attention to properly covering of food and water; regular cleaning of yards, rooms, compound; manage properly the animals shed; proper waste water pit, bind, to dispose liquid and solid waste not only in household but every institution. But the reality one could find the reverse. For example, in most of the households of the Chepang community, smell was everywhere, inside and outside home. But the people did not mind. Nobody was found in family to care this. "Our fate and life is not freed from this. We have no concerns to these problems. Our life always passes with dust and refuse. Dust and refuse are our friends. We pass our life along with buffalos, cows, pigs, dung, dogs, chickens, fowl, excrement, jungle, streams, ponds, well. What can we do? How can we get rid of them? We were compelled to play with dirt and animal waste while transplanting rice and other grains and weeding and working in the fields," said a 34-year-old Dalit man working at the field. This showed that the filth did not matter to the local people. This was the result of the world views of the community people, culturally constructed reality to which intervention was said to address but could not penetrated the inner side of the local community. It was clear that the circumstances went in hand in hand as along with the local culture. On the basis of this situation, one could agree with Ortiz (1997:332): "The perceptions internalized and institutionalized constitute the lenses through which people view their real world. Community will not develop unless their culture or cognitive systems are first changed."

Policies assumed that the fundamental remedy for eliminating this situation was to build latrine in each household. But responses of majority people were found with latrine-avoiding attitudes. According to a 45-year-old woman health worker in this village, majority of the households do not use pit latrines. Most of the people go to the jungle nearby their home to defecate. They defecate in jungle hiding in bush. We suggest and teach them many times not to defecate in jungle and suggested to use latrine, but they ignored every time. Sometimes the smelly air from the bush blows to us. It has affected us too. We dislike going to village when campaign is organized. While crossing the way to village, we have to go through the defecation site. There is

no alternative way. Going there from the way they defecate on is very smelly. We do not like to go there because it is too smelly. A school teacher reported that some people preferred odor-free defecation sites. Due to this habit, they go to forest. Once the defecated site is full of odor, they shift and seek another place for defecation. Whereas intervention for ODF was said to intend to alter the local culture, the present cultural position in the local areas was found no different from that of the previous. On the basis of these facts it could be said that there is clear impact of local socio-economic living conditions and the norms and cultural perception on modern hygiene and sanitation behavior system. Largest portion of people were not aware of any level of hygiene and sanitation condition, i.e., personal, community and environmental.

There are common understandings that many infectious diseases arise from the home environment. If programs to prevent infection are to be made effective, it is essential to identify the reasons for particular practices and roots of disease transmission. As Curtis et al. (2003) noted evidence of fecal contamination in kitchens and on surfaces are likely to be involved in the transmission of feces, i.e., taps and soap dispensers. In such conditions, factors motivating for hygiene would be the desire to give a good impression to others. For better understanding about transmission of the pathogens, multidisciplinary method entails effective hygiene promotion programs are designed. But seeing from the point of view of the principles, the situation in the areas was found to be reversing. The level of cleanliness around the houses of the cluster/ward/community in terms of management of animal and other waste (dung/excreta/rubbish) was found to be worse. For example, frequent presence of ducks and chickens roaming freely in each household proved that the present hygiene and sanitation status could not be found as per the spirit of the policy. Hygiene and sanitation situation in and around the houses and the surroundings of local community seemed both negligible and vulnerable, whereas policy emphasized on general environmental cleanliness management of animals, and solid and liquid wastes should be existent in designated areas.

Garju Chepang took bath once a month in the stream down land, approximately 3 km from his home. He rarely bought soap to wash clothes or to bathe. In the yard of his home, there were chicken and pig dung scattered. Chickens were kept along with his sleeping bed. Yard was cleaned rarely, hardly once in five days. There was a latrine in his home built during the ODF movements, but he often used to go to the jungle to

defecate early in the morning at half past five. He used bush leaves and sometimes stones to cleanse after defecation. After defecating in the jungle, he did not use soap to cleanse his hands. Instead of soap, he often used clay. The personal hygiene policy (2010) also emphasized on hand washing practice with soap at various times, i.e., before eating, cooking and serving, feeding, and after outing, handling of waste and faces of child. Also included are maintaining personal hygiene by regular nail trimming, bathing, cloth washing, daily combing, tooth brushing etc. But the facts related with cultural behavior found there were seen not compatible to these principles. The following case also proves the environmental and household level situation of hygiene and sanitation in the area.

Case 7: No Problems and No Tension of Filth

Prem Bahadur Chepang kept fowls and pigs in his home. Dogs and pigs roamed around his hut. People rested on his hut while walking on the way to their home to have *jar*. The yard of his hut was not sanitized. Filth was everywhere around his hut. Utensils were scattered in the yard. The pot of water was not covered with any devices. Dirty children were playing in mud at the front side of his hut. Dogs and chickens were frequently appearing in his hearth and kitchen for leftover things. Flies were jumping over plates and food and the corner of tea glass. Bucket, jug, and mug inside and outside were covered with dirt. In the surroundings of the hut inside and outside, filth were existent. Plates with layers of filth were seen, but no problem and no tension was for him.

A sanitary environment is a clean environment whereas policy expected that all the three level dimensions, i.e., environmental or community, household, and personal state of sanitation, which should be free from any kinds of filth. But no effects of intervention could be seen there due to the deep influence of local culture.

8.1.3 Use of Toilet/Latrines in the Communities

The concept of sanitation is often narrowly perceived as the use of toilets. However, in the realm of modern toilet discourse, exponents claimed that modern toilets were popular because they were seen as a sign of social prestige and success (Curtis et al., 1998). Most of the development intervention programs of hygiene and sanitation tried to emphasize on the modern toilet using culture as a focus for behavioral change. In general, everybody wants to be clean, but what is needed is a complete shift of belief, habits, preference, attitudes, values and perception. If once people began to value toilets and started to emphasize on cleanliness, all would began to shift. If people are not able to use toilets properly, there would be additional burdens. As Black et al. (2008:5-8, 63 and 138) said in their work, in more densely settled communities people might genuinely regard toilets they had been obligated to build positively and use

them. But if toilets later became full and could not be emptied, or got broken and could not be repaired, that became a big problem. For many of those who depend on pit toilets, the issue of what to do about the contents when they fill up is a major concern. There are environments occupied by the world's most disadvantaged people, including the most vulnerable children and women. The resources are lacking, at both community and national levels, to provide sanitation facilities for the majority of the inhabitants. Two and a half billion people without access to basic sanitation live in the towns and villages of the developing world, and for them the means by which most of them dispose of their excreta now, or could dispose of it in the future, are entirely separate from their water supply. There is literally no connection, hence lack of integration between water supply and sanitation facilities. The situation of the areas was found to be just like this: lack of water resource, vulnerability of women and children, hazardous conditions of toilets, with which local people were confronting.

During the field work, it was very difficult to gather data about the frequency of latrine use because talking about excreta was considered inauspicious in these communities. However, the researcher was able to identify the number of people who used the latrines. The toilet was not found as their perceived need but rather an ignored issue and a burden in the local context. There are two reasons related to having and not having toilets. One is related to their economic position and another is related to their cultural perspective. "We have no money. Whatever money we have is spent on meal to feed our kids. How can we buy equipments for the construction of modern latrine? There is no question that good sanitation should be for our health, but the expense to construct modern latrine can buy food for our children," responded an old man in group discussion. This saying relates more to the poverty of community people than to their culture.

Community's latrine use and practices and habits were found to be directly related to and determined by their cultures. Most of the community members did not use latrines for defecation. Only some households used latrine, even without water available in toilet. Some people who used latrines near their homes built their latrines by digging a hole in the ground and covering it with a board with a hole. Latrine house was rarely built. But the house built was around covered with bush. While defecating, they were usually hidden in bush and covered their face with clothes but toilet was not found to be properly maintained. One could easily feel odor. These latrines were built without

modern technical assistance. Whereas policy talked about providing technical support, in practice in the areas support was not existent. Most of the toilets were found hazardous, whereas SHMP had given emphasis to set the effective mechanism at grass-roots level to properly construct, use, maintain, and scale up toilets and sanitation facilities. A rigorous monitoring/facilitating on a timely basis to face challenges and meet the targets of hygiene and sanitation development initiatives has also been taken into consideration (GN, 2011). While constructing the toilet facilities for sanitation and hygiene, disabled- and menstruated women-friendly scheme was also said to be given attention (Water Aid Nepal, 2009). Most of the efforts of making hygiene and sanitation facilities were claimed to be intended to bring behavioral changes of the local people. It was realized by various exponents, for example, that the construction of latrines and tap-stands alone could not be the effective ways about bringing the changes in hygiene and sanitation behaviors; cultural belief and ideas were major factors making people build or shun toilet. Toilet culture has been made a focus of hygiene and sanitation development and for behavioral change (Levine, 1989, Boot, Burgers, Sijbesma, 1988 cited in Yacoob and Whiteford, 1994, 331-332). But the present facts proved that the modern toilet system could not be compatible to the local context. Because of the socio-cultural context of the community was ignored, as a result latrines were poorly built and badly maintained (HMG/N-NPCC, 1997:ii). In the area, apart from some places of ward no. one and three, households in most parts of the chosen wards were without toilets. The existing toilets were also not of permanent nature. Whatever the informants said, one of the reasons of not adopting modern toilet system at local level was the impression that people thought it as expensive, thus the western types of toilet system could not solve the problems in getting rid of excreta in rural areas of Third World countries (Winbland and Kalima, 1985:2) like Nepal.

Latrine construction and its use for behavior change is the major indicator of modern sanitation and hygiene development intervention. It is claimed in report that the scenario of hygiene and sanitation development in Nepal in general is indicating blooming. For example latrine coverage in Nepal in 2001 was 39.6% and increased to 43% up to 2011. Despite the best efforts of many organizations working in the modern hygiene and sanitation development sector in Nepal, there were still very few communities which were sensitive towards the movements. Open places may be near

their homes, forest, and field were still used to defecate (CBS, 2001; UNICEF/GN 2010).

Modern sanitation system emphasized to divert the positions of human activities. For example, on-site sanitation refers to the collection and treatment of waste done where it is deposited (examples being the use of pit latrines, septic tanks, and Inhofe tanks); food sanitation, which refers to the hygienic measures for ensuring food safety; environmental sanitation, which denotes the control of environmental factors that form links in disease transmission. Subsets of this category are solid waste management, water and wastewater treatment, industrial waste treatment, noise and pollution control. Ecological sanitation was said to emulate nature through the recycling of nutrients and water from human and animal wastes in a hygienically safe manner (WHO, 2009). But the necessary effects from intervention could not be seen in most of the behavior of local community people whereas the policy, approaches, paradigms, strategies and modalities were said more or less adopted there. However, these seemed not successful due to not only the personal responses but also the collective perceptual understanding and response to their immediate circumstances. For example, many household members collectively perceived latrines/toilets as irrelevant or harmful. They did not give value to make latrine for their own use.

Modern approach of sanitation system has claimed to caution the local people that inadequate sanitation is a major cause of disease worldwide, and improving sanitation is known to have a significant beneficial impact on health both in households and across communities, improved sanitation as connection to a public sewer, connection to a septic system, pour-flush latrine, simple pit latrine, and ventilated improved pit latrine. Sanitation is activities related with the provision of facilities and services for the safe disposal of human urine and faeces (UNICEF and WHO, 2006). However, most of the community people have not properly adopted the spirit of the modern system.

Chepang, Tamang, Brahman, Chhetri, Newar, and Dalit were the major inhabitants of the chosen areas. Information on latrine use by households of various cultural groups was gathered from all the households through census. The sanitation intervention program for improving the health and hygiene status of community people was operated in the whole VDC since five years. Basically, the program was said to be aimed to increase the number of latrines, which was supposed to be one step forward

to achieve the state of total sanitation. People reported that almost 20% households had built toilets during the campaign. However, the number of households using toilets decreased later. Despite lowest status, there seemed variation in toilet using habits among different cultural groups. Due to the people's perception, preferences, and worldview, there seemed variations in the behavioral patterns regarding toilet use and numbers. The cultural group-wise latrine construction and use is given in the following table.

Table 8.1: Latrine Coverage by Household and Cultural Groups

S.No.	Cultural group	No. of households	Toilet/latrine used	Percentage	Remarks
1	Chepang	158	7	4.43 %	
2	Tamang	125	15	12.00%	
3	Brahaman/Chhetri	2	2	100.00%	
4	Kami	1	0	0.00%	
5	Newar	1	1	100.00%	temporary
Total		287	25	8.71%	

Source: Field Census, 2010

National policy (GN, 2010) has said that informed technological choices for household toilets should be in access to ordinary people. But the facts proved that the options to be available at each level of community life were not present in the context of local areas. The above table clearly shows the state of cultural group-wise latrine construction and its use. Information gathered from the HH census indicated that out of the total households of the VDC, the selected wards as a whole encompasses 287 households of various cultural groups, among them only 25 households (8.71%) had used toilet facilities. The remaining household members still used to go to the forest to defecate. Only a few households had made temporary types of latrines.

There were various reasons for the present positions of toilet use. But here major causes playing role in using and not using toilets in the community were both the poverty and cultural perspectives. Some household wanted to build latrine at their home but due to their economic poverty they missed to build toilet. Even when they built toilet, they later left it unused. They could not maintain their toilet because of their poverty. Community people received enough subsidy to make toilet at their home, but due to their socio-cultural belief, habits, and cultural perception they again preferred to go outside for defecation. These prove that both the economic and cultural components are the major causes of being lowest status in using toilets.

Among many cultures across the world, it is a socio-cultural belief that the place of defecation in the house or adjunct to it would defile the sanctity of the house. This

resulted in the latrines being independent of the main shelter. As said by Avvannavar and Monto Mani (2008:7), the people in rural India and African villages prefer being undisturbed during defecation; one manner to achieve privacy was to hide in a bush or a tree when excreting, their attitudes, beliefs, fear, and superstition have been the factors affecting the sanitation approach of people regarding health hazards, and revulsion to feces and urine vary between cultures just like defecating and toilet using attitudes and beliefs. Compared among all cultural groups, Brahmin households had 100% coverage. Very few households of Chepang constructed and used latrines. Out of 158 households, only 7 households (4.43%) had access to modern latrines. Similarly, Tamang community had higher position of using latrine compared to that of Chepang. Out of 125 households, 15 households used latrine. The few households having latrines showed that the hygiene and sanitation status and facilities were in very poor conditions. Average status of sanitation in terms of latrine use was found very low compared to that of latest national figures of coverage (43%) of sanitation.

Ninth Plan was said to attain the targets doubling the sanitation coverage (latrines access) compared to that of achievements of previous plan (Sharma et al., 2000:iv), but above facts proved that it seemed failures. In this context, one could argue that it was because local cultural basics and people's concerns have not been followed in the process of developing the program. The spirit of these policy and plans could not become successful because people could not feel ownership over it for their own sake, nor the intervention could teach its importance to local people.

Rural Water Supply and Sanitation National Policy, Strategies and Sectoral Strategic Action Plan (2004) was said to be devoted a significant part to water supply and sanitation development sectors, the role of local bodies, users committees, participation, and decentralization were also said duly focused as basis of sustainability and institutionalization of sanitation system in policy. The policy document (2010) claimed that the national goal of universal drinking water and sanitation coverage by 2017 would be attained; the provision to allocate 20 percent budget of WASH sector for sanitation and hygiene promotion would be ensured and spelt out; the need of users' committee, catalytic role of schools and students, mobilization of private sector organizations, multi-stakeholders' platform, promotion of hygiene behavior, inclusion and participation, and school and national sanitation campaigns would be delineated; the issues of institutionalization, good governance,

social and gender inclusion and access, and social justice, cost recovery, etc., were also said additional assets claimed incorporated in this regulation of water supply and sanitation development policy; various programmes were still said to being implemented by adopting these policy and legal provisions (NG/DWSS, 2010:2), not only this but also latest national policy (i.e., SHMP, 2010) had also claimed setting three levels timeframe target such as achieving countrywide 60 percent toilet coverage by 2012/13; toilet coverage of 80% by 2014/15; and universal toilet coverage by 2016/17. But during the research it was found that the progress was very low. Looking at the implementation side, one could see the dark spaces. For example, compulsory allocation of budget from concerned bodies in the whole country has not been found because of exclusion of local cultural preferences and values in this policy. While designing and implementation, local community people had been kept out of reach. Consequently, the local community people could not completely adopt the strategies of this modern sanitation as the cultural ways for their lives.

Anthropologists often claim that each human cultural group has its own world view and cultural lenses which is reflected in their cultural activities of daily life. The variations in the hygiene and sanitation behaviors of the local people were the result of their own cultural world view, i.e., beliefs, attitudes, understanding, perception, even the knowledge. The information garnered during the observation of the communities clearly proved that there were considerable differences on hygiene and sanitation status and behavior according to the disparities in environment, socio-economic, and working conditions. People in poor household survived in difficult conditions. They could not invest in modern latrine construction. They could not have access to safe water and buy soap for bathing and washing. Most of the informants from poor and hostile environment expressed the desire to live in clean surroundings. They described their poor life conditions dirty and lifestyle unhygienic compared to that of relatively richer households of the lowland. Some people said without hesitating that "We like to live in cleaner conditions and dislike to live in dirtier houses. But our life is difficult and far from clean. We could not maintain clean in our circumstances because of our filthy tasks." Here mainly economic factors seemed to be causing the conditions of cleanliness of the local people. Also, on the basis of discussion one can argue that the perception of people towards modern hygiene and sanitation system significantly differed.

In the literature, perceptions and points of view of local people about the dirt, clean, hygiene and sanitation practices were said to be directly related with socio-cultural aspects, economic conditions, ecology or natural environment and geographical position. For example, in dry season of the year availability and unavailability and the surroundings of the settlements, know-how and knowledge, lack of water affected sanitation practices and were the major reasons of constraints for being improper hygiene and sanitation conditions. Naturally available forest and environment provides the people opportunity to fulfill their need of secrecy and privacy. Environment preserved and supported the culture of privacy creating the favorable circumstance making their attachment with jungle. They depended upon the jungle because jungle provides the bases for them to maintain their habits.

Hygiene and sanitation behaviour of the community people has often been supposed to be the sum total of various cleansing activities, called the culture of clean, to which development intervention along with external concept, culture, theory, ideas, approaches, policy and strategies claimed to alter. Not only this in policy but also people and their own initiatives were said to be more effective and determinant for standing hygiene and sanitation conditions and local traditional hygiene and sanitation behavior system has been claimed under the process of institutionalization and change through the development, but findings showed that there was a gap between local traditional knowledge and modern hygiene and sanitation ideas, concept, strategy and theories despite the intervention and implementation of state policy and legislations.

The sanitation and hygiene facilities in upper hamlets of Chepang communities were found much poorer compared to lowland Tamang. For example, only two Chepang households in the whole three villages had access to latrine; even these all were temporary pits fenced with branches of trees and bushes. However, latrines were not well maintained. No household had dug out pit for systematic waste collection due to the lack of awareness. They relied on stream and fields for defecation. During the fieldwork, it was found that only four households (among which three were of teachers and one of health post peon) had access to latrine at their own home, well maintained and kept clean. Informants reported that due to the compulsion of working in the field, people were always habitual to use the forest or fields for defecation. Despite the modern hygiene and sanitation system affecting their behavior pattern

under the process of institutionalization, the local context of the cultural perception, preferences, and views enforced them to maintain their traditional behaviour.

8.1.4 Drinking Water Supply Situation

Water is considered as the major component of survival of any animal being, thus also an important complementary element and prerequisite for modern hygiene and sanitation practices of human being. Without adequate availability of water no one could assume the possibility of modern hygiene and sanitation behavioral transformation. But in any sanitation program various components, i.e., socio-cultural, political (i.e., ownership), economic, ecological, and environmental as well as the combinations of the community people's views and everyday behavior including perception-knowledge, values, behaviour, norms-ethos, life experience, belief-ideology, social taboos, and rationality as a strong determinant factors playing role in a system. To achieve success, it was often said that these components should be considered before undertaking a new development intervention on water supply and sanitation project (Islam, 1999; WEDC 2008:73).

Documents (DWSS, 2010) indicated that the history of modern piped water supply system development started since 1895 A.D. along with the Bir Dhara system (1891-1893), leading to establishment of Pani Goshowara Adda, even providing facilities of limited private and community standpipes in few areas of Kathmandu. This service was gradually extended to few other places, i.e., Birgunj, Palpa, Amalekhgunj and Jajarkot. Since the First Five Year Plan in 1956, this sector got priority, however, under the Department of Irrigation until the Department of Water Supply and Sewerage (DWSS) was formally established in 1972. Since then, the department was a lead agency providing water supply and sanitation facilities throughout the country. Initially, DWSS was limited to constructing comparatively larger water supply systems in the district headquarters and urban centers, but it gradually expanded to have a nationwide network to serve all kinds of settlements-urban, semi-urban and rural areas. The interim constitution of Nepal has defined access to water as a fundamental right to its citizens, and to support this, the country has set a target to provide all Nepalese with access to basic water supply and sanitation services by 2017.

Documents claimed it that one of the major steps in sector development was demonstrated by expansion of water supply coverage of 80% today compared to 37% in 1990. Similarly, the sanitation coverage, defined as access to safe excreta disposal facility, has been expanded from about 6% in 1990 to over 50% now. After the unified program implementation approach, there had also been claim that due to the formal efforts it became possible to achieve worthwhile sustainability of water supply and sanitation services through active participation of benefiting community in the planning and implementation process during projects construction and by entrusting the regular operation and maintenance of these systems to the local users committees (DWSS, 2010).

Reviewing the state before formal initiation started, one could simply say that before formal state was constituted and global development intervention entered into Nepal to bring changes in traditional hygiene and sanitation practices, various water using traditions were observed in the societies. Through the constituting and operating the traditional local institutions, community people had themselves managed various sources of water, i.e., spring, *dhunge dhara*, *kuwa*, *innar*, *pokhari*, *khola*, *talau*, rivers, ponds, and streams to fulfill their various domestic requirement of water, health, hygiene and sanitation. Through the formal mechanism and its implementation of the various acts, state laws, rules, and regulations through institutions, in modern Nepal, providing modern provision of water supply and services of modern health, hygiene, and sanitation facilities to all people were said to be the important function of the state (Sharma, 2001:40; Black et al., 2008; GN, 1994, 2004, 2010). The policy documents hitherto in Nepal systematically set goals regarding the development of water, hygiene and sanitation sector, ensuring the right of a particular community. For example, Ninth Plan had already set the wider goals to widen the service for both drinking water and hygiene and sanitation purpose. It was said that government should provide water supply service for all Nepalese people by the end of the current plan (2002). Despite the policy and acts emphasizing on the universal access to sanitation and water supply facilities, these principles had made them private commodities. But ensuring the ownership of a particular community over resources through policy and rules sometimes may have created the contradictory ideas regarding the ownership over water resources due to the contradiction between cultural norms and religious values recognizing water as a public property in any

society (Upreti, 1999). Due to the incompatibility of the policies and strategies into the local context, these seemed not enough to providing drinking water supply and fulfilling the needs of hygiene and sanitation. The facts related to existing situation at local level proved it, whereas current policy claimed to provide safe drinking water making it accessible to all Nepalese people.

Reports from WSSDO showed that during 2062, almost 30% population, except in two wards, residing in ward no. 3 benefited from the modern water supply system and projects in the beginning. Most of the Tamang people of the lowland got service, but the Chepang people living in the remote places, i.e., Wakarang and Parkhal, were not provided yet and were untouched by this scheme. Data gathered from census during the study period showed that it decreased significantly. Out of 287, only 5% households had used modern water supply facilities from public taps, and even the water from modern taps was not sufficient to fulfill their household requirements. The figures seemed below than that of national coverage of 78%. People were confronting with the lack of water and lived in vulnerable situation. Remaining households used to fulfill their needs of water from locally available natural and traditional resources. They fetched water from ponds, streams, and wells that were very unsafe and contaminated, whereas intervention took place there claiming to provide safe water to those who lived in the designated areas.

A key informant reported that some ten years ago there was a water supply project having few public taps that could provide sufficient drinking water in ward no. 3 of the Lothar VDC. But at the time of research, the water supply system was completely damaged and functional status was totally disturbed. A 53-year-old Tamang of Euralitar reported that almost all people were dependent on and were constrained to depend on natural resources to fulfill water need. A local teacher said, "There was a modern tap erected for water supply near my home. Now the system has completely been collapsed, which has to be rehabilitated for reconstruction. So water from modern supply system does not exist now. People face many water-related problems which result in their poor sanitation and hygiene situation."

Regarding drinking water, policy has it that every person should care for safe handling of water and treatment of drinking water in each household. But some people showed their disappointment towards the equipment of modern water supply system because of nonfunctioning of project whereas policy documents emphasized to

ensure the facilities. A Tamang adult during the group discussion put his pessimist ideas: "*Pani binako tanki ra pipe hamilai ke kam lagchha ra. Bahirkale garer ke hunthyo ra aanphai lagna pardacha*" (Modern pipeline and tank without water does not matter for us and are useless things. No one from outside can make us better; we ourselves need to be dependent upon ourselves). There was no any modern water supply system in other hamlets. The access of local people to modern safe pipe line water did not exist in the area. The above facts proved that the intervention seemed exclusively collapsed.

As referred by Black, et al. (2008:6) water is the very basis of human survival. However, providing every urban as well as rural household with a supply of flowing water sufficient for drinking, cooking, washing, laundry, and flushing, and also a system to remove the dirty water and sewerage have become extremely complicated and expensive. Just like this, it was very hard to collect a pot of water in the morning due to scarcity of water supply in the area. People were facing problems of very low and insufficient water supply. Ek Kumari Sedhain used water from modern pipe lined made by SAPPROS Nepal but it was not sufficient. "When dry seasons come, we face serious problems of water supply. At these times we fetch water from stream and seek another source of water. The matter of proper sanitation with adequate water supply was a matter beyond our imagination," she said. Whereas policy and other ideas emphasized not only on the water but also safe water supply is considered a must for the health, hygiene and sanitation of human being (GN, 2010; Rosenquest, 2005:342), but the situation in the areas seemed very vulnerable.

Drinking water in the whole area, even fetching from the traditional sources seemed not safe; rather with very much possibility of contamination. Even there was serious need to provide safe water to all community people of the VDC. "This is a big challenge to attain the national and Millennium Development Goal (MDG) by providing modern safe water supply, hygiene, and sanitation facilities. Therefore, resources should first be allocated at adequate quantity and diverted from other over-supplied places to this vulnerable area to attain the goals but not possible in existing situation," said a facilitator involved in district-level RCS.

The major sources of water in the areas were ponds, spring, and streams except rarely from the modern piped water. Compared to other areas, water supply and sanitation facilities were found to be very low and harsh in Chepang areas. It was due to the

economic deprivation and innocence of people. Prem Bahadur Chepang fulfills his need of water from spring in the winter seasons, but it is hard to seek the sources in rainy seasons because floods damage the spring source. In this season, he uses stream water. The following table shows the exact situation of water supply and the number of households using different sources of water to fulfill their household requirement.

Table 8.2: Ward-wise Households Using Different Sources of Water

Sources of Water	Ward No.1 HHs	Ward No.2 HHs	Ward No.3 HHs	Total HHs
Modern pipeline	5	7	18	30
Ponds/Well	8	2	12	22
Spring	50	13	45	108
Stream	26	9	27	62
Other (Rain, Dhunge dhara, Kuwa, etc)	20	37	8	65
Total HHs	109	68	110	287

Source: Field Census 2011

The above data makes it clear that among the 287 households the water supply facilities from the modern system in the whole study area were 30. Only 10.45% households benefited from modern water supply system. Similarly, 22 households fulfilled their need of water from wells and ponds. Out of 287, the percentage of households using ponds was 7.66. Likewise, the largest portion of households used spring sources to fulfill their water requirement. Such households were 108. Remaining 62 households depended upon the streams and 65 households (i.e., 22.64%) used other sources of water such as rain and *dhunge dhara*. Thus modern water supply service levels both in and quantity and quality of water seemed very low, and the system was vulnerable and destructible.

The above facts show that most of the community people highly depended on naturally available water resource whereas intervention took place there with the objective to institutionalize the project for ensuring the water supply facilities. Among the various resources, people preferred mostly springs. They believed on it for safety and health. People also regularly drank water directly from cool springs during work in the fields. Buddhi Bahadur Tamang, 63 years old, prefers and believes in flowing water as safe and clean. "It is good for health. Modern pipeline is completely damaged. We often fetch water from Lothar Khola in dry seasons. When rainy season starts, we use water from spring to fulfill our household requirements." No people of the areas have yet used filter for safe water, nor did he use boiled water for drinking.

He also prefers to use spring water as much as possible. *"Mulako pani hamilai ramro lagchha"* (Drinking water from spring is very charming for us), said an old man while working in the field whereas policy said that water from unfiltered sources such as wells, ponds, and streams would be unsafe for human health. From the above discussion one could argue that intervention could not be found successful, whereas policy claimed to provide sufficient and adequate safe water to rural people for ensuring the well hygienic and sanitary conditions. But even though the water was considered as essential component for hygiene, there seemed scarcity in a particular context of the areas.

8.1.5 Water Consumption and Requirement

"Pani chhaina bhane pran pani chhaine. Pani ra pran sangain chha. Nuhauna, dhuna, piuna, pakauna sabai kamako lagi pani chahiyo" (There is no life without water. Water and life go together. Water is needed for bathing, washing, drinking, cooking, and for all), said an old Chepang. These local sayings clearly indicated the local people's perception about water and its importance. In any society and cultural system, the consumption and requirement of water often corresponded to the needs of personal households and cultural background, i.e., perception and feelings of community people from various cultural backgrounds. Thus, water is also used for cultural purposes. For example, a little amount of clean and holy water is needed for giving *jal* (water) to god. But water consumption and requirement may vary according to the purpose of cultural groups. People in the areas used water for various purposes. They needed water in significant amounts. The figures of the following table slightly show the average household requirement and consumption of water for various purposes.

Table 8.3: Per Day Average Household Consumption and Requirement of Water

Water Used for Various Purpose	Average Household Expenditure (In Ltrs)
Cooking/Kitchen	27
Bathing	60
Water Feeding for Animals	150
Drinking	9
Preparing <i>Jar</i>	100
Washing Hands/Utensils/Face, etc.	45
Total	391

Source: Field Census, 2010

People required water in all seasons for various purposes. Water was required for washing hands/utensils/face, drinking cooking/kitchen bathing, feeding for animals,

preparing *jar*, etc., for which one household required 391 liters of water per day in average. However, majority of households had no access to easy water sources. They fulfilled their household needs of water by fetching from long distances, i.e., 20 to 30 minutes far from homes.

8.1.6 Water Treatment and Storage Culture

In existing policies water treatment and safe storage practices are considered as the essential dimensions of modern hygiene and sanitation system. But water storage cultural practices in many societies reflect particular beliefs and values. This could be assumed as the end result of many years of surviving situations of extreme water scarcity. Most of the people of the areas also suffered from seasonal water scarcity. Community people reported that water storage practice occurs in their community where and when water becomes very scarce. Policy of development of modern hygiene and sanitation claimed to beware people suggesting that chronic water shortage, to a large extent, is harmful for human health. Water treatment and safe storage are considered as the major components of modern hygiene and sanitation development intervention. Hygiene through water treatment and safe storage practice are said to ensure safe drinking water for consumption (WHO, 1988; Curtis et al. 2003; Boot and Cairncross, 1993; Whiteford 1993, Yacoob and Whiteford: 1994: 333). The facts captured by the observation in local situation showed that most of the people often suffered from water scarcity in all most all seasons. Most of the households depended on untreated stream water for their domestic use.

Literature tells us that household water treatment and safe storage ensure safe drinking water for consumption. However, drinking water remains a significant problem, not only in developing countries but also in developed countries. Even in the developed regions of the world, millions of people do not have access to safe drinking water, whereas policy of interventions said that it could reduce diarrheal disease in communities where water quality is poor or in emergency situations where there is a breakdown in water supply but attention should be given to the facts that water could become contaminated during storage at home, for example, by contact with contaminated hands or using dirty storage vessels (Boot and Cairncross, 1993).

The Chepang people of upper Wakarang and Parkhal, and a few households of Tamang of lowland which had no sufficient water, were found storing rain water in

rainy season. They used to collect rain water in *ghaila* (big pot made up of mud which carried 50-60 liters) due to extreme water scarcity but the water could be contaminated later by the open air and dung of wild birds and germs making harmful for health. Some people who were able to afford used polythene tanks to store water. When rainfall occurred, even though not sufficient, they collected water flowed from the roofs of their houses and stored in broken and dirty pots for their domestic use. They used this water to feed animals and sometimes wash clothes. Some households of Wakarang and Kapartak Bhanjyang also stored water in pits for chickens and ducks and sometimes to feed cattle. They used to store water also for washing utensils even not sufficient. Policy also encouraged people to collect rainwater as much as possible to fulfill the household requirement providing the design of rainwater harvesting to fulfill the needs of water when scarcity became high. But in practice local people, even they were confronting with the scarcity of water, were not informed properly about this system. Instead of this they seemed to follow traditional system when they felt need to collect it.

8.1.7 An Institutional Setting: Water and Sanitation User's Committee

An effective institutional setting is required to regularize and sustain any program for a long time. Following the spirit of this principle, after completion of the project, existing policy had made provision of shifting the right and responsibility of the project from state to the local actual consumer's committee for enhancing the capacity of local people by delegating the responsibility and ownership of project (NPC, 2004). The policy intends to make the project sustainable by creating the feeling of ownership and responsibility among the consumers and local communities but in practice it was found that the local people abandoned the responsibility even though it was for their own feeling that authority was delegating its responsibility.

Data gathered from key informant interviews in the area found that once water user's committee of seven members was formed in the area with the beginning of the water supply project. The members were selected from the consumers living in low and plain belt of ward no. 3. This user committee was formulated for managing the drinking water supply and sanitation along with the right of handling and operating the system. However, the committee seemed not responsible and representing. It was formed with representation of one cultural group and sex which included members

from only the Tamang males, even though in the policy a provision including women participation and inclusion of all cultural groups was mandatory.

Following the mandatory rules embodied with policy training for enhancing the capacity of the committee and to institutionalize the modern hygiene and sanitation system in local areas, training was conducted by authority. Members were taught about the importance of safe drinking water, hygiene, and good health. Along with the modern water supply system provided the bases of hygiene and sanitation development intervention started in the areas. In the name of supporting these ongoing projects other private organizations were also let to conduct various hygiene and sanitation activities in the area, which also created important grounds for establishing the culture of modern hygiene and sanitation system. However, the efforts for making the system sustainable seemed not compatible to the local context.

Due to the negligence of both sides, i.e., responsible institution and community itself, the committee was broken immediately some years after. No members were found to take responsibilities for the maintenance of this water supply system project. Consequently, the system seemed to be completely collapsed. People reported that it was due to the negligible habit of people and scarcity of water. Now no user committee was found there. Neither deputed personnel nor villagers nor anyone from outside took concerns for providing the facilities of modern hygiene and sanitation promotion to the local community. No effort for repair and maintenance of this system was taken. No further program had again been launched in the area. No responsible institution took initiatives there for management of water supply system in this community. There were no necessary equipments and other resources remained available locally for maintaining and sustaining water supply system.

The information provided by the defunct committee's chairman also noticed that some ten years ago one organization/NGO, Support Activities for Poor Producers of Nepal (SAPPROS), existed there for providing the drinking water and sanitation facilities to the local community people beside the government initiation. The role of this NGO was to provide water for villagers, but it had no other aims to extend the sanitation promotional activities. The organization later disappeared. No other partners were introduced there for the promotion of WATSAN sector. Once, UNICEF/WSSDO had initiated an intervention program to the area to expand the modern hygiene and sanitation programs in school and community by implementing the DACAW and BSP

package program and strategies. UNICEF/WSSDO constructed a latrine within the school compound of Ganesh Middle High School under the school sanitation program. But now the program was left out before its completion. The latrine seemed worse. It was not used. Water was not available to operate the latrine for the sake of local school children. Now these organizations have completely left the area. They did not appear again to continue program activities previously taken into operation. It was informed that the major causes for abandoning the area from intervention were of security.

A Tamang key interviewee of ward no. 3 said, "There were large numbers of stakeholders in the district headquarter involved in the hygiene and sanitation development sector. However, there is no coordination among them, whereas Master Plan stressed in consolidating the efforts of concerned stakeholders. Due to the lack of coordination among concerned agencies the people suffered from the worsening situation." On the basis of this situation one could argue that once the area had been incorporated as a part into the macro structure through the hygiene and sanitation cultural variable, and later the area had completely been isolated and detached and left from the global structure. The micro-level local process is being excluded from the macro-level institutionalized network activities.

8.1.8 Use of Dustbin and Pit for Waste Water and Garbage Collection

Dustbin and pit were considered to be the most important and major indicator of modern sanitation and hygiene behavior. Dustbin is used to collect wastage materials produced in the household. It is kept in or outside home to control spread of filth. Pit is made for managing household garbage and gray water. It was expected in policy that the behaviors using dustbin and pit could break the chances of transmitting various infectious diseases. For better management of waste it was said in policy that every households should keep dustbin and dig pit in appropriate place within household compound. Theoretically, it was often said that structural constraints could limit hygiene practices in the very disadvantaged sections of a population. For example, jeopardizing potential success of hygiene promotion campaigns could bring the risk of disease (Schmidt et al., 2009). Data from observation showed that there was no wastewater drain and local drainage system found in any household. Only a few households used these options for managing the household waste in their own

way. The following figures indicate the households of cultural groups using and not using the pit and dust bin.

Table 8.4: Cultural Group-wise Households Using and not Using Dustbin and Pit

Cultural Groups/Materials Used	Total HHs	Pit	Dust Bin	Both Not Used
Chepang	158	4	1	153
Tamang	125	3	4	118
Brahamin/Chhetri	2	2	1	-
Newar	1	-	-	1
Dalit	1	-	-	1
Total	287	9	7	273

Source: Field Census, 2011

The above information taken from household census shows that out of 287, only 7 households used dust bin for garbage collection in their home. Similarly, 9 households had made pit for managing the gray and filthy water produced while washing utensils, clothes, hands, and preparing food. The remaining households not using both bin and pit for household sanitation were 273. They threw the waste from their home to open places and garden instead of wise management. But the bin and pit used were not made systematically using modern technology.

Using these options varied according to the cultural background. In the area, the behavior of keeping dust bin and making pit for managing the waste differed significantly according to the cultural groups. For example, there were five major cultural groups. Among the 158 households of Chepang, only four households made pit and one household kept dust bin for management of waste produced in their homes. Similarly, three households of Tamang used pit for gray water and kept bin for collection of solid waste. Dalit and Newar groups did not keep bin or pit. Brahmin and Chhetri households used bin for the collection of wastes and used pit for gray water. This varying situation was due to their perception and traditions people strongly adopted for a long time. Religious belief of different cultural groups varied significantly there. Thus, the lack of motivating efforts was other cause of not using these options.

8.1.9 Hand Washing Behavior

Hand washing with soap was said to be the fundamental strategy of modern hygiene and sanitation development intervention, a very effective measure for preventing and blocking the numerous diseases. Various studies and policy have shown that planned, motivated, and habitual practice of washing hands with soap (HWWS) may be one of

the most cost-effective means of preventing infection in developing countries. As opined by Curtis, Danquah and Auger (2009), Curtis and Cairncross (2003) Auger et al. (2009) disgust, nurture, comfort, and affiliation were to be the key motivations for hand washing but this was found rare in the study area. Fear of disease generally did not motivate hand washing, except transiently in the case of epidemics such as cholera. Documents showed that washing hands with soap could reduce the risk of diarrheal diseases almost by 42% to 47% might save a million lives and respiratory infections by nearly 25 percent, reduces the incidence of skin diseases, eye infections like trachoma and intestinal worms, especially ascariasis and trichuriasis. Timely use of soap reduces attacks/bouts of diarrhea. For example, on a total of 3 million deaths due to diarrhea annually worldwide, this implies that one million deaths due to diarrhea as well as 300,000 million bouts of diarrhea could be prevented through proper hand washing. In Nepalese context, almost 10500 children under five died annually. More and better-designed trials intervention needed to measure the impact of washing hands on diarrhea and acute respiratory infections in developing countries. Other hygiene practices, such as safe disposal of waste, surface hygiene, and care of domestic animals are also important in low-income communities to break the chain of infection transmission. It is often said that strategies suggest developing hygiene promotion programs should consider the possible existence of multiple types of strategies for increasing hand-washing behavior. Developed community adopted this strategy (WHO, 1998) on a regular basis but yet government of developing countries, donors, development partners in general, and the people of rural setting themselves too often do not mobilize properly hand washing initiative effectively compared to that of water supply facilities. Water supply provision seemed attractive but as demonstrated by expending multimillion dollar investments by governments, donors, and communities, it seemed not effective in the battle against diarrhea. As indicated by Spruirjt (2001:1-2), the developing world is now in the stage where water supply has been extended massively. For example, in Nepal water supply coverage reached more than 80% but sanitation hardly 50% (DWSS, 2011) thus water supply alone seemed yet not able to translate in diarrhea incidence reduction; the stage remained only to capitalize upon these achievements, whereas in policy it was said that the sanitation and hygiene formed the key, yet it is severely hampered by it being in realm of personal and cultural taboos.

Reports show that washing hands with soap was often perceived as reducing the risk of diarrheal diseases in significant rate in the rural community. In rural situation in most developing country settings hand sanitizers may be non-options but in situations where availability of water is a problem, there the options such as tippy-taps could be appropriate solutions which use much less water and are very low-cost to make, with local materials (Cairncross and Curtis, 2003). IYS (2008) also emphasized on hand washing initiatives to reduce diarrhea episodes in Nepal, but the approaches and strategies in local context could not be found followed these options.

Policy concerning hygiene and sanitation as a basis for health development in Nepal was said to have become important in this context. For this, folk competence in health through hand washing initiatives was made a recent and important trend in development policy. In the field of primary health care, this trend has gained force in the recognition of cultural constraints within which any community health program must operate (DWSS, 2001). Nepal Health Sector Program Implementation Plan II (2010-2015) also emphasized to integrate preventive measures through WASH intervention in health sector programs but cultural knowledge of local people was completely ignored because of which hand washing initiatives could not be seen effective in the local context. Information tells us that diarrhea as the major episodes seemed as the major result of poor hygiene and sanitation practices and lack of proper hand washing option and safe water supply facilities available in the areas, from which people suffered every year.

Data gathered from the questionnaire survey and sub-health post showed that there was a variation in the rate of diarrhea in the area according to variation of seasons. An assistant health worker explained that frequent incidents of diarrhea were found each year, particularly in dry and rainy seasons. Most of the guardians were innocent and unable to understand about the source of disease, i.e., human excreta and contaminated feeding, and the transmission routes and precautions and remedy of prevention of that disease. During the time of research, maternal-child care worker working in the village health post reported, "Within the last one year, almost 50 cases of diarrhea incidences were registered. Sometimes people die from *haija* (cholera). The major causes of this high rate of diarrhea episodes were the quality of water and unprotected drinking water resources, lack of covering of water storage container, lack of awareness for hand washing, lack of use of latrines, proximity to animals

sheds, and illiteracy of guardians and children. Diseases due to contaminated water and poor hygiene and sanitation practices were frequent and resulted in immature death."

The information gathered by asking the question such as 'Do you wash your hands before having meal and after defecation?' in key informant interview, group discussion, and observation proves that the knowledge of majority of the people about the proper handling of excreta, hand washing practices, and causes of diarrhea and other infectious diseases could be said very low.

It was widely understood that the urge for "hygienic action," i.e., washing hands after toilet use or before eating is as much a social as a healthful act (Douglas, 1970). But in the areas, hand washing with soap was seldom seen. A small number of families were found practicing washing hands with soap. But in the low-income community of the area, mud or ash was often used as an alternative to soap. They washed their hands with clay and sometimes, if not available at times, used ash when hands were visibly dirty while handling waste and soil. Some informants, even poor, understood about the importance of hand washing with soap; however, they did not invest and were not interested in buying soap. Some informants reported that it was due to the lack of money.

Policy took hand washing with soap as an important measure to reduce death rate significantly through controlling diarrhea, for which using local community approaches would be the best way. But prior to developing any new behavioral change initiatives, the religious and cultural context within which the practice of hand washing takes place were to be clearly understood (Yacoob and Whiteford, 1994:331). Not only this but also decision making for the practical application of development programs, i.e., decreasing diarrhea incidence through hand washing with soap, required a deep local awareness of the local living condition (Brelet, 2005). Policy (2010) also emphasizes on the availability of soap for hand washing in all households of designated areas. Development intervention in the areas often ignored and completely bypassed the local community's approaches and cultural perception even the local knowledge and experience is often said apt and dynamic; therefore, gathering and sharing local knowledge would facilitate the adoption of appropriate technologies (Dierolf et.al, 1999) including hand washing options, but this was completely lacked in the area.

Unlike above ideas some informants put their positive ideas towards the intervention regarding the hand washing with soap, but it seemed not as the direct effect of intervention rather inspired by some local educated family and teachers who already understood and practiced hand washing with soap. Buddhi Bahadur Tamang was 63 years old, and his family washed their hands with soap after defecation. His family members frequently used soaps to wash hands. "It is wise to wash our hands with soap after defecating. If one in family does not wash his hands with soap, he will harm all of us. Fortunately, we are not infected by diarrhea or any other diseases since three years," he said.

Kul Bahadur Tamang, 65 years old, living in Dihitar, learned from the staff of sub-health post about the importance of hand washing. When he himself suffered from diarrhea and went for treatment, he learned it. "Hand washing with soap is a good action by means of which no diseases could harm us. Before and after defecation, when we sweep animal dung, and after working in the field, we wash our hands with soap. Due to this behavior our state of health in these days is good," he said.

A little difference was found according to variation in cultural background. The people from Brahmin and Newar communities often used soap and washed their hands before having meal and after defecation. Ek Kumari Sedhain continuously followed and adopted the options and also taught local community people about the importance of hand washing with soap. She knew and was aware that a person eats his own fecal matters through various ways and routes. "Some people of this place understand the importance of washing hands with soap and practice it," she said. The differences in terms of hand washing with soap seen here among different cultural groups were due to both the caste affiliation and level of income.

Most of the people belonging to Chepang and some people of Tamang and Kami communities seemed not washing their hands at right times. Right after finishing the tasks in the *aran* (or tools making place of blacksmith), they seemed to take food without having washed hands with soap. They used to have food with filthy hands in filthy working place. Before eating food, they used to sprinkle nominal drops of water on their hand. Hand washing with soap for them in this situation was found to be imaginary and far from the possibility. They could not think about hand washing after defecation. Nor could they wash hands before having food. The data found from observation showed that they could not use soap or ash to wash their hands, nor could

they understand the importance of these things. They often use mud/clay/soil and sometimes *pati* for washing hands. They could not teach their child about washing hand and taking bath timely.

All the households undertaken into consideration in three wards reported information on hand washing and not washing at right times. In this regard the cultural group-wise comparative situation of hand washing and not washing was required to compare the situation. The following table shows the numbers of key informants of cultural groups-wise households washing and not washing hands at proper time.

Table 8.5: Cultural Group-wise Household Heads Washing and Not Washing Hands

Hand Washing	Chepang	Tamang	Brahmin/ Chhetri	Newar	Dalit	Total (%)
Before meal and after defecation	45	93	2	1	----	141 (49.12%)
Not washing at all	113	32	--	---	1	146 (50.87%)
Total	158	125	2	1	1	287 (100%)

Source: Field Census, 2011

In total, only 49% household heads washed their hands before meal and after defecation. Out of total 287 households, more than 50% of households were found not washing their hands at all. All of Newar and Brahmin households were found washing their hands at proper time. Not only in the household head but also in other members of the households was the same situation seen regarding this behavior. When they worked in the field nearby their homes, they took meals in the homes washing with clay and water only but without using properly the soap.

In the areas perception, affordability of household head and workload hampered the tasks of washing hand with soap. For example, grandparents took responsibilities of cooking, cleaning, and taking care of children at home. Keeping home clean, sweeping floor, preparing dishes, and washing kitchen utensils were the tasks of parents who stayed at home. But the data gathered from looking indirectly on their action people seemed seldom washed their hands but not always using soap before doing activities in hearth and kitchen. After defecation, some people sometimes washed their hands with soap if available in the place where they washed their utensils. Sometimes they used to take ash and mud for hand washing. Some households had soap available for hand washing but no children were guided to

routinely wash their hands with soap. The following table shows the households using soap and other things while washing their hands and not using anything.

Table 8.6: Households Showing Using Soap and Other Materials for Washing Hands

Different materials used	No. of HHs	Percentage
Soap	110	38.32%
Ash/Pina/Kernal/Ritha/Pati, etc.	31	10.80%
Not using anything	146	50.87%
Total	287	100%

Source: Field Census 2011

Some people had positive perception of hand washing and bathing routinely with soap. They preferred soap to be far from biochemical risks. Most of the key informants during interview mentioned their awareness towards risks of lacking washing hands, germ-transmitting routes, and danger of eating with dirty hands. But some informants even having the knowledge of risks had not replicated it into daily practice. They did not follow regular hand washing with soap to be healthy unless their hands became visibly dirty and felt shame. Information gathered from household census shows that out of 287, HHs 110 (38.32%) household informants reported that they often used soap to wash hands after defecation and becoming filthy and before handling and taking meal/food. Some people who were in contact with market areas and enjoyed modern facilities used frequently soap and sometimes shampoos while taking bath. Likewise, 31 (10.80%) households had a sense of hand washing, but they could not buy soap. They used other locally available traditional things (i.e., *pina*, *ritha*, *pati*, *kharani*, etc.) as complementary things to soap to wash hands. Data shows that the numbers of households not using anything at all was 146 (50.87%).

Intervention took place there with the aim to alter the perception of local people, but the perception could not change. For example, some elders felt bad smell from soap as bad as animal dung. They felt unease while using soap. They disgusted and avoided soap. They used *rithaa* and *pina* as herbal and ash for washing hands. They used ash and lime or *Citrus aurantifolia* (i.e., *pati*) available to them to prevent smell.

8.1.10 Sweeping Behavior

Regular sweeping home inside and outside yards and surroundings is considered as fundamental indicators of hygiene and sanitation behavior system in any society, i.e., traditional and modern. In all areas of culture sweeping rooms and yards, washing

bodies and dishes, and putting houses in order against bugs, dirt, unrest, danger, misfortunes and sickness were supposed to be the hygienic and sanitary manner (Geest, 1998). Not only modern sanitation development intervention recommended sweeping as hygienic behavior but also many other traditional societies were found highly valuing this kind of behavior in general. But observation found that in the areas not all households were found to follow properly this manner. Such behaviors were found to be guided by their deeply rooted perception. The following table shows the cultural group-wise households doing or not doing sweeping their home inside and outside on a timely basis.

Table 8.7: Households Showing Practices of Sweeping and not Sweeping

S.No.	Cultural group	No. of households	Sweeping (1)	Not Sweeping (2)	Percentage %	
					1	2
1	Chepang	158	57	101	36.07	63.92
2	Tamang	125	85	40	68	32
3	Brahaman/Chhetri	2	2	0	100	0
4	Kami	1	0	1	0	100
5	Newar	1	1	0	100	100
Total		287	146	141	50.87	49.13

Source: Field Census 2010

Almost more than 50 percent households were identified and explored sweeping dirt from their household sphere. They who used to sweep their home outside and inside were culturally aware and had cultural unpleasant perception of risk of being harmed by dirt and pollution. People of lowland cluster expressed and showed low tolerance towards household with unwanted dirt when guests came to their home.

Likewise, data above showed that 49.13% households did not sweep their house on a regular basis. They seldom used to sweep inside home but not the yard. In the yards the piles of unwanted filths one could find. This showed that actually they had no habit of sweeping. They said that the major causes of this manner were found to be over household tasks. They used to keep domestic animals in front of yard. Due to this regular sweeping could not occur there. When asked to a 65-year-old man, he said, "We have overburden of household work. We wake up early in the morning with the first cry of the cock. We go to the field for looking after the goat and cattle. We spend most of our daytime in the field, and we have no time to clean our house." Not only in Chepang community but also in Tamang the problem was the same. "We go to work in the field, go back to home in the evening, and sleep at around 9-10 o'clock.

Who can then sweep and clean home?" said a Tamang woman during conversation in the field.

According to a local teacher of Rastriya Prathmic Bidyalaya situated at Wakarang reported, people are busy for earning livelihood. They spend most of their time working in the field. They have no time to care their hygiene and clean their home. They are fighting for their living. It is very hard for them to survive. The hardship of work and dirtier hygiene conditions are the common features in this rural life. This is the major barrier to gain good hygiene and sanitation for all people in this area.

Talking about the time of sweeping, they did not care when sweeping at right time even there was strong social motivation of some people in the areas for keeping domestic and personal hygiene. There is common and popular saying that *Gharama pahuna aunda ra khane belama kaser nabadharnu* (Do not to sweep the dust and garbage while guests are present at home and are eating food) so that germs and dust could not harm the people. This could be the symbol of caution about the dangers of harmful practices also was perceived it as low prestigious manner and inauspicious. However, majority of people in the areas did not worry about it. They seemed to frequently use the sweeping tools (*kucho* in local terms) neglecting the norms to sweep dust and refusal material when guests were present inside the home and eating things. Not only in households was this type of activities seen but also in the public place and tea shop in the village. The owner of tea shop frequently swept the dust and cleansed the yard and the places where guests sat. The researcher repeatedly experienced and observed this kind of behavior at the tea shop of Thing at the time of breakfast in the morning and lunch at the midday.

Not sweeping home in the regular basis for hygiene was acceptable for the community. People did not feel harmful if one household did not adopt this strategy because the life ways of the majority community people in the areas were more or less the same. Policy (2010) emphasized on regular sweeping for household and domestic and environmental sanitation but development intervention in the areas could not touch and bring the change in such behavior of the local community. In this sense, one can argue that effort seemed meaningless and ineffective and unable to alter the existing hygiene and sanitation behavior of the rural community people.

8.1.11 Face Washing Behavior

Washing face after awaking in the morning is considered an essential cultural function in Hindu societies. One who does not wash his face with holy water will be labeled as *phohori* (filthy) as *sungur* (pig) and a person of bad manner. Maintaining the daily

outlook hygiene is considered as holy task not only in Hindu but also people belonging to other religious and cultural background. Modern concept and policy of bodily hygiene and sanitation also recommended it for well being. For example Neat and tidy outlook is perceived as fundamental indicator of modern hygiene and sanitation system. Policy called this cultural behavioral variable as the hygiene of individual level. The following table shows the households showing and not showing daily face washing behavior.

Table 8.8: Households Showing and not Showing Face Washing Behavior

S.no.	Cultural group	No. of households	Washing (1)	Not Washing (2)	Percentage (%)	
					1	2
1	Chepang	158	113	45	71.51	28.48
2	Tamang	125	120	5	96	4
3	Brahaman/Chhetri	2	2	-	100	0
4	Kami	1	1	-	100	0
5	Newar	1	1	-	100	0
Total		287	237	50	82.57	17.42

Source: Field Census 2010

The above table shows that out of total 287, majority of the households of the area, i.e., more than 82%, washed face daily. The remaining others did not. Deep observation found that among the total 158 households, 28.48% Chepang households did not wash their face.

8.1.12 Tooth Brushing with Paste

Brushing with paste on a daily basis is supposed to be another indicator of modern hygiene behavior. Basically it is related only with personal hygiene to which modern hygiene and sanitation development intervention gave more importance on it. Before and after having meal on a regular basis is considered the better time for brushing. Very few numbers of households of the areas were found to use tooth brushing with paste. Instead of using modern brush and paste, some households used bits of *sajiwani*, *neem* and *duttiwan* for the purpose of brushing. Those who brushed even with natural things understood the importance of tooth brushing. In the areas, observed cases indicated that some representatives of persons in households were found to be both brushing and not brushing their teeth. The following table shows the habit of tooth brushing with paste and using other local herbal materials and completely not brushing.

Table 8.9: Household Showing Cultural Group-wise Habit of Brushing and Not Brushing

S.No.	Cultural group	No. of households	Brushing with pest	Brushing with local material	Not brushing
1	Chepang	158	21	27	110
2	Tamang	125	90	7	28
3	Brahaman/Chhetri	2	2	-	-
4	Kami	1	-	-	1
5	Newar	1	1	-	-
Total		287	114 (39.72%)	34 (11.84%)	139 (48.43%)

Source: Field Census 2010

The above figures show that 48.43% informants did not use to brush. Among the total 287, 114 (39.72%) households were found brushing with paste. The majority of the household informants (i.e., 110) not brushing was of Chepang community. Among the total HHs (158) of Chepang, only 21 HHs were found using brushing with paste. They were of lowland and relatively richer and educated than the people living in upper land. Judging their habits of brushing, majority of Chepang people preferred natural things while brushing. Those who did not brush their teeth using both things could not understand the benefits of tooth brushing, whereas intervention claimed that it could be able to change their basic behavior of hygiene and sanitation but seemed not applicable to the majority of the population.

8.1.13 Nail Trimming Behavior

Nail is supposed as a means of inviting the harmful germs (i.e., bacteria) to infect the health of beings. Regular nail trimming is said to be another fundamental indicator of modern hygiene behavior, a symbol of behavior preserving the health condition from infection, falling on a fundamental for personal level hygiene (UNICEF/DWSS, 1999). However, in some category of population keeping long nails has aesthetic values despite the possibility of harming health status. The aesthetic value of nails is often for females in some societies. In addition to this, some females also keep long nails for security purpose. For example, when attacked for rape, one could use long nails to be safe from the enemy.

Among the 287 households, some people cut their nails without having the knowledge about the health benefits of it. They followed it according to their traditional cultural habit. Some community people perceived having long nails as bad habit. They

believed that showing long nails is not a socially prestigious manner. A person who had long nails was labeled as cat or rat.

Most of the people of the study area live in traditional culture. A few numbers of people understood the benefit of nail cutting. Basically, school students above grade four could say about the good aspect of nail trimming habit. Nail trimming has been related to TS as one of the basic hygienic behavior to which policy also emphasized. Nail trimming strategy for modern hygiene and sanitation was taught to students during the course of ODF declaration. However, some old-aged males and females could not follow nail trimming whereas intervention declared to make people to adopt the spirit hinged with it. But the modern culture of nail cutting could not penetrate into the traditional cultural structures of the village life. The following table shows the nail cutting behavior of the local community people.

Table 8.10: Household Showing Cultural Group-wise Habit of Regular Nail Trimming and not Trimming

S.N.	Cultural group	No. of households	Within Week	Within 15 days	Within 1 month	Not cutting
1	Chepang	158	25	75	23	35
2	Tamang	125	85	13	19	8
3	Brahaman/Chhetri	2	2	-	-	-
4	Kami	1	-	-	1	
5	Newar	1	1	-	-	-
Total		287	113 (39.37%)	88 (30.66%)	43 (14.98%)	43 (14.98%)

Source: Field Census 2010

Among the 287 HHs, 39.37% preferred to trim their nails once a week. The number of informants trimming their nails within 15 days was 88 (i.e., 30.66%). Similarly, figures depicted that people not trimming and trimming nails once in a month was found equal. Those who trimmed nails often kept nail cutters in their home. Some people used to cut their nails by blade. Some people trimmed nails not for hygiene but due to the being long, which scratched their skin and clothes. They could not understand it as harmful for human health, that long nails will carry waste to their mouth. Very few people could say that it is for hygiene purpose.

8.1.14 Cloth Washing Behavior

Keeping personal body healthy wearing healthy and fresh washed clothes is supposed to be a fundamental requirement of modern hygiene and sanitation behavior system. Not only the modern people but people of higher class in orthodox Hindu society preferred to wear clothes daily washed with holy water. Wearing daily washed clothes

after bathing daily is supposed to be the holy function in Hindu societies. High-caste groups in Hindu society preferred neat and clean clothes. People who do not do so were treated as bad and were expected to be sent to hell for their sins. Intervention also claimed that laundry practice or washing clothes hygiene is aimed to prevent or minimize disease and the spreading of disease via soiled clothing and household linens such as towels (WHO, 2006 Curtis et al. 2003; Boot and Cairncross, 1993). Policy (1999) of hygiene and sanitation development in rural context also recommended wearing hygienic and sanitized clothes. But data showed that this practice could not be expected in the areas. For example, the people's hygiene outlook was not seen as expected as in policy.

The information gathered from observation explicated that most of the people, both adults and children, either working in the field or living in the home, appeared with unclean clothes and bodies. Most of the people seemed very ugly and dirty. Observed in the field, people wore smelly clothes. Filths in their clothes could be apparently seen. People did not take bath and wash clothes at the right time. Informants reported that due to their overburden of tasks for earning livelihood they had not enough time to wash clothes. They could not buy a pair of clothes once a year. Once they bought, it was used for up to four years. The income they earned was spent for food. However, this situation was not the same in all cultural groups, but majority of poor Chepang people were under this situation. Other Brahmin, Chhetris, Newar, and most of the Tamang people afforded clothes once in a year and washed clothes on a regular basis. The following table shows cultural group-wise cloth washing behavior.

Table 8.11: Households Showing Cultural Group-wise Cloth Washing Behavior

S.N.	Cultural group	No. of households	Wash Within daily-Week	Wash Within 15 days	Wash Within 1 month	Wash within 3 months and above
1	Chepang	158	13	37	63	45
2	Tamang	125	105	13	5	2
3	Brahaman/Chhetri	2	2	-	-	-
4	Kami	1	-	-	1	-
5	Newar	1	1	-	-	-
Total		287	121 (42.16%)	50 (17.42%)	69 (24.04%)	47 (16.37%)

Source: Field Census 2010

The above table shows that out of 287, less than half (121) household informants were found washing their clothes once in a week; 17.42% informants reported that they washed their clothes once in 15 days; and 16.34% washed once within 3 months and above. Some people used soap to wash clothes and some used *pina* and ash while

washing clothes. Kul Bahadur Tamang washed his clothes by heating them with ash and water in the fire when they became filthy. Chepang people fell under the group who washed their clothes few times.

Whatever the facts above, most of the people did not wash clothes at the right time. However, observation found that there was a strong effect of intervention among family members influenced by school environment where school sanitation program was launched. Educated parents tried to maintain their children's hygiene with neat clothes by well dressing compared to that of others. Behind the situation of washing and not washing clothes for hygiene purpose had basically two reasons. Both ability of affording the required materials, i.e., soap, and poor conditions, as well as perceptual positions of community people ignoring the filthy conditions were found to be the fundamental reasons for these unanticipated situations. Intervention always claimed that it would be beneficial to rural people, but one does not find themselves in positions as policy of intervention previously claimed.

8.1.15 Bathing Behavior

Taking bath routinely is considered as the fundamental requirement of hygiene and sanitation behavior, which could also found to be guided by ethics and other religious code of conduct. In traditional religious societies hygiene and sanitation-related behaviors were found to be guided by their ritual concepts and traditions. For example, *Manusmriti* and *Vishnu Purana* stressed on daily bathing, stating that bathing is one of the *nitya karma* (daily duties/rites) for all human being; not performing it was said to be leaded to sin. Holy texts of Hindu religion had given extensive importance to the bathing behavior using water for personal health, hygiene, and sanitation. The person who took bath daily with pure water was considered to be ritually sanitized. In such as society even water, hygiene, and sanitation behavior had altogether been ritualized; people were found to manage their hygiene and sanitation needs according to their religious code of conduct and local traditions. It was basically found to be related to the ideas of ritual and belief of purity and impurity strictly followed by different standards of religious act of purification. Regular bathing was also found to be a hallmark of Roman civilization ((Manusmriti, citing in Sharma, 2001:40; Black, et al., 2008). It was also said in respect to the modern hygiene and sanitation system that improving sanitation behavior, i.e., bathing only could bring health benefits significantly than by improving the water supply service (UNICEF, 1993 and Esray, 1996). Existing policy also considered bathing as the basic

conceptual element of intervention which claimed that it would be effective to motivate local people to adopt this option for well being. But in the context of local community one could find vast gaps between oral or written tradition and actual practice. No proper practice could be found there. Community people seemed not following its basic premises despite the intervention strongly claimed. It was due to not only the lack of availability of water but also the people's perception hindering to people for not taking bath timely. Male and female, adult and child seemed not taking bath properly for becoming well.

Kul Bahadur Tamang, 65 years old, living in Dihitar seldom took bath. He often washed his hands with soap and sometimes with *pina* and ashes. Prem Bahadur Chepang also used soap rarely. Sometimes he used soap when he took bath. His clothes seemed filthy and his hair ugly. Although adequate water was available around his hut, he seldom took bath, hardly two times in a month.

Information showed that women seemed active only once in a week for bathing their kids and themselves. Adults were often seemed taking bath and swimming in the stream daily but without using soap. Old and weak members always stayed at home watching their young grandchildren and doing household chores. Children were often left at home while parents worked in the field. They were left in the care of older siblings, who seldom took bath but rarely bathed. The information gathered from observation further helped prove that women were responsible for all household work in the normal situation. Most of the village women frequently had also to be busy at working in the field with their husbands. They had very little time for their domestic and child hygiene. They often returned home late in the evening to cook, eat, and sleep. The following table shows the bathing habits and behavior of the people of the area.

Table 8.12: Household Showing Cultural Group-wise Bathing Behavior

S.No.	Cultural group	No. of households	daily-Week	Within 15 days	Within 1 month	Within 3 months and above
1	Chepang	158	7	86	51	14
2	Tamang	125	70	45	7	3
3	Brahaman/Chhetri	2	2	-	-	-
4	Blacksmith	1	-	-	1	-
5	Newar	1	1	-	-	-
Total		287	80 (27.87%)	131 (45.64%)	59 (20.55%)	17 (5.92%)

Source: Field Census 2010

In the above figure, it could be seen that the number of informants taking bath daily and once in a week was 80 (27.87%). The largest portion of people taking bath once in 15 days falls under 45%. Most of the people of the study area used to take bath

seldom even though it is most important for healthy life. Many people responded that they did not take bathing at the right time because of lack of water. Lack of leisure time available to this for bathing at right time was also found to be hindering factors. Figures also depicted that the behavior regarding bathing could be found varied according to cultural and geographical background. For example the Chepang people of Wakarang of ward no. 2 and the people residing in the upper areas of ward 1 seldom used to take bath. While getting near to them, one can feel the smell from their bodies spreading out because of filthy bodies and clothes. Besides this, the Tamang and other people of ward no. 3 said they often took bath either in the stream or in modern taps and wells near their homes. The people of Wakarang were comparatively better in taking bath because of adequate availability of water and their awareness. Similarly, Brahmin and Chhetri community had strong feeling of disgust to those who showed poor body hygiene. These communities could not take bath regularly. Despite the most of the literatures and intervention policy often referred to bathing behavior as related to a personal body hygiene that is performed by an individual to care for one's bodily health and well being, through the activities of cleanliness. Practices for personal hygiene with regular bathing is said to be an activity reducing personal illness, healing from personal illness, optimal health and sense of well-being, social acceptance and prevention of spread of illness to others (Curtis et al., 2009). However, compared these principles to the present practices and the effect of development intervention, one could argue that the policies and strategies could not make people doing what it demanded and aimed. Facts discussed above proved that in the study areas it was found that people did not follow the modern norms regarding routinely bathing nor could they adopt the required things of modern hygiene through the bathing practices on regular basis. It is because of cultural habits and sometimes the scarcity of water and their economic pooriness.

8.1.16 Impact of Intervention on Health Status of the Community People

Previous reports often suggested that prior to the intervention inadequate coverage, inaccessibility of water, low service level, lack of uniformity in working modalities, communication gaps, lack of scientific information/data were identified as the major factors for creating the problem hindering the expansion of intervention. But in this regard some progressive trend could also be found. For example, some years before, almost 15,000 children was reported to be died in Nepal each year from infectious

diseases (HMG/WHO/UNICEF, 2004) created by unhygienic behavior, i.e., polluted environment, lack of proper hygiene and sanitation intervention programs and safe drinking water supply facilities. But increasing awareness in the rural community decreased this problem significantly despite the diarrheal diseases, poor hygiene and sanitation, poor living conditions, and lack of adequate safe drinking water have still been remained as the major threats, challenges, and problems in both the rural and urban areas of Nepal (GN, 2011) in general. More importantly, several other factors such as low literacy rate, socio-economic status, religious beliefs, and cultural perception of local people seemed as the major causes of disease which might influence the rate of morbidity and mortality. A yearly minimum death of 30,000 and morbidity of 3.3 episodes per child was estimated due to diarrhea (Pokhrel and Viraraghavan, 2004:72). But later days reports (2010) informed that it had been decreased significantly, i.e., decreasing it from the above death incidences of child under five to 10500. But some arguments still challenged it. For example, despite these facts, official reports often tried to show and justify the intervention as adequate for safe water supply and sanitation services and adequate coverage of such services (Sharma, 2001:3). But in the areas facts found showed that the situation was neither as the conditions exaggerated by authority nor the counterarguments could prove against the claim.

It was the fact which told us that while taking intervention into action emphasis was given to only to making physical infrastructure but not people's perceptions, beliefs, and knowledge. Disease incidence was signified in reports but socio-cultural roots of diseases were often overlooked. Priority lay not for changing the perception of people but only to increase the number of toilet facilities and users, whereas theory and concept of intervention (UN-Habitat, 2003; Drangert, 2004; Rosenquist, 2005:341; Walsh and Esrey et al. 1990; Yacoob and Whiteford, 1994; Pokhrel and Viraraghavan, 2004) was said to intend to alter the cultural perception and traditional practices of local people of the designated areas. Some community people were also found aware of poor sanitation. They said that they could build toilet as they were not so poor. "People know the benefit of good hygiene and sanitation even though they are in very dirty conditions. Disease can easily attack them. They accept death but could not afford investment to construct latrine," reported a local woman.

In Nepal, nationwide data on important indicators of health status were said to be limited and inconsistent due to inadequacy of reporting and absence of a formal system of birth and death registration. The health status in Nepal still presented a grim picture, compared to other South Asian countries in relation to water and sanitation-related impacts directly and indirectly (UNICEF, 1996; Sharma et al., 2000:42-44). But unlike this, in the case of the areas particularly, the child death under five from diarrhea has significantly decreased after intervention. Data and information from sub-health post and from the household survey further justified that there seemed a deep positive impact on the health status of the local people from the intervention. The major aim of intervention policy was to save life of people from unnatural deaths through the effective implementation of policy along with effective strategies and program. Once the intervention took place there, even it backed before completion and continuous follow-up. Judging the situation, one could argue on the basis of facts applicable to the Nepalese local proverb, "*Nahunu mama bhanda ta kano mama bhayani jati*" (Something is better than nothing), intervention left a some impression upon the various dimensions of the life of the local community people. Regarding health preservation and disease control, another popular saying, 'Prevention is better than cure,' could also be applicable in this particular rural context which was intended to prevent infectious disease, although in practice remedy of complete prevention was not often followed by both at authority and local level. Thus, seeing from the humanitarian perspective and development point of view, one could argue that the intervention created positive impression, although even not for all. The table below shows salient features and trend of the differences in health, disease occurrence, and death incidence before and after intervention.

Table 8.13: Cultural Group-wise Disease and Death Occurred Before-After Intervention between the Year 2010-2011

Before Intervention (2010)					
Cultural groups	Attendance of Patients at sub health post	Death Cases	Name of Disease	Age Groups (Years)	Sex of Dead Persons
Brahmin/Chetri	4 persons	-----	Diarrhea, Fever, head ache, Dysentery	10-63	-----
Tamang	341 persons	7	Vomit, Diarrhea, Fever, head ache, Dysentery, Typhoid, cholera. Worms	2 month-70	Both sex
Chepang	435 persons	13	Diarrhea, Fever, head ache, Dysentery,	1month-68	Both sex

			Typhoid, cholera, worms		
Dalit	7	1	Diarrhea, Fever, head ache, Dysentery, Typhoid, cholera, worms	1month-56	Female
Newar	5	1	Diarrhea, Fever, head ache, Dysentery, Typhoid, cholera, worms	1month-56	Female
After Intervention (2011)					
Cultural groups	Patients attendance at sub health post	Death Case	Name of Disease	Age Group	Sex of Dead Person
Brahmin/Chetri	1 persons	-----	Fever, head ache	39	-----
Tamang	24 persons	1	Vomit, Diarrhea, Fever, head ache, Dysentery, Typhoid, cholera. Worms	2 month-70	Male
Chepang	78 persons	3	Diarrhea, fever, head ache, stomachache	1month-68	Both sex
Dalit	3	-----	Diarrhea, fever, head ache, dysentery, Typhoid, cholera, worms	1month-56	-----
Newar	3	-----	Diarrhea, fever, worms	1month-56	-----

Source: Field Survey; Sub Health Post, Lothar, 2011

The above figure basically shows that there were significant differences before and after intervention in death, disease occurrence, and attendance of patients at health post. Giving attention to the information delivered by people of various places and cultural groups, sanitation development intervention brought considerable changes in the sanitation and hygiene behavior of the community people in general and the impact could be seen in every cultural group in particular. Sanitation intervention brought some changes; however, the major cause was not only this but awareness of people towards importance of using modern medicine and its implications. The patterns and state of disease are conditioned by the local culture, locally considered to be “illnesses,” or at least afflictions, and most have local names; the particular symptoms, course, and social response are very often influenced by local cultural factors (Guarnaccia & Rogler, 1999). On the basis of data one could argue that there were some changes that could be seen in perception, belief, and acceptance after adopting the modern hygiene and sanitation option and modern allopathic medicine and treatment practices. The major cause behind these changes was the increment in knowledge of the local people, i.e., the local community people could understand the importance of modern hygiene and sanitation system. Some local people, but not all, seemed ready to change their habits, behavior, and perception to some extent. The

informants said that they learned lots from the intervention. For example, they started to concern with using toilet and preservation of water resources even not adequate as the most important and essential components for safe life, from which one could find significantly the decreasing trend of the occurrence of disease, death, and the pressures of attendance on the health post. In addition to this case, AHW also reported, "We taught them more from our side about the importance of sanitation. More than our efforts, the movement of ODF development intervention also affected to a significant degree." So after intervention, the occurrence of diseases, death cases, attendance of people in the research area were found to be decreased significantly. For example, the following description of case of Sita Ram would also justify the effects of development intervention.

Case 8: Intervention Decreased Death and Diseases

Fifty-seven-year-old Sita Ram Chepang living in Wakarang was ex-chairman of ward. He lived close to the jungle/forest near rocky steep places adjoining the school. Living in a primary school near his village, the researcher observed him and his overall household conditions up to three days. Conversation with him was also held. He helped to gather the information from his household in respect to development and his hygiene and sanitation practices and conditions. Looking over his entire outlook, he was ugly with smelly clothes. He was thirsty for development. Once he asked me many queries about development. He asked me, "Have you brought any *bikas* (development). I said "Nothing. I am only a student of Ph. D." During the conversation, he said, "I have given birth to six children. My one son and one daughter died at one and a half years of age last year from *jhada pakhala*. I was informed later that it was due to our unsanitary habits. Our 'guest's' sanitation development intervention brought many advantages. Now, I have constructed a latrine and use it for defecation. The remaining child and me and my wife are all far from this disease. Not only had my family but other families also benefited from this new idea," he said.

The data related to the history of health showed there were lots of the burden of water- and fecal-borne diseases, which was high with high level of diarrhea could be found in the dry seasons. Majority of people turned their effort toward modern healing practices instead of getting rid through *tantramantra*. For example, people coming to the health post to get rid of diarrhea frequently proved it. This was evidence of change in the perception of local people. More importantly, the facts of decreasing trend of the pressures of patients in the sub-health post in the Euralitar also proved this effect. Despite the presence of modern intervention for changing the health state of the local people along with care personnel trained with modern equipment, large number of community people still shared traditional health care system with their neighbors and experienced risks of various kinds of disease due to their poor hygiene and sanitation practices.

8.1.17 Effects of Intervention on Knowledge and Perception of the Local People

Documents reported the scenario that people survive in vulnerable hygiene and sanitation condition, particularly in rural areas of Nepal (DWSS, 2008). However, little effect of modern hygiene and sanitation development intervention on the practices of local community people was found in the whole communities of the area. Another effect was seen, to some extent, on their knowledge and understanding about the good and bad results of modern hygiene and sanitation practices. While asking the questions to various fractions of people, i.e., women and men of different ages, students, and castes and other cultural groups in informal discussion like “Do you know you yourself eat your feces?” “How do you eat your own feces?” The informants who were asked the above questions put similar responses. They gave the same answers: for example, the routes of diseases and fecal transmission; lack of hand washing with soap before and after having food, lack of washing vegetable properly with clean water, flies and animals can carry the feces, unsafe water or defecating near the source of water are the major sources and routes of transmission of own feces transmitted to own mouth. These were the answers to the questions asked, from which one could easily argue that there were considerable changes, despite the negligibility seemed in practices, brought about by intervention which could not be expected prior to the campaigns.

While asking the question, "From where did you learn and listen about this message?" the informants reported that they heard this especially from students who had already learnt about modern sanitation and hygiene from schoolteachers. The teachers also learnt a lot from the modern concept of school sanitation program, which was delivered through water supply project implementers in ward no. 3 Euralitar. To justify the impression another example could also be taken. For example Buddhi Bahadur Tamang was 63 years old. Now his family has made a latrine and a small pit for collection of filth water and domestic waste about of which the bad effects of open defecation, before intervention, he could not know. But now he could easily understand about flies carrying harmful disease, that flies do not exist in winter seasons but spread in summer seasons and carry filth. "Every family should beware of flies because it is dangerous," he said. He also used to keep cattle and buffalos and chickens. Buffalo and cow huts were made in the back side of his home. He said,

"Building huts near the home is easy to feed them grass and water, but it should be well managed." He often bewared using pesticide around his home. "Using pesticide invites the sources of disease. People themselves invite their own disease because of their innocence," he said. In addition, the following case would also verify the change in knowledge from modern development intervention.

Case 9: Knowledge of Modern Hygiene and Sanitation

Nimang Chepang was 38 years old, literate, and his family lived there in Lothar VDC for 40 years coming there from the Younger village of Dhading district. He suffered from respiratory problems but he could easily understand that defecating in open places harms health of human being. He had a temporary toilet which his family members used for defecation. As a key informant, he said, "Sanitation development movement brought the understanding to the villagers and taught us many good things. But some people still defecate in footpath due to their ignorance and neglect. Some people understand bad effects of open defecation but some do not. If some do not care and make filth, it is harmful for us."

Facts proved that in some places, household work burden, poverty, and cultural perception placed the problems of health, hygiene, and sanitation aside, although serious and sensitive. Placing modern treatment practices in secondary priority was the unique feature of the community people. Not their culture but economic inability was the major cause; however, it was not similar among the communities except Chepang, whereas policy also emphasized to reduce the poverty through the intervention but seemed unsuccessful.

An assistant health worker (AHW) of sub-health post located at Euralitar reported that "The knowledge about the modern hygiene and sanitation is found to be at the average level along with the positive attitude towards intervention. However, their practices are often seen negative, which resulted to some extent, in negative consequences and attitudes in the community as a whole." Commenting on their negative attitudes and behavior he also said that "People's knowledge and awareness have been increased significantly, but their attitude is still negative. They can understand about the benefits of this intervention but they often ignore this. For example, their conditions are relatively poor; however, they drink too much. They spend much more on drinking alcohol; drinking local beer too has made them poor, consumed their more money they earned, so they could not afford the materials for construction of toilet and related things needed for maintaining the good health."

Environmental awareness, knowledge about causes of disease, social beliefs, present conditions of hygiene, and sanitation had significantly been changed by the intervention. Participation of community people in interventions and the involvement of women in campaign of drinking water, sanitation, and hygiene improvement

programs increased but the facts found that community people were not found to give attention to the environmental situation. This proved that their attitude had not been changed completely whereas policy emphasized on the requirement of developing a better understanding of existing hygiene habits compatible among the communities by linking of water supply with sanitation so that the causes and prevention of illness could be more carefully defined and better understood. As said by Black et al. (2008:9), people showed their natural conservationist idea and attitudes of intimate behavioral relations with traditional and natural options. Changing in personal hygiene would require abandoning long-held beliefs about what is clean or unclean of which options were to be compatible with people's cultural and religious sensitivities to make them respond positively to the intervention. From the group discussions it was found that people seemed enthusiastic to improve their hygiene and sanitation situation through intervention. They wanted to be trained and intervened also for the operation of modern hygiene and sanitation promotional activities showing their strong commitments and hope towards the support of outsiders but the situation in terms of process and authority seemed not easy as they wanted it to be.

In the communities studied people constructed the latrines themselves although they lacked the appropriate strategies and techniques and were never trained on the issues of hygiene and environmental sanitation. In some residences latrines were built by some households inspired by the suggestions and encouragement of sub-health post staff and local health workers. Only nominal information was disseminated through posters and wall painting during the ODF declaration through which it was found that message about the benefits from proper hygiene and sanitation behavior penetrated in the inner side of the community. But some local informants reported that they did not use the latrines because they were not aware of bad aspects of not maintaining the personal hygiene and toilet facilities. Due to the message by the workers elsewhere in the communities, residents had built the latrines at the cost of their domestic food. Some educated families of the study area frequently used the latrines as their status symbols. These could be the appropriate examples of the effects of intervention on the knowledge of local people.

8.1.18 Claims and Achievements

It was often claimed that the hygiene and sanitation development sector in Nepal experienced visible shifts in principles, approaches, and achievements. Strong

recognition, encouragement, and favorable policy environment for strengthening the leadership of local bodies; strongly felt need of uniformity and standards in programmatic approaches and financing modalities; focus on community-fund to support for toilet promotion at household level; emphasis on ODF and hygiene behavior rather than increase in toilet coverage; and collaboration through joint plan and plan of action at district, municipality, and VDC levels were claimed to be major achievements. More importantly, sanitation was claimed to be recognized as a movement and a cross-cutting theme of development rather than the target-based project work; holistic and integrated approach rather than patchy projects and schemes. Due recognition to Gender Equality and Social Inclusion (GESI) principles in WASH interventions advocated by different policies; emphasis to improve the sector performance, reduce duplication, double counting, overlapping and promoting joint working culture among the sector actors through Sector Efficient and Improvement Unit (SEIU) and multi-stakeholders platform-Sector Stakeholder Group (SSG); adoption of Joint Sector Review (JSR) proceeding towards the SWAP for synchronizing the fragmented efforts for sector effectiveness were also said to be the major progress in the sector of hygiene and sanitation development interventions. Similarly, increasing trend of budget allocation by the government to sanitation and hygiene sector; regional and district level joint commitments; annual hand washing campaigns celebrated at all levels; promotion of menstrual hygiene facilities in schools; buildup of public private partnership mechanism; establishment of resource centers; declaration of ODF in more than 700 VDCs, 8 Municipalities, 9 districts, and more than 1500 school catchment areas and three sanitation model districts developed were claimed as major achievements through implementation of existing policies, approaches, strategies, and interventions. The policies, strategies, acts, regulation, approaches, plans, programs, events, and legal provisions all were said to be intended to provide and maintain sufficient facilities and access of all people to quality water and proper hygiene and sanitation services improving and changing the traditional behaviors of the community people so that every citizen could be benefited (DWSS, 2010:7 and 2012). However, none of them was found giving importance to understanding of people's beliefs and perception affecting deeply the hygiene and sanitation situation of the communities rather seemed negligible. Institutional and management aspects of rural and community-based drinking water and sanitation system were found rather decaying. Facts proved that a huge amount of donation and

support of resources were received from the outside and allocated in the government budget of each year in the name of improving the hygiene and sanitation conditions of people; however, environmental sanitation and hygiene status and progress and the efforts could not reach in its destination rather seemed worsening and remained low in Nepal compared to that of costs. One could find that there remained lots of gaps between policy and achievements.

It was said that Nepal was still confronting with several problems and challenges, i.e., numerous child deaths from diarrhea and acute respiratory infection (ARI), lower than targeted coverage of sanitation facilities, poor hygiene practices, substantial coverage gaps between sanitation and water supply, rural and urban, rich and poor, hills and lowlands, and knowledge and practices (DWSS, 2011; WHO, 2009). However, in the context of Nepal, when compared to the past, considerable change brought in the field of hygiene and sanitation behavior widening the public and private concern following the global whim and trend and aid, eventually creating wider spaces and opportunities for wider citizen engagement were claimed. From the facts, one could say as said by Mishra (2007), that the intervention significantly increased the number of NGOs, weakening the prime role of state promoting the NGO sector along with the support of international donor organization. Cultural and economic dependence of the country and awareness and knowledge at national and local level as well also seemed increased, specifically for the last four decades, along with financial and technical assistance in the name of hygiene and sanitation development. As argued by Fujikura (2004), the social spheres on which people acted upon producing new ideas were radically transformed. Modern concepts, ideas, technology, and other socio-cultural elements consequently created and expanded the space for dwelling and widened the field of foreign people to participate in every step of development in the name of expanding and intensifying the people's participation in the development field. To ensure the intervention by the outsiders, the policies (1994, 2000, 2004, 2006, 2010) were formulated and being implemented in the name of changing the traditional hygiene and sanitation behavioral patterns, the perception and action of the local community of any particular geographical and cultural setting connecting it to international level socio-cultural processes through national apparatus.

As argued by Ferguson (1994), the development projects in the name of altering the conditions of people of this disadvantaged area brought some structural changes in

state and societies creating a kind of discourse and structure of knowledge, affecting life ways of the local community people, altering the local socio-cultural basics, and strengthening the role of bureaucratic power and state functionaries. As stated by Escobar (1995), such a historically singular experience intervention created the dominant forms of socio-cultural elements in rural settings through the deployment of the concepts, strategies, discourse and practices related with hygiene, sanitation, health and nutrition development programs through which system new thoughts and ideas, concepts and strategies seemed to transform and created a kind of domain of thought and action, a top-down, ethnocentric, and technocratic approach, which treated people and cultures as abstract concepts, statistical figures to be moved up and down in the charts of "progress."

Development intervention intended to transform the culturally constructed traditional hygiene and sanitation practices of local people into the uniform modern system. But some different forms of behaviors regarding the subject could be seen, some as affected by the intervention and some as the continuation of traditional. However, some households could not be brought under the influence of the process despite the intervention. Few people of the areas, to a large extent, adopted the elements of modern hygiene and sanitation system, changing their traditional behavior patterns. Institutional and organizational setup of interventions and service delivery modalities, implementation of various program approaches were found to be the additional factors patterning the hygiene and sanitation behaviours of the local people. As already mentioned elsewhere in analysis, the modern hygiene and sanitation behaviour system is being institutionalized in the local community through which external inducement is becoming the cultural categories developed in response to new comers and immediate local ecological settings. However, their perceiving and responding attitude reflected in both the negative and positive manner, i.e., rejecting and accepting modern toilets and hygiene materials. Some households in the areas, even after intervention, returned and continued their practices into the traditional patterns.

It was said that proper hygiene, cleanliness and sanitary behaviour system intended to protect health from various infectious diseases. Some tangible impacts of the sanitation campaign could also be seen in the communities of the areas where economically well-off families reside, but in contrast the significant effects in ultra

poor and marginalized families could not be found. Modern hygiene and sanitation development intervention claimed that it established new patterns of behaviour at individual and community level through the various mechanisms. But among the major cultural groups, i.e., Chepang, Tamang, Brahmin/Chetri, Newar and Dalit living there in the study areas, one could see that the clear difference in hygiene and sanitation behaviors could be found. Majority of the Chepang households had not constructed toilet for their own use. They often used jungle for defecation. Bathing and hand washing incidences were also low in this community. Not only this but also Dalit families seemed to ignore the modern hygiene and sanitation system. Brahmin and Tamang communities relatively adopted the modern sanitation facilities, i.e., hand washing with soap, use of toilet, bathing and washing clothes. Community people were expected to be sensitized again and again along with resources, appropriate programs and campaigns of latrine construction, with community participation representing each household to the local setting. Initially, the intervention seemed a success for enhancing the community's capacity, but later it could not be so. For example, the modern hygiene and sanitation development intervention was intended to reduce poverty, alter cultural life ways, and eliminate diseases and illness by providing health, hygiene, and sanitation facilities. But on the basis of the facts such as their clothes they wore, the places they used for defecating, the habits they still adopted, food they ate, toilet they used, and other sanitation and hygiene materials they bought and used, their intimate relationship between local community's culture and existing local environment. one could say that these seemed contrasted.

At the initial stage of development intervention, local people seemed to adopt external ideology of modern hygiene and sanitation system, due to of which some nominal effects could be seen producing and reproducing new patterns of behavior and shaping and reshaping the local knowledge and practices. Thus, development intervention brought changes in the life of people, i.e., in their food habit, cleansing activities, the things they use, use of soap, latrine, dressing and everyday hygiene and sanitation practices. In the course of adaptation, this process could be seen occurring not only on collectivities but also on individualities. For example, soap and shampoo were adopted at personal level, even not at community level as a whole. Person who visited and companioned the persons in the market areas seemed to adopt modern cultural elements of hygiene and sanitation system.

People seemed just starting to adopt modern ways of hygiene and sanitation but not yet without leaving their traditional practices, not completely converted themselves into the modern ways. They adopted little new perceptions and ideas related to modern hygiene and sanitation system imported from outside community without exclusively forgetting their traditional cultural habits. Thus, present hygiene and sanitation practices of the most of the community people in the areas seemed to have been running under tradition. Their traditional lifestyle has been changing along with modern sanitation culture. It could be visualized that the present intervention has been the basis for their future hygiene and sanitation behavior.

The modern hygiene and sanitation strategies were tried to institutionalize systematically in the policy, imposing the new concept for producing the new patterns of behaviour in the local context. Sector-specific cultural traits were entered into Nepal through the means of national policy of hygiene and sanitation development and related training package. However, the inferiority and dependency feeling has been clearly seen among the local communities of upper land. Therefore, on the basis of above facts one could say the development intervention campaign created a kind of dependency of the community upon outside. For example, subsidy for construction of latrines was distributed among the community people. But majority people did not use this support wisely and for maintenance of toilets again. They were still waiting and expecting for further support. The situation of school's gender friendly toilets was the same. It was damaged and left useless as the most of the toilets in the village were left. The school was also waiting for resources from the outside. Unlike this, it could also be argued that intervention not only increased the feeling of dependency but also upgraded the lively hood, awareness of those local people who adopted the modern system.

Intervention claimed to bring the local context altering the cultural structures, i.e., perceptions, attitudes, knowledge, practices, traditions into the larger structures, but these seemed isolated from concerned organizations even once incorporated. Despite the abundant possibilities available in nature, due to people's cultural preferences and awareness and the lack of presence of concerned mechanisms, the present sanitation and hygiene situations remained vulnerable.

Lastly, on the basis of above discussion one could say that the use of modern things like latrine, pipe, pan, hand washing with soap, safety pad and chemically treated safe

water, and other sanitation and hygiene-related activities specifically, toilet using practices and its global advertisement were said to be the major mechanical means transmitting the external ideas in the name of safe and good hygiene and sanitation practices. But on the basis of the observed behaviors such as safe disposal of human feces/excreta, proper fencing and boundary of water sources, proper removal of animal dung, the pattern of behaviors like consumption of drinking water, hand washing after defecation and before eating food, bathing as well as food hygiene like rinsing, preparation, and storing, one could say that cultural elements of modern hygiene and sanitation system was not properly adopted and followed at environmental, domestic, and personal level. The behaviors related to handling out and management and disposal of animal waste in domestic and environmental level could not be found to follow the norms of modern hygiene and sanitation system. Drainage and pit for passing out gray water or wastewater from their home was not made in any household. More importantly, after handling fowl dung, animal hut/shed, using of residues, cleaning yard and compound of home and inside the hearth, people could not give attention to washing hands with soap, even though they were expected to accept the elements of modern hygiene and sanitation culture after intervention. But facts show that most of the community people still followed their traditional patterns of hygiene and sanitation behaviors. Only a few households with positive attitudes seemed adopting the various options of modern sanitation system, which could be taken as the impact of intervention. Reduction in occurrence of diseases and deaths in the village and attendance of people at health post for treatment were the major evidences of positive impacts of intervention. Despite the considerable achievements, most of people seemed to discard the modern hygiene and sanitation system. However, changes in the perception of local community people could be labeled as the achievements of modern hygiene and sanitation development intervention.

CHAPTER-IX

SUMMARY AND CONCLUSIONS

9.1 Summary

Hygiene and sanitation behaviour system is a set of cultural practices for keeping oneself and one's surrounding clean and healthy; however, it occurs differently according to different time, space, and physical, social and cultural setting. This study reveals the local dynamics producing and reproducing the hygiene and sanitation cultural behaviors in rural community of Lothar VDC at the individual as well as collective level. Why some people continued traditional practices and why some ignored and rejected and adopted the elements of modern hygiene and sanitation system was the most essential issue I tried to take into academic consideration. The empirical data has proved that behavioral patterns of a large number of people have been influenced as well as conditioned by the local environmental conditions and local cultural elements; i.e., beliefs and perceptions. Not only the local cultural settings but also the various agencies produced and reproduced the new patterns of hygiene and sanitation behavior along with the implementation of policies and strategies through the state administrative procedures, providing the favorable circumstances required for bringing the socially, economically, and culturally fragmented rural village into a global structure.

This study is an in-depth exploration of hygiene and sanitation cultural practices of a rural community. Research was carried out basically with the objective to address the major research problem, i.e., bringing the insight of the cultural reality of the hygiene and sanitation behaviors into academic framework, for which this study explored the role of internalities and externalities, i.e., organizational and institutional interventions, in producing and reproducing the new pattern of hygiene and sanitation behavior, and also to fulfill the gaps of literature in anthropology of hygiene and sanitation in Nepal. Research problem was followed further by the fundamental research questions, such as how traditional local culture and modern development intervention produce and reproduce the new hygiene and sanitation behaviour in the local rural circumstance? On the basis of research questions, general objective was set aiming to exploring and analyzing the pattern of hygiene and sanitation behaviors by the people in the communities in rural circumstances in order to get insight about the

hygiene and sanitation behavior guided by the deeply rooted beliefs and perceptions of local people and the existing practices and effects brought by development intervention. To collect relevant and precise information, I adopted an operational conceptual framework which provided a conceptual scheme on linkages between and among the local cultural views and functioning of formal development intervention in a specific context.

A large volume of literature and policy documents were reviewed. But it was found that there was no substantial research on the subject in question with an ethnographic approach which could provide insights about how the modern hygiene and sanitation system at local level has been operated and how behavior is influenced and conditioned by the local beliefs, perceptions, preferences, attitudes, and worldviews. Various processes, approaches, policies, paradigms, and strategies were adopted to attain sustainable hygiene and sanitation conditions in the areas. However, as argued by Pigg (1995), ethnographic study of unintended consequences brought by the implementation of these policies and strategies were not explored in the context of national or rural setting. So, from the review it was found that the previous studies lacked to undertake the various integrative factors influencing the hygiene and sanitation behaviors and holistic approach. How local community people were brought within the network of macro structure, and why local people reject and accept the development intervention were the most important dimensions remained to be investigated.

Up to one year, I conducted fieldwork to collect required data, for which I purposely selected the remote part of Lothar VDC of Chitwan district of central region, settled predominantly by the heterogeneous cultural groups residing in three wards of Lothar VDC. Ethnographic research was designed based on qualitative data/information, and necessary quantitative data were also collected and analyzed. To explore and collect the information on different aspects of health and sanitation behaviour, I used various methods and instruments of data collection under ethnographic methods, i.e., structured questionnaire for quantitative data for the household census, unstructured intensive interviews with key informants, group discussion, case study, tool or technique under PRA, and participant observation as a key method for anthropological research.

Data proved that cultural factors, i.e., preferences, values, beliefs, habits, perceptions, and attitudes were most responsible, and inadequate food supply situation and poverty were other contributing factors to their existing poor hygiene and sanitation conditions. Their access to land, even not in their ownership, has provided lots of opportunities for open defecation, which had an important role in maintaining their cultural life, privacy, and safety. This proved that intervention seemed not able to break their relationship with nature. For example, some community people still used naturally available materials, such as stone, corn bark, leaves of bush, for cleansing. However, some people changed little in their traditional attitudes towards modern ways of doing things with regards to modern hygiene and sanitation facilities. Data from schools showed that school children in their teen age learned the elements of modern hygiene and sanitation culture. But on the basis of the analysis of empirical data, one can say that outside intervention alone could not alter the behavioral structures of the rural isolated communities. More importantly, intervention alone could not possibly bring the change in traditional practices unless the deeply rooted cultural perception and belief system of local actors were changed. For example, people still used natural options and plants with medicinal values to some extent to solve their health problems.

Modern hygiene and sanitation development approaches, i.e., TS, BSP, SSHEP, CLTS, SLTS and other various driving forces and principles, including gender inclusive ones, were followed in the areas to alter the traditional hygiene and sanitation practices. Consequently, new forms of cultural hygiene and sanitation behaviors were established, creating a unitary cultural hygiene and sanitation behavior system among the different worlds. However, one can see that the community as a whole had not yet adopted fully the elements of modern hygiene and sanitation system, nor did it exclusively change its deep-rooted cultural habits and belief system. Other various activities of development such as workshops, trainings, although not participatory, and campaigns for total sanitation were carried out at local and district levels. IEC materials and supports were distributed in considerable amount, and OFD was also held. Rules and resolutions were formulated for further achievement of sustainable total hygiene and sanitation conditions. However, the data shows that the traditional habits, practices, perceptions, and beliefs of the local people could not be completely replaced. Majority of people still seemed following their traditions.

Consequently, post-ODF situation was remained to be attained. For example, community or environmental, household or domestic, or personal level hygiene and sanitation conditions were not found to be altered, as proved by low coverage of construction and use of latrines (8.71) in the community of all cultural groups.

On the basis of empirical data, one could also see the dependence of local people upon the support of outer forces trying to bring the change at the individual as well as collective level perceptions and attitudes. Due to cultural variations, the study revealed multiple but different forms of hygiene and sanitation behaviors and community points of view while looking into the local cultural world connected with the everyday life of the community people. The effects of cultural variations on various forms of behavior could also be apparently seen. Majority of the people still used water from traditional sources, whereas intervention claimed that it would be able to provide modern water supply facilities to the local people. Rather, it eroded the local foundation of the traditional practices. Only 5% households could get water from modern system but not sufficiently. Most of the empirical facts showed that intervention was not compatible in the rural setting. Due to the exclusion of local people participation in every stage of development, intervention could not get institutionalized. For example, hand washing with soap, use of dust bin and pit, face and cloth washing, sweeping, tooth brushing, nail trimming, and bathing were not habitualized significantly. Only partial effects and changes on health status, disease occurrence, knowledge, attitude, belief, and perception of people brought about by development intervention could be found.

Lastly, on the basis of the empirical evidences taken from rural setting, one could clearly see the process of intermingling and commixture of the components of traditional and modern hygiene and sanitation system creating various ecologies which seemed not evolutionary but rather as outcomes of continuous interaction between the local cultural perceptions and national policies. More importantly, it could not only be the result brought by outer intervention but also of the historical particularities of locality which influenced the state and nature of local cultural hygiene and sanitation dynamics. Thus, existing local situation of hygiene and sanitation system showed the process of being conglomerated, representing both the national policies and local cultural beliefs and perceptions. Overlooking the evidences, it could be said that the traditional local behavioral system is being

replaced and the new cultural element of development intervention is being institutionalized in a particular local context.

9.2 Conclusions

Based on the findings of the study, following conclusions have been drawn.

1. Local Internalities are Stronger than Externalities

Local socio-cultural factors are more effective in determining the decision of receiving, accepting, and adapting any new options available to the community. The local understandings are also determined, influenced, and limited by both the immediate social-cultural and ecological circumstances. Regarding the modern hygiene and sanitation development, people put their ideas that they could not thrive being separate from the natural environment. They prefer natural circumstances that support them to survive and confine them to their traditional practices. The internal cultural system is so deeply rooted that outer components have always been less effective to drive and direct the ways and patterns of behaviors. Therefore, the effectiveness and success of policy of national as well as international level depends upon people's cultural views.

Every community has its own worldview. The social and cultural world of the community is strong enough to make a distinct mode of life which affects all the dimensions of behaviors and institutional arrangements culturally constructed. That is why the new ideas regarding the modern hygiene and sanitation system have not yet been accepted fully by the local people. In this regard, how local people perceive and use methods to interpret the approaches are vital factors for creating the new behavioral circumstances. Accepting and discarding the new force depends upon the culturally constructed perception of local people. For altering the traditional behavior of the Lothar community people, intervention had to change first the worldview of the local people. In this context, my conclusion is compatible with the ideas of Sutti Ortiz: "Perceptions become internalized and institutionalized and constitute the lens through which they view the real world, even when that real world changes and offers them more rewarding opportunities. Communities will not develop unless their culture or cognitive system is first changed" (1976: 322).

Cultural differences create differences in behavior. Differences in cultural perception, view, knowledge, attitude and traditional habit create different behavior patterns. Also in the case of hygiene and sanitation behavior, variations in the situations of and the state of health among the population have been found to be different according to their cultural backgrounds.

2. Production and Reproduction of the New Behavioral Patterns is a General Process

In any given community, hygiene and sanitation behavior system as the strategic cultural variables is produced and reproduced during the course of adaptation controlled and guided by the given natural and cultural context. However, when the community people and their traditional hygiene and sanitation management system have become weak to tackle the changing situations and unable to sustain, they create and reproduce the new behavioral patterns and adopt whatever is better and appropriate. Consequently, new ideas, concepts, theories, and strategies emerge that shape, reshape, change, and replace the patterns of previous local traditional behaviors. The components of modern hygiene and sanitation system induced from outside created the new forms of behaviour in the areas. The conclusion of this study in this regard complied with the ideas of Tilly, when he says, "When external forces enter into the local community life, these circumstances create new behavioral patterns" (1978).

3. Development Intervention Creates the New Ecology

Due to the contact among various components, various dimensions of modern hygiene and sanitation system has become conglomeration of the different elements. As a cultural complexity it was under way and on the process of hybridization of new and old elements. The modern hygiene and sanitation behavior system of the local community people has been undergoing in between modern ways and traditional practices, which has created interface between local and global culture. The dependency of people upon local environment has been decreased and new circumstance has emerged. The hygiene and sanitation cultural behavior system has been admixture and has intermingled with both traditional and modern culture. This process has constituted an ecology of which people of the areas have become the integral and constituting part. In creating the new ecology, modern hygiene and

sanitation components have played an important role and contributed significantly. It has become a key basis which provided the possible means for entering the new agent in the local environment. This generalized conclusion based on the above arguments is compatible to the idea that external ideas, concepts, theories, strategies have been an important component for the rural community people of the Third World that shapes, replaces, and brings changes in the local socio-cultural setting (Escobar, 1995). It makes a kind of system through which internal-external and local and global interface comes into existence (Pigg, 1993). However, there are both continuities and discontinuities between policy, approaches, and actual local traditional practices dealing with water, dirt, and waste (Sharma, 2001).

Community and their behaviors, perceptions, knowledge, practices, preferences, attitudes, beliefs, and approaches as well as external structure, i.e., policy and programs, strategies, and implementing mechanisms, have all been responsible factors for creating a particular hygiene and sanitation situation. Hygiene and sanitation development intervention through the formulations of new regulations, whether by the state itself or external interventions, has been creating new socio-cultural institutions. Interaction between internal and external factors has created a kind of ecology in the study area.

4. Development as a Means of Creation of Dependency

When the system of management becomes unsustainable, local community tries to ensure and maintain their survival by seeking alternative mechanisms. If the alternative mechanism is induced by outsiders and local people adopt and depend upon these alternatives without considering the local resources, cultural structure, knowledge, culture, practices and skills will become dependent upon the outside. The development process in the area during its initial stage has brought this isolated and remote community closer to the outer world with various supports, but later detached and disconnected them from the mainstreaming. In the past, hygiene and sanitation intervention programs, even little, had connected the Lothar to the outer world. However, the present relation between Lothar and district headquarter/outer world and any other organization has been completely disconnected. Community is still waiting for outer support.

The foreign aid deeply affected both the macro national level through the influence in policy formation and micro local level through implementation of strategies. This made the state's role and involvement less effective. Outsiders were in the position of power for the formulation of development policy and frameworks. When accepting or receiving aid support is continued into the local setting, as the ideas of Pigg (1995), it dismantles the mentality of people of host country, making them parasitic and ever dependent upon others. The local cultural foundation and bases have also become eroded. Thus, the idea developed here equates with the ideas of Escobar (1995) that development becomes the machine for creation of dependency in the traditional societies of the third world country.

5. Role of State Apparatus Found Instrumental in Diffusing External Ideas to the Community

Development intervention along with the concept of modern hygiene and sanitation has made the state an instrument to transmit the cultural ideas of developed world. State legislations and apparatus, modern hygiene and sanitation facilities, water supply system and service have been paths legitimizing the purpose of the development intervention through which foreign intervention has been possible. The modern hygiene and sanitation behavior has become a cultural component by means of which local level structures have been the integral part of a whole global and larger cultural structure. Within this process, the Nepalese state and authority has been placed only at the position of a mediator. This conclusive idea which I derived on the basis of empirical findings is compatible with the ideas developed by Escobar and Pigg in general. As Escobar stated, state apparatus has been made a fundamental tool to transmit the modern ideas to the Third World countries. The effective means of transmitting new ideas was training through which it was possible (Escobar, 1995).

Finally, whatever the conclusions are, I would like to argue that this study would be a new and important contribution to the development of anthropology of local hygiene and sanitation system. The study on how people adopted, internalized, and rejected the norms of modern development intervention and change and development has opened a new ground for further anthropological inquiry.

ANNEXES

Annex 1: List of Plants and materials used as medicine

1. Mature seeds of *Ankhitare* fried in mustard oil – for scabies.
2. Seeds of *Paras* – for worm and burns.
3. Mixed juice of roots of trees of *Beyora*, *Birkhaulti* and *Siuri* – for worm.
4. Bark for *Chiuri* – for worm.
5. *Sikari laharo* – for pain in joints.
6. *Chini laharo* – for urinary disease.
7. *Gangata* – for high protein
8. Concentrated liquid from leaves of *ghiukumari* – for burn injury.
9. Juice of young tip of *ainsele* – for headache.
10. Bark of *katus* – for headache.
11. Root of *khayar* – for diarrhea.
12. Root of *kali neuro* – for diarrhea.
13. Raw banana – for diarrhea.
14. Juice of root of banana – for diarrhea.
15. *Aakashe jhyal* – for chest infection.
16. Bark of *hadachur* and *bhuichanp* and juice of *ank* – for sprains.
17. Juice of the bark of *badahar* – for abscess (self-injured)
18. Roots, fruits, and bark of *malaburu* – for chest infection, cold, and cough.
19. Juice of bark of *dhumri* – for throat infection.
20. Juice of *saijan* – for typhoid, cold, and cough.
21. Bark of *yaltak* – for making bread.
22. Bark of root of *arela* –used in bread.
23. Juice, root, and bark of *mudila* – used in bread.
24. Bark of *nissing* – used in bread.
25. Juice and roots of *aryal* – used in bread.
26. Stick of *paiyu* – used to chase ghost and evil.
27. Juice of *sijha* – for self-injury
28. Dung of *pigeon* – for self-injury.
29. Young tip of *peach* – used for self-injury in cattle.
30. *Chuck* – for leech in the nose of cattle.
31. *Timmur* – for stomachache.

32. *Harro* and *Barro* – for cold and cough.
33. *Bhojo* –for throat infection.
34. *Surkha* – for abscess (self-injury)
35. *Gudur gano* – for *gano* of ox.
36. *Maikarsar* –for headache.
37. *Sisno* – for night blindness.
38. Root of *birkule* (small white rounded, found in stream belt) – for worm.
39. Bladder of porcupine – for chest infection.
40. *Sinja* - for tetanus (wearing in finger-making ring).
41. Flowers of rhododendron and root of *Neuro* – for diarrhea.
42. *Bhuihadachur* – for body pain.
43. Seeds of *Saban Tat* – for *sul*.
44. *Jhyamruk* – for headache and fever.
45. Comb of *hornet* – for self-injury.
46. Honey of *Katheuri* – for snakebites.
47. Juice of bark of *sal* and *pahare ghankruk* – for diarrhea.

Annex 2: Questionnaire for Household Census

A. Identity of informant

S.N.	Identity	Caste/Cultural Groups	Code/Skip to
1	Name of informant	Brahmin.....1 Chhetri/Thakuri.....2 Tamang.....3 Newar.....4 Chepang.....5 Dalit.....6 Other (specify).....0	
2	Head of the household	Male.....1 Female.....2	
3	Serial Number of Informant		
4	District		
5	VDC		
6	Sample Cluster		
7	Ward No.		
8	Household No.		

B. Description of informant's family/household (including informant)

B1	B2	B3	B4	B5	B6	B7	B8	B9	B10
S.N.	Relation to the informant	Name	Sex	Age	Occupation	Literacy	School	Religion	Marital status
			M | F				R | A		
	Code		Code		Code	Code	Code	Code	Code
1.									
2									
3									
4									
5									

Codes for family description

A Relation		B Occupation		C Education		D Sex		E School attendance	
Self	1	Agriculture	1	Illiterate	0	M-Male=1 F-female=2		R-Regular Absent/dropout-A	
Spouse	2	Labour	2	Just literate	20	F Religion		G Marital status	
Son	3	Trading	3	Grade 1-10	1-10	Hindu	1	Married	1
Daughter	4	Skilled labor	4	S.L.C	15	Buddhist	2	Unmarried	2
Older Brother	5	Government services/Teacher	5	Higher secondary/ 11-12	11	Muslim	3	Widow	3
Younger Brother	6	NGO	6	Bachelor	12	Christian	4	Widower	4
Older Sister	7	Student	7	Master	13	Other	5	Separated	5
Younger Sister	8	Foreign job	8	Ph.D.	14			Divorced	6
Daughter-in-law	9	Household job	9					Other (Specify)	10
Sister-in-law	10	Other (Specify)	10						
Grandson	11								
Grand-daughter.	12								
Father	13								
Mother	14								

Grand-father	15		
Grand-mother	16		
Nephew	17		
Niece	18		
Father-in-law	19		
Mother-in-law	20		
Servant	21		
Other (Specify)	22		

C. Population dynamics: birth/death/migration

S.N.	Questions	Answers	Code/Skip to
1	Did any member of your family die last year?	Yes.....1 No.....2	
2	If so, how many members died?	.....
3	What was the sex of the deceased member?	Male.....1 Female.....2	
4	How old was he/she?	Completed years (Male): Completed years (Male):	
5	What was the cause of the death?	Disease.....1 Malnutrition.....2 Accident.....3 Other (Specify).....0	
6	Could you say which disease caused his/her death?	Diarrhea/Dysentery.....1 Cholera.....2 Fever.....3 Other (Specify).....0	
7	Has any member of your family gone outside the village/home?	Yes.....1 No.....2	
8	If so, why?	Job/earning.....1 Study.....2 Visit.....3 Other (Specify).....0	
9	Where?	Within Nepal.....1 Outside Nepal.....2	
10	If outside Nepal, which country has he/she been to?	Name of the country:	
11	If he/she has migrated within Nepal, what are the major causes?	Food inadequacy.....1 Unemployment.....2 Job/Earning.....3 Other.....0	
12	What types of job has he/she been involved in while being outside home?	Wage labour.....1 Domestic servant.....2 Brick carrying.....3 Other (Specify).....0	

D. Economic Resources/Status

D1. Descriptions of the Land Ownership

S.N.	Questions	Answers	Skip to
1	Do you have your own land?	Yes.....1 Not.....2	
2	If yes, what types of land do you have?	Khet.....1	

		Bari.....2 Pakho.....3 Other (Specify).....0	
3	How much land do you own?	Khet (in ropani).....1 Bari (in ropani).....2 Other (Specify).....0	
4	Have you rented any land?	Yes.....1 No.....2	
5	If yes, how much land have you rented?		
6	If yes, what is the basis of share cropping?	50%.....1 One third.....2 Two third.....3 other.....0	
7	Have you rented out any land?	Yes.....1 No.....2	
8	What kind of land have you rented out?	Khet.....1 Bari.....2 Pakho.....3 Other(specify) .....0	
9	If yes, how much is the rented-out land?	.....

D2. Description of Animals/Livestock

S.N.	Question	Answer	Skip to
1	What types of animals do you keep?	Buffalo.....1 Cow.....2 Sheep/goat.....3 Pig.....4 Other (Specify).....0	
2	How many animals do you have right now?	Buffalo..... Cow..... Sheep/goat..... Pig..... Other (Specify).....	
3	Where do you keep the animals?	In or near the house.....1 Far from home.....2 Field/Bari.....3 Field/Khet.....4 Jungle.....5 Other.....0	
4	What types of fowls do you keep in your home?	Pigeon.....1 Chickens.....2 Ducks.....3 Other (Specify).....0	
5	How many fowls do you have right now?	Pigeon..... Chickens..... Ducks..... Other (Specify).....	
6	What types of pet animals do you keep in your home?	Dogs.....1 Rat.....2 Mouse.....3 Other.....0	
7	How many pet animals do you have right now?	Dogs..... Rat..... Mouse..... Other.....	

D3. Income/Sources of Income

S.N.	Questions	Sources	Total Annual Amount (NRs)	Skip to
1	How much do you earn in a year from the following sources?	<u>Agriculture</u> Maize..... Paddy..... Wheat..... Barley..... Millet..... Other.....(Specify)	.....
		<u>Livestock</u> Buffalo..... Cow..... Sheep/goat..... Pig..... Fowl..... Other (Specify).....	.....
		Agricultural Labor	..... .....
		Remittance	..... .....
		Service	..... .....

D4. Descriptions of household expenditure

S.N.	Questions	Items	Total Annual Amount (NRs)	Skip to
1	How many rupees do you spend in a year for the following purposes?	Agricultural work	..... .....
		Festivals	..... .....
		Schooling	..... .....
		Clothes	..... .....
		Medicine	..... .....
		Sanitation materials (soap, shampoo, nail clippers, toothbrush, etc)	..... .....

D.5 Food Sufficiency Status

S.N.	Questions	Answers	Skip to
1	Is it adequate/enough to feed your family for a whole year from your own production?	Yes.....1 No.....2	
2	If no, for how many months of the year is the food produced from your field sufficient?	Less than 3 months.....1 3-6 months.....2 6-9 months.....3 9-11 months.....4	
3	How do you cope with the food deficit in the deficit months?	Agricultural labor.....1 Non-agricultural labor.....2 Selling of animals.....3	

		Begging.....4 Lending.....5 Other (Specify).....0	
4	What is the major cause of food shortage in your family?	Lack of enough agricultural land.....1 Lack of agricultural facilities.....2 Lack of irrigation.....3 Natural calamities.....4 Other (Specify).....0	

E. Descriptions of water and sanitation facilities/latrines made (cost/types/subsidy)

S.N.	Questions	Answers	Skip to
1	Do you know about school sanitation and hygiene education?	Yes.....1 No.....2	
2	If yes, do have sanitation facilities in your home?	Yes.....1 No.....2	
3	If yes, have you made latrine for your family use?	Yes.....1 No.....2	
4	If yes, what types of latrine have you made? (whatever the types and nature—permanent and temporary)	Pit.....1 Flush.....2 Ecosan.....3 Other.....0	
5	How much did you spend for latrine construction?	Amount (specify).....	
6	Did you receive any subsidy, whether in kind or cash, to construct toilet?	Yes.....1 No.....2	
7	If yes, who provided the subsidy?	VDC.....1 DDC.....2 UNICEF.....3 WHO.....4 Other (Specify).....0	
8	Do you have materials for health, hygiene, and sanitation?	Yes.....1 No.....2	
9	If yes, what kinds of things do you have for sanitary purposes? Which things do you use for your health, hygiene, and sanitation?	Soap.....1 Toothbrush.....2 Nail clipper.....3 Towel.....4 Toothpaste.....5 Other (Specify).....0	
10	How much water does your family need in a day?	30-50 Ltrs. 50-100 Ltrs. 100-200 Ltrs. 200-500 Ltrs	
11	How is the water supply facility in your home?	Good.....1 Not good.....2	
12	From where do you get water for your household need?	tap at home.....1 well.....2 spring.....3 streams.....4 rivers.....5 traditional stone spouts.....6 pond.....7 other (Specify).....0	
13	How far is the water source you're your home?	Less than 1 km.....1 1 km.....2 1.5 km.....3 2 km.....4	

		Other (Specify).....5	
14	How much time does it take to bring water to your home from sources?	15 min.....1 30 min.....2 1 hour.....3 1-1/2 hour.....4 Other (Specify).....0	
15	Do you have enough water to fulfill your household need? (If No, how do you manage? (for KIs only)	Yes.....1 No.....2	
16	Have you access to health service in the village?	Yes.....1 No.....2	
17	If not, where do you go when you become sick?	District Headquarter.....1 Health post in village.....2 RHW.....3 Shaman (lama, jhankri).....4 Use herbs.....5 Other.....0	
18	Are you the members of WSSUC?	Yes.....1 No.....2	
19	Have you taken any training on hygiene and sanitation?	Yes.....1 No.....2	
20	If yes answer, who was the trainer? Who was the organizer/supporter?	School.....1 UNICEF.....2 WHO.....3 Local club/organization.....4 Other (Specify).....0	
23	Do you wash your face regular basis?	Yes..... No.....	
24	Do you trim your nails regularly?	Yes..... No.....	
25	Do you have dust bin in your home?	Yes..... No.....	
26	Do you sweep your home regularly?	Yes..... No.....	
27	Do you wash your hands regularly?	Yes..... No.....	
28	Do you brush your teeth regularly?	Yes..... No.....	
29	Do you wash your clothes regularly?	Yes..... No.....	
30	Do you take bath regularly?	Yes..... No.....	

Annex 3: Checklist for Key Informant Interview

A. Background Information

Name of the Interviewee:
District:
VDC/Municipality:
Ward:
Caste/ethnic groups:
Literacy/Level of education:
Religion:
Age:
Occupation:

B. Information on health, medicine, hygiene, sanitation, waste management, latrine use, practices and disease.

1. Where do you defecate?
2. How do you clean after defecation?
3. Can you tell me what may happen if one does not have latrine?
4. What benefit will be gained if one has latrine?
5. Can you tell me about the advantages from latrine use?
6. If so, who told you and from where did you learn about it?
7. How far is your latrine from your home?
8. Which family members use toilet? All or some only? Why not by all?
9. Do you understand how diseases like diarrhea, dysentery, cholera occur?
10. How and where do you manage other wastes in your home?
11. When and why do you wash your hand?
12. How many times do you wash your hand? If not why?
13. Do you wash your hands after defecation?
14. Do you use soap, ash, and any other things for washing hands before having food and after defecation?
15. When, how many times in a week, and where do you take bath?
16. Have you heard any information about sanitation and open defecation-free village? (information of total sanitation)
17. Was there any of incidence of diarrhea, dysentery, cholera? If yes, what did people do when they and their family members became sick? Going to hospitals, health post, or use any other method to cure?
18. Do you use any herbs and plants as medicine? What are these?
19. How often do you go to traditional healers when you or your family members get ill?

C. Information on Institutional status of WSS (Use and Safe Drinking Water, Source and its Security)

1. Can you tell me what water is?
2. Tell the major kinds of sources of water.
3. For what purposes do you use water? (i.e. drinking, cooking, food processing; washing utensils; washing face, feet, hands, clothes, bathing; play, religious, recreation; animal watering; irrigation of garden and fields, etc.)
4. Which source do you think is most safe? Why?
5. Access to water supply and sanitation facilities, perceived problems of water supply, perceived quality of water and water sources, safety of resources.
6. Approximately how much liter/*mana*/pathi of water do you require in a day for your household?
7. How is the quality of water you use? Safe/pure or dirty or harmful?
8. Do you know about what quality of water is good for health?
9. Do you have access to enough water? If no, how do you manage the need of water? In wet season and dry season?

10. Where do you carry water from? (i.e., tap, open well, rain, pond, dam, hand pump, bucket pump, engine driven pump).
11. How long does it take to fetch water from your usual source?
12. Is there any modern water supply system?
13. If so, when and who built this water supply system?
14. How much have people contributed to build this system?
15. Who repairs and maintains this system (WSSDO, user committee, deputed personal, villagers, etc)?
16. How is this WSS maintained and protected?
17. Is this system satisfactory?
18. Where the waste water from this drinking water system is drained off to?
19. Does the waste water from the homes enter to the system? How and where?
20. Do people take bath and wash clothes at the water source?
21. Who is responsible for management of this source and system of this community?
22. Is there any VMW? If so, how he/she is appointed?
23. Are there any necessary equipments available locally for maintaining water system?
24. Is WUC formed in your community? If so, how many members are there in this committee? Woman/men?
25. Does any agency or WUC collect tax for drinking water?
26. Has there been any problem or water shortage in drinking water supply system?
27. What problems have you experienced with getting water?
28. If any problems, how are the problems solved?
29. In your opinion, who is responsible for providing services, cleaning activities, and maintaining the environment of your community?
30. What types of utensils do you use for storing/fetching drinking water?
31. What do you do with the water before drinking it?
32. Do you cover the pot in which you store the water? (To be observed.)
33. Where do you throw away the remaining water from your container before refilling it with fresh water?
34. Do you wash the inside of the pot when refilling it with fresh water?
35. If so, what do you wash it with?
36. Whose obligation do you think is it to provide you water?

D. Information on attitude, perception, and belief of local people regarding handling of excreta, sanitary materials, proximity of animal shed, hand-washing practices, causes of diarrhea and other infectious disease, etc.

1. What do you think will happen if you do not wash your hand after and before defecation?
2. Do you teach washing hand and timely taking bath to your child?
3. Idea on evil/spirit/god etc., when health and hygienic problems take place.

4. Use of containers and pit for management of waste water, use of sanitary materials
 5. Why didn't you construct toilet for managing human excreta?
 6. What are the main reasons for not using latrines?
 7. You do not have latrine. You have not managed waste properly. Do you understand the negative effects of such behavior?
 8. How far is the animal shed from your home? (To be observed also), Why?
 9. What do you feel about the dung of animal? (sheep, goat, pig, cow, buffalo etc)
 10. What do you do with the dung of animal? (sheep, goat, pig, cow, buffalo etc)
 11. Is human excreta suitable as fertilizer for crop? You know about the use and utility of human excreta?
 12. From where and which source did you know about the usefulness of human excreta?
 13. How harmful do you think are excreta of babies and that of adults?
 14. What do you do with kitchen and yard rubbish? Throw outside home? how far?
 15. Do you sometimes discuss about the sanitation in your community members?
 16. If so, when and on n what occasions? For what purpose?
 17. Are there any rules for sanitation in your community for defecation and disposal of waste? How are these?
- E. Information on knowledge on hygiene and poverty, belief, attitudes and practices related to domestic waste, animal waste, environmental sanitation**
1. Belief about water and health (Is there any relation between health and water?)
 2. Knowledge about the fecal-oral transmission routes (Do you know how does bacteria get transmitted to the mouth)?
 3. Do you eat stale or dirty food, excess food, and other foodstuffs?
 4. Do you drink dirty water? Why?
 5. Can you tell me the various types of water-borne diseases?
 6. Which season, hot and cold, is conducive for disease infection?
 7. How often do you care for child and own self?
 8. Do you know about dirty environment?
 9. How many times do you sweep your home inside and outside?
 10. Do you belief in purity and cleanliness?
 11. Is there any relation of health/hygiene/sanitation and poverty?

F. Gender Status in the Community

1. What is the situation of men and women within the household and public/social milieu?
2. What are the roles of men and women within the household and public/social milieu?
3. Regarding sanitation, who makes decision in the household?
4. Who is more involved and responsible for the management of drinking water and sanitation in community in general and each family in particular?
5. Who fetches water in your family?
6. Who cleans the home and surroundings? (inside/outside/yard)?

Annex 4: Checklist for Selected Key Informants Involved in Various Agencies

Name of the informants:

VDC/Municipality:

Ward:

School/institutions:

Designation:

1. What are the concepts, ideas, theories, approaches, and modalities of total sanitation?
2. In your view, what is the government policy and programmed regarding TS? Is it appropriate or not? Why?
3. Are these approaches appropriate for the country like Nepal?
4. Is total sanitation possible? How can we achieve this status?
5. Chitwan is a district declared as the Model District for Total Sanitation. Why the situation of hygiene and sanitation is not found as expected and declared? Please explain.
6. Do you agree with existing structural and policy measures? Please give your own arguments.
7. Could you tell me about the school sanitation program? Since when and from where this approach came in Nepal? Describe.
8. Has the community benefited from SLTS?
9. Do you have any contribution to develop the area as totally sanitized?
10. How have you contributed to make Chitwan as a model district?
11. Who initially felt the need of intervention? Community itself or induced by outside?
12. Did you involve in decision making process for launching the hygiene and sanitation development interventions and activities in the community?

Annex 5: Checklist for Observation

Household No.

VDC:

Ward:

Tole:

Direct Observation

1. Physical features or topography/landscape of the community – altitude, climate, plain/Terai, No plain land/sloppy/steepy, valley, altitude, latitude/longitude.
2. Settlement pattern – clustered together, scattered, housing pattern, etc.
3. Nature of community – Mixed/complex society, homogenous/heterogeneous, religions/caste, cultural groups

(To gather information through this method, researcher further focused on the following five behavioral patterns and dimensions of each household)

1. Safe disposal of human fecal/excreta
2. Use and protection of water sources
3. Water and personal hygiene/water hygiene/consumption of safe water/hand washing after defecation and before eating food, bathing
4. Food hygiene—weaning food/food preparation and storage/food hygiene
5. Domestic and environmental hygiene—animal management/safe waste disposal and drainage
6. Kinds of tools people used for livestock and use for domestic use and hygiene and sanitation were observed at all clusters/communities of three wards

Agricultural tools	Tools used for livestock	Use of domestic tools	Materials/tools used for hygiene and	Latrines used	
				Y	N

Indirect Observation

1. Use of animal/fowl dung
2. Animal hut/shed
3. Use of residues
4. Yard/compound/ hearth, animal shed

5. When and where do they wash hand—hand-washing habits
6. Where do they go to defecate?
7. How do they prepare weaning food?
8. Where do they dispose waste and drainage waste water?
9. Bathing habits and animal contacts.
10. Human excreta in and around the cluster/ward/community—road, streets/foot trail/field and other place?
11. Level of cleanliness around the houses of the cluster/ward/community?
12. How is the presence of animal waste (dung/excreta/rubbish) in the community/cluster?
13. Presence of ducks, chickens roaming free in the community around water resources?
14. Use of water (quantity of water)
15. Protection of water sources/taps.

4.3. Participant observation

1. Hand washing, cooking, bathing, washing clothes.
2. Water use, sources, toilet status, use; proximity to animal hut, fowls, using dung
3. Washing of utensils
4. Activities done in feast and festivals/daily routine

Annex 6: Checklist for Focus/Group Discussion

(with women and men separately) Common (if possible) issues related to use of water, safe drinking water, and source, its security and diseases, status of gender role and perspective. Invitees ranged from 8-12 for formal discussion)

District:

VDC/Municipality:

Ward/Community:

Name lists of the persons involved in FGD:

SN	Name	Caste/cultural groups	Age	Education /Literacy	Occupation	Remarks
1						
2						
3						

B. Specific conditions of HH

1. Where did your ancestors used to live before? Where did you come from?
2. How is the hygiene, sanitation situation of you and your family member?
3. What is the perception and knowledge of hand washing?
4. Food preparation/eating/drinking.
5. Disposal/management of domestic waste/human excreta management.
6. Toilet/latrine use.
7. Bathing/washing habit/practices.
8. How is the situation of child schooling.
9. Belief and method of treatment while sick.
10. History of illness, death incidents, hygiene and sanitation of your family.

Annex 9: Glossary of Nepali Words

Aran - Tools making place of Blacksmith

Arni - Mid day meal taken while working in the field

Bancharo - Axe

Bari - Dry terraces land

Basilo - An iron sharp tool used for furniture

Balti - Plastic, iron vessel used for carrying water

Bhakar - Domestic animal dung piled in huts

Bhakari - A local things used for collection of grain particularly paddy

Bikas - Development

Bikashe raksi - Imported alcohol

Bimiro - A wild Lemon used for sour

Budrum - A kind of bird which is killed for meat

Chakati - Small carpet made of barks of maize

Chhatri/Shyakhu - Local umbrella made up of leafs of tree

Chiura - Bitten rice

Chiuri - A tree of which flower is eaten as curry

Choya - Splited bits for knotting

Dhakiya/Dalo/dali - A small vessel used for collecting domestic things

Dalit - Common name of untouchable caste

Damlo - Thing knotting domestic animal

Dhami - Witch doctor who is from socially upper group (i.e. Tamang) than Jhankri

Dhiki - A wooden machine for husking paddy

Dhindo - Boiled food prepared with dust of rice, maize, millet, wheat etc

Dhunge Dhara - Traditional source of water made up of stone slate

Doko/Thunse - Vessel made up of splits of brass used for carrying things

Dudi - A small wooden pot used for watering animal

Duna - Leaf plate

Fukfak - Magical action doing by witch doctor

Gagri - Vessel made of copper used for carrying water

Ghaila - A big pot made up of mud which carried 50-60 Ltrs

Ghaito - Pot made up of mud used for keeping and carrying water

Ghampo - A big pot used for collecting water and jar

Ghan - Big hammer used for breaking stone

Ghatta - A traditional local machine for grinding grain e.g. maize and wheat

Githa - A round hairy Bitter tasting root (Nakti in Tamang and Lak in Chepang terms)
used as food

Gundri - Local carpet

Haija - Cholera

Halo - Plough

Hasiya/Khukuri - Cutting tools

Janto - A small machine for grinding grain and pulse

Jar - local beer

Jhankri- Witch doctor who is from socially lower group (i.e. Chepang) than Dhami

Juwa/Jotara/Nara - Parts of plough

Kalij - A kind of bird which is killed for meat (Lophura leucomelana)

Karaunti - A tool splitting wood

Karuwa/Amkhara - A kind of utensil used for drinking water

Kauro - A kind of tree of which flower is used as green curry

Khaja - Mid day meal

Khanti - Digging tool

Kharani - Ash

Kharayo - A kind of wild animal is killed for meat (Lepus ruficaudatus)

Khet - Wet terraces land

Khumre - A big bowl used for drinking jar/local beer

Koiralo - A kind of tree of which flower is used as curry

Kuchi - Small sweeping tool

Kucho - A sweeping tools

Kurilo - Asparagus officinalis L.

Kuto - Small spade with short handle

Kodalo - Spade

Kuwa - Traditional well used as source of water

Mana - A measuring tool equivalent to half kilogram of grain

Marcha - Chemical (yest) locally made with various kind of plants used for making
jar and *raksi*

Mela - working in the field

Mriga - A goat like animal (deer) killed for meat

Mulapate - A kind of plant is used for making marcha

Muri -A measure approximately 80 Kgs

Namlo - A things used while carrying things

Neem - A kind of tree of which leaf is used as medicine

Niuro - A kind of plant of which steim is eaten as curry

Odan - Vessel used as oven

Okhati - Medicine

Pakari - A king of tree of which bud tip is used as medicine

Pathi - Vessel made up of mud or brass or copper measuring eight mana equivalent to
2.43 Kgs

Pati - A plant (*Citrus aurantifolia*) used at the time of bathing as medicine

Phali - An iron part of plough

Phohori - Filty person

Pina - Kernal

Pokhari - Locally concentrated water that is specially used for watering animal

Pooja - Ritual function and ceremony

Raksi - Alcohol

Ritha - A natural thing often used as soap

Ropani - A unit of land measurement in the hill district and Kathmandu Valley
comprising an area of 5476 square feet or 0.05 hectare

Sankranti - First day of month

Siphligan - A kind of tree of which branches and leafs is used as green curry

Sisno - *Urtica dioica* L.

Sungur - Word used to point to a man as filthy as pig

Tanki - A kind of tree of which bud tip is eaten as curry

Tantra Mantra - Magical system

Tapari - Plate made of leaf

Tarul - Wild yams

Titra - A kind of bird which is killed for meat (upupa epops)

REFERENCES

- Adams, J., Bartram, J., Chartier, Y., & Sims, J. (Eds.) (2009). *Water, sanitation and standard for schools in low-cost setting*. UNICEF/WHO. Executive Board, Annual Session, 3 United Nation Plaza, New York.
- Adhikari, K. (2012). *Sanitation in Nepal: Past, present and future*. Kunti Bhoomi Memorial Trust, KTM, Nepal.
- Anderson, J. A. (1973). *Handbook of social and cultural anthropology*. Chicago: Rand McNally and Co.
- Anderson, R. (1996). *Magic, science and health, the aims and the achievements of medical anthropology*. Fort Worth: Harcourt Brace.
- Aryal, M. P. (Translated). (2066 B.S.). *Chanakya: Jivani Ra Nitishatra* (Biography and Ethics). Everest Geeta Niketan.
- Ashby, E. (1988). *Reconciling man with the environment*. Stanford, California: Stanford University Press.
- Aunger, R. (2009). Three kinds of psychological determinants for hand-washing behaviour in Kenya, *Soc Sci Med* 70(3): 383-91.
- . (2009). Experimental pretesting of hand-washing interventions in a natural Setting, *Am J Public Health* 99 Suppl 2: S405-11
- Aunger, R. and Curtis, V. (2008). Kinds of behaviour, *Biology & Philosophy* 23(3): 317-345.
- Avvannavar, S. M. & MontoMani, S. (2008). A conceptual model of people's approach to sanitation, *Elsevier Science of the Total Environment* 390, *Science Direct*.
- Bennet, J. W. (1976). *The ecological transition: Cultural anthropology and human adaptation*. New York: Progress Press.
- Berkeley, Los Angeles, and London: University of California Press.
- Bernard, H.R. (1988). *Research methods in cultural anthropology*. New Delhi: Sage Publications.
- Bhopal, R. S. (1986). The interrelationship of folk, traditional and western medicine within an Asian community in Britain, *Soc Sci Med* 22(1): 99-105.
- Biran, A. (2003). Hygiene in the home: Relating bugs and behaviour, *Social Science and Medicine* 57(4): 657-72.

- . (2008). Comparing the performance of indicators of hand-washing practices in rural Indian households, *Trop Med Int Health* 278-285.
- Biran, A. Curtis, V. (2009). The effect of a soap promotion and hygiene education campaign on hand washing behaviour in rural India: A cluster randomised trial, *Trop Med Int Health* 14(10): 1303-14.
- Bista, D.B. (1972). *People of Nepal*, Second Edition. Kathmandu: Ratna Pustak Bhandar.
- Black, M. and Fawcett, B. (2008). *The last taboo, opening the door on the global sanitation crisis*. UK: Earthscan.
- Boot, M. and Cairncross, S. (Eds). (1993). *Action speak: the study of hygiene behaviour in water and sanitation projects*, IRC International Water and Sanitation Centre and London School of Hygiene and Tropical Medicine.
- Borghi, B. (2002). Is hygiene promotion cost-effective? A case study in Burkina Faso, *Tropical Medicine and International Health* 7(11): 960-9.
- Boyd, R. and Peter J. R. (1985). *Culture and the evolutionary process*. Chicago: University of Chicago Press.
- Burghart, R. (1988). Cultural knowledge of hygiene and sanitation as a basis for health development in Nepal, *Contribution to Nepalese Studies*, CNAS, Tribhuwan University, Vol. 15, No. 2.
- . (1993). Drinking water in the Nepalese Terai, *Contribution to Nepalese Studies*, CNAS, Tribhuwan University, Vol. 15.
- Burton, A. (2011). The effect of handwashing with water or soap on bacterial contamination of hands, *Int J Environ Res Public Health* 8(1): 97-104
- Cairncross, S. (2010). Water, sanitation and hygiene for the prevention of diarrhea, *Int J Epidemiol*, 39 Suppl 1: 193-205
- Camron, M. M. (2009). Untouchable healing: A Dalit ayurvedic doctor from Nepal suffers his country's ills, *Medical Anthropology*, 28(3): 235-267.
- Carman, J.B. and Marglin, F.A. (Eds). (1985). *Purity and auspiciousness in Indian society*, Leiden: Brill.
- Central Bureau of Statistics. (2001). *Nepal district profile*. Kathmandu: National Research Associates.
- Chambers, R. (1992). *Rural appraisal rapid, relaxed and participatory*. Institute of Development Studies.

- Champan, R. R. and Berggren, J. R. (2005). Radical contextualization: contribution to anthropology of racial/ethnic health disparities in health, *An Interdisciplinary Journal for the Social Study of Health, Illness, and Medicine* 9(2): 67-83.
- Comelles, J. M. and Dongen, E. (Eds.). (2002). *Themes in medical anthropology*. Perugia: Fondazione Angelo Celli Argo.
- Coombes, Y. (2009). Determinants of handwashing practices in Kenya: The role of media exposure, poverty, and infrastructure, *Tropical Medicine and International Health* 67(3): 31-51.
- Curtis, V. (2001). Disgust and disease: Is hygiene in our genes? *Perspectives in Biology and Medicine* 44(1): 17-31
- . (2001). Hygiene: How myths, monsters, and mothers-in-law can promote behaviour change, *Journal of Infection* 43(1): 75-9.
- . (2003), Talking dirty: How to save a million lives, *Int J Environ Health Res* 13 Suppl 1: S73-9.
- . (2003). Hygiene in the home: Relating bugs and behaviour, *Social Science and Medicine* 57(4): 657-72
- . (2004). Evidence that disgust evolved to protect from risk of disease, *Proc R Soc Lond B Biol Sci* 271 Suppl 4: S131-3.
- . (2007). A natural history of hygiene, *Canadian Journal of Infectious Disease and Medical Microbiology* 18(1): 11-14
- . (2007). Dirt, disgust and disease: A natural history of hygiene, *Can J Infect Dis Med Microbiol, J Epidemiol Community Health* 18(1): 11-4 and 61(8): 660-4.
- . (2009). Planned, motivated and habitual hygiene behaviour: An eleven country review, *Health Educ Res* 24(4): 655-73.
- . (2011). Hygiene: New hopes, new horizons, *Lancet Infect Dis*, 11(4): 312-21
- Curtis, V. and Cairncross, S. (2003). Effect of washing hands with soap on diarrhoea risk in the community: A systematic review, *Lancet Infect Dis* 3(5): 275-81
- Curtis, et al. (2001). Evidence of behaviour change following a hygiene promotion programme in Burkina Faso, *Bulletin of the World Health Organization*.

- Curtis, V., De Barra, M., Aunger, R. (2011). Disgust as an adaptive system for disease avoidance behaviour, *Philos Trans R Soc Lond B Biol Sci* 11(3): 20-6.
- David, S. (2009). *Participatory hygiene and sanitation transformation (PHAST): A methodology for sustainable hygiene and sanitation behavior change with experience from the Bawku West District of Ghana*, West Africa Regional Sanitation and Hygiene Symposium.
- Dhakal, Suresh Kumar (2012). *Democracy in everyday life: Ethnography of participation and representation in the rural Nepal*. Unpublished doctoral dissertation, Tribhuvan University, Kirtipur.
- Dosi, G. and Egidi, M. (1991). Substantive and procedural uncertainty: An exploration of economic behaviours in changing environments, *Journal of Evolutionary Economics* 1(2): 145–68.
- Dougherty, C. & Tripp-Reimer, T. (1985). The interface of nursing and anthropology, *Annual Review of Anthropology* 14: 219–41, doi:10.1146/annurev.an.14.100185.001251, JSTOR 2155596
- Douglas, M. and Wildavsky, A. (1982). *Risk and culture*. Berkeley: University of California Press.
- Douglas, M., (1966). *Purity and danger*, London: Routledge.
- Drangert, J., (2004). Norms and attitudes towards Ecosan and other sanitation systems, *Ecosanres Publication Series*.
- Durkheim, E. ([1912] 1915). *The elementary forms of the religious life*, London: Allen & Unwin.
- DWSS. (2008). *Nepal country plan for the international year of sanitation*, Steering Committee for National Sanitation Action.
- . (2009). *Water safety plan* (Khanepani Surakchya Yojana).
- DWSS/CHRDU/UNICEF. (2001). *Report on sociologists' workshop*, Nagarkot, Bhaktapur.
- DWSS/SCNSA. (2000). *Nepal state of sanitation report*, SCNSA.
- DWSS/UNICEF. (2006). *School sanitation and hygiene education programme guidelines*, Steering Committee for National Sanitation Action, Fifth Edition.
- Escobar, A. (1991). Anthropology and the development encounter: The making and marketing of development anthropology, *American Ethnologist*. American Anthropological Association.

- . (1995). *Encountering development: The making and unmaking of the Third World*. Princeton University Press, Princeton, New Jersey.
- Evans-Pritchard, E.E. (1956) *Nuer religion*. Oxford: The Clarendon Press
- Ferguson, J. (1994). *The anti-politics machine: Development, depoliticization, and bureaucratic power in Lesotho*. Minneapolis: University of Minnesota Press.
- Fisher, J. (1987). *Trans-Himalayan traders: Economy, society and culture in northwest Nepal*. Berkeley: University of California Press.
- Fricke, T. E. (1993). *Himalayan households: Tamang demography and domestic process*. Delhi: Book Faith India.
- Fujikura, T. (2004). *Discourses of awareness: Development, social movements and the practices of freedom in Nepal*. Ph.D. Dissertation Submitted to the Department of Anthropology, Chicago, Illinois.
- Geest, S. (1998). Akan shit, getting rid of dirt in Ghana, *Anthropology Today* 14(3): 8-12.
- Ghimire, S. (2009). The intersection between armed conflict and the health service system in the Rolpa district of Nepal: An ethnographic description. *War & Social Medicine*, Vol. 4.3.
- Giddens, A. (1984). *The constitution of society: Outline of the theory of structuration*. Berkeley: University of California Press.
- GN. (2011). *Sanitation and hygiene master plan*.
- GN/DWSS. (2009). *A compendium of the international year of sanitation initiatives in Nepal, The international year of sanitation-2008*, Desk, Steering Committee for National Sanitation Action.
- GN/MPPW. (2009). *Urban water supply and sanitation policy*.
- Good, B. (1994). *Medicine, rationality, and experience*. Cambridge, England: Cambridge University Press.
- Goode, W.J. and Hatt, P.K. (1952). *Methods in social research*. New York: McGraw-Hill.
- Hahn, R. A. and Marcia, I. (Eds). (2010). *Anthropology and public health: Bridging differences in culture and society*, Second edition. Oxford University Press.
- Hardesty, D .A. (1977). *Ecological anthropology*. New York: John Valley and Sons.

- Helman, C. (1994). *Culture health and illness: An introduction for health professionals*. London: Butterworth-Heinemann.
- Hitchcock, J. T. (1966). *The Magars of Banyan Hill*. United States of America.
- HMG. (2002). *Water resources strategy, executive summary*. Kathmandu: Water and Energy Commission Secretariat, Singha Durbar.
- . (2004). *Rural water supply and sanitation national policy 2004 and rural water supply and sanitation national strategy-2004*. Kathmandu: Singha Durbar.
- . HMG. (2004). *Rural water supply and sanitation sectoral strategic plan*. Singha Durbar.
- HMG/DWSS. (2055). *Water resource act 2049, water resource regulation 2050, and water supply regulation 2055*. Kathmandu: Community Water supply and Sanitation Project.
- HMG/MHPP/DWSS/PMO. (2001). *Fourth water supply and sanitation project guidelines*. Kathmandu.
- Horan, J.L. (1996). *The porcelain god: A social history of the toilet*. Toronto: Cidal Press, Carol Publishing Groups.
- Islam, Z. & Sultana, F. (2000). *Factors in community managed Watsan programme*. A Working Paper presented in 26th WEDC Conference on Water, Sanitation, and Hygiene: Challenges of the Millennium.
- Islam, Z. (2000). *Hygiene and sanitation system in Murang society*. A Working Paper presented in 26th WEDC Conference on Water, Sanitation, and Hygiene: Challenges of the Millennium.
- . (2000). *Women's approach to rural sanitation*. A Working Paper presented in 26th WEDC Conference on Water, Sanitation, and Hygiene: Challenges of the Millennium.
- Janzen, J.M. (2002). *The social fabric of health: An introduction to medical anthropology*. New York: McGraw-Hill.
- Jary, D. and Jary, J. (1995). *Collins dictionary sociology*. Harper Collins Publishers.
- Jenkins, M. W. (2005). Achieving the 'good life': Why some people want latrines in rural Benin, *Social Science & Medicine*, 61(11): 2446-2459.
- Judah, G. (2009). Dirty hands: Bacteria of faecal origin on commuters' hands, *Epidemiol Infect* 138(3): 409-14.

- . (2009). Experimental pretesting of hand-washing interventions in a natural Setting. *Am J Public Health* 93(5): 102-19.
- Justice, J. (1989). *Policies, plan and people, foreign aid and health development*. Kathmandu: Mandala Publications.
- Kalima, W. L. (1986). *Progress in water supply and sanitation technology related to intestinal parasites*. WHO Organization Mondale De La Sante.
- Kalyan, A. (2007). Water handling, sanitation and defecation practices in rural southern India: A knowledge, attitudes and practices study, *Science Direct* 101: 1124-1130. The Royal Society of Tropical medicine and Hygiene, published by Elsevier Ltd.
- Kelly, J.D. & Kaplan, M. (1990). History, structure, and ritual', *Annual Review of Anthropology* 19: 119–150.
- Kertzer, D.I. (1988). *Ritual, politics, and power*. London: Yale University Press.
- Khare, R.S. (1962). Dava, Daktar, and Dua: Anthropology of practiced medicine in India, *Social Science & Medicine* 43(5): 837-848
- . (1962). Ritual rules of purity and pollution in relation to domestic sanitation, *Eastern Anthropologist* 15:125–39.
- Kleinman, A. & Liliyas, H. Sung. (1985). Why do indigenous practitioners successfully heal? *Soc. Sci. & Med* 13B: pp 7-26.
- Kleinman, A. (1978). *Culture and healing in Asian societies: Anthropological, psychiatric, and public health studies*, Arthur Kleinman [et al.], G.K. Hall (Eds).
- . (1980). *Patients and healers in the context of culture: An exploration of the borderland between anthropology, medicine, and psychiatry*. University of California Press.
- . (1985). *Culture and depression: Studies in the anthropology and cross-cultural psychiatry of affect and disorder*, Arthur Kleinman and Byron Good (Eds). University of California Press.
- . (1986). *Social origins of distress and disease: Depression, neurasthenia, and pain in modern China*. Yale University Press.
- Knight, C.D. (1991). *Blood relations, menstruation and the origins of culture*. New Haven and London: Yale University Press.

- Krishna, A. (2002). *Active social capital: Tracing the roots of development and democracy*. New York: Columbia University Press.
- Leach, E.R. (1958). An anthropologist's reflections on a social survey, *The Ceylon Journal of Historical and Social Studies*.
- LIPT (2007). Nepalese journal of qualitative research method, Local Initiative Promotion Trust, *Upriety et al. (Eds), Lalitpur, Vol. 1 and 2*.
- Long, N. (1992). *The battlefields of knowledge: The interlocking of the theory and practice in social research and development*, Norman Long and Ann Long (Eds). Routledge.
- Loudon, J.B. (Ed.). (1976). *Social anthropology and medicine*, A.S.A. Monograph 13. London & New York: Academic Press.
- Loustaunan, M. (1997). *The cultural context of health, illness and medicine*. Westport, Connecticut: Bergin & Garvey.
- Malinowski, B. 'A. (1944). *Scientific Theory of Culture* cited by Rhoda Metraux in International Encyclopedia of the Social Sciences, Vol. 9. Pp. 541-547.
- Mann, R. S. (1984). *Anthropological and sociological theory: Approaches and applications*. Jaipur: Rawat Publications.
- McElroy & Townsend. (1998). The ecology of health and disease. In, van der Geest, S. and A Rienks (eds) *The Art of Medical Anthropology Readings*. Amsterdam: Het Spinhuis, pp. 92-105.
- Microsoft Corporation (1999). *Encarta world English dictionary*, Developed for Microsoft by Bloomsbury Publishing Plc.
- Miller, C. J. (1997). *Faith healers in the Himalaya*. Delhi: Book Faith India.
- Mishra, C. (1990). Development and underdevelopment: A preliminary sociological perspective, *Occasional Papers in Sociology and Anthropology*, Vol. 3, Central Department of Sociology and Anthropology.
- . (2007). *Essay on the sociology of Nepal*, Kathmandu: Fine Print Inc.
- MPPW. (2004). *National hygiene and sanitation policy, strategies and guidelines*, HMG.
- . (2009). *Rain water harvesting*, Organizing Committee for Regional High Level Meeting on Rain Water Harvesting, Singha Durbar, Kathmandu, Nepal.

- Nawab, B. (2006). Cultural preferences in designing ecological sanitation systems in North West Frontier Province, Pakistan, *Elsevier Journal of Environmental Psychology* 26: 236-246, available at: www.elsevier.com/locate/yjevp
- NEA. (2006). *International conference on management of water, wastewater and environment: Challenges for the development countries*, September 13-15, 2006, Abstract copy, Kathmandu, Nepal.
- Needham, R. (1972). *Belief, language, and experience*. Oxford: Basil Blackwell.
- Nepali, G.S. (1965). *The Newars: An ethno-sociological study of a Himalayan community*, Bombay: United Asia Publication.
- NEWAH. (2006). *Nepalama sarasafaiko abastha*. Format Printing Press.
- Nichter, M. (2008). *Global health: Why cultural perceptions, social representations, and biopolitics matter*. Tucson: The University of Arizona Press.
- NPCC. (1997). *Final report on diarrhea, water and sanitation, Nepal multiple indicator surveillance, Third Cycle: February-April 1996*, in Collaboration with UNICEF Nepal.
- Orlove, B.S. (1980). Actor-based model and processual ecological anthropology, *Ecological anthropology, Annual Review of Anthropology* 9: 235-73.
- Ostrom, E. (2009). Institutional rational choice: An assessment of the institutional analysis and development framework. In Paul Sabatier (eds) *Theories of the Policy Process*, 2nd ed. Boulder, Colorado: Westview Press.
- Pandey, D. R. (1999). *Nepal's failed development: Reflections on the mission and the maladies*. Nepal South Asia Centre.
- Pathak, B. (1999). NGO profile, sanitation is the key to healthy cities. A profile of Sulabh International, *Environment and Urbanization*, Vol. 11. No. 1.
- . (1999). *Road to freedom (Mukti ke marg per)*. Pathak Publishers.
- Pertti J. & Gretel, H. P. (1997). Ethnographic: The fieldwork enterprise. In J.J. Honingman (ed.), *A Handbook of Social and Cultural Anthropology*. New Delhi: Rawat Publication.
- Pertti J. P. & Gretel, H. P. (1978). *Anthropological research: The structure of inquiry*, Cambridge University Press.
- Pieterse, J.N. (2001). *Development theory: deconstruction/reconstructions*. New Delhi: Vistaar Publication.

- Pigg, S. L. (1992). Inventing social categories through place: social representations and development in Nepal, *Comparative Study of Society and History*, Vol. 34, No. 3.
- . (1993). Unintended consequences: The ideological impact of development in Nepal, *South Asia Bulletin*, Vol. XIII, No. 1 and 2.
- . (1995). Acronyms and effacement: Traditional medical practitioners (TMP), *International Health Development, Social Science and Medicine*, Vol. 41, No. 1.
- . (1997). *Found in most traditional societies, traditional medical practitioners between culture and development*. Berkeley: University of California Press.
- Pinell, P. (1996). Modern medicine and civilizing process, *Sociology of Health and Illness* 18(1): 1-16.
- Pokharel, Binod. (2010). *Anthropology of development: Policies and practices of community development in Melamchi valley, Sindhupalchok District, Nepal*. Unpublished Ph.D. dissertation submitted to Tribhuvan University, Kirtipur.
- Pokhrel, D. & Viraraghavan, T. (2004). Diarrhoeal diseases in Nepal vis-a-vis water supply and sanitation status, *Journal of Water and Health*, 02.2. WHO, IWA Publishing.
- Pool, R. & Geissler, W. (2005). *Medical Anthropology*. Buckingham: Open University Press.
- Pradhan, P. (2003). *Eroding social capital through incompatible legal and institutional regimes: Experiences from irrigation systems in Nepal*. Bloomington: Indiana University.
- Pretus, L.D. (2008). *Money down the pan?* Water Aid Nepal.
- Rabie, T. (2004). Evidence that disgust evolved to protect from risk of disease, *Proc R Soc Lond B Biol Sci* 271 Suppl 4 :S131-3
- Rabie, T. and Curtis, V. (2006). Handwashing and risk of respiratory infections: A quantitative systematic review, *Trop Med Int Health*, 11(3): 258-67
- Radcliffe-Brown, A. R. (1952). *Structure and Function in Primitive Society*, cited by Milton Singer in *International Encyclopedia of the Social Sciences*, Vol.3, p.528.

- Rai, R. (2059). Understanding hygiene behaviour, In *Thopa Thopa Miler, NEWAH*. Kathmandu: Format Printing Press.
- Rappaport, R. (1979). *Ecology: Meaning and religion*. Berkeley: North Atlantic Books.
- . (1984). *Pigs for the ancestors*. New Haven: Yale University Press.
- Rhee, V. (2008). Maternal and Birth Attendant Hand Washing and Neonatal Mortality in Southern Nepal Arch *Pediatr Adolesc Med*. 2008;162 (7):603-608.
- Rheinlander, T. (2010). Hygiene and sanitation among ethnic minoritie in northern Vietnam: Does government promotion match community priorities, *Elsevier Social Science and Medicine XXX* 2010, pp. 1-8.
- Romannucci-Ross L. (1991). *The anthropology of medicine: From culture to method*. New York: Bergin & Garvey.
- Rose. L.E. & Scholz, J. T. (1980). *Nepal: Profile of a Himalayan kingdom*. Boulder, Colorado: Westview Press.
- Rosenquist, L. E. D, (2005). A psychological analysis of the human-sanitation nexus, *Journal of Environmental Psychology* 25 (2005): 335-346.
- Sah, R. D. (2008). Sanitation status in nepal: issues and challenges, *Darpan: Mirror of Water Supply and Sanitation Sector, Water Quality Section, DWSS*.
- Samson, C. (1999). *Health studies: A critical and cross-cultural reader*. Oxford, Blackwell.
- Schmidt, W.P. (2009). Formative research on the feasibility of hygiene interventions for influenza control in UK primary schools, *BMC Public Health* 9: 390.
- . (2011). Male commuters in north and south England: Risk factors for the presence of faecal bacteria on hands, *BMC Public Health*, 11: 31
- SCNSA. (2003). *Nepal country paper for the Third South Asian Conference on Sanitation and SACOSAN Declarations (I, II and III)*, DWSS.
- . (2008). *National plan: International sanitation year 2008*. DWSS.
- Scott, B. (2003). Protecting children from diarrhoea and acute respiratory infections: The role of hand washing promotion in water and sanitation programmes, Regional Health Forum. *WHO South-East Asia Region*, 7 (1): 42-47.
- Scott, B. (2007). Masters of marketing: Bringing private sector skills to public health partnerships, *Am J Public Health*, 97(4): 634-41.
- Scott, W. P. (1999). *Dictionary of sociology*. Collins.
- Scrimshaw, V. (2000). *Handbook of social studies in health and medicine*. London, Sage.
- SCVSA (2008). Nepal country paper for the Third South Asian Conference on Sanitation, presented in New Delhi, India, 16-21 November.
- Sen, A. (1990). *Gender and cooperative conflict*. Oxford University Press.
- Seymour-Smith, C. (1986). *MacMillan dictionary of anthropology*. Macmillan Press.
- Sharma, S. (2000). Foreign aid and institutional plurality: The Domestic water sector in Nepal, *Water Resources Development*, Vol. 16, No. 1.

- . (2001). *Procuring water, foreign aid and rural water supply in Nepal*. Kathmandu: Nepal Water Conservation Foundation.
- Shepherd, G. (1982). *Life among the Magars*. Kathmandu: Sahayogi Press.
- Sillitoe, P. (1998). The development of indigenous knowledge: A new applied anthropology, *Current Anthropology* 39(2): 223-235.
- Silverman, D. (2004). *Qualitative research: Theory, method and practice*. New Delhi: SAGE Publications.
- Singer, M. & Baer, H. (2007). *Introducing medical anthropology: A discipline in action*, Lanham: AltaMira Press.
- Sprujt, Heinjan (2001). Public-private partnerships for water, sanitation and hygiene, A Seminar paper presented on 7-10 May at Washington, D.C.
- Sharma et al. (2002). *The report on socio-cultural study, 2002*. STAND Nepal. HMG/DWSS.
- Steiner, F. (1956). *Taboo*. New York: Philosophical Library.
- Steward, J. H. (1955). *Theory of Culture Change* cited by Elman R. Service in International Encyclopedia of the Social Sciences' Vol. 5. P. 227.
- Subedi, M. S. (2003). Healer choice in medically pluralistic cultural setting: An overview of Nepali medical pluralist, *Occasional Papers in Sociology and Anthropology*, Central Department of Sociology and Anthropology, Tribhuvan University, Kirtipur, Kathmandu, Vol. VIII, pp. 128-155.
- Sutti, O. (1971). The peasantry as a culture, 'reflections on the concept of peasant culture and peasant cognitive systems. In Teodor Shanin (ed.) *Peasants and Peasant Societies*. Penguin Books.
- Tanner, R.E.S. (2001). The waste of human wastes: A discussion of a global ongoing loss of nutrient assets, *Human Ecology* Special Issue No. 10, pp 131-136.
- Thapa, C. B. 2002, Community hygiene and sanitation promotion project, HMG/DWSS/WHO Collaboration.
- Thapa, G. B. (2008). Gender issue in water and sanitation programme, '*Darpan: Mirror of Water Supply and Sanitation Sector*', *Water Quality Section, DWSS*, Vol. I, pp. 13-17.
- Thompson, P. (2003). Providing clean water, keeping water clean: An integrated approach, *International Journal of Environmental Health Research* 13, S89 – S94, World Health Organization, South-East Asia Regional Office, New Delhi, India.
- Timseena, B. (2006). Development intervention and indigenous knowledge: Environmental anthropological case study of watershed management

- system in Nepal. In Pyakuryal et al. (eds) *Social Sciences in a Multicultural World, SASON*, pp. 158-168.
- Toulmin, S. (1974). *Rules and their relevance for understanding human behavior*. Theodore Mischel (ed) *Understanding Other Persons*. Oxford: Basil Blackwell.
- Trevathan, C. (1999). *Evolutionary medicine: An interpretation in evolutionary perspective*. Oxford University Press.
- Tylor, E.B. (1871). *Prinivite Culture* cited by Milton Singer in *International Encyclopedia of the Social Science*, Vol. 3.
- UNDP. (2006). *Beyond scarcity, power, poverty and the global water crisis*. Human Development Report.
- UN-Habitat. (2005). *Pro-poor water and sanitation governance, methodologies for mapping the poor*. Kathmandu: Gender Assessment and Initial Environmental Examination Center for Integrated Urban Development.
- UNICEF. (1995). *Strategies in water and environmental sanitation, children first UNICEF*, UNICEF Executive Board, Annual Session, 3 United Nation Plaza, New York.
- . (1999). *Water, environment and sanitation technical guidelines: Towards better programming, a water handbook*. UNICEF Programme Division.
- . (2009). *Community approaches to total sanitation: Field notes based on case studies from India, Nepal, Sierraleone, Zambia*. UNICEF Policy and Programming in Practice, UNICEF, New York.
- UNICEF/ESS/DWSS. (2002). *Basic sanitation package guidelines, sanitation and health hygiene promotional activities*. CE/WES Section.
- Uprety, L.P. (2007). Use of qualitative research method in natural resources management studies: Some anthropological experiences from the study of two indigenous irrigation systems from western Terai. In Uprety, et al. (Eds) *Nepalese Journal of Qualitative Research Method*, Local Initiative Promotion Trust (LIPT), Lalitpur, Vol. 1, pp. 1-20.
- . (2008). Understanding the fundamentals of conventional qualitative research. In Uprety et al. (Eds) *Nepalese Journal of Qualitative Research Method*, Local Initiative Promotion Trust (LIPT), Lalitpur, Vol. 2, pp. 62-90.
- . (2006). *Managing water for irrigation as a common property resource: A case study of Sorah-Chhattis Mauja indigenous irrigation systems of Rupandehi district*. Dissertation submitted to T.U., Kirtipur, Kathmandu.

- Vadya, A. P. (1983). Progressive contextualization: Methods for research, *Human Ecology* Vol. 11.
- Wagner, R. H. (1934). *Environment and man*. New York: W.W. Norton and Company, Inc..
- Water Aid Nepal. (2008). *Advocating for water and sanitation for all and forever*. Lalitpur: Water Aid Nepal.
- Water Aid Nepal. (2008). *Decentralized wastewater management using constructed wetlands in Nepal*. Lalitpur, Water Aid Nepal.
- . (2008). *Solid waste management*. Lalitpur, Water Aid Nepal.
- WEDC. (2008). *Water, sanitation and hygiene understanding*, Loughborough University Leicestershire, LE113TU UK.
- WHO. (2008). *How is climate change affecting our health? A manual for teachers*. Regional Office for South-East Asia.
- . (2008). *Regional workshop on ecological sanitation, 22-25 September*, Kathmandu, Nepal.
- Wiley, A.S. (2008). *Medical anthropology: A biocultural approach*. University of Southern California.
- Winbland, U. & Kalima W. (1985). *Sanitation without water*. Stockholm: Swedish International Development Authority.
- Yacoob, M. & Whiteford, L. M. (1994). Behaviour in water supply and sanitation, *Human Organization*, Vol. 53, No. 4. Society for Applied Anthropology.
- Young, A. (1976). Some implications of medical beliefs and practices for social anthropology, *American Anthropologist* 78(1): 5-24.
- Young, P.V. (1982). *Scientific social survey and research*. New Delhi: Prentice-Hall of India Private Limited.
- http://en.culture-bound_syndrome.
- <http://en.wikipedia.Ethnomedicine>
- http://en.wikipedia.org/wiki/Ecological_anthropology
- <http://www.merriam-webster.com/dictionary/hygiene>
- http://en.wikipedia.org/wiki/Medical_anthropology
- http://en.wikipedia.org/wiki/Ritual_purification
- http://faculty.plattsburgh.edu/richard.robby/legacy/editors_choice/disease.htm 1999