

CHAPTER – ONE

INTRODUCTION

1.1 General Background of the Study

Participation is a process in which beneficiaries realizing the key actors of development program. That means, beneficiaries directly included in the solution of their own problem. People share their ideas, physically involvement in activities, share costs and benefits in every activity.

Women's participation is the involvement of women in an activity or program and shared their feelings, cost and benefits. There was no women's involvement before 1985 in water supply and sanitation program in Nepal (UNDP, 1998). From this date, in the central region of Nepal, women were encouraged to participate and emphasized in the villagers where the community water supply and sanitation project was launched. In mid 1980's around the International Water Decade women involvement in water supply started in ad-hoc/pilot project basis through international organization. As with community water supply and sanitation, under the terai Tubewell project female staffs were taught about sanitation related issues in early 1987 in Sunsari, Morang and Jhapa districts (CWSS, 1987).

Although, total country population is 2,31,51,423 and growth rate 2.24 (CBS, 2001). Among them female population of Nepal is 1,15,8,502 which is higher in number than the male population but their participation in different sectors, access to resource and opportunity and their social status is still miserable (UNDP, 1998). Their contribution is economy is underestimated; deposit their significant contribution in household economy (UNDP, 1998). Similarly, the participation of women in drinking water projects has already been included in the Nepalese plan and policy. The eight five year plan (1992-97) in its drinking water and sanitation chapter states that women's participation will made in implementation, maintenance and repair of drinking water project. Woman do not have adequate acces to opportunities, only 42.5 % female are literate where a national literacy rate is 53.78 and male's 65.1 % (CBS, 2001). So, they are bonded in household works and subsistence activities.

Cultural and social customs limited the female participation to work outside their domestic periphery. There are substantial pressures towards women with respect to wealth, education, mobility and job entry, which keep women in lower unsound wage. The Nepalese society is still in strict patriarchal system. So, as a result, female participation is very low in economic opportunities, public life and decisions makings. They still lack adequate access to employment, income, education, health care and politics despite of the impressive legislative and constitutional provisions favoring their equal right to work employment and education, as well as participant in decision making (ADB, 1987). Now the reservation quota in different sectors helps to encourage the participation.

Traditionally women in Nepal whether urban or rural have always been basic managers of water system. Household responsibilities are primarily female responsibilities which may vary from caste, ethnicity, religion, economic strata and social conditions. Women and girls found in all regions of Nepal to be deeply entrenched in water related activities that revolve around daily household activities.

The efforts of Nepal Government to involve women in water supply and sanitation are being supported by different organizations in different regions of the country with an emphasis on training, education, community participation and women's involvement. The components still remain at a very embryonic stage comparing the sanitation achievement and population concerned.

This study, the researcher was focused on women's participation in water supply and sanitation in Surunga VDC of Jhapa district. This study also focused on impact on health and sanitation after involvement of women in water supply and sanitation in the study area.

1.2 Statement of the Problem

The World Commission on Environment and Development (WECD) defines sustainability as "Development that meets the needs of the present generation without compromising the ability of the future generation to meet their own needs" (Brundtland, 1987, UNDP). In context of drinking water and sanitation schemes, sustainability refers to the ability to maintain efforts and

derived benefits both at community and agency level even after the assistance (managerial, financial and technical) is withdrawn. Furthermore, sustainability of drinking water supply depends on various factors such as continued delivery of services, regular maintenance of the physical infrastructure through the participation of users, and long-term institutional capacity of user groups, inter-institutional support, and technical soundness of the program.

Women's participation in water supply and sanitation is not a new issue in Nepal. They have been participating in many water related project and policies since 1985. Though the participation level of men and women are not equal.

Drinking water and sanitary facility constitutes basic needs of people. Therefore, a great deal of effort was made to develop the drinking water sector since the beginning of planned development from the 1960s but poor drinking water supply is the main problems in many rural areas of Nepal. The major impacts of this problem are: poor health conditions of the villagers and villagers have to spend much time in fetching drinking water (NPC, 2002). Water availability is a major factor in facilitating improvements in hygiene practices.

Lack of sanitation awareness in Nepal within traditional cultural practices inflicts undue hardship upon specific segments of the population notably children of less than 5 years old and particularly those less than one year old (Listarti, 1990). Diarrhoea is only one component of the complex web of childhood ill health, since diarrhoea disease and malnutrition are inextricably linked as a major causes factor contributing to child hood mortality (UNICEF, 1983). The above vulnerability is directly related to the poor sanitation and supply of water. To reduce the chances of vulnerability from above disease, infant mortality rate and water related diseases, there should be aims for involvement of women in water supply and sanitation project.

Studies on women's participation in the sector of drinking water and sanitation are still low. Also, there are several studies on water supply and sanitation in the past. Most of the studies on water supply and sanitation were primarily focused on merely a health and sanitation sector. A few of the studies investigated into other direct and indirect impact of water supply and sanitation on socio-economic status of the users. The functions and procedures of the water

users' committee, impact and the effectiveness after the implementation of a project which are major study subjects but they have been rarely studied. Also the present study is relevant and vital in view of contributing to filling up gaps in the existing literatures on the study of different sorts of participations.

As private sphere workers women have to do all the domestic works. Women in particular are often deprived of opportunities to engage in income generating activities because of the need to spend hours in fetching water. A minimum of 30% of the total time saved could be used for other economically productive activities (Devkota, 2007). In Nepal, generally women spend between four to seven hours per day in water collection, carrying water on their head or back in heavy pots and buckets. Women and girls are easily exposed to injuries and are vulnerable to spinal problems and water borne diseases. Thus the right attitude care and priority given to women's role can result in their enormous qualitative and quantitative important in development attempts. However, this study is mainly based on the following research questions:

- 1) What is the socio-economic status of the women?
- 2) Is socio-economic background of the women play a decisive role to determine their participation in water supply and sanitation issues?
- 3) What would be the role of women in water supply and sanitation sectors?
- 4) What is the level of participation of women in water supply and sanitation?
- 5) What are the hindrance factors that block participate the women in water and sanitation?
- 6) What would be the impact on health and hygiene through women's involvement in water supply and sanitation sectors?
- 7) Is their equal participation of women and men in decision making?

1.3 Objectives of the Study

The general objective of the study is to find out the women's participation in water supply and sanitation sector at Surunga VDC of Jhapa district. The present study has following specific objectives.

They are:

-) To find out the socio-economic status of women of the study area.
-) To assess the participation of women in water supply and sanitation.

1.4 Importance of the study

The present study is a sociological study on the participation of women in water supply and sanitation. It has its own importance in the relevant field and basically deals with women participation in water supply and sanitation. Hence this study primarily endeavours to examine the relationship between women and their position of water and sanitation. This study focused on Surunga VDC of Jhapa in which women's roles in water supply and sanitation. Therefore, this study will be helpful to the further researcher who will take interest to examine the women's participation in water supply and sanitation issue in general. Moreover, this study may be useful for the concerned organization, planner policy maker and practitioners.

1.5 Theoretical Framework

Gender approach is the theoretical framework of the study. Gender is a socio-cultural definition of the men and women (Bhasin, 1996). That means gender is culturally and psychologically constructed notion which is socially transmitted from one generation to the next. On the basis of the socio-cultural definition women and men are distinguished our assigned different role to them in society. Man and woman equal even then women are lagged in the society in every field like decision making, participation level, ownership etc. Therefore, the researcher used this theoretical framework as tool to analyze level of decision making role, participation level of women in water supply and sanitation in the study area.

1.6 Organization of the study

This study is divided into seven chapters which are as follows. The first chapter includes introduction, background of the study, statement of the problem, objectives of the study, importance of the study, theoretical Framework and limitation of the study.

The second chapter includes review of literature with related to the water supply and sanitation and women involvement.

The third chapter includes the research method applied in this research. The first section presents the rational selection of the study site and the second section presents the sampling procedure, research tools and technique and their use.

The fourth chapter includes the general geographical account of the Surunga VDC of the Jhapa district. This chapter also discusses the climate, flora and fauna, the natural resources and house pattern found in the study area.

The fifth chapter discusses the socio-economic profile of the people of the study area. Similarly, also discusses the demographic characteristics and socioeconomic features such as population composition: age, sex, caste/ethnicity, language, religion, marital status, economic condition, occupation and educational condition of the Surunga VDC are presented.

The chapter sixth includes the women's participation in water supply and sanitation. It also includes the situation of water supply in the study area, its costs, committee formation and general assembly of the project.

The chapter seven includes summary and conclusion of the present work.

CHAPTER – TWO

LITERATURE REVIEW

2.1 Gender Perspective: An Analytical Framework

“Gender refers women and men’s role and responsibilities that are socially created” (Bhasin, 1996). Society gives different role and responsibilities to men and women. It as an analytical tool to define roles and responsibilities of men and women in society (Bhasin, 1996) believing with Bhasin men and women have different roles and responsibilities in Surunga village, especially, water supply and sanitation project. I argue that water has two spheres; outside household and inside household spheres. Hence outside spheres means public spheres which is controlled by male in patriarchal society (Bhasin, 1996).

On the other hand water management inside household is generally controlled by female because of household spheres is women’s sphere. Therefore, the management of water supply is controlled by the male.

Women’s work in rural community their combines with domestic services and productive work. It is often said that rural women must bear a double burden, working long hours in farms or in craft production and then equally long hours in child care, food preparation, cooking, washing and cleaning (Brydon, 1989). Agreeing with Brydon, I argue that in Surunga village women also bear a double burden. They work water supply in household as well as child care, food preparation, cooking, washing and cleaning.

In our attempt to understand and as to what types of women were participating in the newly created public space, we found that most of them were the ones who either had less work load at home or those who had leisure time and support of men in their respective households. Incidentally, most of such women come from local elite families. Given this, we must concede that there is the continuity of elite capture of the space. Whether the interests of genuinity disadvantaged and deprived women would represented in the groups and the communities that appear to be functioning smoothly remains an open question (Chhetri, 2010). I also agree to the

Chhetrie's argument that lack of cooperation from women's husband and other males, females can not easily participate in community activities.

2.2 Women's Participation: A General Overview

Participation is a term which, although derived from radical ideas challenging developmental orthodoxy, is now to be found in development plans and policy statements of the most mainstream institutions. Again, whether this represents a significant change in the discourse, or the cooption of challenges to it, is open to debate. Participation is used to describe greater involvement by 'beneficiaries' in deciding the type of development projects they need, and how they are run. The degree of this involvement can, however, vary greatly.

Like many of the currently fashionable development 'buzz words', the precise meaning of participation is elusive. Adnan *et al.* 1992 (as cited by Gardner & Lewis, 1996) argue that meanings of participation can be broken down into three broad categories. First, participation can simply refer to a process in which information about a planned project is made available to the public. This may involve listening to local people's views about the plans, a more structured survey, or a formal dialogue regarding project options. This type of participation often only involves community leaders. It also leaves most decision-making power in the hands of the planners. Second, participation might include project related activities rather than mere information flows. This might involve using labor from the community, or a longer-term commitment by local groups to maintain services or facilities or even to plan for their future use (for instance, committees set up to manage sanitation facilities in an upgraded slum) again, the initiative has come from the outside. People are involved, but are not directly in control. Lastly, there are people's own initiatives. These fall outside the scope of the project agenda; they are therefore, some argue, the only true form of participation, for they are not imposed from the outside. If mobilization comes from the poorer sections of the community, it also truly empowers (ibid).

"Participation may be understood as close involvement of people in the economic, social, cultural and political processes that affect their lives (UNDP, 1994).

Upreti (1999) pointed out six basic characteristics of participation. They are:

- (i) Institutional presentation, (ii) distribution of benefits, (iii) cost sharing, (iv) pluralism, (v) gender integration, and (vi) mechanism for public policy debate.

Similarly Pimbert, *et al.*, 1999 pointed out (1) passive participation (2) participation in information giving (3) participation by consultation (4) participation for material incentives (5) functional participation (6) interactive participation (7) self-mobilization. His categorization is based on typological point of view.

Women constitute more than half of the total population in Nepal (CBS, 2001). So, it is necessary for the involvement of women for the sustainability of the projects as well as improves the health condition. Before 19986/87 there was no woman's involvement in the water supply and sanitation project in Nepal. From this date, in the central region women's were encouraged to participate and emphasized in the villages where community water supply and sanitation (CWSS, 1987) project was launched. In mid 1980s, around the international water decade, women's involvement in water supply started in ad-hoc/pilot project basis through international organization (Acharya and Basnet, 1981).

An intensive sanitation programme was started in Rukum district in mid-western development region in 1986; it was extended to Dolakha in 1988 and Ilam in (1989 HMG, ADB, 1996). Under this program a pair of women workers trained and follows up with one woman sanitation volunteer selected towards each tap stand groups for conducting sanitation behaviour and maintenance of water supply systems. Sanitation volunteers (SVs) with the assistance of women workers stationed in the village to teach other village women how to improve health and sanitation condition at the household level and the village level (Community water supply and sanitation, 1987). The government policy of seeking users' participation in the decision making of project design and implementation was mixed during the 1980s, as indicated by the interventions under different programs. The processes followed in new construction projects were not based on a 'participatory approach'. However, users' participation in the decision making since the early 1990s was a precondition for the initiation of intervention processes. From 1991/92 government of Nepal initiated policy of involving minimum of two women

members in water supply and sanitation users' committee. In Nepalese plan and policy included the participation of women in drinking water project from the past to till now. In Nepalese plan and policy included the participation of women in drinking water project from the past to till now.

Drinking water and sanitation facility are the basic needs of human beings. Development of this sector will have positive impact upon consumers' health, personal hygiene and will produce healthy manpower, which would contribute to the growth of other productive sectors and activities of the country. Safe drinking water will significantly control water borne diseases. It substantially minimizes health expenses to be incurred on treatment of such diseases. Apart from this, the time saved from fetching water could be utilized in productive works, which in turn, provide opportunity to earn more income to the public. By involving women in water supply and sanitation, women and children have benefitted most from the project because providing water for the family is generally responsibility in rural Nepal. This has saves their time and energy, improved their health condition. Women can devote some mare time to reproductive activities and particularly to child care and the improvement of their home (ADB Nepal, 1997).

Due to the facing problems on clean drinking water, Government of Nepal has made several policy interventions in the water and sanitation sector. Besides governmental organizations, Non-Government Organizations, and International Non-Government Organizations are working in the sector of water and sanitation in Nepal a wide range of INGOs and NGOs, bilateral and multilateral agencies and independent board created to liaison between the funding agencies and the users by involving NGOs are also working to improve Water supply and sanitation (WATSAN) services in rural areas of Nepal.

2.3 Literatures about Some Successful Sectors Relating to User's and Women's Participation

The concept of Community Forestry in Nepal has become successful for the conservation and resource utilization in Nepal. The degradation of the forest resource was rapid before the implementation of the concept of community forestry. There are so many studies and researches

on this topic. Community Forestry is one of those sectors in which people's participation method is used for its management and sharing the benefits.

The main forest management strategy on Nepal is based on people's participation, which is known as Community Forestry (CF). Under the CF arrangement, local people make decisions regarding the forest management, utilization and distribution of benefits from a forest; they are organized as a Community Forest User Group (CFUGs) (Acharya and Acharya, 2007).

Joshi (1991) stresses that the right attitude care and priority given to women's role can result in their qualitative and quantitative improvement in development attempts. In her case studies, the women of Lubhoo being active were basically worried about the time they spend in fetching water, which they would have utilized for their other necessary household works.

Similarly, Bhadra (1992) views woman as a haulers, users and managers of water resources. Decrease in water supply has detrimental effect on women's well beings.

In 1994, study on the water and sanitation conducted in eight districts of the eastern and central region of Nepal found a significant difference in the rates of awareness and practice. The attitude into practice challenge is being addressed by increased focus on sanitation and hygiene awareness activities.

The project on rural water sector project in Nepal (1997) states that during the field interviews women's confidence had been raised through their involvement in water user's committees on matter of direct concern to them (ADB, 1997).

Bhandari, Watanabe and Manandhar (2007), have researched about the sustainability of community managed rural drinking water supply systems in the mid hill of Nepal. Their research paper has focused on the important sustainability indicators of rural drinking water supply schemes. The management level has been analyzed for the effectiveness of WUC, which has the responsibility of overall maintenance and operation of the scheme. Similarly, accessibility indicator has been included for the schemes, which has water-fetching time within five to fifteen

minutes. Participation, performance level, ownership, efficiency, effectiveness and gender involvement have been taken to compare the schemes installed by different agencies.

2.4 Water Supply in Nepal

Water is the integral matter of living beings. From the ancient time people are heavily dependent on water. So, the clean drinking water plays major role in the reduction of chances of water borne as well as communicable diseases. Clean drinking water shows the situation and health condition of the state or region or community. From past to still now major places of Nepalese people obtain drinking water traditionally directly from different sources such as streams, springs, spouts, ponds and wells etc. without treatment. It may be running or stagnant. So, there may be increase the chance for suffering water borne diseases. For the reduction of water borne and communicable diseases closed supply and treatment is necessary.

In Nepal, planned development of water supply and sanitation sector commenced with the advent of the Third Five-Year Plan (1965-70). Initially, government provided drinking water supply and sanitation facilities to the selected major towns only. Up to 1980s there was no integration of sanitation. In response to International Drinking Water Supply and Sanitation Decade (IDWSSD), Nepal drew up a decade long plan (1981-1990) and raised its budgetary allocations to water supply and sanitation through consecutive periodic plans. The government announced the basic needs of the program in 1987, to provide basic needs to all the people by the year 2000. The water supply and sanitation was a priority element among the basic needs of the program (NWSSC, 1999/2000 as cited by Bhandari & Grant, 2007). The first piped water supply was initiated from Kathmandu valley in 1995 to serve the urban population. During the third plan (1965-70) that need for initiating the piped water systems to serve the rural areas was realized (Thapa and Pradhan 1986). After that period, the access to piped water varies significantly with rural and urban parts of the Nepal. The time saved is used for the activities such as income generation, childcare, and agriculture production. The effect is also increased in children's number in schools, community's participation in development activities improved in sanitation conditions and other social works. The collective effect enhances the quality of life, which helps to increase their life expectancy. In effect, economic and social development of the country could be lifted. Still majority of the mountain and hill population depend on rain, seasonal stream and

river water. Similarly in the terai region most of the household heavily depend on tube well and pump.

Water supplies and sanitation were first given priority on the United Nations development agenda about 34 years ago. This was a result of the 1977 United Nations Conference in Mar del Plata, Argentina that recommended proclaiming the 1980s to be the International Drinking Water Supply and Sanitation Decade with the goal of “Providing every person with access to water of safe quality and adequate quantity, along with basic sanitary facilities, by 1990” (World Water Assessment Program, 2003, as cited by Bhandari and Grant, 2007). International water policies and management practices have generally considered water to be a free and renewable resource. Governments in developing countries have often subsidized water supplies, typically in an attempt to achieve social and health benefits for low-income households that comprise a large majority of the rural population (Lammerink, 1998; Whittington et al. 1998 as cited by Bhandari and Grant, 2007). Furthermore, developing countries have made huge investments in their rural water supplies under the presumption that local communities will be involved in their maintenance and operation.

The review of international drinking water supply and sanitation (IDWSS) decade 1980s indicated that many aspect of the involvement of women in water supply and sanitation have implication for project and programmes designed to improve these facilities. During this decade community participation not given greater attention but women’s participation also was to be particularly sought (Women and Water, ADB, 1989).

2.5 Women’s Involvement in Water Supply and Sanitation in Nepalese Context

In 1981, the “S” for sanitation was added to the name of the project which first was called “Community Water Supply (CWS, 1987)” only. In the first period sanitation was limited to construction of latrines only. Later, the need was felt to add a health education component. The first sanitation pilot project was started in Rukum district of mid-western development region in 1986. Sanitation was extended to Sanitation and Women Involvement in 1988 in central development region. In recent years, all UN conferences and the conventions have given a lot of emphasis women’s empowerment and mainstreaming. The international conference on

population (ICP Cairo, 1994), the social development summit (Copenhagen, 1995) and the fourth conference on women (Beijing, 1995) in particular reviewed advancement made by women in the last two to three decades discussed the current situation and analyzed the problems in depth.

The concept of peoples' participation became institutionalized towards the mid 80's and the importance of the role of rural women was recognized but it was only since 1986/87 that more emphasis is being given towards involvement of women in all stages of realizing a water supply system and its operation and maintenance. From the 1988 onwards, a new approach was developed with the involvement of beneficiary in the sanitation programme. This approach originated from the growing realisation that women are the main responsible for water handling. Therefore their active involvement in planning, designing and implementation of water supply system and sanitation masters is absolutely necessary. It implied establishing inter-linkages between sanitation, health education and women involvement and developing an organizational set-up for the implementation of a sanitation and women involvement program with the assistance of UNICEF.

Rising pressure from the UN and other programmes relating to the international drinking water and sanitation decade led to the beginning of women's involvement in community water supply and sanitation in Nepal in 1985. The objective of this was to recognize women's critical role in panning water and sanitation programmes (New Era, 1991)

CHAPTER - THREE

RESEARCH METHOD

The researcher had employed various tools and technique of sociological research for collecting primary and secondary information from the field and from the published and unpublished literatures, records etc. the field work was conducted in 2010 AD.

3.1 Rationale of the Selection of Study Area

According to District Profile 2001, the total number of population of the Surunga VDC is 21616. Among them 10701 are male while the 10915 are the female. The average house hold size or number is 5.02 and the total number of household are 4308. The literacy rate of the Surunga VDC is 65.5 percent. Before the launch of Surunga drinking water supply project, the people of that fetched the water mostly from Tuelwell, well and streams etc. They had taken the drinking from different sources and used directly without treatment due to the lack of awareness. So most of them were suffered from water borne diseases. After the launch of this project, there is formed of Surunga Drinking Water and Sanitation Consumer Organization. After that a committee was formed in which women were also participating. No one performed such type of research works in this area. So, this study helpful to know the status and participation of woman in the water supply and sanitation of the Surunga VDC. Similarly, this area was suitable for the researcher to find out the health and hygiene after establishment of water supply and sanitation in the study area.

3.2 Research Design

This study was especially based on exploratory and descriptive research design to assess the women's participation in water supply and sanitation in the Surunga VDC of Jhapa district. It has tried to explore the impact of water supply and sanitation programme on women's daily activities basically time saved, its utilization, sanitation on health and also explore the issues, weakness and challenges concerned with the female to their participation. In descriptive design the qualitative information were taken from field visit to collect male's and female's perception towards the women's participation in water supply and sanitation, and socioeconomic condition

of women's and also described the demographic characters of the women, level of participation and role played in the program as well as house.

3.3 Nature and Sources of Data

This study was based on both primary and secondary data. However it depended mainly on primary data. The researcher herself collected the data. The primary data were collected from field survey through the structured questions sheets survey and key informants interview. Apart from the primary data secondary data were obtained from the records and reports of VDC, DDC, Election commission, CBS books, published and unpublished researchers and other concerned offices.

3.4 Universe and Sample

Among 47 VDCs and 3 municipalities of Jhapa district, Surunga VDC was selected for the study. There are 9 wards in this VDC and study was mainly focused on ward no 5 in which water supply and sanitation project was lunched. Surunga ward no 5 was taken as universe where most of the households used pipe water. Among 619 households who used tape water, 51 households were selected purposive sampling method on the basis of caste and ethnic groups. Likewise i interviewed 6 persons as a key informant. Among the key informant 2 persons were chair person and vice president, 2 were older female water user, one was health post staff and finally remaining one was female staff of Surunga Drinking Water Supply and Sanitation project. I also conducted focus group discussion with two groups of water users. In one group, there was altogether 9 members among them 5 were male and 4 were female of the community. Similarly, the other one have 6 members, among them 3 were male and 3 were female. On the basis of discussion, different caste ethnic/groups like Brahamin, Chhetri, Janjati and Madeshi were selected randomly for the participation. Female were prioritized for the interview and most of the respondents were selected from female. Apart from these others such as member of members of health office, water supply office, active social workers and water users were also selected as key respondents.

3.5 Methods of Data Collection

To collect the qualitative and quantitative data, various tools, methods and techniques were applied for this research to fulfill the objectives. Following methods were used for the data collection.

3.5.1 Household survey

Household survey was used for the collection of quantitative information such as status and situation of women, condition of water and their surroundings, occupation and background, culture and ethnicity, localities and their surroundings, age sex and religion, marital status.

3.5.2 Observation

Both participatory and non participatory observation was used for the collection of information such as physical setting of the water resources, women involvement in water supply and sanitation program, their role on decision making and reduce the time taken to take the water.

3.5.3 Key Informants Interview

Key informants such as older female water users, member of health office and water supply office, active social workers, NGO's members were taken for interview. Apart from the water user respondent 6 persons were interviewed. Among them 2 persons were chairperson and vice president of the project, 2 were older female, one was health post staff and remaining one was female staff of Surunga Drinking Water Supply Project.

3.5.4 Focus Group Discussion

Throughout of this work I was conducted focus group discussion with two groups of water users. This technique helped to find out the hindering factors which kept the female in marginal position and burden work. The main agenda for the group discussion was socio-cultural perception regarding women's participation in water supply and sanitation as well as decision making in households works.

3.6 Data Processing and Analysis

The qualitative and quantitative data were gathered from the field. Qualitative data such as perception, the people interpret descriptively to jointly queries of women's participation of water supply and sanitation. Collected information from key informants interviewed and observation were descriptively analyzed that includes their attitudes and behavior of the users. Besides these, quantitative information was received from household's survey questionnaires and checklist. All were presented in different tables. The qualitative data were presented in descriptive by categoring them based on the issue like participation in executive committee, project assembly, decision making process, meeting etc.

1.7 Limitation of the Study

This study is only conducted for the partial fulfillment of master degree in sociology and limited to the area of Surunga VDC ward no 5 where water supply and sanitation facility is commissioned. As an academic research, the study had been undertaken limiting budget, temporal and spatial boundaries. This study is only confined to Surung VDC of Jhapa district which is small in size, so that the generalization may not be applicable to other parts of the country.

CHAPTER - FOUR

ECOLOGICAL SETTING OF THE STUDY AREA

4.1 Settings

Jhapa district is located in the eastern development region of Nepal. It covers an area of 532 square kilometers. The name of Jhapa is derived from the Rajbanshi word “Jhap” meaning canopy which suggest that the area was dense forest in the past (One elderly local). The headquarter of this district is Chandragadhi. It is bounded in the east by the West Bangal of India and west by Morang district of Nepal. Similarly, it is bounded by Ilam district of Nepal in the northern side and by Bihar state of India in the southern side. The east west length and north south width are 46 km and 29 km respectively.

Geographically, Jhapa district lies between the 87⁰ 12’ to 88⁰ 12’ east longitude and 26⁰ 22’ to 16⁰ 50’ north latitude. The altitude of the district ranges from 63 m to 380 m above the sea level. The lowest land of the country Kechana Kalan which is 63 m above the sea level lies in this district. The climate of the district is tropical. Summer season is hot and humid while the winter season is cold. April, May, June are the hottest months with average maximum and minimum temperature of 38 °C and 18 °C respectively. January and February are the coldest months with average maximum and minimum temperature of 28 °C and 10 °C respectively. July and September are the rainy season (District and VDC Profile Nepal, 2010).

The population of the district is high. The population of the district is 688109 where female are 346437 and male are 341675. The population density of the district is 428 /sqkm. Literacy rate 66.93 and growth rate is 1.52. The total house holds of the district are 137301 and average household size is 5.01. The sex ratio of the district is 99 (District and VDC Profile Nepal, 2010).

Jhapa disistrict is a common residence of various castes and ethnic groups. Majority of population belong to Brahimin, Chhetri casts. Unidentified casts are also found. Though most of the people of Jhapa district belong to Hindu religion which is followed by Buddhist, Islam, Kirat, Jain, Christan and Sikh. Others are also found within the district Jhapa district is a Agricultural district. Paddy, Maize, wheat etc are main food crops; cash crops especially oil seed, potato

production, different kinds of fruits and vegetable farming. The economically active population of the Jhapa district is higher than the inactive population (District and VDC Profile Nepal, 2010).

Surunga VDC is one among 47 VDCs of Jhapa district which is located northern part of the Jhapa district. It lies at the eastern bank of Kankai River which flows through the middle part of the Jhapa district (District and VDCs Profile, 2010). Kankai Bridge is the longest concrete bridge among all concrete bridges of Nepal and measures 703 meters. The eastern border of this vdc is Biring River where Ghailadubba and Arjundhara vdc are situated. Similarly, on the west the Kankai flows continuously and Satasidham VDC of Jhapa and Mohamai VDC of Ilam are situated. It's bordered by Danabari VDC of Ilam district on the north mostly while it also shares border with Khudunabari VDC. Likewise, on the southern side it is surrounded by Sharnamati and Dangibari VDCs of Jhapa. The farmers informed me that their land is fertile.

Surunga is one of the major center of the district. There are 9 wards in Surunga VDC. Among them ward no 5 is more developed than the others. The east west Mahendra Highway passes through this ward. Many gravel and muddy roads are also connected to this high way. There are facilities of clean drinking water, electricity, communication, transportation and health post. However, all these facilities are not available in all wards of the Surunga VDC. Clean drinking water facility is available in only 4,5,8 and 9 wards and focused the ward no 5 for the study purpose. Moreover all the people of these wards also have not got drinking water facility. Likewise, the people have not got transportation facilities in all the time except Mahendra Highway.

Demographically, this VDC is highly populated area. According to population census 2001 AD (2058 Bs), the total population of this VDC was 21,616 among them 10,701 were male and 10,915 were female (District and VDCs Profile, 2010). Now the population is increasing. The literacy rate of the VDC is 65.5 which is higher than the national literacy rate (District and VDCs Profile, 2010). There are 4,308 household number and house hold size is 5.02 (District and VDCs Profile, 2010). Now the population and household are increasing. This VDC is inhabitants of are Bahramin, Chhetri, Satar, Kami, Damai, Newar, Tamang, Agrawal, Rajbanshi, Dhimal,

Sarki, Magar, Rai and Limbu among others. However, the ethnic harmony is very praiseworthy in Surunga VDC. Out of all the ethnicities, the underprivileged Satar and Rajbanshi casts are also found in Surunga. Among them Brahmin and Chhetri are dominant and better economic status in comparison to the others.

Surunga's main economy rests on agriculture. Rice, maize and wheat are the main crops of the area. Surunga is famous for the tomato farming. Nowadays vegetable farming has become a good source of income that's why farmers are attracted towards it. Main economic source is agriculture, vegetable farming, and poultry farming. However, a few people do business to sustain their livelihood. Nowadays people also go to the foreign country to earn money. So, now remittance, local businesses and tourism also contribute significant amount to the economy of Surunga village.

Surunga is located in terai and plain region. The soil of the Surunga VDC is highly fertile and mainly two types alluvial as it situated on banks of Kankai and Bring rivers and sandy throughout the VDC. The climate of that place is sub-tropical. The maximum annual temperature reaches up to 38 °C at summer season and minimum decreases to 10 °C in winter season (District and VDCs profile, 2010). The spring and autumn season temperature is moderate. During the summer season it is very hot and heavy rain fall occurs. Rain fall is high in this area where the moist air from the Bangal inters in Nepal and spreads throughout the country. Spring season is windy and occasionally rainfall takes place. In winter season, people wear thick woolen cloths, jackets, trousers etc. they drink hot tea, milk etc. however winter is short so in other season is very hot. In hot season people wear thin clothes and prefer cold water, mohi (which is made from curd and water), coke, fantas as much as possible. In the field, they work early in the morning to 12 noon and take rest to 3 pm as it is very hot in the day time.

4.2 Natural Resources

Natural resources play vital role for sustaining the living beings. Without natural resources life will be some how impossible. For the existence of human being it if influence from different angles. In the study area there are two types of natural resources are found. They are renewable (forest and water) and non-renewable (land, stone, minerals, soil and sand) which are as follows.

4.2.1 Forest

Forest area covers 1784 hectares land of Surunga VDC (Kankai community forest). Sissoo (*Dalbergis sossoo* L) and Khayar (*Acacia catechu* L) are the most famous trees found in the VDC and other associated species such as saal, (*Shorea robusta* L), kadam, simal (*Bombax ceiba* L), teak (*Tectona grandis* L), masala (*Eucalyptus* sp), sindhure (*Mallotus philippiens* L), hade or banghi (*Lagerstroemia parviflora* Roxb), karma (*Adina Cordifolia* L) etc and medicinal plants are also found. Khayar (*Acacia catechu* L) trees decreasing day by day. So, Nepal government has banned for fallen and exports the Khayar tree either from private or public land. All the forest of government has been given to the hand of local people. That means all the forest area are controlled, managed and operated by the local communities or users. Generally, user groups have formed an executive committee to protect, manage and control the forest resources. There are four community forests in the Surunga VDC. They are Sokedangi CF, Jamunabari CF, Kankai CF and Prajapati CF Among them, kankai CF is the first established CF in the Surunga. The inhabitants who are poor have been benefitted more as they can easily feed grass for their domestic animals from the CF and sell their milk and milk products in the market. Animal farming has become a good source of income to the local people. Their life standard has been increased since the establishment of CF (Member of Kankai CF). For the sound supply of water, forest play vital role for the availability of the water, it affects directly and indirectly to the sources of water. If it is adequate in number, forest preserves the water.

The study area is rich in flora and fauna diversity. Due to the presence of sparse type of forest, large wild animals are less in type and number. Several types of wild life such as monkey, fox, and jackal are common on that area. Several types of wild birds such as parrot, crow, owl, muna eagle, ruppi etc are found. Similarly different types of reptiles such as cobara, karet snakes and lizards are found. Like wise several types of insects such as bug, spider, dragon fly and butterfly are found.

The study area is dominant by the sissoo (*Dalbergia sissoo* L) and other associated tree species such as saal (*Shorea robusta* L), simal (*Bombex ceiba* L), barro (*Terminalia belerica* L) , karma (*Adina cordifolia*), madesha khira (*Holarrhena pubescens* (Buch-Ham) Wall. Ex G. Don), sindhure (*Mallotus philippines* L, hade (*Lagerstroemia parviflora* Roxb), boke or kadi patte

(*Murrya kohinighi* L), hallude (*Lannea* sp), dabdade (*Symplocos* sp) etc are found. Similarly other herbs species such kans (*Sacchurum* sp), siru (*Imperita* sp), dubo (*Cynodon* sp) etc are found. Like wise medicinal plants such as barro (*Terminalia belerica* L), boke or kadipatta (*Murrya kohonighi* L), bel (*Aegle mermelos* L), sarpagandha(*Rauwolfia serpentine* L), kurilo apamarga (Asparagus), peepla(*Piper longum* L), bun tulsi (*Ocimum* sp), satjivan etc are found.

4.2.2 Water

Water is the life of the human beings. Without water no one can live in the world. People need water to drink, cooking for food, washing utensil and clothes etc. Not only the human beings but also all living things can not live without water. So, we can say that water plays vital role for the existence of the human beings. Water keeps men healthy, if they drink pure and clean water.

Nepal is rich in water resources. The sources of water are rivers, pond, lake, spring, wet land,, tube well, well etc. The Surunga VDC is also rich in water resources such as river, spring, wet land, tube well, well, tap etc. Kankai, Biring rivers are the main rivers of the Surunga VDC. Jamunakhadi is famous wet land in the study area.

4.2.3 Land and Soil

Land is the main source of the people for their livelihood who depends on agriculture. On the basis of land structure and texture the nature of the soil is varied from place to place. There are generally found two types of soil, they are alluvial and sandy soil. Alluvial soil is found in the river banks while the sandy soil is found in most place of the VDC. According to the people, the alluvial soil is more fertile in comparison to the sandy soil. Therefore, farmers prefer the alluvial soil for the farming purposes. Those people who has muddy house used the alluvial soil for clean the house and court yard on the occasions such as purnima, aausi and other rituals. Due to the presence of alluvial and sandy soil texture, the rain water which goes to the underground is filtered. So, underground water becomes drinkable when it pumped out.

4.2.4 Minerals, Sand, Stone and Gravel

In Kankai and Bring river's sand, stone and gravel are available in the VDC. Sand stone and gravel are obtained from the river. They are used as construction materials for houses, road, temple, taps etc. These materials are also used for the filtration of drinking water.

CHAPTER - FIVE

SOCIO-ECONOMIC PROFILE OF THE STUDY POPULATION

Socio-cultural and economic characteristics of the population are important for the sociological research. This chapter describes socio-cultural and economic life of the Surunga VDC of Jhapa district. This is the background for understanding the women's participation in water supply and sanitation.

5.1 Social Ecology of the Surunga VDC

5.1.1 Caste/Ethnicity of Studied Households

Caste plays a vital role for upliftment of socio-economic status. There are social taboos which limit the participation of different castes as well as women in social sphere. Before the reservation quota, social inclusion elite caste and male were dominated in all the sectors. Later females and backwards castes actively participated in the different sectors such as decision making, organization position etc. The table 5.1 showed the caste/ethnic composition of the respondents.

Table No. 5.1: Caste/Ethnicity of the Studied Households

Caste/ethnicity	No. of house holds	Percent	Total no. of pop ⁿ	Average HHs size by caste	Average HHs size of all HHs
Brahmin	34	66.66	174	5.12	5.93
Chhetri	10	19.60	50	5.00	
Bhujel	3	5.88	21	3.00	
Newar	2	3.92	9	4.50	
Rai	1	1.96	8	8.00	
Madeshi/mandal	1	1.96	6	6.00	
Total	51	100.0	268	35.62	

Source: Field survey, 2010.

The table 5.1 showed that most of the house holds are Brahamin and Chhetri in comparison to the other ethnic groups. Most of the respondents are Brahamin family. The average house holds size not fluctuation among different caste and ethnic groups. Households' size is lower in Bhujel

and Newar while higher in Rai and Mandal. However, the household size of the national population of the Nepal is 5.44 (CBS 2001) where as Surunga household size is 5.93. It is clear that the HHs size of the Surunga VDC is higher than the National population HHs size.

5.1.2 Age and Sex Structure

Age and sex are major characteristics of a population which directly affect its economic activities. In other words, household size, age and sex structure of the population is directly connected with the activities resource exploitation. The age and sex compositions of the family members of all households and their family members are presented on the table 5.2.

Table No. 5.2: Age Distribution of the Respondents and their Family Members

Age	Male	Percent	Female	Percent
0-4	9	6.92	3	2.17
5-9	6	4.61	13	9.42
10-14	9	6.92	16	11.59
15-19	17	13.08	15	10.87
20-24	16	12.31	16	11.59
25-29	15	11.54	6	4.35
30-34	6	4.62	10	7.25
35-39	8	6.15	12	8.7
40-44	12	9.23	14	10.14
45-49	10	7.69	9	6.52
50-54	9	6.92	4	2.9
55-59	4	3.08	2	1.45
60-64	3	2.3	5	3.62
65-69	4	3.08	4	2.9
70 above	2	1.54	10	7.25
Total	130	100.00	138	100.00

Source: Field survey, 2010.

The table 5.2 it is figure out that the male and female population between 20 to 39 is 45 and 44 respectively and their percentages are 34.61 and 31.88 respectively which is higher than the other

age range of population. The population between 19 to 39 called young and highly productive and plays vital role for the development.

5.1.3 Nature of Family

In the study area the researcher found two types of family on the basis of nature of domination. The nature of family of studied house holds of the Surunga VDC presented in table 5. 3.

Table No. 5.3: Nature of Family

Nature of family	No. of Respondents	Percent
Male dominated	36	70.58
Female dominated	15	29.42
Both/coordination	-	-
Total	51	100.00

Source: Field survey, 2010.

In the Surunga VDC the major number of family follows our patriarchal society. From table no. 5. 3 it is found that among 51 households 36 (70.58%) are living under male domination in their family. Only 15 (29.42%) are found as the member of female headed household. Female dominated are found in those family whose main male member is out of the home. Only two families in which females are service holder and found to be both female and male dominated. Generally those female who have job, other than agriculture, their family nature is mutual understanding.

5.1.4 Marital Status of Family Members of the Respondents

Marriage is our Hindu and social customs. Those person who is studying they do late marriage. The marital status of family members of house holds is represented in the table 5.4.

Table No. 5.4: Nature of Family Members of Households

Marital status	No. of male	Percent	No of female	Percentage
Married	63	48.46	63	45.66
Unmarried	65	50.00	59	42.75
Divorce	-	-	3	2.17
Widows/widowers	2	1.54	13	9.42
Total	130	100.00	138	100.00

Source: Field survey, 2010.

According to the table 5.4, the married population of male and female is tentatively equal while the widows and divorce population of the female is higher than the male. The population of female widows is higher than the population of the male widows.

5.1.5 Religious Composition of the Households

Religion plays vital role to cooperate the people and keep them on discipline. It is also shows the culture and tradition of different caste and ethnic groups. The religious composition of the sampled household presented in the table 5.5.

Table No. 5.5: Religion Composition of the Households

Religion	No of house holds	Percent
Hindu	50	98.40
Christian	1	1.96
Total	51	100.00

Source: Field survey, 2010.

From table 5.5 it showed that majority household i.e. 98.40 percent follow the Hindu religion while only one household of Rai caste i.e. 1.96 percent follow the Christian religion in the study area.

5.1.6 Educational Status

Literacy means those people who can read, write and are above 6 years old (HMG, 1951-1971). Education plays a crucial role for gender equity and it is one of the main indicators of social

development. Education is also required to develop personal skill and ability to analyze and solve the problem. The table 5.6 indicates the educational status of the studied population.

Table No. 5.6: Educational Background of the Family Members of Respondents

Educational status	No. of male	Percentage	No. of female	Percent
Illiterate	4	3.305	25	18.51
Literate	13	10.74	22	16.29
- Primary	10	8.26	17	12.59
- Lower-Secondary	17	14.04	18	13.33
- Secondary	17	14.04	25	18.51
SLC	23	19.00	12	8.88
IA	21	17.35	10	7.40
BA	12	9.91	4	2.96
MA and above	5	4.13	2	1.48
Total	121	100.00	135	100.00

Source: Field survey, 2010. Note: The age below the five years are not mentioned in above table.

The table 5.6 showed the education scenario of male and female population of the study area. Approximately 94 % of the male are found literate while 82 % of the female are found to be literate. There are a few numbers of male and females are illiterate. Males are more literate than the female. Those aged people over 60 and widows are mostly found illiterate in the study area. This shows that the recent education status of the study area and lifestyles of the respondents is rapidly increasing and youngsters are more aware about their education. There are 5 males and 2 females completed the master degree in their education. More males are service holder in comparison than the female. Although the female education status of the study area is better but only 2 female are found to be service holder. This shows that most of the females are limited in their house work, agriculture and social boundaries.

5.2 House Pattern

Type and structure of the house also shows the economic status of the population. Those who have sound economy; they have well facilitated, cemented and modern houses in the study area. Those who have low economic status, they have thatched bamboo and mud houses. Therefore,

the structure of house also showed the social well being of people in the study area. The types of houses of the respondents are presented in table 5.7.

Table No. 5.7: Type of House of Respondents

Types of houses	No.	Percentage
Cemented houses	34	66.67
Wooden houses	12	23.53
Bamboo and mud	4	7.84
Brick with tin roof	1	1.96
Total	51	100.00

Source: Field survey, 2010.

The table 5.7 showed that most of the respondents i.e. 66.67 percent have cemented houses and only 7.84 percent has thatch house which is made from bamboo and mud. Those people who have better income and economic status have cemented house. Those people who are poor they have bamboo and mud house. This shows that the majority of the respondents of the study area have better economic condition.

5.3 Economy

Economy includes production, consumption and distribution among the individuals of a community. It supports livelihood of the population. Agriculture is the backbone of the economy of the Surunga inhabitants. It is the one of vital components of human development indicator. It is influenced by the clean drinking water. People who had access of clean drinking water; they are free from water borne disease which directly helps for the surplus of the income. Somehow the participation in different sectors, social and political carriers is depended on the economic status of individuals as well as community. Although some of Nepalese women are educated and active in creative work but most of them are economically dependent on male member of the family. Different kinds of social belief limited the women's role and their creativity. Sometimes women have to do work with out any wages. Even in household levels people do not count their physical contribution in economic amount. Because of their low income, women are marginalized and they do not get equal opportunity in decision making process.

5.3.1 Main Occupation of the Sampled Households

Agriculture is the main occupation of the study population. However, this sector is not sufficient for the local people in the alternative way some people go to foreign; some are wage labour and driver, some are business man, some shares the other land for cropping and engage in other's agricultural works to sustain their livelihood. Table 5.8 showed the main occupation of the sampled household in the study area.

Table No. 5.8: Main Income Source of Family Income

Occupation	Number of HHs	Percent
Agriculture	15	29.41
Business	12	23.53
Service	11	21.57
Foreign employers	9	17.65
Waged labours	2	3.92
Driver	2	3.92
Total	51	100.0

Source: Field survey, 2010.

The table No. 5.8 showed that agriculture is the dominant i.e 29.41 percent of total sampled household. This is followed by business, service, foreign employer and others. Only few are waged labour and driver. Similarly, foreign employer, wage labour, business and governmental jobs are other alternative sources of income of their family. Most of the woman respondents could not participated in social spheres including water supply and sanitation due to the household work and agricultural activities.

5.3.2 Land

Land is the most important resource of livelihood of the studied people. To access and control over land is the determinant factor for the economic condition and social relation of the rural people. The unequal distributions of land are major factors for poor supply of food at the terai region. Table 5.9 shows the distribution of land of studied population.

Table No. 5.9: Landholding Size by household (Katta and Biga)

Landholding size (Khet + Bari)	Households no.	Percent
Land less	1	1.96
Up to 5 kattha	22	43.13
6 to 10 kattha	1	1.96
11 to 15 kattha	4	7.84
16 to 20 kattha (1 Biga)	5	17.64
1 Biga and 1kattha to 5 Bigas	16	31.37
More than 5 Bigas	2	3.92
Total	51	100.0

Source: Field survey, 2010.

From table 5.9 majorities of household have small plot of land. Because of their productive and fertile land, small area of land easily fulfills their family needs by applying low investment. Some of the respondents taken other's land for share cropping and some also gave land for share cropping. Approximately 25% of the households have more than one bigas land which shows the respondents of that area has sufficient land to fulfill their family needs. Those respondents who have low land they are highly dependent on business, foreign employer and service for fulfill their family basic needs. Among them, only one family is land less family.

5.3.3 Foods Sufficient for the Households

Food plays vital role for uplifting the family income. Those families who have sufficient food, they could save their income for their future. The table 5.10 showed the duration of the food for their family.

Table No. 5.10: Food Sufficient for the Households

Months	No of households	Percent
Up to 3 months	21	41.17
Up to 6 months	6	11.76
Up to 9 months	2	3.92
Up to 12 months and more	22	43.13
Total	51	100.0

Source: Field survey, 2010.

Table 5.10, it is inferred that most of the respondents i.e. 43.13% have sufficient foods up to 12 months. Similarly, 41.17 % respondents have sufficient foods up to three months. Rest have sufficient up to nine months. This shows that 43.13% of the households fulfill their needs from agriculture and other as 56.87% households not fulfill their needs from their own production.

5.3.4 Animal Husbandry

Animal husbandry has taken as an integral part of the agriculture in Nepal. Animal supplied milk, meat and manure for the people. In the study area females are involved agriculture as well as farming activities. Livestock is the integral part of the agriculture and contributes in many forms. In rural area, livestock is the main cash-earning source for their economic development. In study area goats, cows, buffaloes, chicken etc. are found main livestock. People solve their economic problems by selling their livestock and their products. The table 5.11 showed the types of livestock of the studied households in the study area.

Table No. 5.11: Type of Livestock in the Sample Household

Types of domestic animals	No. of livestock	Percent
Goats	57	43.3
Cows	74	8.8
Ox	2	0.24
Buffaloes	5	0.59
Pigs	1	0.12
Chicken	702	83.47
Duck	-	-
Total	841	100.0

Source: Field survey, 2010.

The table No. 5.11 showed that total numbers of livestock in all respondent's households are 841. Among them most are chicken i.e. 83.47 % which is followed by cows, goats, buffaloes, ox and pig. Among them chicken are dominant and goats are also found higher it means they are good source for income in context of study area. Milk and milk products also help to raise the economic status of the women as well as family. Pig is least in number and ducks were not found in sample of the study area because the area is dominated by Brahamin population.

5.3.5 Average Monthly Income of the Households

In the study area respondents have different types of occupation. They income money not only from the agriculture, they also income money from other alternative sources such as business, foreign employer, service and wages. The monthly income of the family is listed in table 5.12.

Table No. 5.12: Average Monthly Income of Household

Income Rs/Month	No. of HHs	Percentage
1 to 5000	8	15.68
6001 to 10000	13	25.49
10001 to 15000	16	31.37
15001 to 20000	1	1.96
20001 to 250000	3	5.88
25001 to 30000	1	1.96
30001 to 350000	2	3.92
35001 to 400000	5	9.80
40001 to 450000	1	1.96
45001 to 500000	1	1.96
Total	51	100.00

Source: Field survey, 2067.

The table 5.12 showed that, one family has sound income of money i.e 46 to 50 thousands per month. Similarly, 16 families i.e. 31.37 percent have 10 to 15 thousands which is better for fulfill their family needs.

5.4 Toilets and Bathrooms

Similarly, toilets and bathrooms are the indicators which lights the economics condition and health and sanitation of the study area. Those who have better economy have toilets and bathrooms and spend their lives healthily. Table 5.13 showed the scenario of the toilets and bathrooms of the study area.

Table No. 5.13: Asses of Toilets and Bathrooms

Types	No. of households	Percent
Toilets without bathroom	19	37.25
Bathrooms only	-	-
Bathrooms and toilets	32	62.75
Total	51	100.0

Source: Field survey, 2010.

Table 5.13, it is found that all households of the study area have toilets. Among them most of the households have toilets with attached bathrooms. A few have only toilets and they bath in open places.

CHAPTER – SIX

WOMEN’S PARTICIPATION IN WATER SUPPLY AND SANITATION

6.1 History of Water Supply at Surunga Village

The Surunga VDC is also rich in water resources such as river, spring, wet land, tube well, well, tap etc. Kankai, Bring rivers are the main rivers of the Surunga VDC. Jamunakhadi is famous wet land in the study area. The people used to drink tube well and wells’s water which is underground water. After establishment of Surunga Khanipani Tatha Sarsaphai Upabhjokta Sastha (Piped drinking water project 2058 BS), the people drink piped drinking water which is pure and clean. This water supply has distributed the water for 24 hours to all its users. The people of Surunga VDC can get piped water after being member of water users committee. Surunga Khanipani tatha Sarsaphai Upabhjokta Sastha has used underground water and it filters, purifies then only it supplies to the users group. Users group uses piped water to drink, bath, cooking and washing clothes. They use tube well and well water for feeding cattle and other household works. The users groups are satisfied to its water’s quality but they are not satisfied to its bills (Per unit 12 Rs) which is expensive than other places such as Birtamod, Damak. The general assembly of this organization held once within a year. At that time, all members of the committees are called for the participation.

6.2 Drinking Water and Sanitation User Committee

Surunga Khanipani tatha Sarsaphai Upabhjokta Sastha has given training to the school teachers about health and hygiene. The main purpose of this was that the teacher teaches the students about health and hygiene and they teaches their parents. This project has also assisted for making toilets in this area. After that people changed their habit and left to go to the forest for toilet purpose. This helps to keep the water resources and their environment neat and clean. It is directly affected the health condition of people. People become aware about the health impacts of open toilet. Before this project, local people suffered from water borne diseases such as diarrhea, typhoid, jaundice etc. it has been controlled by the awareness programs launched by the drinking water and sanitation project. In addition to this, this project has provided the materials to construct toilets to the poor people on free of cost.

6.3 Role to Fetch the Drinking Water and Related Works

In study area the drinking water and water related works are the integrated with women. Main role to fetch the drinking of the study area is presented in table 6.1.

Table No. 6.1: Role to Fetch the Drinking Water and Related Works

Family member	HHS	Percent of all	Total number female	Female percent
Women	32	62.74	32	62.74
Children	12	23.52	-	-
Daughter in law	6	11.76	6	11.76
Husband	1	1.96	-	-
Mutual	-	-	-	-
Total	51	100.00	38	74.50

Source: Field survey, 2010.

From table 6.1 it is points out that most families' wives i.e. 74.5 percent are involved in to fetch the drinking water and water related works such as position of tap and condition of tap but least of husband are involved. It is followed by children, daughter-in-law and husband. In those family husbands who is widower or separated from wives are involved in to fetch the water and related works.

6.4 Source of Drinking water

The sources of drinking water of the studied households are presented in table 6.2.

Table No. 6.2: Source of Drinking Water

Sources	Household number	Percent
Piped	50	98.04
Well	-	-
Tube well	1	1.96
Rivers	-	-
total	51	100.00
Total	51	100.00

Source: Field survey, 2010.

Similarly, from the table 6.2, 50 households i.e. 98.04% are linked with piped line water but only one household still yet not linked. The household who did not linked with piped water had taken the materials for the toilet from the project. Because of their poorness and high water cost he could not linked with this water supply system.

6.5 Health, Hygiene and Sanitation

The situation of the health of the people is also depends on clean drinking water. Those people away from the clean drinking water they may suffer any kinds of water born diseases such as scabies, allergy, common cold, typhoid, diarrhea and dysentery frequently. In the study area most of the household supplied by clean drinking and hygienic water and consumption of adequate hygienic foods. So the health condition of most consumers are well and still few are also suffering from water related diseases. It means they are miss manage the water or contaminated in their stores. Table 6.3 showed the suffering of the water related disease after the commissioned of the new water supply system.

Table No 6.3: Household Suffering from the Water Related Disease After Establishment of New Water Supply System

Type	Number	Percentage
Disease not suffering households	42	82.35
Disease suffering households	9	17.65
Total	51	100.00

Source: Field survey 2010

Table 6.3 showed that the disease suffering household less after new water supply system established. Still few house holds are suffering from the water related.

Those people who is aged well benefitted from the supply of clean drinking for bathing, fetching because in our country generally old people are neglected by their offspring. Before the supply the water mostly they go to the river for their bathing and washing purposes and do their work oneself. In spite of benefiting, peoples are also suffering from high cost of drinking water and bill payment because the office is far from their house.

Those people who is engaged in other jobs such as service, business, agriculture etc are also well benefitted. Before the supply of water one member of the family 2-3 hours per day separated his or her time to fetch the water from different sources. Now this time is saved and utilized on other productive sectors such as job, agriculture, business, study etc. Most of the wives utilized that time which is saved from the water used in agriculture sectors and other sectors.

Most of the people of the study area are aware towards the health and sanitation. Al most all peoples of the study areas are use soap after toilet and defecation habit is totally changed after lunched this project. Most of the members used to bath daily by using piped water than before project launched. From the field observation most of the household kept their tap clean and always take care. They kept unwanted materials away from the tap and clean daily. Almost al the scenario and environment of the study area is well and clean than the before.

6.6 Current Situation of the Surunga Water Supply and Sanitation Project

The coverage of the project increasing day by day from 2058 BS. Recently it covered the ward no 4,5,8 and 9. In ward no 5, 619 households are linked with the project, similarly in ward no 9, 4,8 linked with 202, 132, 92 households respectively. The rest of the households are still not linked with the project because the rate of the water is high. So, poor household could not afford the cost of the water. Table no 6.4 presented the rate of the water.

Table No. 6.4: Cost of the Water

Amount	Rs
1 to 6000 litres	72 Rs only or 12Rs/Unit
6001-10000 Litres	120 Rs
10001-20000 Liters	232 Rs
20001-30000 Litres	272 Rs
30001-40000 Liters	312 Rs
40001-50000 Litres	352 Rs
50000-60000 Liters	392 Rs
Above 60000 Liters	462 Rs

Source: Fild visit 2010

According to the consumer, the water cost of the project is high which is also shown in table 6.4. The title clear that, in the study area, those households which consumed less 6000 liters water paid Rs 72 (Nepalese Currency). Where as those households that consumed more than 6000 liters per month paid more than Rs 72. This is determined by the consumption of drinking water. That means the higher amount of wate comsumer paid the large amount of money.

6.7 Management of Water and Sanitation Project

In Surunga drinking water and sanitation project, five staffs have been appointed for the smooth running of the project. Among them four members are males and only one is female. This also shows the less participation i.e. 20% of female in this project. They are either on reserve quota or in lower posts. She is appointed as a meter-reader and there are not any female in technical and higher position because females have no technical and managerial skills.

Male have given priority to females but the participation of the females is not satisfactory. All the staffs are local people and they must be the member of this drinking water project. In the meetings female's presence rate is less than the males.

In the past people used to drink water bringing from the nearby rivers, ponds, streams. Women's had the main responsibility to bring water from the water resources. After making tube-well and well at their home women have got relief to get water. Before they had to spend a lot of time (more than one hour for once time) for fetching water but later, they did not have to spend much time (less than 10 minutes for once time) to bring water. It helped them to save time and energy.

6.8 Women Participation in the Water Management Committee

Field observation and questionnaire surveyed were applied for the data collection of women's participation in executive committee and other sub-committees. Surunga water supply and sanitation project has made a committee for the smooth running of the project. At first there were eleven members committee and recently nine members committee has been formed and female are also participated. Among nine members three are female i.e. only 33.33 percent which is not equal to the male members. According to their responsibility towards water there should be more than 50% are female. Among female one female member is vice-president of the committee.

Female's participator of the male through female are directly related with drinking water and sanitation. Besides the major committee, there are other sub committees in four wards. These sub-committees are also formed by nine/nine members. In the sub-committees females have also been given priority. They have also given major posts in sub-committees. Locals did not give priority for the involvement of the unmarried girls in the training program, committees' posts; job etc because they leave their birth place after getting married. The table no 6.5 shows the composition of the executive committee of the project.

Table No 6.5: Member of the Executive Committee

Nature of participants	Number of participants	Percentage
Male	6	66.67
Female	3	33.33
Total	9	100

Source: Field survey 2010

The table no. 6.5 showed that, in the executive committee only the 33.33 percent female occupied the posts of the executive committee while the 66.67 percent occupied by the males. male and female percent not equal, besides females are not in vital posts. the vice-president of water supply and sanitation project said that the male does not give vital post to the female because if they do so their voices are not heard hundred percent.

6.9 Formation of the Executive Committee on the Basis of the Caste, Gender and Ethnic Groups

On the basis of the caste and ethnic group, the formationof the executive committee is presented in the table 6.6.

Table No. 6.6: Formation of the Executive Committee on the Basis of the Caste and Ethnic Groups

Caste/ ethnic groups	Male	Percentage	Female	Percentage
Brahamin	5	55.56	3	33.33
Chhetri	1	11.11	-	-
Janjati	-	-	-	-
Dalit	-	-	-	-
Madeshhi	-	-	-	-
Total		66.67		33.33

Source: Field survey 2010

The table no. 6.6 showed that Brahamin male are 55.56 percentage in the executive committee while the chhetri male are 11.11 percentage. Similarly, 33.33 percentage are female brahamin in the executive committee. From the janjati, dalit and madeshhi caste, no representation in the executive committee. So, it is clearly to say that there is not equal participation on the basis of caste and ethnic groups in the executive committee. Because of the low education status, poorness and less of awareness, lower caste could not represent in the executive committee. From the one of the female respondent interview the main obstacles for the low participation are their house work, animal husbandry, child care, agriculture works patriarchal society, male domination. I asked female staff of water supply about what is the low participation of female she said that “men monopolize, female domination to the female, less priority of female voices, physically weakness, hesitation, breaking of family relation, house works and agriculture works are the main obstacles to their effective participation”.

There is no participation of low caste and indigenous people in the committee. They are not involved in these committees because they are less in number in comparison with Brahmins and Chhetri. Besides this, they are not well educated, rich and reputed in the society. So they have no chance to work in committees.

6.10 Participation of Members of Executive Committee in the Monthly Meeting

In the executive committee, there are total 9 members and among them 6 are male and 3 are female. Table no. 6.7 showed the monthly meeting of the executive committee members and their participation of the last year.

Table No. 6.7: Showed the Monthly Meeting of Last Year and Nature of the Participation

Date of meeting	Male	Percentage	Female	Percentage
2066-1-30	5	63.33	2	66.66
2066-3-22	6	100	2	66.66
2066-5-31	6	100	1	33.33
2066-9-6	6	100	2	66.66
2066-9-15	6	100	2	66.66
2066-12-5	6	100	2	66.66

Source: Minute book of executive committee 2066

The table no. 6.7 showed that in meeting male are participated 100 percent except once 83.33 percent in the last year. Similarly, female attended 66.66 percentage except once i.e. 33.33 percent in the same year. This showed that never 100 percent females were not attended in the monthly meetings of the executive committee. This also indicates that public sphere is controlled by the male, I observed. I asked vice-president of water supply and sanitation why didnot attend all meetings, she said our society is patriarchial society, so, women do all household and reproductive as well as water supply and sanitation work in the house. So, it is very difficult to attend all meetings to the women.

6.11 Participation in Decision making

One of the major components of people's participation in the water supply and sanitation is the decision making. To take such a programme successful there should be equal participation of sex and all caste, ethnic groups should be environment to say one's view to all representators. Surunga Khanipani Tatha Sarsaphai Sastha also has only three women, one in executive committee. So their voices are not heard because most of the suggestion put forth in committee meetings comes from male members; very few are made by women. The vice president of water supply and sanitation project said that if the women disagree with the decision made by male in the meeting, women do not raise our voice to disagree due to the majority of men. She further

said our society is male dominated society so that female have to do the household works and they get less chance to go out and work. The equality remains only on political leader's speeches but it has not been used in our practical life.

The researcher analyzed that national policies have addressed the inclusion of women in participation. However, in practice their participation seems to be nominal and minimal. I asked one of male respondents that why female participation is low in public sphere. He said that female do not dare to out and to do social works as male. This voice clearly indicates that the male's perception towards the female's participation.

6-12 Choose of Appropriate Location of the Water Tap

The location of the tap also plays the vital role for the comfortable for the fetching the water. If the location is appropriate, it is easy to use the water and also plays the time savings. The table no. 6.8 showed the role of households members for choosing the appropriate location of the tap.

Table No. 6.8: Role for the Choosing Appropriate Positionof the Tap

Role for the choosing appropriate positionof the tap	Numbers	Percentage
Male	18	35.30
Female	26	50.98
Both	3	5.88
All family members	2	3.92
Others	2	3.92
Total	51	100.00

Source: Field survey 2010

The table no. 6.8 showed that 50.98 percent female and 35.30 percent and male played the role for the chosing of the appropriate position of the water tap within their home. This shows that female's choices is praiseworthy than the male and also shows the female were more involent in the water related works.

6-13 Role for Taking Initiative Planning to Bring the Piped Water at Their Home.

Planning play the majour role for the initiation of any work. It depends on the heads of the family of those who are directly related to that plan. The table no. 6.9 showed the initiative paining to bring piped water within their home.

Table No. 6.9: Role for Initiation of Piped Water within their Home

Role for initiation piped water within their home	Number	Percentage
Male	24	47.06
Female	18	25.29
Both male and female	6	11.76
All family members	2	3.93
others	1	1.96
Total	51	100

Source: Field survey 2010

The table no. 6.9 showed that 47.06 percent male and 35.29 percent female took initiative planning to bring tap water at their home. It means male decision level more dominant than the female. this table clears that no only public sphere but also household sphere are dominated by male. The female have not right to do decision. I asked one of the female respondent that why your husband choose initial plan and why not you? she said he is the head of the family, we should stay his rules and regulation at home. This voice clears that how women also adopted in patriarchial society.

CHAPTER - SEVEN

SUMMARY AND CONCLUSION

The study is focused on women's participation in drinking water in Surunga VDC of Jhapa district. The researcher reviewed the literatures regarding sustainable development, people's participation, community participation, water resource management, some successful projects in which user's and women's participation has a key role, and governments' prevailing Acts, Rules, Regulations. The government and non-governmental institutions working on this sector are also reviewed in an extent showing their relations in this sector. The publications, books, articles etc. on various subjects such as users' participation, drinking water and sanitation, water resource management are reviewed. For the data collection structured questionnaire survey, field survey, observation, key informants interview are performed. This study is mainly focused on ward no 5 of Surunga VDC where Surunga Water Supply and Sanitation Project (SWSSP) is launched.

6.1 Summary

Surunga VDC is a heterogeneous composition of various caste and ethnic groups among the respondents and majority of the respondents are belongs to higher caste i.e. Brahmin and Chhetri and other are ethnic castes and Madeshi. In the study area 98.40 percent house hold follow the Hindu religion while the least i.e. 1.96 percent follow the Christian. As a whole, there is a majority of male household heads and monopolize of male. Female household heads are seen in those families where main male member is out of the home. Generally those female who have job, other than agriculture, their family nature is equally dominated by male and female. Most of the families are nuclear type and average family size is 5.93. Most of them are Brahmin and Chhetri. The average house holds size not fluctuation among different caste and ethnic groups. Households' size in lower caste is higher than the higher caste.

Women are appointed in Surunga Water Supply and Sanitation Project is only limited in mandatory seats, their representation in other program is not satisfactory. Because of low technical and managerial skills female are appointed lower in number and prefer to the lower posts. Women are socially discriminated by the society and their male counterparts are ahead in terms of participation in public and social affairs in the study area. Women's public and personal

lives are influenced by gender discrimination, which is governed by patriarchal social system, religion, law, tradition, history and social attitude still limits the women's public life. Male are supported and inspired for the female participation in different sectors but their house work did not escape from the family. So, she is participated only in less responsible and low posts only. Unequal rank of power, male monopolize, traditional societal norms gives less priority for female for the decision making and female participation in meeting found to be lower than the male representatives.

Literacy rate of the family members of all house holds is high where 94% male and 82 % female are found to be literate. There are a few numbers of male and female are illiterate person. Education status of women better than the national rate but they are limited within their house works and agriculture. Those aged people over 60 and widows are mostly found illiterate younger generation is found to be literate.

Most of the household leader have agriculture is the main occupation which is followed by business, service, foreign employers etc. Poor and waged labour is least in number. The main occupation of the female respondents is agriculture but they are also involved in other income generating sectors such as business, foreign employer, service and live stock. Majority of the HHs have not sufficient land. Those families who has less land they are engaged on other productive sectors. Approximately 25% of the households have more than one bigas land. Those respondents who have low land they are highly dependent on business, foreign employer and service for fulfill their family basic needs. Most of the respondents i.e. 43.14% have sufficient foods up to 12 months and 16.69% have sufficient up to 9 months. Similarly, rest of the HHs has sufficient foods up to three months only.

Most of the families' wives are involved in to fetch the drinking water and water related works such as position of tap and condition of tap which is followed by children, daughter in law and husband. In those family husbands who is widower or separated from wives are involved to fetch the water and related works. In the study area because of poorness, still one house hold has tube well is still source of drinking water.

Majority of the respondents are economically sound, they easily fulfil their basic needs, well approach in education, health and income and also surplus of food and income. Majority of the house holds i.e. 31.37 percent have income 10 to 15 thousands per month and only few i.e. 15.68 percent have income up to 5 thousands per months. Similarly, one family has sound income of money i.e. 46 to 50 thousands per month.

Surunga Khanipani तथा Sarsaphai Upabhjokta Sastha given facilities for bathing and washing, time saving, maintaining in sanitation, burden of fetching water reduced especially for women, availability of fresh and hygienic water for drinking and encouragement for the construction of toilets and bathrooms for the users. In the study area most of the household supplied by clean drinking water. So the health condition of most consumers is well and still few are also suffering from water related diseases which is less in comparison before the project established. Those people who is aged well benefitted from the supply of clean drinking for bathing, fetching. Women's participation in the health and sanitation training programs which is launched by NGOs and DDC, VDC is miserable. Those people who are engaged in other jobs such as service, business, agriculture etc are also well benefitted.

According to the respondents, before the project there was much time need for fetch the water i.e. more than 20 minutes for once. Now it takes less than 10 minutes for once and this saved the time which is utilized in agriculture as well as other productive sectors. Altogether daily 4-5 hours of time of one member saved after launched this project. Before that project women fetched the water from different sources on their backbone and frequently suffering from backbone problem. Now they are free from this.

From the field observation and questionnaire survey the participation of women on committee is limited. They are either on reserve quota or in lower posts. In Surunga water supply and sanitation project has made a 9 member's major committee, among them three are female but this is less in number according to their responsibility towards the water. Besides the major, in other sub-committees females have also been given priority and also given major posts in sub-committees. Because of the poorness, there is no participation of low caste and indigenous people in the committee. In Surunga drinking water and sanitation project, five staffs have been

appointed for the smooth running of the project. Among them only one is female. Because of the low managerial skill, she is appointed as a meter reader

6.2 Conclusion

From this study it can be concluded that women's participation in water supply program is less in number but the responsible of water taking in their home, agriculture work, house work and sanitation is integral part of their life. Their representation is only in mandatory seats and lower posts. Small and sub committees given priority for female participation. Although female literacy rate is more and also male given prior to the female participation but their house work, animal husbandry, child care and agriculture works limited within their home. Patriarchal society, male domination and men monopolize, female domination to the female, less priority of female voices, physically weakness, hesitation, breaking of family relation, house works and agriculture works are the main obstacles to their effective participation. Family environment, superstitions, culture, traditional values and beliefs are other causes to limit women's participation. Although, the economic status of the family and education is better, participation is lower.

Women's participation in water supply is low due to the occupation of the public sphere by male. The voice of the women is rarely heard in the decision making process in various out activities like general meeting, executive committee meeting, general assembly etc. It means public sphere is controlled by the male. Female have given only minor post which seemed to be only fulfil their reservation quota. There is no ethnic and other low caste as well as poor class of the people in the committee. The nominal participation of women in water supply i.e. public sphere culture constraints and social traditional in the study area.

Women are the basic manager of water system in their house. Household responsibilities are primarily female responsibilities. Even then, they could not decide any work without men. Women are controlled as the name of the father or husband in every house. They have to ask male whether they go out or not and sit or not in the committee. The women have to do reproductive work also. So, women have double burden in our society. So, there was no equal participation in the water supply and sanitation committee in the study area.

REFERENCES

- Acharya, M. and P. Basnet, (1981), “The Rural Women of Nepal: An Aggregate Analysis and Summary of 8 Villages Studies”, Vol. II, part 9, KTM, CEDA.
- Acharya, M. (1997), Gender Equality and Empowerment of Women, A Status Report Submitted to UNFPA, Kathmandu Nepal.
- ADB, (1997), ADB Project Program Audit Report on the Rural Water Supply Sector Project in Nepal, ADB, Manila.
- Altaf, M., Whittington D., Jamal, H. and Smith, V., (1993): Rethinking Rural Water Supply Policy in the Punjab, Pakistan, *Water Resources Research*, Pakistan 29(7):1943–1954.
- Asthana, A., (1997), Where the Water is Free but the Buckets are Empty: Demand Analysis of Drinking Water in Rural India. *Open Economies Review*, India. 8(2):137–149.
- Bhandari, B. & Grant, M., (2007), “User Satisfaction and Sustainability of Drinking Water Schemes in Rural Communities of Nepal”. *Sustainability: Science, Practice, & Policy* 3(1):12-20.http://ejournal.nbii.org/archives/vol3iss1/0604017_bhandari.html. Published online April 18, 2007.**
- Bhandari, B., Grant, M., & Pokharel, D., (2005), “Sustainable Community Water: Managing Supply Systems in the Mid-hills of Nepal”, *Water Policy* 7(2):201–214.
- Bhasin, K., (1996), *What is Patriarchy? Kali for Women: New Delhi*.
- Bista, D. B., (1972), “People of Nepal”, (Second Edition), Kathmandu, Ratna Pustak Bhandar, Asia Publishing House.
- Brydon, L. and S. Shant, (1989), “Women in the Third World, Gender Issue in Rural and Urban Areas”, Edward Elger Publishing Limited.
- Branch Statistics Office (2007), *District Profile of Jhapa, (2007), Nepal*.
- CBS (2004): *A Handbook of Environment Statistics, Nepal-2002*, Kathmandu.
- Central Bureau of Statistics, (2001), *National Population Census*, Nepal: Government of Nepal.
- Chalise, S. R. & Sial S. A., (2000), Water for Mountain Households, ICIMOD, Newsletter no.36, Spring, 2000.

- Chalise, Suresh R., (1999), Water for Mountain Households, ICIMOD, Newsletter no.35, Winter, 1999.
- Chhetri, R.B., (1999), the Rhetoric and Realities of People's Participation in Conservation and Development in Nepal: An Anthropological Perspective, Sociology and Anthropology Society in Nepal.
- Chhetri, R.B., (2010), Gender Justice or Tokenistic Participation? Enlisting of Women in Farmer Managed Irrigation system in Nepal, *Sasan Journal of SAociology and Anthropology*, pp 174-204.
- CWSS, (1987), Women's Participation in Community Water Supply and Sanitation Projects, Approach Paper, Community Water Supply and Sanitation Programme, Pokhara.
- Department of Water Supply and Sewerage (1997), *Development of Drinking Water Sector in Nepal, (Nepali version)*, DWSS Kathmandu, Nepal.
- Dahal, D.R. and L. Upreti, (2010), *Sasan Jurnal of Sociology and Anthropology*, vol-1.
- Devakota P.L., (2006), "People-Centered Development in Nepal": An Innovative Approach, Occasional Papers, TU, Nepal.
- Devkota, P.L., (2007), Drinking water policies and quality issue in Nepal.
- District and VDCs Profile (2010), A Socio-economic Database in Nepal, Intensive Study and Research Centre, Putalisadak, Kathmandu, Nepal.
- Fund Board (2005), Policy of Fund Board, MHPP, Kathmandu. HMG, Nepal.
- Gautam, H., (2007), "Successful Implementation of Public Private Partnership Model for Water Supply and Sanitation in Nepal", Rural Water Supply and Sanitation Fund Development Board, Kathmandu, Nepal, 2007.
- Gosselink, Paul & Strosser, Pierre, (1997), Participation in Irrigation Management Research: IIMI's Application of PRA, People and Participation in Sustainable Development Understanding the Dynamics of Natural Resource Systems. Workshop in Political Theory and Policy Analysis, Indiana University, US, 1997.
- GTZ, (1989), Annual Report, (1989), GTZ, Kathmandu.

- HMG/MHPP, (1994), Nepal National Sanitation Policy and Guidelines for Planning and Implementation of Sanitation Program.
- HMG and ADB, (1996), Fourth Rural Water Supply and Sanitation Project memorandum of understanding of Appraisal Mission.
- Howe, C. & Dixon, J., (1993), Inefficiencies in water project design and operation in the third world: an economic perspective, *Water Resources Research*, 29(7):1889–1894.USA.
- ICIMOD, (1997), Annual Report 1997.
- ICIMOD, (1993), Mountain Environment Management Discussion Paper Series, 10th Anniversary, ICIMOD, Kathmandu.
- Ishihara, Heihachiro, (2007), Dissemination of Rural Water Supply and Sanitation (RWSS) Policy 2004, JICA, Kathmandu, Nepal.
- Kaliba, A., Norman D., & Chang, Y., (2003), Willingness to Pay to Improve Domestic Water Supply in Rural Areas of Central Tanzania: implications for policy, *International Journal of Sustainable Development and World Ecology* 10(2):119–132.
- Lammerink, M.P., (1998), Community Managed Rural Water Supply: Experiences From Participatory Action Research in Kenya, Cameroon, Nepal, Pakistan, Guatemala and
- Nepal Gazette (2004), Rural Water Supply and Sanitation National Policy, Strategy and Sectoral Strategic Action Plan (RWSSPSAP), 2004 (Approved by the cabinet on January 12, 2004), Kathmandu.
- NPC (1998), The Ninth Plan (1997-2002), HMG, Nepal.
- Sharma, S., (1998), Resource Management for Water Supply and Sanitation Sector. Sixth National Convention of Engineers on Resource Management for Infrastructure Development. December 3–4. Kathmandu: Federation of Engineering Institutions of South and Central Asia.
- Shrestha, B.B. and Singh, C.B., (1978), “Ethnic Group of Nepal and their Way of Loving”, Kathmandu: Himalayan Book Seller.
- Thapa, C. B., (2000), Community hygiene and sanitation promotion project, DWSS/ESS KTM.
- UNDP, (1998), Human Development Report.

UNDP (2004), Nepal Human Development Report 2004, Kathmandu.

UNICEF Nepal, (2004), Child and women environment program.

UNIFEM, (2004), United Nations Development funds for women, 2004.

Uprety, L. P., (2006), Functions of an Organization in an Indigenous Irrigation System: A case Study from a Hill Village of Nepal. Occasional Paper, TU. Nepal.

Uprety, L. P., (1999), Social Component in Water Resources Strategy Formulation (WRSF). A Draft Review Paper Submitted to Consolidated Management Services, Nepal (P), Feb 15 1999.

WARM-P Helvetas/ Nepal (2005), Annual Report 2005.

WARM-P Helvetas/ Nepal, (2002), Final Main Report on Water Use Master Plan in Rupakot VDC, Kaski, September 2002.

Watanabe S., Bhandari, B.S. & Manandhar, D., (2007): Sustainability of Community Managed Rural Drinking Water Supply Systems in the Mid Hill of Nepal. Department of Drinking Water and Sewerage, Nepal (2007). WCED (1987): *Our Common Future*, Oxford University Press, Oxford.

Whittington, D., Okorafor, A., Okore, A., & Mcphail, A., (1990), Strategy for cost recovery in the rural water sector: a case study of Nsukka District, Anambra State, Nigeria, *Water Resources Research* 26(9):1899–1913.

CHECK LIST

Women's Participation in water Supply Focus Group Discussion and Key Informant Interview

1. How many members in executive committee in water supply and sanitation project?
2. How many women's participates in the executive committee of water supply and sanitation?
3. Is there ethnic/Madeshi use peoples participation in water supply executive committee?
4. How many female staffs are in the water supply and sanitation project?
5. Do you inform in General Assembly meeting? Was there any general assembly meeting held?
6. What is the main hindrance to women's participation in outside (Public sphere) work?
7. What is the quality of water and its bills?
A-Quality of Water- Good/Bad
B-Cost of Water- High/Low/Medium
8. Who decide to do in your family work?
A-Male
B-Female
Why.....
9. Who do households work in house?
A-Male
B-Female

APPENDIX

HOUSEHOLDS SURVEY Women's Participation in water Supply

Date.....

Respondent Male/Female.....Caste/Ethnic group.....

Religion.....District.....VDC.....Ward No.....Tole.....

S N	Name	Relation with respondent	Sex	Age	Marital status	Education status		Occupation	Residential status
						Literate	Illiterate		

1. Do your family members work as daily wage labour or monthly wage labour?

If yes provide information.

S N	Name	Sex	Sources of income	Average monthly income	Working place	Family expenditure per month

2. Had any member of your family gone for foreign employment or outside for last ten years?

a) Yes..... b) No.....

If yes in which country and what was the occupation?

Country name..... Type of occupation.....

3. Do you have your own land? a) Yes..... b) No.....

If yes, please provide the information

Land type	Occupied in katta or biga
Khet	
Bari	
Total	

4. Is your farming production sufficient for year around? a) Yes..... b) No.....

If No how many months.....

Have you taken other land for share cropping? a)Yes..... b)No.....

If yes, mention the occupied land and inform the owner name

- a) Occupied land in kattha.....
- b) Owner's name.....

5. Have you given your land for share cropping? a)Yes..... b)No.....

6. What types of crops grow in your land?

Rice			
Wheat			
Oil crops			
Legumes			
Cash crops			
Vegetable			
Fruits			
Others			

7. Do you sell your crops? a) Yes..... b)No.....

S N	Name of growth items	Quantities	Annual	S N	Name of growth items	Quantities	Annual

8. Do you sell fruits or vegetables? a) Yes..... b)No.....

If yes how much?.....

9. Do you have livestock? a)Yes..... b)No.....

If yes, please provide information about livestock and their types

S N	Name of live stock	Number	S N	Name of live stock	Number

10. Do you have house? a)Yes..... b)No.....
 If yes what type? a)Bamboo and mud. b)wooden. c)cemented. d)others
11. Do you have toilet and bathroom? a)Yes..... b)No.....
12. What are the sources of drinking water? a)Tbwell. b)well. c)piped. d)others
13. Who fetches water more in your family? ? a)wife. b)children. c)husband. d)others
14. How long did it take to fetch before commissioning of the water supply system?
 a)Less than 20 minutes. b)20-60 minutes. c)more than one hour
15. How long does it take for you to fetch drinking water after commissioning of the water supply system?
 a)Less than 10 minutes. b)10-30 minutes. c)more than one hour
16. How did you use to get water before pipe water has been supplied?
 a)from nearly river. b) from nearly pond. c) from tube well. d)others
17. Since when have you got pipe dinking water?.....
18. Who took initiative planning to bring pipe drinking water in your home?
 a)father. b) mother. c) children. d)others
19. In your house, who chose an appropriate place for the location for water tap?
 a)Husaband. b) wife. c) son. d)daughter in law e)others
20. Who takes your whole house responsibility?
 a)Husband. b)wife. c)son. d) Daughter. e)others
21. Are you still suffering from water borne diseases after getting clean drinking water?
 a)Yes..... b)No.....c)Sometimes.....
22. Do you think that the water is hygienic enough? a)Yes..... b)No.....
23. Comments about new water supply system.....

