

CHAPTER-I INTRODUCTION

1.1 Background of the Study

Nepal is a poor and developing country with different geographical structure. It is located between 80° 04' to 88° 12' east longitudes and 26° 22' to 30° 27' north latitudes. Nepal is boarded with People's Republic of china in the north and Republic of India in the east, south and west. The total land area of the country is 1,47,181 square kilometers that is 0.03 percent of the world.

Nepal is divided into three ecological, geographical regions, normally Mountain, Hilly and the Terai. Politically it is divided into different divisions and sub divisions such as 5 development regions, 14 zones, 75 districts, 240 electrical areas and 9 ilaka of each districts. Village development committees and municipalities are the lower administrative units in a district.

“Health is wealth” and people always want to be healthy and do the different activities for their surviving. Health depends on people activities as well as environmental phenomenon of the person. Nepal is facing many problems e.g. communicable diseases, poverty, environmental sanitation, malnutrition, rapid population growth, high maternal and child mortality rate are main problems of the sectors. According to the census in 2011 AD, 25.4 percent Nepali people are still below the line of poverty. Poverty has direct relationship of with health.

In Nepal the life expectancy rate is steadily increasing day by day for example, the life expectancy rate of Nepal is 68 years now. Similarly, Nepal lies in 157th rank in HDI which include 0.458 HDI respectively. It shows that Nepal lies in the low Human Development Index category in the year 2011 AD according to UNDP.

Human being needs safe drinking water. If it is not free from biological and chemical contamination. It will be a main cause of major communicable diseases. Likewise, Water is an important element for all living beings. It plays a vital role in maintaining the entire life cycle on the earth. Water is the basic life supporting resources and very important factors in the social, cultural, ecological development of a country.

Water is demanded for multiple uses such as drinking, cleaning, cooking, irrigation, industry, electricity, transport and development project. Also every living creature depends upon water for the various activities.

The statistics are mind boggling in the world today over one billion people have no access to improved safe drinking water a basic necessary for human life and about 2.5 billion people do not have access to improved sanitation. (www.unicef.org.12/august, 2010)

In 2010, over 2.6 billion people lacked adequate sanitation depriving nearly 900 million people of safe drinking water (www.lifefstrong.com). Most of ill health in developing countries like Nepal caused by contaminated water. The health of human beings through the different mode of activities as water is a good carrier of pathogens, like the diseases dysentery, diarrhea, worms etc.

50 percent hospitalizations result from water borne diseases. Drinking water of most communities obtained from the surface sources and such natural water supplies particularly streams and ponds are likely to be pollutant with domestic and other wastages. People drink water directly from taps, tube-wells, ponds, dhugedhara, streams and other sources also consequently result ill health among the inhabitants. So the provision of safe drinking water supply is one of the effective and permanent solutions for improving health of the people. People awareness may be the important means to protect from such kinds of problem.

According to the water supply and sewerage in Nepal, even though and estimated 80% of total population has access to drinking water, it is not safe. For example, The Katmandu is estimated to produce 150 tons of waste daily and almost half of this is dumped in to rivers and 80 percent of the waste water is generated by household. In some of the rural regions of Nepal communities still rely on getting their drinking water from tube wells, recently one of the major concerns in these regions, especially in

As Nepal faces a high number of water borne diseases such as Diarrhea, Dysentery, Typhoid, Gastroenteritis and Cholera. Children under the age of five are the most affected with the estimated 44,000 children dying every year in Nepal from water borne diseases. (waterproject.org/ water-in crisis) Only 65 percent population in Nepal has access to safe drinking water where as the remaining 35 percent is compelled to drink polluted water. According to vice chairman of drinking water and sanitation consumer federation, Torup prasai, electricity is the main problem for supplying drinking water to consumers. Although the government has a target of insuring access of all the people to drinking water facility by 2017, still 35 percent of

population has been deprived of safe drinking water in Nepal (www.eikantipur.com/./383790/ 2014-1-12).

The study reference to VDC, Pakali, Sunsari district on knowledge and practice of safe drinking water. Sunsari is the district of eastern development region koshi zone. Baklauri is situated in north, Akamba in south, Hasposa in east and west in Vadgaun of Pakali VDC. This VDC is spread of to 1257 square kilometer. It has nine ward committees, ward no. three is very near to Pakali highway. It is developing process in the context of safe drinking water. The people of this VDC used tube-well and tap as the sources of water. Lack of sanitation and safe drinking water is the major problem in this VDC. Most of the people have personal tube-well so, they drink water directly from it without any treatment. Specially, Muslim community's people are not aware about safe drinking water because of lack of awareness program and other programs related to it.

1.2 Statement of the Problem

Practice of safe drinking water plays vital role enhancing people's health status. Safe drinking water is basic need of the people. Without safe drinking water we can't think of healthful life. The first and most obvious fact in the water is an absolute necessary. Without water life of animal, plants and human can't exist.

Most of people in the world are affected by many types of water borne disease. People drink dirty and contaminated water because no other options are available in their communities. People typically gather water from the nearest source, which often is the someone use for bathing and washing activities. These varied used of the same water sources frequently lead to the spread of diseases. Lack of public awareness about sanitation and pure drinking water, must people are affected many types of water borne diseases, like Dysentery, Diarrhoea, Cholera, Typhoid etc. water borne diseases are the major causes of illness and death across much of the developing world.

Human excreta contain hundred types of both harmful organisms. It has been estimated that more than fifty types diseases are transmitted from the excreta of an infected person to another through various routes. Water is one of the major routes for the disposal of the excreta of pathogens.

Though, Nepal is second largest country in the water resources but there is great problem for safe potable drinking water. Due to dense population people of Pakali VDC, people are suffering from the problem of safe drinking water. Safe drinking

water is fundamental human rights but Pakali VDC is not so facilitated village in the context of drinking water. No study has been done on this topic therefore I should find actual knowledge is key point to show behaviors. Thus the present problem is stated as 'knowledge and practice on safe drinking water of the people of Pakali VDC, Sunsari. Similarly, most of the study tried to find out hilly area peoples knowledge and practice of safe drinking water. Therefore, the present study was fulfilled this gap between of hilly and terai area about knowledge and practice of safe drinking water.

1.3 Objective of the Study

General objective of this study was to find out the knowledge and practice of safe drinking water of Pakali VDC, however, specific objectives of the study are as follows.

- a. To identify the socio economic factors that determines the knowledge and practice of safe drinking water,
- b. To find out the knowledge about of safe drinking water among the people,
- c. To access the practice of the safe drinking water adopted by the people.

1.4 Significance of the Study

Safe drinking water is a basic need of people without safe drinking water we cannot imagine our healthy life. The role water is vital in our health. The significance of this study is given below.

- a. The study will be helpful for the local people to develop awareness on safe drinking water and formulating good practices and system.
- b. The study will be useful for community, Government and NGOs support for management and practice of safe drinking water.
- c. The study will be helpful for other researchers, students and educators in future study on safe drinking water.

1.5 Delimitation of the Study

The delimitation of the study has been presented below.

- a. Only one respondent was taken from one house, they were male and female above 16 years.
- b. The Study was delimited in Pakali VDC ward no. 3.
- c. The study was concerned about knowledge and practice of safe drinking water.

- d. Only 102 (33 percent) households were selected on the basis of simple random sampling method.
- e. The study was delimited to small size. Therefore the findings can't be generalized as national indicators.

1.6 Operational Definition of the Key Terms

Attitude : Way of feeling or thinking about drinking water.

Awareness : Make consciousness of well informed about drinking water and its impacts.

Behavior : Personal way to act about drinking water.

Community : Community is social group within the same degree of social coherence living in the given area.

Health : Health is a state of complete physical, mental and social well being not merely an absence of disease or infirmity. (WHO 1974)

Household : The household is defined as a one of people related to blood or adopted, they lived together and joint kitchen.

Knowledge : Information, understanding and skills gained through learning or experience.

Pathogenic agent: An organization causes the disease.

Practice : Daily or ritual action in relation to drink water or way of drinking water.

Safe : Free from any pathogenic agent.

Under 5 year children: Refer to the children of 0.5 years age who have not completed five years of age.

CHAPTER – II

REVIEW OF THE RELATED LITERATURE AND CONCEPTUAL FRAMEWORK

Review of related literature is important part of research because it provides findings of previous research and broad knowledge about the related study. Some related materials like books, thesis, study report, national and international publication, journals, magazines, newspaper, websites were used in this study all of them, some related literatures are presentable below

2.1 Review of Theoretical Literature

Water for drinking purpose should be clean, colorless (i.e. free from suspended impurities) free from organic impurities and especially from germs of diseases contamination of sewages or decaying animal or vegetable matter. Likewise, water should be in pleasant taste. That is to say, it must be free from pathogenic bacteria. It need not, however, be absolutely pure and may have small quantities (and not excess) of salts dissolved in it. Distilled water having a characteristic freshness is found to not most suitable. Chemically pure water is unknown in nature. Natural water is liable to contain various kinds of impurities depending upon the sources from which they are obtained. Rain water being naturally distilled water is the purest form of natural water still it contains various kinds of nitrous oxide, dust particles containing salts and organic matter, which it derives while falling through the atmosphere.

Spring water differ from river-water in having undergone filtration, through porous strata, and consequently do not contain suspended impurities. The water is clear and transparent however it contains many impurities. Spring water and well water may contain different dissolved gases. River water contains impurities, both soluble and suspended organic and inorganic, while passing over the soil, hence it is generally turbid.

Water is classified into soft and hard; soft water is that kind of water which easily forms lather with ordinary soap, while hard water does not easily give lather with soap(due to the presence of soluble calcium and magnesium salts), hence much soap is consumed.

Hardness of water is classified into two types, temporary hardness of water, which is due to the presence of bi- carbonates of Ca and Mg or both in solution. This hardness is called temporary for it can be removed by easy means, like boiling. And permanent hardness of water is due to the presence of sulphate and chlorides of Ca and Mg. it cannot be removed by easy means, like boiling etc.(Sharma 1915,p p346-352).

2.2 Review of Empirical Literature

WHO did study on the topic of ‘safe drinking water in India, Bangladesh and Nepal’ in 1993. It found that a maximum limit of 0.05 mg/liter arsenic in drinking water in India, Bangladesh and Nepal. Astonishingly, the data collected by various group of scientist reveals that the arsenic content of ground water including the geologist, environmental scientist, public health engineers all over the world got alarmed due to this hazard of poison in the groundwater are still being investigated (poison in water WHO,1993)

WHO/UNICEF, (8 may 2014) highlight the topic “need to further reduce gaps in access to improved drinking water and sanitation”. GENEVA/NEWYORK/ 8 may 2014- Since 1990, almost 2 billion people globally have gained access to drinking water from improved sanitation, and 2.3 billion have gained access to drinking –water from improved sources. Some 1.6 billion of these people have piped water connections in their homes or compounds. More than half of the global population lives in cities, and urban areas are still better supplied with improved water and sanitation than rural ones. But gap is decreasing. In 1990, more than 76 percent people living in urban areas had access to improved sanitation, as opposed to only 28 percent in rural ones. By 2012, 80 percent urban dwellers and 47 percent rural ones had access to better sanitation. In 1990, 95 percent people in urban areas could drink improved water, compared with 62 percent people in rural ones. By 2012, 96 percent people living in towns and 82 percent of those in rural areas had access to improved water. Despite this progress, sharp geographic, socio- cultural and economic inequalities in ones. By 2012, 80 percent urban access to improved drinking water and sanitation facilities still persist around the world.

Mahat, Mohan Kumar (2006), studied on the topic “ knowledge and practice about drinking water and its impact on health of Bangi VDC of Arghakhachi District” He found that 49 percent respondent were using tap water and other respondents were using water from streams, pounds and kuwas and 41 percent of the respondents have proper knowledge about safe and pure drinking water, 83 percent respondents were

not using any method to purify the drinking water, 86 percent respondents were affected by typhoid disease and 89 percent from worms infection.

According to the Nepal water for health NEWA... (2011) studied on the topic 'use of water sources in Nepal'. Nepal is naturally based with ample water resources. Only 82 percent of population has access to and clean drinking water. Improved services such as piped water and covered wells makeup for almost 93 percent of water coverage in urban areas and 79 percent in rural areas the remaining have to depend upon the conventional sources like unsafe well, lake river and spring etc.

Kafle, Mnju (2011), studied on the topic "knowledge and practice of the safe drinking water of the people of Syuchater VDC, Kathmandu" was based upon 141 respondents from 2, 3, 4 wards of Syuchater VDC. The objective of the study of the study was mainly concerned in analyzing knowledge and practice on safe drinking water. This study is descriptive type in nature and simple random sampling method was applied. To collect the data the researcher visited door to door of the respondents. This information has been gathered by the use of interview schedule and observation form. The colleted data ware tabulated in a master chart according to their nature. Then the collected data were analyzed with the help of and presented with tables, diagrams and chart.

She found that most of the respondent (99.21 percent) lived in brick houses and used safe drinking water but the respondents who lived in hut, they all used unsafe water. Majority of the respondents 67.37 percent were found having the knowledge about safe and pure drinking water. About 33.19 percent respondents had proper knowledge about disease caused by contaminated water.

2.3 Implication of the Review for the Study

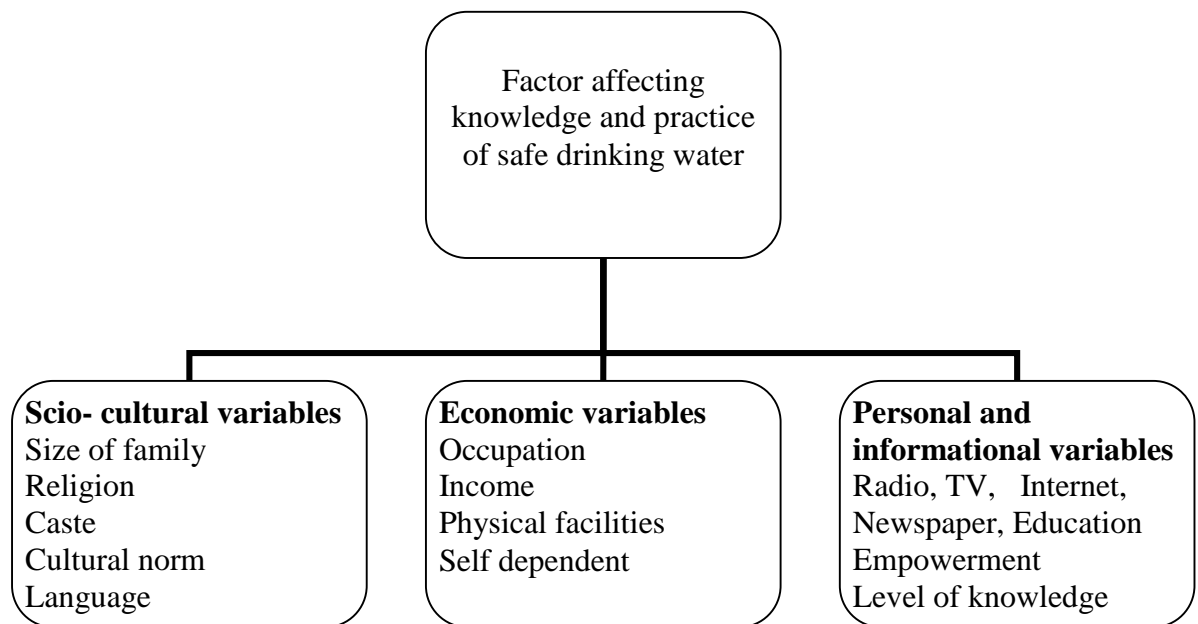
The literature review has helped in my study by following ways.

- a. To determine the topic of the study.
- b. To identify the related field for the study.
- c. To gain additional knowledge about research methods.
- d. To compare the old findings for the study with the present one.
- e. To evaluate the recent research.
- f. To give reference to the future studies related to the topic.

2.4 Conceptual Framework

To improve the knowledge and practice of safe drinking water among the community's people, different variables are the key. These variables are the facilities, demographic variables, socio cultural variables, knowledge and practices, available of information sources and role of different sectors. These variables of the study are as follows.

Factor Affecting Knowledge and Practice of Safe Drinking Water in Organizational Chart



If these variables play the positive role, people's knowledge and practice of safe drinking water will be good. If these variables don't play positive role, the practice and attitude of people will be negative as well.

CHAPTER III

METHODS AND PROCEDURES OF THE STUDY

Method is a way of doing something especially a systematic way; implies an orderly logical arrangement where, procedure is a particular course of action intended to achieve a result. Both of them helped in launching a study. The method and procedure of study have been presented below.

3.1 Design and Method of the Study

This study was based on descriptive in its nature and quantitative design.

3.2 Population Sample and Sampling Strategy

Pakali VDC ward no. 3 Sunsary was the area of the study. There were 307 houses where total population of study area was 1753 population including 950 female and 803 male. Among them 33 percent household was selected as a sample size by the help of simple random sampling procedure. This carried 102 houses from there where 102 respondents were selected above 16 years.

3.3 Study Area/Field

Study area was Pakali VDC ward no.3 Sunsari district. Sunsari is the district of Eastern Development Region Koshi Zone. Baklauri is situated in north, Akanba in south, Hasposha in east and west in Vadgaun of Pakali VDC. Where have lived more ethnicity like: Brahaman, Tharu, Rai and Muskim etc.

3.4 Data Collection Tools and Techniques

Data were collected using the questionnaire and the questionnaire contained some close and some open types. Tools were given in appendix I. After preparing the research tools it was done on expert judgment and pre-test. For the pre-test ten respondents were taken and interview with them. The tools were revised according to result of trial test and suggestion from the adviser.

3.5 Data Collection Procedures

In this study, questionnaire was filled up through the interview process for the collected primary data. At first, the researcher visited ward and VDC representative,

and informed about the purpose of visit. After getting permission at the representative, the researcher visited to respondents in their households with tools to collect information and necessary data in the sample area. The researcher gave introduction and objectives of the study to respondents in brief and requested him/her to give information. The data were collected from each respondent separately. The questionnaire was filled up by asking with the respondents.

3.6 Data Analysis and Interpretation Procedure

After collection of data, the whole information of data was checked to prevent error and was tabulated on a master chart. Then they were converted in suitable table. Then the data analyzed with the help of table, pie chart and bar diagram were also used to make presentation more clear.

CHAPTER- IV

ANALYSIS AND INTERPRETATION OF RESULTS

This chapter is mainly concerned with the analysis and interpretation of the data. After collecting the data they were tabulated and converted into percentage. It was kept in sequential order according to the objectives of the study. The analysis and interpretation was made clear with the help of the tables, charts and figures. Analysis has been presented sequentially below.

4.1 Demographic and Socio-Economic Characteristics

This section deals the demographic and socio- economic characteristics of the respondents focusing level of education to their occupation religious affiliation and source of income which are sequentially presented bellow.

4.1.1 Distribution of Population According to Sex

Sex plays important role in population composition. The gender wise distribution population of the study is shown in the table 1.

Table no. 1: Number Respondents According to Sex

Respondents	Number	Percent	Use of safe drinking water	percent
Male	35	34.3	26	74.28
Female	67	65.7	43	64.18
Total	102	100	69	

Above, on the table no. 1 the population of the study area was 102 in which 35 or 34.3 percent were male and the most of the respondents 67 or 65.7 percent were female. It was shown that still now most of the female were limited with house and kitchen work. Thus in research 75 percent of female respondents participated in interview.

4.1.2 Distribution of Respondents by Religion

Community is affected by religion and the people of different religions gave different kind of habit which affected the health of the people. The respondents of this study area got adopted different religion which is shown in the table no.2.

Table no. 2: Distribution of Respondents by Religion

Respondents	Number	Percent	Used safe water	Percent
Hindu	54	52.94	46	85.18
Muslim	38	37.25	17	44.73
Christian	10	9.8	6	60
Total	102	100	69	

The above table no 2 shows among the 52.94 percent respondents were Hindu. Among Hindu respondents, 85.18 percent used safe water. Similarly, 37.25 percent respondents were Muslim and 44.73 percent used safe drinking water and 60 percent Christian used safe drinking water.

4.1.3 Education Status of the Respondents

Education is the most fundamental factor for all round development of an individual and community. It is the way to develop manpower, attitude and insight of human being. Even it helps to modify people's health related behaviors in order to attain their health status. It is said that education is the vital part of infrastructure of the nation. Education is ladder for success. It develops a distinct personality of a person and helps him/her to become successful in life and contribute to the nation. In this study the researcher tried to find the effect of education on water. Education status of respondent of this study is shown in the table no. 3.

Table no. 3: Educational Status and Use of Safe Drinking Water

Educational status	Number	Percent	Used safe water	Percent
Literate	15	14.7	10	66.66
Illiterate	25	24.5	4	16
Primary	36	35.3	29	80.55
Secondary	15	14.7	15	100
+2	7	6.9	7	100
Bachelor	4	3.92	4	100
Total	102	100	69	

The table no. 3 shows that only 14.7 percent respondents were literate. Among them 66 percent used safe water and 24.5 percent respondents were illiterate in which only 16 percent respondents used safe drinking water. 35.3 percent respondents had primary level education in which 80.55 percent used safe drinking water. And secondary level, +2 level as well as bachelor level used 100 percent safe drinking

water. All educated respondents used safe drinking water and had a good knowledge and provision of drinking water.

4.1.4 Occupational status and Water Purification of the Respondents

People do different activities for their survival in our society. Occupation is one of the most important components of human life. Occupation level determines the quality of person and family life. It is assumed that people who involved in physical and hard work used more water than other. Occupational status and water purification of this study is given in the table no 4.

Table no. 4: Occupational Status and Water Purification

Occupation	Number	Percent	Used safe water	Percent
Agriculture	71	69.6	46	64.8
Business	15	14.7	12	80
Services	8	7.84	8	100
Labor	8	7.84	3	37.5
Total	102	100	69	

Table no 4 shows among 71 respondents 69.6 percent adopted agriculture, 14.7 percent followed business, 7.84 percent followed labor and services. Cent percent of respondent who involved in government services were using safe drinking water. In this study among the total responds the majority of people had adopted agriculture as their occupation among them 64.8 percent of respondents used safe drinking water. The respondents who adopted services and business found good knowledge and practiced safe drinking water but the respondents who adopted labor as their occupation had less knowledge about safe drinking water. In this study, it was found that 63 percent labor respondents adopted unsafe water, who lacked with knowledge and practice about safe drinking water.

4.1.5 Income per Month of Respondents

In this community people work in different fields like agriculture, business, services and labor. In each community people had different income level. The prosperity of a person depends on their income level. If a person has high income level he/she can fulfill the basic needs of his family along with extra luxury. But the people with less income can hardly fulfill the needs of his family. The incomes per month of people's are shown in the table no.5.

Table no. 5: Income per Month of the Respondents and Used of Safe Drinking Water

Amount	Respondents	Percent	Used safe water	Percent
Less than 5000	15	14.7	4	26.7
5000-10000	59	57.84	38	64.4
10000-15000	18	17.65	17	94.44
More than 15000	10	9.8	10	100
Total	102	100	69	

Table no.5 shows that 14.7 percent respondents earned Rs less than 5000 per month, the respondents whose income level was below 5000 per month only, 26.7 percent used safe drinking water. Furthermore, 57.84 percent respondents earned 5000-10,000, among those respondents 64.4 percent respondents used safe drinking water. Table shows 17.65 percent respondents earned 10,000-15,000, 9.8 percent earned above 15,000. The respondents whose income level was 15000 or above it, cent percent of they used safe water. In this research period 27 percent respondents had well income level. The people whose income level was high, they were used safe drinking water.

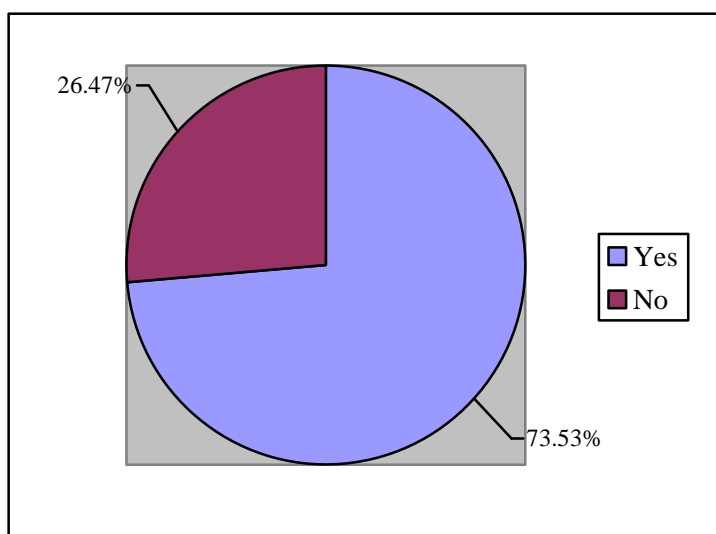
4.2 Knowledge and Practice about Safe Drinking Water.

The chapter specially related with the knowledge about safe drinking water of the respondents of this study area.

4.2.1 Knowledge about Safe Drinking Water

Drinking water is the basic needs of each people. Without safe drinking water we can't think about healthy life. We get knowledge from education. Education is very important to live a healthy, successful and happy life. Knowledge can create good behaviors in a person. The knowledge level of the respondents about safe drinking water is shown in the figure no 1.

Figure no. 2: Knowledge about Safe Drinking Water



From the figure no. 1 among the 75 respondents 73.53 percent respondents had general knowledge about safe drinking water and 26.47 percent respondents had lack of knowledge about safe drinking water.

4.2.2 Knowledge about Characteristics of Safe Drinking Water

The usage of safe and pure drinking water plays the vital role to make our body healthy, unsafe drinking water causes water borne diseases. Lack of the public awareness about safe drinking water most of the people are affected by different type of water borne diseases. The knowledge about characteristics of safe drinking water of the respondent of this study is shown in the figure no. 2.

Figure no. 2: Knowledge about Characteristics of Safe Drinking Water

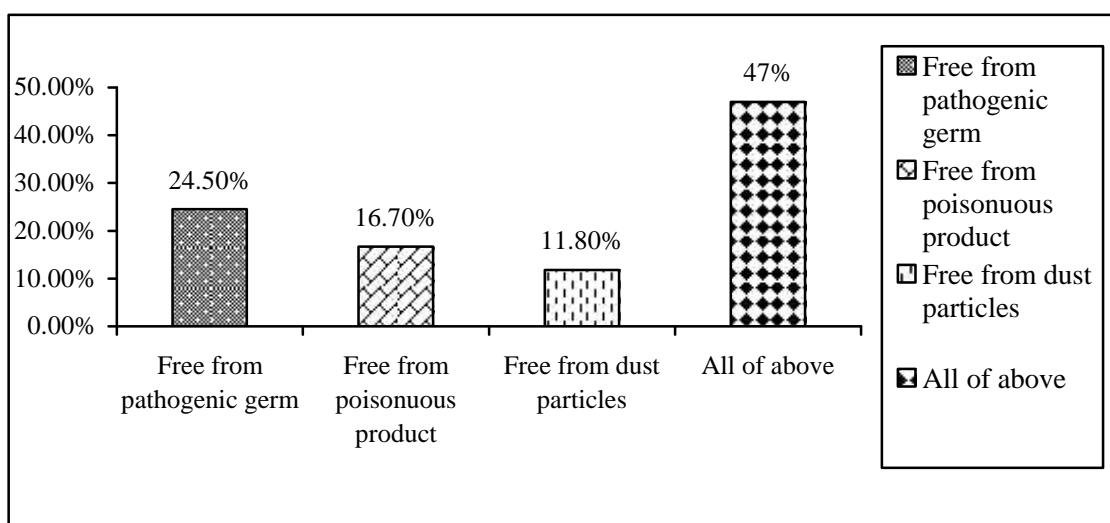


Figure no. 2 shows among the 25 respondents 24.5 percent opined that safe water should be free from pathogenic germs; 16.7 of the respondents said free from

poisonous products, 11.8 percent said that free from dust particles and the 47 percent of respondents opined that all of the above things indicate safe drinking water. From this result it is found that 47 percent respondents had good knowledge about safe drinking water.

4.2.3 Knowledge about the Method of Purifying Water

We should drink purifying water to make our body healthy. Different methods of purifying water like, Chemical, Boiling and filter can be used. The knowledge about methods of purifying water of the respondent of this study is shown in the table no. 6.

Table No. 6: Knowledge about the Methods of Purifying Water

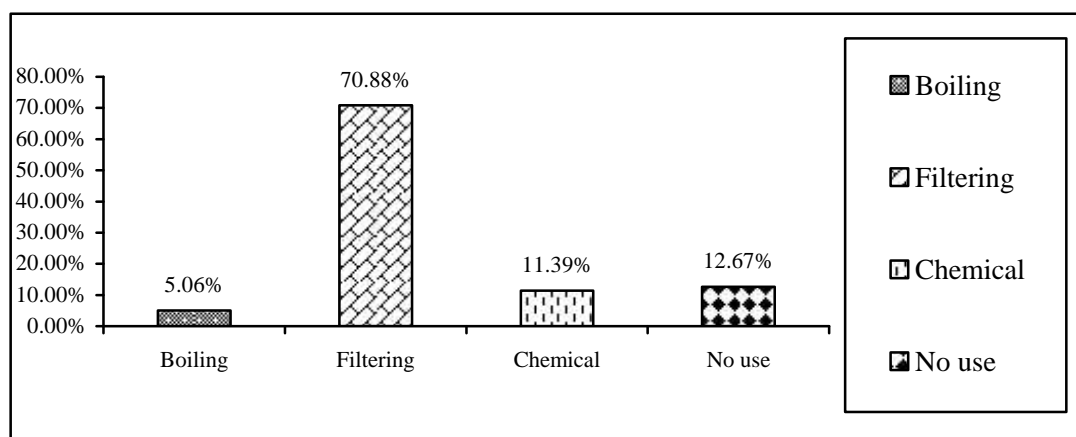
Knowledge	Number	Percent
Yes	79	77.46
No	23	22.54
Total	102	100

Table no 6 shows 77.46 percent respondents had knowledge about method of purifying water and 22.54 percent had no knowledge about methods of purifying water.

4.2.4 Method of Using Purification Water

Water is primary substance for human being. Living being can't be survived without water. Hence water is life of all living being. Only safe drinking water should be for better health. If the water is not purified, than different kinds of water borne disease will be transmitted. If the source of water is doubtful to it's purify if should be purified using different methods. Answering the question, what method did you use to purify the water they answered that. Is shown in the figure 3.

Figure no. 3 Method of Using Purification of Water



From the figure no. 3 shows among 56 percent respondents, 70.88 percent respondents filter their drinking water, 11.39 percent respondents used chemical and 5.06 percent boiled , only 12.67 percent did not use any methods to purifying the drinking water.

4.2.5 Knowledge about the Diseases are Infected by Use Unsafe Drinking Water

There is a vital role of water in human life. Without drinking water human can't survive. Mostly less than a year children are dying due to water related diseases like Diarrhea disease including Cholera. Nearly 80 percent of diseases are caused due to unsafe water but 30-40 percent of disease had been reduced due to safe drinking water. If we are aware about the problems of water borne diseases and apply simple techniques to purify drinking water in our life, most of the people would be healthy in our country the knowledge about disease infected by use unsafe drinking water is shown in table no.7.

Table No.7: Knowledge about Disease Infected by Use Unsafe Drinking Water

Diseases	Number	Percent
Diarrhea	37	36.27
Cholera	6	5.9
Typhoid	11	10.78
All of them	48	47.05
Total	102	100

From the table no. 7 among 37 respondents, 36.27 percent told that Diarrhea was water borne disease, 5.9 percent told that Cholera was water borne disease, 10.78 percent reported that Typhoid was water born disease. So 47.05 percent respondents had proper knowledge of water born diseases.

4.2.6 Source of Receiving Information about Safe Drinking Water

Information about safe drinking water was provided from different sources in our communication system. Sources of information about safe drinking water of the respondents of this study are given in the table no.8.

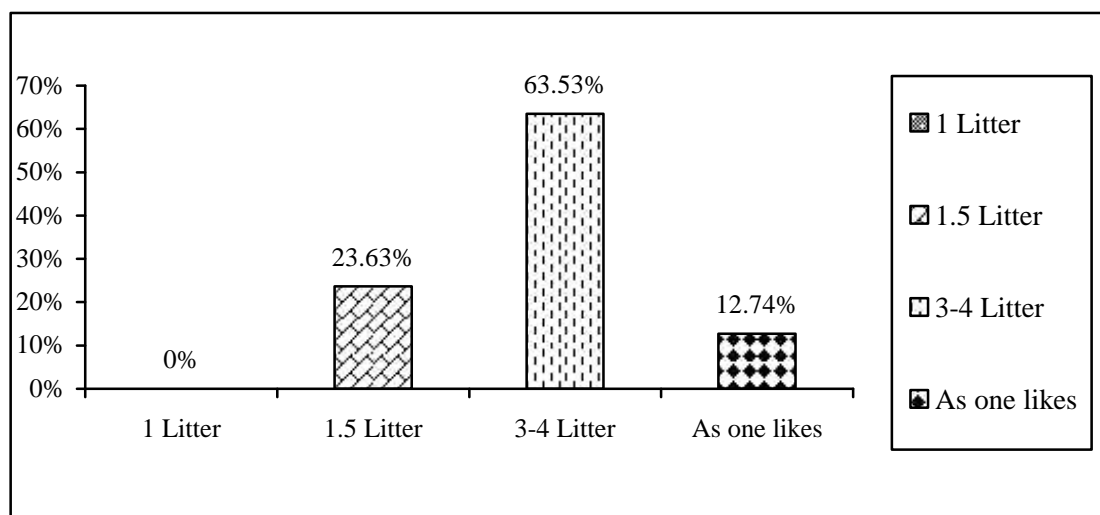
Table No.8: Sources of Receiving Information about Safe Drinking Water

Sources	Number	Percent
Radio	17	16.67
T.V	44	43.13
Magazine	11	10.78
Health personnel	30	29.41
Total	102	100

As in table no 8: 16.67 percent of people were informed by radio, 43.13 percent were informed by T.V, 10.78 percent informed by magazine and 29.41 percent were by health personnel. Majority of respondents were informed by health personnel with easy and interesting way. In this modern age T.V. is the interesting and famous sources of information getting.

4.2.7 Knowledge about Amount of Water Required to Drinks per Day

Human body contains 70 percent water. If the quantity of the water is unbalanced, different types of physical problems can be seen. Drinking water is not only the base of human life and also their right. But if drinking water in not safe this base of life can be the cause of different diseases and also death. How much water we drink per day for this question? They answered the following as shown in the figure no.4

Figure no.4: Knowledge about Required Amount of Water per Day

Above the figure no. 4, it can be said that 63.53 percent respondents had good knowledge about essential amount of water per day for a young people.

4.2.8 Knowledge about Different Methods of Purifying Water

We should drink purifying water to make our body healthy. Different method of purifying water like Sodish, Chemical, Boiling and Filter can be used. The knowledge

about methods of purifying water of the respondent of this study is shown in the table no. 9.

Table no. 9: Knowledge about Different Methods of Purifying Water

Methods	Number	Percent
Sodish	7	6.86
Boiling	8	7.84
Filtering	47	46
All of them	40	39.21
Total	102	100

The table no. 9 shows 6.86 percent respondents had knowledge about Sodish method, 7.84 percent respondents said Boiling, 46 percent respondents said Filtering and 39.21 percent respondents said all of them. So 39.21 percent respondents had knowledge about different methods of purification of water.

4.2.9 Use of Different Chemicals

The contaminated water spreads different kinds of diseases such as Typhoid, Dysentery, Cholera, Diarrhea etc. thus our life may be safe when we use safe drinking water. Chemical method is cheap, and easy method to purification of water or kills the germ and removes the hardness of water. The name of Chemical used by respondents is the following.

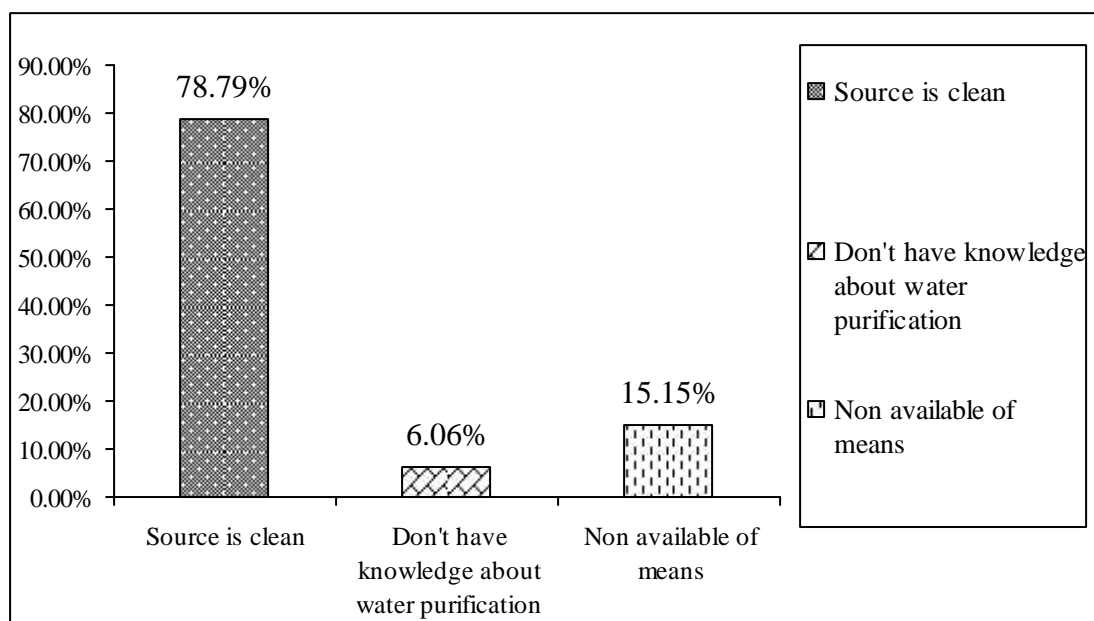
Table no.10: Use of Different Chemical

Chemical used	Number	Percent
Water guard	7	77.78
Potash	2	22.22
Total	9	100

From the table no.10, among 102 respondents only 11.4 percent respondents used Chemical in which 77.78 percent used water guard and 22.22 percent used Potash. Because water guard and Potash are cheap and easily found near in the shop.

4.2.10 Causes of not Purifying Water

Safe drinking water plays an important role enhancing people's health status. So that it should be safe. In this study, here was question: why didn't the respondents use any means of water purification, most of them answered the source is clear because we are healthy. Some of them said availability of means and some were unknown about means of purification which is shown in the figure no. 5.

Figure no. 5 Cause of not Purifying Water

As shown in the above figure no.5, it shows that among 33 respondents, 32.35 percent didn't use any method for purification of water. 78.79 percent respondents said that source is clear, 6.06 percent said don't have knowledge about water purification and 15.15 percent respondents said non available of means for water purification.

4.2.11 Sources of Water Used to Drink

The hygienic and unhygienic water are classified on the basis their source. Different kinds of source of water are found in the community. The record of used source of water by the respondent of this study is as presented in the table no.11.

Table No. 11: Source of Water Used to Drink

Sources	Number	Percent
Tap	16	15.7
Tube-well	86	84.31
Stream	-	-
Total	102	100

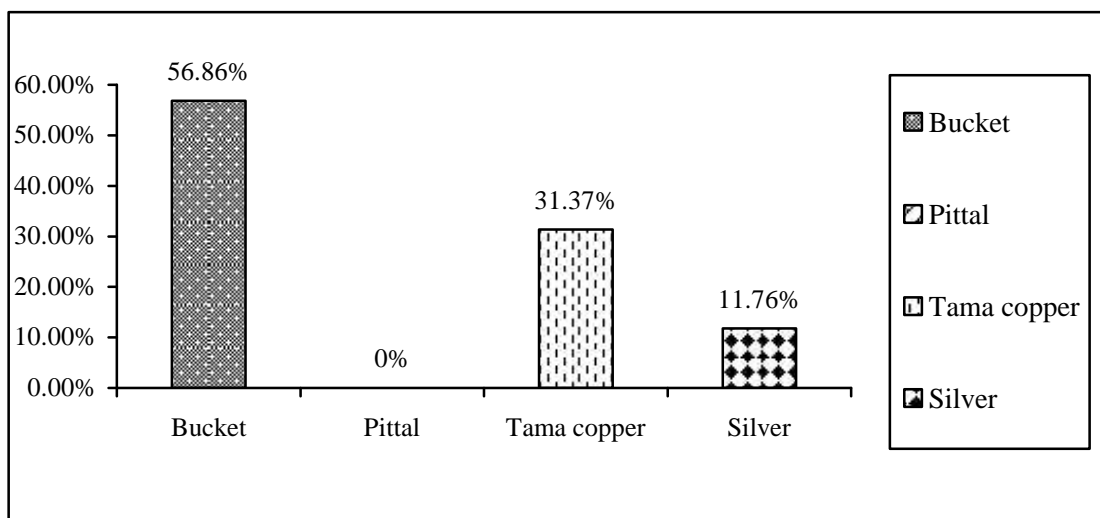
From the table no 11, respondents 84.31 percent respondents used water from tube-well and 15.7 percent respondents used water from tap to drink. Among them 16 percent respondents used public sources and 84 percent respondents had personal sources of water. The result shows there is no scarcity of drinking water.

4.2.12 Types of Pot for Collecting Water

Water is important to the mechanism of the human body. The body cannot work without it. Water stored in copper made vessel is good for health since copper as well

as other substance and also absorbed by human body. The respondents of this study used following types of pot for collecting water shown in the figure no 6.

Figure no 6: types of Water Collecting Pot

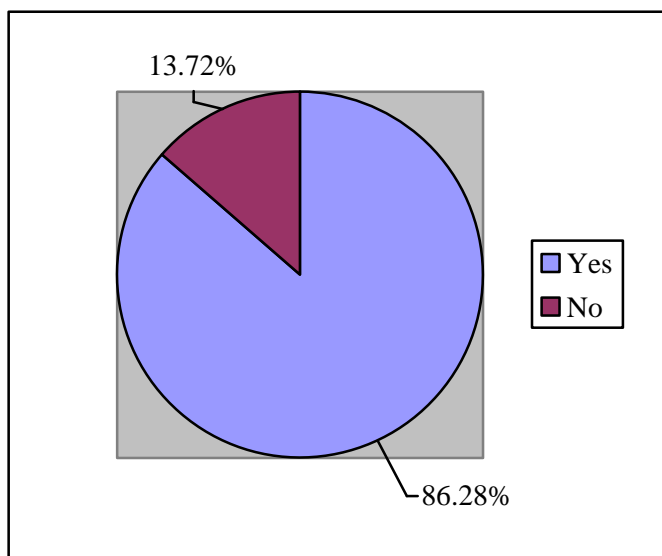


From the figure no 6 shows among 56.86 respondents collected water in bucket, 31.37percent in tama copper pot and 11.76 percent used silver pot. Pittal pot was not used by anyone of the respondents in the study area.

4.2.13 Cleanness and Covering of Water Collecting Pot

Pot for handling and collection of water should be clean and carefully covered. Water should be always covered if water is exposed then it is contaminated by dust and other contaminated particles as well as harmful germs. Researcher observed the situation at water collecting pot of the study area and found the records which are shown in the figure no. 7.

Figure no. 7: Cleanness and Covering of Water Collecting Pot



Above the figure no 7, among 102 respondents 88 or 86.27 percent of the respondents used cleaner and covered their water collecting pot and 14 or 13.72 percent respondents were not found to have clean and covered their water collecting pot.

4.2.14 Knowledge about the Arsenic Contamination

The problem of arsenic contamination in drinking water was found from few years ago in our country. Twenty district of Terai are affected by this contamination. The knowledge and advertisement about arsenic contamination was provided by some NGO'S, INGOS and Government sectors. The appropriate knowledge about this contamination was the actual way of prevention.

Among 102 respondents only 65 or 63.72 percent respondents had heard about arsenic contamination.

4.2.15 Understanding about the Arsenic

The knowledge about arsenic pollution was forecasted by communication network like TV, radio and interpersonal communication but the question arsenic is asked to the person and their answers were tabulated in the table no. 12.

Table no 12: Understanding about the Arsenic

Arsenic is	Number	Percent
Harmful Chemical	25	38.46
Harmful Pathogens	5	7.7
Harmful Poison	35	53.84
Total	65	100

Above the table no 12 shows that among 25 respondents 38.46 percent reported that arsenic was harmful chemical, while 7.7 percent respondents reported that arsenic was harmful pathogens and 53.84 percent respondents reported that arsenic was harmful poison. Arsenic contamination only found in terai area.

4.2.16 Use of Fresh Water of the Respondents

“If health is lost everything is lost”. It means that, if a person is unhealthy can't contribute for his family and society. So we have to keep our self healthy. Water is also known as a source to keep our self healthy, fresh water can reduce to develop harmful product as well as cannot get chance to contaminated other harmful substances which make water pollution. Do you use fresh water? for this question, they answered the following as shown in the table no. 13.

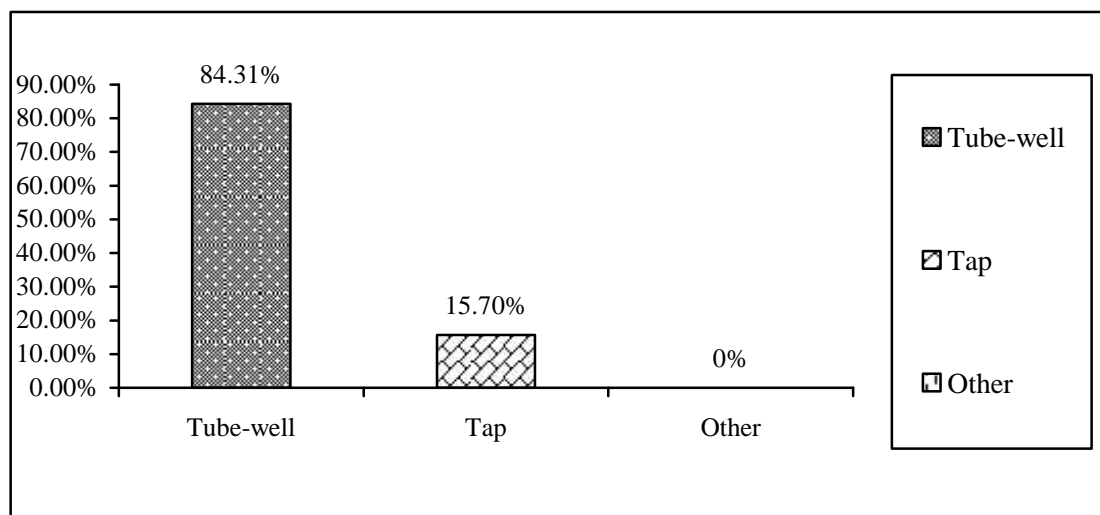
Table no. 13 Use of Fresh Water of the Respondents

Use fresh water	Number	Percent
Yes	91	89.22
No	11	10.78
Total	102	100

Above the table no. 13 shows that 89.22 percent respondents used fresh water and 10.78 percent respondents did not use fresh water. Most of the respondents 89.22 percent thought that the water they used was clean and fresh but few of them thought that the water they used was not clean and fresh. Some of the respondents thought that the water they used fresh and did not purify the water for drinking. The respondents whose sources of water were not clean and fresh were using different methods for purification.

4.2.18 Source of Water Used for Cooking

Different kinds of sources of water are found in the community. The hygienic and unhygienic water are classified on the basic of their source. Sources of water used for cooking by the respondents are presented in the figure no 8.

Figure no. 8: Source of Water Used for Cooking of the Respondents

The figure no. 8 shows that the main sources of water was Tube-well and Tap. Most of 84.31 percent respondents used tube-well water for cooking purposes and 15.7 percent respondents used tap water for cooking.

4.3 Summary/ Discussion of Findings

4.3.1 Summary

Water is our life; we can't even live for a few days in the absence of it. Water is not only used for drinking; it is also used for domestic purposes, sanitation, irrigation and used industrial purposes etc.

As we know that Nepal is the second largest country in water resources but there is great problem for supply of safe drinking water. Safe drinking water is a burning problem even in our capital city. The quality of drinking water is not well. Due to the lack of quality for drinking water and its sanitation people are suffering from water borne diseases like Cholera, Dysentery, Typhoid, Diarrhea, Jaundice, Warm infection etc.

The study entitled "Knowledge and Practice of Safe Drinking Water of the people of Pakali VDC, Sunsari" was based upon 102 respondents from 3 ward of Pakali VDC. The objective of this study was mainly concerned in analyzing knowledge and practice on safe drinking water. This study is descriptive type in nature and simple random sampling method (lottery system) was applied. Both primary and secondary sources of data were used to complete this study. To collect the data the researcher visited door to door of the respondents and requested those to provide information about drinking water. The information had been gathered by the use of closed and open type's questionnaire through the interview process. After collecting information or data, they were coded and checked with the help of table and chart to make the presentation and analysis more effective and meaningful illustration of the study report.

Data found that though the people had general knowledge about safe drinking water, they didn't use in practice as expected. Most people used drinking water directly from tube-well without any treatment showed they believed in purity source of water. There is no more effort of providing clean drinking water facilities from Government and different other sectors, which is likely to have more required for awareness of community people about safe drinking water and also seems essential for the people of that community.

4.3.2 Discussion of Findings

After analyzing and interpretation the data. The following results were obtained.

- a. Most of the respondents (67.64 percent) were found having proper knowledge and practice of safe and pure drinking water.

- b. About 77.46 percent of the respondents had proper knowledge about the methods of purifying water.
- c. Only 54.9 percent respondents were knowledge about the disease caused by contaminated water.
- d. Most of the respondents (70.88 percent) were used filtering method for purifying water.
- e. Most of (43 percent) respondents were informed about safe drinking water from T.V. and remaining other respondents informed from health personnel, Radio and magazine.
- f. Only 12.67 percent respondents did not use any methods of water purification.
- g. Only 33 percent respondents used drink water directly without any treatment and other used different and other used different methods like boiling, filtering and chemical.
- h. Only 4 percent respondents used boiling to purify drinking water.
- i. Only 63.53 percent respondents were found having good knowledge about required amount of water per day for adult.
- j. Only 9 percent respondents used chemical (water guard and potash) to purify drinking water.
- k. Most of the respondents said that sources is clear is caused of not purifying water.
- l. Percentage of using purified water is higher in educated people than uneducated ones.
- m. Most of the respondents (84.31 percent) used tube-well for sources of drinking water.
- n. Most of the respondents (86.27 percent) were cleaned and covered the water collection pot.
- o. Only 54.9 percent respondents had knowledge about disease are infected by used unsafe drinking water.

According to the point of view of occupation, 64 percent from agriculture, 80 percent from business, 100 percent services and 37.5 percent labour respondents used purified water. Which shows percentage of using purified water is higher in services holder and business people than the people involved in agriculture and labor.

CHAPTER V

CONCLUSION AND RECOMMENDATION

5.1 Conclusions

Without water life of human, animal or even plant cannot exist. We can also say that all kinds of life depends upon water. It plays a vital role in maintaining the entire life cycle on the earth.

Water is the life supporting sources and very important factors in the social, cultural and ecological development of a country. Most of the respondents were found with knowledge about use of safe and pure drinking water but they had not good practice and behavior about the using and handling of drinking water. More of the respondents had personal tap or tube-well but also they drank water directly without any treatment or not using any methods of purification. Large numbers of the respondents were found with carelessness about used of safe water. The respondents who were educated found having well knowledge and practice to manage safe drinking water in their dally lives.

The sanitation is the most important factor to develop the health status of the individual, family and community but the water sanitation status in the community was not found well. The people used T.V. as the favorite sources of information for awareness about use of safe and pure drinking water. Most of respondents told they had knowledge and understanding about diseases caused by contaminated water. Educated respondents were found more positive using some methods of water purification and uneducated and lower class respondents used drinking water direct from tap or tube-well without purification. Similarly, people involved in service and business also positive to using safe water and better practices and also had good knowledge about safe drinking water. Most of the respondents used filtration method to purify the water.

5.2 Recommendation

5.2.1 Policy Related

- a. This research can be useful for making policy to launch for safe drinking water program in rural area.
- b. It can give knowledge about condition of use of safe drinking water in this community. So, policy maker easily make plan according to the situation.
- c. It can be useful for planning to make awareness program about safe drinking water.
- d. It can also be useful for getting some ideas to manage the safe drinking water programs.

5.2.2 Practice Related

- a. This research gives information about safe drinking water to the people of the study area.
- b. It can also give some ideas for launching safe drinking water program in this community.
- c. Study area's community people can know their condition about use of safe drinking water. So it is useful for change and improves their behavior.
- d. It can also useful for aware to people of the study area about safe drinking water.

5.2.3 Further Research Related

- a. It can be useful to get some ideas for doing research same areas.
- b. It can be useful to make questionnaire, hypothesis, objectives and research methodology etc. for the further research.
- c. It can be also useful for the review of literature to the further research.
- d. The researcher can find out the controversies and gap between two researcher about the safe drinking water. So, he/ she can select research topic according to this thesis or study.
- e. It can also provide guideline to make whole research in this topic as well.

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APPENDIX
QUESTIONNAIRE
TRIBHUBAN UNIVERSITY

Ward no..... Village.....

Name of household head.....Religion.....

Total number of the family member.....

Name of respondent.....

Type of residence.....

Demographic and socio economic characters

1. How many members are there in your family?

a) Male..... b) female.....

2. Which is your main religion?

.....

3. Are you literate?

a) Yes b) No

4. If yes, which education level have you completed?

a) Primary b) Secondary c) + 2 d) Bachelor

5. What is your current occupation?

a) Business b) Agriculture c) Services d) labor

6. What is your main source of income?

a) Agriculture b) business c) Service d) labor

7. How much money do you earn in a month?

a) Less than 5000 b) 5000- 10000 c) 10000 -15000 d) more than 15000

8. How much money do you save in a month?

a) No Save b) 2000 c) 5000 d) 10000

9. How many months do your family dependent on agriculture?

- a) 3 month b) 6 month c) 1 year

Knowledge and practice of safe drinking water

10. Do you have knowledge about safe drinking water?

- a) Yes b) No

11. If yes, what are the main characteristics of safe drinking water?

- a) Free from pathogenic germ b) free from poisonous product c) free from dust-particles d) all of the above

12. Do you know about the method of purifying water?

- a) Yes b) No

13. Which method is used for purifying water?

- a) No use b) boiling c) filtering d) chemical

14. Do you know about water borne disease?

- a) Yes b) No

15. If yes, which types of disease are infected by use of unsafe drinking water?

- a) Diarrhea b) Typhoid c) Cholera d) All of them

16. Which is the source of receiving information about safe drinking water?

- a) Magazine b) Radio c) T.V. d) Health personnel

17. Do you know how much liter of water is required to drink per day?

- a) 1 liter b) 1.5 liter c) 3-4 liter d) As one likes

18. What are the methods of purifying water?

- a) sodish b) boiling c) filtering d) All of them

19. Do you use of any chemical for purifying water?

- a) Yes b) No

20. If yes, which type of chemical is used for purifying water?

- a) Piyush b) Water guard c) Potash d) Fitkiri

