

Situation of Sanitation in Public and Private Secondary Schools in Rupandehi District

A Thesis

Submitted to Department of Health and Population in partial fulfillment for Master of
Education in Health Education

Submitted by

Sita Rijal

Tribhuvan University

Faculty of Education

Central Department of Education

Health and Population Education Department

Kirtipur, Kathmandu

2021

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Kirtipur, Kathmandu

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Declaration

I, hereby, declare that, to the best of my knowledge this thesis is not an imitative work. No part of it was earlier submitted for the candidature of research degree to any university. The subject matter presented in this thesis report is the result of my own work. Whatever the data and information I have presented and included in this thesis report belong to my original work conducted in this study area.

Date: April 2, 2021

Sita Rijal



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Recommendation Letter

This is to certify that **Sita Rijal** has completed her research work entitled “**Situation of Sanitation in Public and Private Secondary Schools in Rupandehi District**” for the partial fulfillment for the requirements of the Master Degree in Health Education under my supervision. I recommended this thesis for final evaluation.

Date:2/4/2021

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Approval Sheet

This thesis work entitled “**Situation of Sanitation in Public and Private Secondary School in Rupandehi District**” submitted by **Sita Rijal** in partial fulfillment of the requirements for the Master Degree in Health Education has been approved.

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April, 2021

Sita Rijal

Abstract

The thesis entitled “Situation of Sanitation in Public and Private Secondary School of Siyari Rural Municipality” has been carried out with the objective to compare the situation of school sanitation condition in between public and private school.

The study was based on quantitative research design primary data were collected through the interview with students and headmaster, observation checklist was also used for primary sources of data. Out of 38 public and private schools, three public and three private schools were selected purposively. Out of 1985 students, 306 students were selected by randomly and headmaster were selected through census method. Researcher took 306 students only considering from grade six, seven and eight in all public and private school.

Most of public schools were located in peaceful area comparatively than private schools. The study found that all public school had better management of facilities like boundary wall, sufficient space, playground, building and ventilation compared to private school. Also, private school had better management facilities like school garden, furniture, classroom cleanliness compared to public schools. The researcher had found that 84.96 percentage public school students felt cheerful, 14.37 percentage felt tolerable and 0.65 percentage felt uncomfortable whereas 84.96 percentage private school students felt cheerful and 15.03 percentage students felt tolerable while entering school.

All private school and 33.33 percentage public school had canteen facilities and 33.33 percentage public and 66.67 percentage private school canteen were maintaining cleanliness and 27.45 percentage public and 83.67 percentage private school students satisfied with canteen facility but 72 percentage public and 16.33 percentage of public school student were not satisfied with their canteen facilities.

From the study and observation researcher found that the physical facilities were found more in public school compared to private school. But private schools had found with good management of school cleanliness compare to public schools.

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Chapter I: Introduction

Background of the Study

School is an institution that brings all the children of a particular area in one common place. It is not possible for the another organization to bring them under the proper care and guidance of six to eight hours in a day. School is also a house where number of children spend their lives during their age of mental and physical growth. For the student school is the part of their days living. An attractive sanitary building is not enough, the importance things are the interaction of the healthy environment and the student (Maharjan & Khanal, 2068).

Education is the prime pillar for the development of a country. Health is fundamental human right and worldwide social issue. Health education is the important part of educational which helps the person for the healthful adjustment by avoiding unhealthy behavior. Nepal is one of the least developed countries in the world. It is comparatively backward in education. Good education depends on good sanitation of the school. School sanitation is the important aspect of the educational environment (Marasini, 2014).

Total sanitation is an innovative method for mobilizing communities to completely eliminate open defecation. It is essentially a campaigns approach that first and fore most emphasizes the need to eliminate the behaviors of open defecation through interaction with whole community people rather than individual and household activities (Sherchan & Uprety, 2067).

School environment is primary component of school health program, which contributes the pupil education in health. Any school can promote their health status by managing the school surrounding unhygienic school environment is directly link with pupil health status and for the attainment of optimum level of health (Budhathoki & Wagle, 2071).

According the World Health Organization (2007 cited in Marasini 2014), sanitation means collection and disposal of extra and community liquid waste in hygiene way so as not to endanger the health of individual or the community whole. Sanitation generally refers to the provision of the facilities and services for the safe

disposal of human urine and feces. Inadequate sanitation is a major cause of diseases worldwide and improving sanitation is known to have significant beneficial impact on health both in household and a cross communities. The word sanitation refers to the maintenance of hygiene condition though waste water disposal.

Sanitation refers to public health conditions related to clean drinking water and adequate treatment and disposal of human excreta and sewage. A sanitation system included the chapter, storage, transport, treatment and disposal or reuse of human excreta and wastewater (WHO, 1997).

Hygiene is also the name of branch of science that deals with the promotion and preservation of health. According to park and park “Hygiene is defined as the science of health and embraces all factors which contribute to healthful living.” Similarly, National Sanitation Foundation of the USA says that “A way of life, it is the quality of living that is expressed in clean home, clean farm, clean business and industry, clean neighborhood and clean community”. According to Elbers & Stel “Sanitation means the prevention of disease by eliminating or controlling environment factors which forms links on the chain of transmission” (Devkota, 2070).

Cleanliness of outside and inside of school, clean air, safe drinking water, safe management of physical facilities, safe playground, clean toilet, control of the disease, harmonious relationship among teacher and students, management of the healthful teaching learning process etc. indicates the healthful school environment. To regulate the various health program, school environments should be healthful. The possibility of development of healthy concept and behavior is only in healthful environment of the school. We cannot imagine healthy civic with unhealthy, unsafely and awful environment. Healthful school environment is that condition in which students can experience good adjustment and relief. Only in healthful environment students can take part in extra-curricular activities inside and outside of the school. In short, the appropriate environment for optimum development of physical, mental, social and emotional aspect of students is called healthful school environment (Budha, 2017).

“Health is a basic human right and a worldwide social goal” (Park & Park 2000). It is integral parts of every education system for achieving good health. A school can play a vital role to increase student health status. A school is a complete

social setting of various aspect and these aspects are to be directed and coordinate in productive way through an effective healthful school environment, which deals effectively will all those aspects. Health education is a process of learning scientific knowledge about health attitudes, practices and habits by means of education process. The essential goal of health education is to influence health related behavior and conditions by stimulating student interest in good health by guiding their efforts to improve their own health and that of their family (Anderson, 1972).

WHO data on the burden of disease shows that approximately 3.1 percentage of deaths (1.7 million) and 3.7 percentage of disability-adjusted-life-years (DALYs) (54.2 million) worldwide are attributable to unsafe water, sanitation and hygiene. In Africa and developing countries in South East Asia 4.8 percentage of all disease burden is attributable to these factors occur in developing countries and 90 percentage are deaths of children (WASH, 2005).

A child friendly school provides quality education addressing the factors and issues of children, right and their health minister of department of education has prepared the concept of child friendly schools with certain standards. Some important standards are such as physical infrastructure provision of safe water and sanitation facilities, provision of nutrition, sports and entertainment, child participation, protection of child right, use of child centered teaching method, child safety and qualified and dedicated teachers (DOE, 2010).

School can share health education experience to its recipients in the society by organizing awareness campaigns regularly. This campaign can include several components those help promoting healthier living. A modal school can follow similar ways out. Thus, sanitary facilities of a school depend on effective management and resource of the school. At present situation, students spend five to seven hours daily in the school. During this period, school needs to provide safe and healthy environment in which students and faculty live. Not one affects their health but also provides a laboratory for learning about health practices and attitudes. Only atmospheric school environment improves the physical, mental, social and emotional health of pupil and gets chances to take healthful practices among them (Sapkota, 2014).

School hygiene is a study of school environment. It influences the ideas of regulation of balancing mental and physical health of the students. The primary aim

of school hygiene education is to improve behavior through useful practices connected to personal, domestic and public hygiene. It is very important to focus on improving school's sanitation standards because children are often the most vulnerable to diseases; According to the Water Aid Organization, "children also take new ideas and habits back to their home and families increasing program's fact". According, to their financial capacity, study in the public and private schools from where they learn many things. They also utilize the work or simply, knowledge which they get from schools in the house. However, directly or indirectly it affects the whole nation at least it is very important to have sanitation in the private as well as public schools.

Generally, many research tasks have been done on sanitary issues at the national and international level although, very few institutional research tasks are done on related existing school sanitation.

Thus, public and private schools of Siyari Rural Municipality of Rupandehi were selected for the study. The researcher attempted to investigate the existing situation of sanitation in schools (three public and three private schools). At last, it would help to provide better sanitation condition and practices to the student recommendation for the future.

Statement of the Problem

Nepal is a land-locked and under developed country facing many socio-economic and health problems. In most of the developing countries due to lack of awareness and environmental education, people are destroying the environment continuously (Wagle, 2013).

Sanitation is most important part of school, if we can provide good school environment for the students the result become positive but our contexts school environments is poor. Due to lack of technical knowledge, awareness and financial resources the environment of many schools is not clean and healthful. The problem of healthful school environment are congested location, unplanned buildings, congested classroom, poor lighting and ventilation, lack of playground, insufficient water supply and toilet, furniture facilities. School sites are selected haphazardly and classrooms

are not well managed. There is not provision of healthy canteen, safe drinking water, toilet, playground, etc. (Ayadi, 2014).

At present the world is facing different harmful diseases. These diseases are caused by lack of sanitation. Nepal is one of the under developed countries of the world. Most of the Nepalese people are uneducated, poor, and unaware of sanitation. Most of the people have no knowledge about sanitary system. They throw the waste out in the street. No knowledge of waste disposing that is very harmful of the people's health. Our school is suffering from different kind of problem among them school sanitation is one. School members have not knowledge about sanitation, they do not use in their practical life such as our schools don't have toilet, drinking water, waste management system, canteen and school surrounding cleanliness.

School sanitation is very important but there are no sanitation facilities though every school claim they have good health and best sanitation environment. Good health is always influenced by the surrounding. If their surrounding is not clean, they cannot maintain their good health due to which they get sick which also affect in the achievement of the school's highlight of the sanitary facilities and their management. So, the researcher selected the topic "Status of School Sanitation in Primary School of Rupandehi" of this study.

Objective of the Study

Objective is a statement of a specific measurable or observable result desired from an activity. The main purpose of the study is to identify the situation of sanitation in public and private secondary schools of Rupandehi district. However, the following are specific objectives of the study:

- 1 To identify the present status of sanitation of public and private secondary level schools.
- 2 To compare the status of sanitation between public and private secondary level schools.
- 3 To find out the problems regarding the situation of the school sanitation.

Significance of the Study

There was always some significance of the every research work. This research also has its great significance are as follows:

- The study would be guideline for the health teacher to teach about school health and to keep school environment clean.
- This study would be useful to government and non-government agencies to plan and implement program related to sanitation in public and private schools.
- This study would be helpful to guide for the school administration, health educator, policy maker and supervisor for improvement and creating good sanitation.
- It would be useful as a guide and reference for future researcher in similar studies.

Delimitation of the Study

Delimitation would be the boundaries of the study as limited of the time budget and study area. The purposed study would be based on following delimitations:

- This study would be delimited at Siyari Rural Municipality in Rupandehi district.
- This study would be focused on only public and private secondary level schools in the selected area.
- This study was focused only on sanitation of public and private schools.
- Health teachers and selected students was considered as the respondents of the study.

Definition of the Key Terms

Sanitation: Sanitations means of collection and disposal of extra and community liquid wastes on hygiene so as not to endanger the health of individual or the community whole.

| | |
|----------------------|--|
| Public school: | Public school established funded, regulated & controlled by government and provides free education to students. |
| Private school: | Private school established and regulated by an individual, associations or organizations as the owners. It is autonomous, generates its funds on its own. |
| Sanitary facilities: | It refers such facilities provided by school for there sound health to control school environment like proper waste disposal, drainage, clean drinking water supply and toilet system. |
| School plant: | It includes physical aspects like location, playground, classroom, furniture, ventilation, lighting and gardening. |
| Garden: | Garden refers to the appropriately flowers, trees, bushes, scrubs etc. in the school complex. |
| Ventilation: | It can be defined as the atmosphere condition, which is comfortable and helpful to human body. |
| Playground: | Playground refers to such area where physical activities can be conducted. |
| Safe drinking Water | It is important to human being to sustain their life and good health condition. |

Chapter II: Review of Related Literature

Literature review is knowledge of related research enables investigations to define the front of field. Moreover, the most important function to develop any research, which provides deeper knowledge, experience and other ideas to the researcher. The study of related literature places researchers in a better position to interpret the significance of their own results. So many literatures related to this study are available some important are mentioned below.

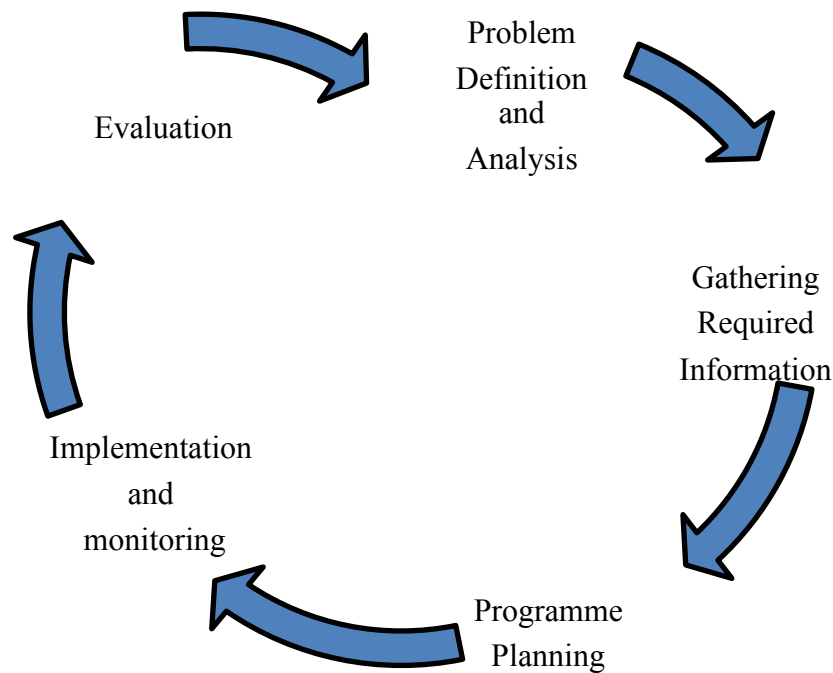
Theoretical Literature

Sanitation is the process of keeping places clean and healthy, especially by providing a sewage system and a clean water supply. Sanitation generally refers to the provision of facilities and services for the safe disposal of human urine and feces. Inadequate sanitation is a major cause of disease worldwide and improving sanitation is known to have a significant beneficial impact on health both households and across communities (WHO, 2005).

According to WHO “Environmental sanitation is the control of all those factors in man’s physical environment which exercise or may exercise a deleterious effect on his physical development, health and survival.” Similarly, J.E. Park says, “The term environmental sanitation covers the whole field of controlling the environment with a view of prevent disease and promote health” (Devkota, 2070).

According to FRESH Model (2000), “Education for all means ensuring that all children have access to basic education of good quality.” This implies creating an environment in schools and in basic education programs in which children are both able and enable to learn. Such an environment must be friendly and welcoming to children, healthy for children, effective with children and protective of children. The development of such child friendly learning environment is an essential part of overall efforts by countries around the world to access to increase and improve the quality of their school poor health and malnutrition. Program to achieve good health, hygiene and nutrition at school age are therefore essential to the promotion of basic education for all children. Good health and nutrition are not only essential inputs but also important outcomes of basic education of good quality.

Programme Planning Cycle



The Problem Definitions Phase, where the problem is identified and defined where we are now, what we do and don't know. The Information Gathering Phase, what we need to know to make better decisions. During the Analysis of Issues and Options Phase, making choices among alternatives. And the Planning Phase, charting a strategy and program design and looking at policy options. The Implementation and Monitoring Phase putting the strategy in motion. The Final phase of the program planning cycle involves evaluation. Evaluation measures the efficiency, effectiveness, value and worth of the program. Evaluation, Analysis, and Re-planning: Learning from the experience (IUNC, 2004).

According to WHO (2004), the objectives of a Healthful School Environment are to create a healthy and safe learning environment in the school, provide adequate safe water supply and sanitation facilities for use in the schools. The physical school environment encompasses the school building and all its contents including physical structures, infrastructure, furniture and the use and presence of chemicals and biological agents; the site on which a school is located and surrounding environment including air, water and materials with which children may come into contact, as well as nearby land uses, roadways and other hazards.

According to Park (2009), the school should normally be situated with proper approach to road, market, public parks, factories etc. On the other hand, it should be properly kept from all hazards. He also noted that five acres of land should be provided for primary schools. He focused to the secondary and nursery schools as far as possible should be single store. One class should accommodate not more than 40 students and furniture should suit the age of the students. Similarly, urinals should be provided as one urinal for 60 students with arrangement separately made for girls and boys.

Empirical Literature

Sapkota (2003) conducted a research on the title “A Comparative Study of Healthful Environment in Community and Institutional Primary Schools of Birendranaga, Municipality of Surkhet District”. The objectives of the study were to identify the management of existing physical plant in the schools, to assess the existing condition of sanitation facilities in the schools and to find out the nutritional practices in the schools. The researcher had used descriptive method. The major tools of the data collation were observation and interview schedule. Major findings, the average number of teacher and student ratio were found greater in the community school than institutional schools. They were bound to go to the spring for the drinking water half an hour far from the school buildings, there was not any purification model or plant for drinking water of both types of school complex.

Neupane (2006) conducted a research on the title “The Study of The Healthful Environment in Community and Institutional Schools of Bhaktapur District”. The objective of the study were about the sanitation facilities and nutrition program, to analyze present social environment in the schools. The researcher had used descriptive method. The main tools of data collection were observation and questionnaire. Major findings all of the community schools are majority of institutional school playground were poor condition, the study showed that four to five students used to sit per bench in community and two to three person per bench in institutional schools.

Koirala (2009) conducted a research on the title “Sanitary Facilities and Management in Community Secondary Schools of Biratnagar Sub - Metropolitan of

Morang District.” found that the community secondary schools have not boundary wall and 75 percentage of school have not own water source, (87.50 percentage) depends on community tap or well, they collect water through clay pot, bucket and tank which was directly distributed to students without purification. Most school had their own toilet having school 12.50 percentage of schools had good condition and remaining 87.5 percentage of toilet found very poor physical facility. The condition of student toilet found very unsatisfactory and about 75 percentage of schools were found throwing waste haphazardly whereas only 12.50 percentage use incineration for appropriate management of school wastage.

Lamichhane (2010) conducted a research on the title “Physical Environment in Creating Healthful School Living in Public Secondary School of Chitwan District.” The objective of the study was to identify the sanitary practice in creation healthful school living. The researcher had used descriptive and qualitative design. The main tool of the data collection was interview schedule and questionnaire. Major finding, there were 52.77 present girls and 47.23 percentage boys in public school in the study area, 60 percentage schools had sufficient available of furniture in the study most schools had been facing the problems of pure drinking water and water in the toilet.

Cleanliness of school compound/classroom was adequate in 80 percentage of the school. There were no separate rooms for serving the mid-day meals in any of the schools under study. About 90 percentage of the schools were having drinking water facility. Only half of schools had adequate latrines for boys and 60 percentage for girls (Majra & Gur, 2010).

Thakuri (2010) conducted a research on the title of "A Comparatively Study of Sanitary Facilities and Its Management Between Community and Private Secondary Schools in Lamjung District". The main objectives of the study were to find out the sanitary facilities and its management to compare the existing situation of sanitary condition and its management between community and private school in Lamjung district. Almost schools had problem of drinking water. All students satisfied with sanitary management except water facility.

Adhikari (2011, cited in Karki, 2016) conducted a research on the title "Healthful Environment of Public Primary School in Dumerwana VDC of Bara District.” The objects of the study were to find school plant site and building

management in public primary school, the researcher had used quantitative and descriptive research design in this study, the main tools of data collection was questionnaire, interview schedule, and observational checklist. He found that 55.5 percentage schools were located near village, 50 percentage schools had not done anything for safety consideration.

Phadera (2012) conducted a research on the title "Physical environment for healthful living in secondary schools of Humla district". The objectives of the study were to find out the existing physical environment, to identify the 1112, management of sanitary facilities, nutrition, first aid, water supply and safety consideration in the secondary schools in Humla district. The tools of data collection were questionnaire and interview schedule and observation form. He found that all the schools had their own land and buildings, but not sufficient. 80 percentage schools have sufficient furniture and the 60 percentage schools used dumping system for disposing the wastage and 40 percentage schools used incineration, all of the selected schools did not have first aid facilities and all of the selected schools used piped water.

Marasini (2014) conducted a research on the title "Status of Sanitation in The Primary School of Arghakhachi District." The main objective of the study was to examine status of school sanitation in primary school. The researcher had applied simple random sampling. The main tool of data collection was questionnaire and observation check list. In the study area, the main sources of water supply were used tap 52.63 percentage and water storage used bucket 52.63 percentage. Major purification of drinking water was filter of 26.31 percentage and tank 26.31 percentage maintaining of cleanliness water were container 52.63 percentage. In primary school there were different type of toilet. In their school, good condition toilet were not found. Satisfactory toilet found 42.10 percentage in primary school, 50.63 percentage schools used in open toilet. Another studies area of sanitation was waste disposal, 31.57 percentage schools were used waste disposal method in collecting, 21 percentage schools use in dumping method, 21 percentage schools used in burning and 26.31 percentage used in composting waste. The studies area of sanitation was cleanliness. In classroom cleanliness 73.68 percentage used sweeping.

Rana (2015) conducted a research on the title "Healthful School Environment in Community and Institutional Lower Secondary Schools of Gorkha Municipality,

Gorkha.” The objective of the study was to identify the present status of the healthful school environment to compare healthful school environment between community and institutional lower secondary schools. The researcher had simple random sampling methods. The main tools for data collection were questionnaire and observation checklist. The researcher found that 50 percentage community and 20 percentage institutional schools were located near the village, 30 percentage community and 50 percentage institutional school were located in the village. Similarly, 20 percentage community and 70 percentage institutional school were located in the side of the road, 50 percentage community and 70 percentage institutional school had used waste dispose daily, 30 percentage community and 20 percentage institutional schools had used weekly. Also 100 percentage of both types of schools had used drinking water which they used directly but there was no purification system.

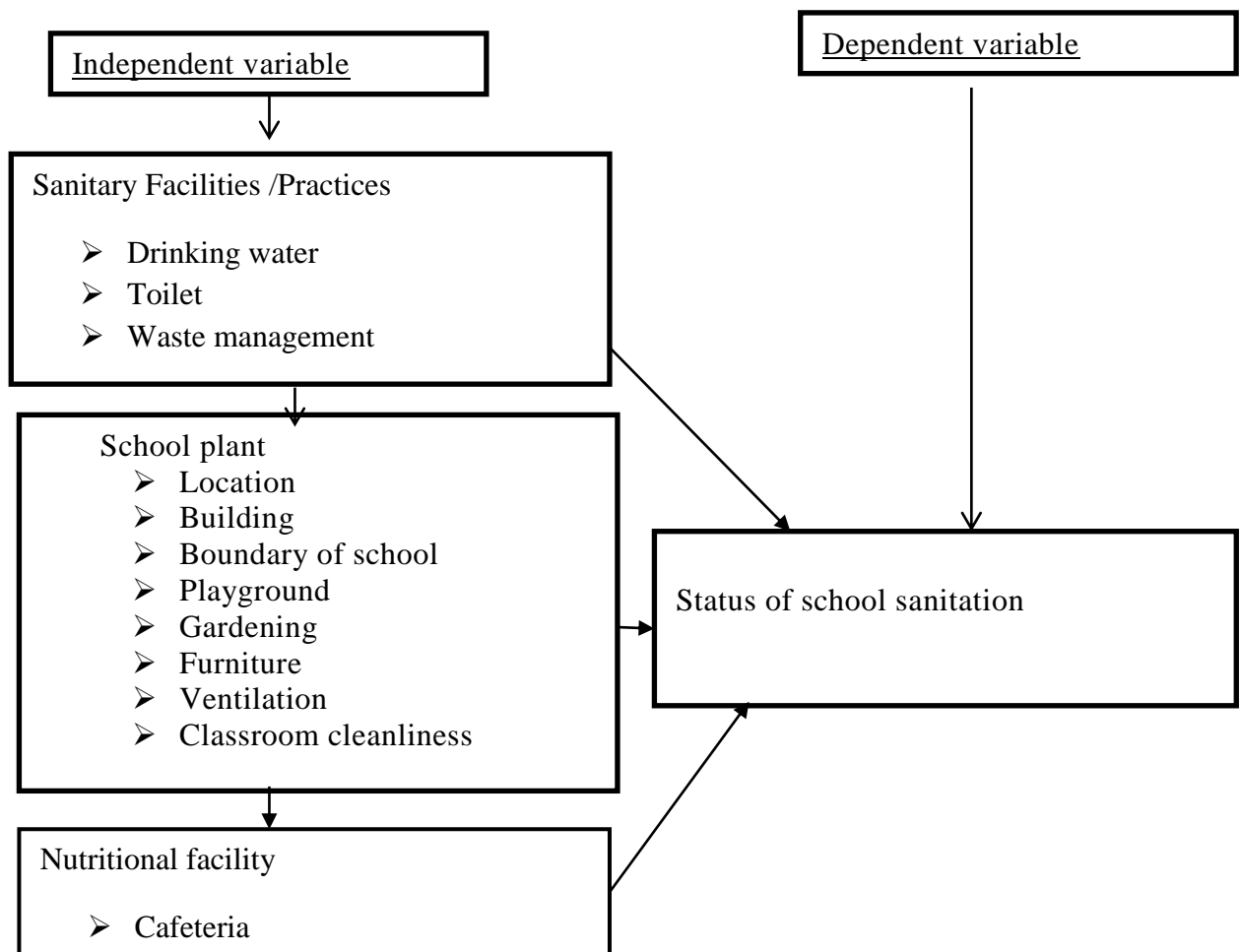
Chimauriya (2015) conducted a research on the title “Sanitation Facility and Its Management in Central Department of Kirtipur.” From the above literature review, it can be generalized that all the communities and institutes have the problems of sanitary management. Sanitary human activities are more responsible for increasing environment pollution day by day. Environmental pollution is not given high priority by people. Lack of knowledge about personal hygiene, poverty, lack of people's awareness about sanitation, increasing pollution and inadequate scientific technology or means for waste disposal management and inadequate supply of clean water are main cause of environmental pollution.

Implication of the Review for the Research

From the study of above mention literature review, it helped to prepare research and select of problems, background of the study, objectives of the study, significance of the study and limitation of the study respectively. It enriches the research methodology where research design, source of data tools and procedure of data sampling and interpretation of situation of sanitation in public and private secondary schools in Rupandehi district.

Conceptual Framework

A conceptual framework is the representation of the understanding of the theories by the researches and conceptualization of the relationship between different variables. In course of doing this research work, researcher also consulted different theories related to this study as well as literature review and developed conceptual framework. Thus, the present study has based on the following conceptual framework:



Conceptual framework describes about the affecting factor school sanitation like location site, school building, boundary of school, playground, gardening, furniture, ventilation and classroom cleanliness. Factor for sanitary facilities like drinking water, waste management, toilet and nutritional facility

like canteen facilities. These factors are determinant of school sanitation, they are closely interrelated and play a vital role to maintain school sanitation.

Chapter III: Methods and Procedures of The Study

Research methodology determines activities to achieve the main objective of the study. This chapter covers different areas like research design, study area, study population, source of data, sampling procedure and sample size, tools of data collection, validation of tools, data collection procedures, data analysis and interpretation techniques.

Research Design

This study had followed both descriptive and quantitative research design. Descriptive method was used to analyze and interpret the collected data from the study area. It helps the researcher to follow the certain plans and procedures of the study and help to control external variables.

Source of Data and Population of the Study

This study was based on primary source of data in three public and three private school primary, data were collected from the students, headmaster and observe and then secondary data were collected from school record and book, papers and website. Among 38 schools of of Siyari Rural Municipality in Rupendehi district, the study was conducted in three public and three private school, head teachers and students were population of the study.

Sampling Procedure and Sample Size

The area was identified for research of public and private school in Siyari Rural Municipality. There are all together 38 public and private schools in Siyari Rural Municipality. For this purpose, 15 public and 23 private schools was listed and then the researcher picked up three public and three private schools from the list using by convenient sampling method. Out of 1985 students from six public and private schools, researcher took 306 students considering from grade six, seven and eight in all schools among them 17 students were selected from each school using sample random sampling (lottery) method. Similarly, teachers were selected by convenient sampling method and headmaster were selected by census method. Hence, 306 students from both nature of students considering from grade six, seven and eight

were selected as the respondent of the study. The selection of sample students from different schools in same number the table given below.

The following table shows the numbers of school, head teacher and students.

Public school

| Name of school | No. of Head master | No. of student per class 6 to 8 | Total No. of students | No. of total respondents |
|---|-----------------------|------------------------------------|--------------------------|-----------------------------|
| Shree Janta higher secondary school | 1 | 17*3 | 51 | 52 |
| Shree Ram Janaki secondary school | 1 | 17*3 | 51 | 52 |
| Shree Siddhartha secondary school | 1 | 17*3 | 51 | 52 |
| Total | 3 | 153 | 153 | 156 |

Private schools

| Name of schools | No. of Head master | No. of students per class 6 to 8 | Total No. of students | No. of total respondents |
|-----------------------------------|-----------------------|-------------------------------------|--------------------------|-----------------------------|
| Rose Bud Academy | 1 | 17*3 | 51 | 52 |
| Bright English Boarding school | 1 | 17*3 | 51 | 52 |
| Kimberly Kinder Garten school | 1 | 17*3 | 51 | 52 |
| Total | 3 | | 153 | 156 |
| Total sample size | 312 | | | |

Data Collection Tools

In this study interview schedule and observation checklist related to situation of sanitation in school would be used for data collection. Interview has applied for headmaster and students. In the interview, closed type questions would be included separately for headmaster and students. Observation check list was filled up observing the situation in sanitation of public and private school. The interview and observation checklist were developed consulting with supervision and other references.

Validation of Tools

According to supervisor's advice pre- test and suggestions data collection tool would be modified to improve the clarity. Then improved tools would be used to similar respondents to another school for pre-test. Then, tools would be finalized.

Data Collection Procedure

First of all, the researcher received authorized letter from HPPE Department of Tribhuvan University and receive advice from supervisor. The researcher visited each selected school and met with the headmaster. The researcher explains purpose of research and requested for the permission of data collection from authorities. At the given appointment time, the researcher visited to the school and interview to the headmaster and respondent student for obtained necessary information. Researcher also collected information using interview schedule and observation checklist about school sanitation. The researcher studied the relevant documents and data about different variables of the study. The secondary data was taken from school records, district education office.

Method of Data Analysis and Interpretation

The collected data and information were analyzed and interpreted with descriptive way with the help of simple statistical method like percentage and average, etc. According to the nature of data, different types of tables, were also used.

Ethical Consideration

As the part of ethical consideration, the researcher maintained ethical consideration at the time of collecting data with respondents. The researcher was told about the objectives and aim of collecting information. Respondent were able to leave the interview in any time when they felt uneasy.

Chapter IV: Analysis and Interpretation of Results

This chapter is trying to analyze and interpretation the data about “Situation of Sanitation in Public and Private Secondary Schools in Siyari Rural Municipality Rupandehi.” This chapter is divided mainly into three parts viz sanitary facilities, school plant and nutritional facility.

Sanitary Facilities

The information was collected from different variables related to situation of school’s sanitation field such as drinking water, toilet facility, waste management etc. The major point of condition and management of sanitary facilities are given below:

Drinking water. The water supply is one of the most important factors in healthful school management. In school mainly water is used for drinking purpose. The school manages pure and safe drinking water. According to many researchers there are more than 80 percentage diseases which are water born. It is sure that if we can provide pure drinking water in the school in such situation, we can control 80 percentage diseases. Water not only used for drinking but also it is used for cleaning canteen, classroom, bathroom and toilet etc. The collected information about drinking water in this study is given below:

Availability / source and purification of drinking water. A school most have adequate pure and safe drinking water facility. The researcher had visited all school and asked some question to headmaster and students about drinking water. The researcher also observed that both type of school, the researcher had found that both type school has enough drinking water. All school use tube well drinking water and all the public and private school did not use any water purification method. They used directly drinking water which is not good and safe for their health.

Condition of drinking water. Safe drinking water is basic need of every human life. Most of the communicable disease are largely extended due to the lack of safe drinking water. The researcher had asked students about drinking water in public and private school. The collected information regarding drinking water supply in the school has been presented below in the following table 1.

Table 1
Condition of Drinking Water

| Drinking water | Public Schools | | Private Schools | |
|----------------|-----------------|------------|-----------------|------------|
| | No. of students | Percentage | No. of students | Percentage |
| Excellent | 113 | 69.32 | 115 | 75.16 |
| Good | 28 | 17.17 | 18 | 11.77 |
| Satisfactory | 22 | 13.49 | 20 | 13.03 |
| Poor | - | - | - | - |
| Total | 153 | 100 | 153 | 100 |

The table 1 shows that, 73.86 percentages of public and 75.16 percentage of private school's students had used excellent drinking water, 18.30 percentage of public and 11.77 percentage of private school's students had good and 14.37 percentage of public and 13.03 percentage of private schools' students had used satisfactory level of drinking water. It means all the public and private schools have enough drinking water supply.

Management of water storage in the school. Water which is stored helps in sanitation practice and drinking purpose, so that enough water was available in the school. The researcher had visited the public and private school headmaster to find out the management of water storage in the school. The collected information about management of water storage has been presented in the following table 2:

Table 2
Sources of Drinking Water

| Water storage | Public Schools | | Private Schools | |
|---------------|----------------|------------|-----------------|------------|
| | No. of School | Percentage | No. of Student | Percentage |
| Drum | 2 | 66.67 | 3 | 100 |
| Tank | 1 | 33.33 | - | - |
| Bucket | - | - | - | - |
| Other | - | - | - | - |
| Total | 3 | 100 | 3 | 100 |

The table 2 shows that 66.67 percentage of public and 100 percentage of private schools' water is stored in drum, and 33.33 percentage of public school's water is stored in tank which is used for sanitation practice. It reveals that all the private schools had used the water stored in drum.

Toilet facilities. Human excreta are the sources of contamination and disease transmission. It is a main source of environment pollution. Every school should have a responsibility for its safe disposal in systematic way. The questionnaire made for headmaster and observation checklist was used for researcher to collect data. The collected information shows that 100 percentage public and private school had found toilet facilities. All Both public and private school had found managed enough water supply in the toilet.

All school personnel are aware of importance of toilet sanitation about health and hygiene of children, students, and staffs.

Availability of separate toilet facilities in school. Toilet facilities means those devices provided for individual convenience in the sanitary disposal of body wastes and the structures for their installation and maintenance. Every school should have separate toilet facility for male, female and as well as for staff. The researcher had visited the public and private school headmaster to find out the separate toilet facility, the collected information about availability of separate toilet facilities in school has been presented in the following table 3:

Table 3
Availability of separate toilet facility in school

| Separate toilet facility | Public schools | | Private schools | |
|----------------------------------|----------------|------------|-----------------|------------|
| | No. of schools | Percentage | No. of schools | Percentage |
| Common | - | - | - | - |
| Separate for male and female | - | - | 2 | 66.67 |
| Separate for teacher and student | 3 | 100 | 1 | 33.33 |
| Total | 3 | 100 | 3 | 100 |

The table 3 shows that public schools have 100 percentage of separate toilet facility for male, female and staffs whereas private schools have 33.33 percentage of separate toilet facility. It means that public schools have better management of toilet facility than private school.

Schedule of cleaning toilet. Cleaning toilet can play vital role to keep them in good health condition. The student and school family should be responsible for keeping the toilet clean. The researcher had visited the public and private school headmaster to find out the schedule of cleaning toilet. Collected information about cleaning schedule of toilet has been presented below in table 4.

Table 4
Schedule of Cleaning Toilet

| Duration | Public Schools | | Private Schools | |
|----------|----------------|------------|-----------------|------------|
| | No. of School | Percentage | No. of School | Percentage |
| Daily | 1 | 33.33 | 2 | 66.67 |
| Weekly | 2 | 66.67 | 1 | 33.33 |
| Total | 3 | 100.0 | 3 | 100.0 |

The table 4 shows that 33.33 percentage of public and 66.67 percentage of private school had cleaned their toilet daily whereas 66.67 percentage of public and 33.33 percentage of private school had cleaned the toilet weekly.

Mostly private school found cleaned the toilet daily and regularly but mostly public school was found that they cleaned the toilet weekly which is not well for healthy school environment. It means private schools had better managed schedule of cleaning toilet than public schools.

Waste management. Waste management is one of the laws of environment health today. However, school need basic knowledge and practice about proper way of the waste disposal system. Wastes management along with disposal methods plays vital role to maintain healthy environment inside the school. Wastes are the source of bacteria and other dangerous diseases.

Available of dustbin in the school. The researcher also attempted to find out the information about availability of dustbin in the school complex. Waste products which come from school's compound are collected in a school's dustbin. The researcher asked students about available of dustbin in the public and private school. The collected information about dustbin has been presented on the following table 5.

Table 5:

Availability of Dustbin Facility in the School

| Availability of dustbin | Public School | | Private School | |
|-------------------------|-----------------|------------|-----------------|------------|
| | No. of students | Percentage | No. of Students | Percentage |
| Sufficient | 80 | 52.28 | 110 | 71.90 |
| Satisfactory | 73 | 47.72 | 43 | 28.10 |
| Poor | - | - | - | - |
| Total | 153 | 100 | 153 | 100 |

The table 5 shows that 52.28 percentage public and 71.90 percentage private schools have been sufficient and 47.72 percentage public and 28.10 percentage private school have satisfactory level of dustbin. From the table it can be concluded

that there is dustbin available in public and private school but private school have managing dustbin appropriate than public school.

Method of waste disposal. Waste management is one of the laws of environmental health today. However, school need basic knowledge and practice about proper way of the waste disposal system. It support to build good environment. There are different ways of waste disposal system practiced in the schools. The researcher asked students about method of solid waste disposal in public and private school. The collected information about waste disposal method has been presented in the following table 6.

Table 6

Method of Waste Disposal

| Response of students | Public Schools | | Private Schools | |
|----------------------|-----------------|------------|-----------------|------------|
| | No. of students | Percentage | No. of students | Percentage |
| Burning | 82 | 53.60 | 103 | 67.32 |
| Dumping | 60 | 39.21 | 40 | 26.14 |
| Composting | 11 | 7.18 | 10 | 6.54 |
| Other | - | - | - | - |
| Total | 153 | 100 | 153 | 100 |

The table 6 shows that 53.60 percentage of public and 67.32 percentage of private school's students were used burning waste disposal method, 39.21 percentage of public and 26.14 percentage of private school students were used dumping and 7.18 percentage of public schools and 6.54 percentage of private students were used composing waste disposal method. After analyze the above data, public and private school had used burning waste disposal method.

Schedule of waste disposal in school. Waste disposal has to be scheduled timely in school so that environment inside the school could be maintained healthy and free of any kinds of bad and bacterial infection. Schedule has to be prepared on the basis of wastes volume and its nature. If the productions of waste is in large volume then it has to be disposed daily otherwise schedule could be change at some

interval at time. The researcher had visited public and private school headmaster to find out the schedule of waste disposal in school. The collected information about schedule of waste disposal in schools has been presented in the following table 7.

Table 7

Schedule of Waste Disposal in School

| Schedule of Waste Disposal | Public School | | Private School | |
|----------------------------|---------------|------------|----------------|------------|
| | No. of School | Percentage | No. of School | Percentage |
| Daily | 1 | 33.33 | 2 | 66.67 |
| Weekly | 2 | 66.67 | 1 | 33.33 |
| Total | 3 | 100 | 3 | 100 |

The table 7 shows that 33.33 percentage of public schools and 66.67 percentage of private school disposes wastes daily and 66.67 percentage of public and 33.33 percentage of private schools disposes wastes weekly. It means private schools had better managed waste disposal than public schools.

School Plant

School plant denotes to all the physical aspect of school which determine health status of the school family members i.e., students, teachers, and other person. Therefore, the researcher had collected information on existence of public and private school location, building, boundary/ wall, playground, garden, furniture, ventilation and classroom cleanliness. All the information required on situation of school sanitation are presented in the different sub headings:

Number of teachers in the school. The teachers are very important in every schools. Teachers play vital roles in the lives of the students in their classrooms. Teachers set the tone of their classrooms, build a warm environment, become role models, and listen and look for signs of trouble. They perform their duties and responsibilities very well. The data is given below which was received through of public and private school headmasters. The collected information had regarding number of school teacher in the school has been presented below in the following table 8.

Table 8

Number of Teachers in the Academic Year- 2077 from Class 6 to 8

| Teachers | Public schools | | Private schools | |
|----------|-----------------|------------|-----------------|------------|
| | No. of teachers | Percentage | No. of teachers | Percentage |
| Male | 16 | 53.33 | 12 | 54.54 |
| Female | 14 | 46.67 | 10 | 45.46 |
| Total | 30 | 100 | 22 | 100 |

The table 8 shows that public schools had 53.33 percentage of male and 46.67 percentage of female teachers. Similarly, private schools had 54.54 percentage of male and 45.46 percentage of female teachers. It means that public schools had more teachers than private schools.

Number of students in the schools. When the academic session starts then every school organized the admitting and welcome campaign. Besides various reasons every season the student's number was grow up or fall down. Mainly physical infrastructure, mental environment and other facilities were affecting factors to the number of students. The collected information regarding number of students in the academic year has been presented below in the following table no 9.

Table 9

Number of Students in the Academic Year- 2077 from Class 6 to 9

| Students | Public schools | | Private schools | |
|----------|-----------------|------------|-----------------|------------|
| | No. of students | Percentage | No. of students | Percentage |
| Boys | 475 | 43.37 | 570 | 64.04 |
| Girls | 620 | 56.63 | 320 | 35.96 |
| Total | 1095 | 100 | 890 | 100 |

The table shows that the student's enrollment in academic session 2077 in public school had 43.37 percentage of boys and 56.63 percentage of girls were admitted. In private schools 64.04 percentage of boys and 35.96 percentage of girls

were admitted. It means that boys students were found more private school than public school.

Location site at school. School location is the most important feature for the healthful school environment. It is neither far from the rural municipality nor near to city. It means the location is better outside the road, rural municipality, market, community park and industry etc. The congested and noisy environment directly affects the health status and educational output of whole school family. It must be accessible, safe, attractive, having adequate land and peaceful environment. The researcher had visited and observed public and private school and asked to headmaster to find out the location site of school. The information about location of the schools had been presented in the following table 10.

Table 10

Location Site of School

| Location Site | Public Schools | | Private Schools | |
|------------------|----------------|------------|-----------------|------------|
| | No. of Schools | Percentage | No. of Schools | Percentage |
| Near the Village | 2 | 66.67 | 0 | 0.00 |
| In the Village | 1 | 33.33 | 1 | 33.33 |
| Site of the Road | 0 | 0.00 | 2 | 66.67 |
| Total | 3 | 100 | 3 | 100.00 |

The Table 10 shows that 66.67percentage of public schools are located in near the village while 33.33 percentage are in the village. In contrast to public school, 66.67 percentage private schools are found located in site of the road where as 33.33 percentage private school is located into village. There is no private school in the village. Most of the public schools are found situated in peaceful environment without any environmental pollution and therefore suitable for teaching and learning.

Building of schools. To conduct the teaching learning activities the building can play vital role. Building means permanent fixed structure where organize teaching learning process without hazardous of natural disasters like storms, rain, heat, cold etc. Therefore to create the healthful school living, school buildings are important and inevitable aspect. The researcher had visited public and private school headmaster to find out the availability of building in school. The information about availability of buildings has been presented in the table 11.

Table 11

Availability of Building in Schools

| No. of Building | Public School | | Private School | |
|-----------------|---------------|------------|----------------|------------|
| | No. of School | Percentage | No. of School | Percentage |
| One | 0 | 0.00 | 1 | 33.33 |
| Two | 1 | 33.33 | 2 | 66.67 |
| Three | 1 | 33.33 | 0 | 0.00 |
| more than three | 1 | 33.33 | 0 | 0.00 |
| Total | 3 | 100 | 3 | 100 |

The table 11 shows that 33.33 percentage private school have one building and 66.67 percentage private schools have two building whereas 33.33 percentage public schools have two building, 33.33 percentage public schools have three building and 33.33 percentage public school have more than three building.

It means that private schools had found only two buildings whereas public schools had found more than three buildings so, that public schools had well managed building than private schools.

Playground in schools. Every school should provide adequate playground for all round development of their students. Teaching learning process is not only important activities, which launched in the school. Extra-curricular or co-curricular activities can also play important role in the whole education program. In the study, the researcher has tried to investigate the condition of playground facilities and cleanness in public and private schools. The researcher had visited and observed

public and private schools and asked to headmaster to find out the playground facility. The collected information about the playground facilities in school had been shown in table 12.

Table 12

Playground Facilities

| Playground facilities | Public school | | Private school | |
|---------------------------|----------------|------------|----------------|------------|
| | No. of schools | Percentage | No. of schools | Percentage |
| Sufficient | 2 | 66.67 | 1 | 33.33 |
| Insufficient | 1 | 33.33 | 2 | 66.67 |
| Total | 3 | 100 | 3 | 100 |
| Cleanliness of playground | | | | |
| Satisfactory | 2 | 66.67 | 2 | 66.67 |
| Poor | 1 | 33.33 | 1 | 33.33 |
| Total | 3 | 100 | 3 | 100 |

The table 12 shows that 66.67 percentage of public and 33.33 percentage private schools have sufficient playground and 33.33 percentage of public and 66.67 percentage of private school have insufficient playground. Similarly, 66.67 percentage of both public and private school have better cleanliness of playground whereas 33.33 percentage of both public and private school have poor cleanliness of playground. It means public schools had better managed playground facilities than private schools.

School garden. Garden is such a place where everybody gets relief from stress, tension etc. It gives an attraction and also helps to protect the atmospheric environment from spoiling. Children loves to play in the garden in order to have a safe air. A little piece of garden in school provides natural beauties in school environment. The researcher had visited public and private school headmaster to find out the garden facility. The collected information about school garden facilities had been presented in the given table 13.

Table 13
Garden Management

| Garden management | Public Schools | | Private Schools | |
|-----------------------|----------------|------------|-----------------|------------|
| | No. of Schools | Percentage | No. of Schools | Percentage |
| Available | 2 | 66.67 | 3 | 100.00 |
| Not Available | 1 | 33.33 | 0 | 00.00 |
| Total | 3 | 100 | 3 | 100 |
| Cleanliness of garden | | | | |
| Satisfactory | 1 | 3.33 | 2 | 66.67 |
| Poor | 2 | 66.67 | 1 | 33.33 |
| Total | 3 | 100 | 3 | 100 |

The table 13 shows that 66.67 percentage of public and 100 percentage of private schools have sufficient garden while 33.33 percentage of public school have not sufficient garden. And 33.33 percentage public and 66.67 percentage private school have satisfactory cleanliness of garden and 66.67 percentage public and 33.33 percentage private school have poor cleanliness of garden. It means that private schools have better managed garden facilities than public schools.

Furniture in schools. In school, furniture means table, desks, chairs, book racks, etc. Sufficient availability of furniture in the classroom, library and office helps to run the teaching smoothly. With the lack of proper furniture cannot be effective teaching and learning process in the school. The school should be careful in selection of furniture in terms of size and design and the same size of furniture should not be used for all grades levels. Furniture in the classroom should be clean, movable as student's friendly so that students can learn comfortably. The researcher had visited public and private school headmaster to find out the furniture condition. The collected information about condition of furniture is shown in the given table 14.

Table 14
Furniture Condition

| Furniture condition | Public School | | Private School | |
|--------------------------|---------------|------------|----------------|------------|
| | No. of School | Percentage | No. of School | Percentage |
| Sufficient | 1 | 33.33 | 2 | 66.67 |
| Not sufficient | 2 | 66.67 | 1 | 33.33 |
| Total | 3 | 100 | 3 | 100 |
| Cleanliness of furniture | | | | |
| Satisfactory | 2 | 66.67 | 3 | 100.00 |
| Poor | 1 | 33.33 | 0 | 00.00 |
| Total | 3 | 100 | 3 | 100 |

The table 14 shows 33.33 percentage public and 66.67 percentage private schools have sufficient furniture whereas 66.67 percentage public and 33.33 percentage private schools have not sufficient furniture. About 33.33 percentage of public and 100 percentage of private schools have cleanliness of furniture whereas 66.67 percentage of public school and private schools have poor furniture. It means that private schools had better managed furniture than public schools.

Classroom cleanliness. Classroom cleanliness play an important role to improve sanitation condition and healthy environment. Classroom cleanliness plays the vital role in the student health. If it is not properly managed, it psychologically affects the students. So, that every school should have clean classroom for teaching and learning activities. The researcher asked students about the classroom cleanliness in the public and private school. The information about classroom cleanliness of the school has been presented in the table 15.

Table 15
Classroom Cleanliness

| Classroom cleanliness | Public Schools | | Private Schools | |
|-----------------------|-----------------|------------|-----------------|------------|
| | No. of students | Percentage | No. of students | Percentage |
| Excellent | 40 | 26.14 | 50 | 32.68 |
| Good | 80 | 52.28 | 85 | 55.55 |
| Satisfactory | 33 | 21.57 | 18 | 11.77 |
| Poor | - | - | - | - |
| Total | 153 | 100 | 153 | 100 |

The table 15 shows that 26.14 percentage of public schools and 32.68 percentage of private schools have excellent classroom whereas 52.28 percentage of public school and 55.55 percentage of private schools have good condition of classroom and 21.57 percentage of public and 11.77 percentage of private school's classroom have satisfactory classroom. It means private schools has better cleaned classroom than public schools.

Ventilation. School should have adequate movement of fresh air in the classroom and manage the temperature of classrooms. Proper lighting and ventilation prevent children from nausea, vomiting, fatigue and tiredness. Ventilation provided fresh air along with oxygen should be adequate in the classroom so that environment inside the classroom could be maintained favorable for teaching and learning. The researcher asked students about the availability of ventilation in the public and private school. The information about availability of school's ventilation is presented in table 16.

Table 16

Availability of Ventilation

| Availability ventilation | Public Schools | | Private Schools | |
|--------------------------|-----------------|------------|-----------------|------------|
| | No. of students | Percentage | No. of student | Percentage |
| Good | 95 | 62.09 | 80 | 52.58 |
| Satisfactory | 58 | 37.91 | 73 | 47.72 |
| Poor | - | - | - | - |
| Total | 153 | 100 | 153 | 100 |

The table 16 shows that 62.09 percentage public and 52.28 percentage private school have good ventilation system. And 37.91 percentage of public and 47.72 percentage of private school have satisfactory ventilation system. It means public schools have well managed ventilation system than private school.

Availability of boundary/wall in schools. Boundary is very important in every school. In the absence of boundary, the students may disturb by the outside objects. They are disturbed by the road which is attached to the school and thousands of people pass road by various vehicles. For reading a peaceful and a comfortable place is needed where they would be relaxed mentally and physically. The researcher had visited public and private schools' headmaster to find out the boundary facility in school. The information about availability of boundary /wall in the schools presented in the given table 17.

Table 17

Availability of Boundary/Wall in Schools

| Availability of wall | Public Schools | | Private Schools | |
|----------------------|----------------|------------|-----------------|------------|
| | No. of Schools | Percentage | No. of School | Percentage |
| Available | 3 | 100 | 1 | 33.33 |
| No available | - | - | 2 | 66.67 |
| Total | 3 | 100 | 3 | 100 |

The table 17 shows that, 100 percentage of public and 33.33 percentage of private schools have boundary wall. Whereas 66.67 percentage of private schools have no boundary wall. Therefore, it is clearly seen that public school have better availability of boundary than private schools.

Feeling towards the School compound. Positive feelings toward the school environment enhance the students to adjust properly with school environment. The entire school family member should feel comfortable and cheerful while entering school compound. The researcher asked students about the feeling towards the school in the public and private school. The collected information about the feeling of students towards the school compound is presented in table 18.

Table 18

Feeling Towards the School

| Student's Response | Public Schools | | Private Schools | |
|--------------------|-----------------|------------|-----------------|------------|
| | No. of Students | Percentage | No. of Schools | Percentage |
| Cheerful | 130 | 84.96 | 130 | 84.96 |
| Tolerable | 22 | 14.37 | 123 | 15.03 |
| Uncomfortable | 1 | 0.65 | - | - |
| Total | 153 | 100 | 153 | 100 |

The table 18 shows that 84.96 percentages students of public and private school students felt cheerful while entering the schools whereas 14.37 percentage from public school and 15.03 percentage from private school's student felt tolerable and 0.65 percentage students from public school felt uncomfortable while entering the school. It means that most of the students of public and private schools felt cheerful while entering school.

Nutrition facility

Nutrition is the most important part of human being and healthy way of living. The school canteen is vital factor in the general health of children and important part of healthful school environment. It proves an opportunity for hygienic food practices among children and directly impacts the whole life of the children. Canteen place

should be clean, attractive and also be separate from the main school buildings. The collected information about the canteen facility of this study has been presented in different sub headings:

Availability of canteen. Canteen is also considered as important part of school. The school's canteen is basic need of every schools. In the school time period all the staffs as well as students consume the foods from canteen. So, that school canteen should be kept neat and clean and should provide healthy foods. The researcher had visited the public and private school headmaster to find canteen facility. The researcher collected information about availability of canteen of this study is presented in the given table 19.

Table 19
Availability of Canteen

| Available of canteen | Public Schools | | Private Schools | |
|----------------------|----------------|------------|-----------------|------------|
| | No. of Schools | Percentage | No. of Schools | Percentage |
| Yes | 1 | 33.33 | 3 | 100 |
| No | 2 | 66.67 | - | - |
| Total | 3 | 100 | 3 | 100 |

The table 19 indicates that 33.33 percentage of public and 100 percentage of private schools had canteen facilities, whereas 66.67 percentage public schools had no canteen facilities. It means that private schools had better canteen facilities than public schools.

Cleanliness of canteen. Canteen is like a cafeteria where hygienic foods are provided to students during lunch break. The main purpose of establishing school canteen in school premises is to avoid unhealthy junk foods which has adverse impact on student's health. School canteen need to be neat and clean and should provide healthy foods at reasonable cost at friendly environment. The canteen should be well furnished and should have availability of pure drinking water. Regular monitoring of canteens is an important task for the school to maintain healthful school environment. The researcher had visited the public and private school headmaster to find out about

the cleanliness of canteen. The collected information about cleanliness of canteen had presented in the given table 20.

Table 20

Cleanliness of School Canteen

| Cleanliness of canteen | Public Schools | | Private Schools | |
|------------------------|----------------|------------|-----------------|------------|
| | No. of Schools | Percentage | No. of Schools | Percentage |
| Yes | 1 | 33.33 | 2 | 66.67 |
| No | 2 | 66.67 | 1 | 33.33 |
| Total | 3 | 100 | 3 | 100 |

The table 20 shows that 33.33 percentage public and 66.67 percentage private schools have good cleanliness of canteen whereas 66.67 percentage of public and 33.33 percentage of private schools have poor cleanliness of canteen. It means that private school's canteen is better than public schools' canteen.

Satisfied with canteen facilities. Canteen facilities should be well managed in schools as they directly impact the health of students and children. Fresh cooked foods viz, Samosa, Chowmin, Mo.Mo, fry rice etc. as well as readymade foods like noodles, chips, popcorns, biscuits, and bakery items etc. are available in canteen of surveyed schools. The researcher asked students about the satisfied with canteen facilities in the public and private school. The response of the satisfied with canteen facilities is given in the following table 21.

Table 21

Satisfied with Canteen Facilities

| Response of students | Public School | | Private Schools | |
|----------------------|-----------------|------------|-----------------|------------|
| | No. of students | Percentage | No. of students | Percentage |
| Satisfied | 42 | 27.45 | 128 | 83.67 |
| Not satisfied | 111 | 72.55 | 25 | 16.33 |
| Total | 153 | 100 | 153 | 100 |

The above table 21 shows that 27.45 percentage public school's students and 83.67 percentage of private students were satisfied of canteen facilities within school but 72.55 percentage of public school and 16.33 percentage of private school's students responded not satisfied of canteen facilities in school. It means that most of the private school's students found satisfied canteen facilities.

Observation Checklist

To conduct the effective teaching learning activities in the school, sanitation can play vital role. Sanitary facility, school plant and nutritional facility determines health status of the school family member i.e. students, teachers and other personnel. So, all are responsible to create ideal healthful school environment. The researcher had observed the public and private schools to find out the situation of sanitation in school after evaluation. The researcher found that both types of schools are different in different features. While conducting this report, situation of sanitation in school the collected information is presented below in table 22.

Table 22

Evaluation of School's Sanitation in Public and Private Schools

| S.N | Description | Public schools | | | | Private schools | | | |
|-----|-----------------------|----------------|------------|-----|------------|-----------------|------------|-----|------------|
| | | Yes | | No | | Yes | | No | |
| | | No. | Percentage | No. | Percentage | No. | Percentage | No. | Percentage |
| A | Sanitary facility | | | | | | | | |
| 1 | Drinking water | 3 | 100 | - | - | 3 | 100 | - | - |
| 2 | Purify the water | - | - | 3 | 100 | - | - | 3 | 100 |
| 3 | Toilet facility | 3 | 100 | - | - | 3 | 100 | - | - |
| 4 | Cleanliness of toilet | 1 | 33.33 | 2 | 66.67 | 2 | 66.67 | 1 | 33.33 |
| 5 | Separate toilet for | 3 | 100 | - | - | 1 | 33.33 | 2 | 66.67 |

| | | | | | | | | | |
|----|------------------------------------|---|-------|---|-------|---|-------|---|-------|
| | teacher, students and staff | | | | | | | | |
| 6 | Available of water in toilet | 3 | 100 | - | - | 3 | 100 | - | - |
| 7 | Dustbin in school | 3 | 100 | - | - | 3 | 100 | - | - |
| B | School plant | | | | | | | | |
| 1 | Noise come from outside | 1 | 33.33 | 2 | 66.67 | 2 | 66.67 | 1 | 33.33 |
| 2 | Boundary of school | 3 | 100 | - | - | 1 | 33.33 | 2 | 66.67 |
| 3 | Playground facility | 2 | 66.67 | 1 | 33.33 | 1 | 33.33 | 2 | 66.67 |
| 4 | Sufficient of playground | 2 | 66.67 | 1 | 33.33 | 1 | 33.33 | 2 | 66.67 |
| 5 | Cleanliness of playground | 2 | 66.67 | 1 | 33.33 | 1 | 33.33 | 2 | 66.67 |
| 6 | Garden facility | 2 | 66.67 | 1 | 33.33 | 3 | 100 | - | - |
| 7 | Cleanliness of garden | 1 | 33.33 | 2 | 66.67 | 2 | 66.67 | 1 | 33.33 |
| 8 | Furniture facility | 3 | 100 | - | - | 3 | 100 | - | - |
| 9 | Schools own building | 3 | 100 | - | - | 3 | 100 | - | - |
| 10 | Ventilation | 3 | 100 | - | - | 3 | 100 | - | - |

| | | | | | | | | | |
|----|--|---|-------|---|-------|---|-------|---|-------|
| | facility | | | | | | | | |
| 11 | Classroom cleanliness | 1 | 33.33 | 2 | 66.66 | 2 | 66.67 | 1 | 33.33 |
| 12 | Appropriate space for student in classroom | 2 | 66.67 | 1 | 33.33 | 1 | 33.33 | 2 | 66.67 |
| C | Nutritional facility | | | | | | | | |
| 1 | Canteen service | 1 | 33.33 | 2 | 66.67 | 3 | 100 | - | - |
| 2 | Cleanliness of canteen | 1 | 33.33 | 2 | 66.67 | 2 | 66.67 | 1 | 33.33 |
| 3 | Canteen is separated from school | 1 | 33.33 | 2 | 66.67 | 2 | 66.67 | 1 | 33.33 |

The table 22 shows that in sanitary facilities, all the public and private school found drinking water facilities. All public and private schools did not use any water purification method. All public and private school had found toilet facility as 33.33 percentage of public and 66.67 percentage of private schools had found cleanliness of toilet whereas 66.67 percentage of public and 33.33 percentage of private schools had not found cleanliness of toilet. All public schools and 33.33 percentage of private schools had found separate toilet facility but 66.67 percentage of private schools had not found separate toilet facility. All public and private schools had found available of water in toilet. All public and private school had found dustbin in school area.

In school plant the researcher found that 33.33 percentage of public and 66.67 percentage of private schools had found noise, come from outside and 66.67 percentage of public and private schools had not found any kinds of noise pollution from outside. All public and 33.33 percentage of private schools had found wall in school. About 66.67 percentage of public and 33.33 percentage of private schools found playground but 33.33 percentage of public and 66.67 percentage of private schools had not found playground facility. Also 33.33 percentage of public and

private schools had found sufficient playground but 66.67 percentage of public and 33.33 percentage of private schools had found cleanliness of playground but 66.67 percentage public and 33.33 percentage of private school had not found cleanliness of playground. About 66.67 of public and all private schools had found garden management but 33.33 percentage of public schools had not found garden facility.

Also 33.33 percentage of public and 66.67 percentage of private schools had found cleanliness of garden but 66.67 percentage of public schools had not found cleanliness of garden. All public and private schools had found availability of furniture. All public and private schools had found their own buildings. All public and private schools had found availability of ventilations. About 33.33 percentage of public and 66.67 percentage of private schools had found clean classroom and 66.67 percentage of public and 33.33 percentage of private schools had not found clean classroom. And 66.67 percentage of public and 33.33 percentage of private schools had found appropriate space for students in classroom but 33.33 percentage of public and 66.67 percentage of private schools had not found appropriate space of classroom.

The researcher found 33.33 percentage of public and all private schools had found canteen service but 66.67 percentage of public schools had not found canteens service. About 33.33 percentage of public and 66.67 percentage of private schools had found canteen cleanliness. Also 33.33 percentage of public and all privates school had found separate canteen but 66.67 percentage of public schools had not found separate canteen.

The table shows all public and private schools had drinking water facility, toilet facility, availability of water in toilet, dustbins in school area, school's own buildings, availability of furniture, availability of ventilation but no purification of water facility provided.

From this study, it was found the physical facility were more found more in public school. But private school had found good management of cleanliness.

Comparison between public and private school

- 100 percentage public and private and private school had enough drinking water, most of the public schools used drum to storage water, 100 percentage public and private schools used tube well drinking water and all school did not use any water purification method, they used directly which is not good and safe for their health.
- 100 percentage school had toilet facility but public school had better manage of toilet facility for male, female and staffs compared to private school. Whereas private school had better managed schedule of cleaning toilet compared to public school.
- It was found that 100 percentage school had dustbin available but private school had better managed dustbin compared to public schools. Most of the schools use to burning method of waste disposal but public school used more composting method of waste disposal compared to private schools. It is good for environment health. While private schools had better managed waste disposal schedule compared to public schools.
- The study found that 100 percentage public school had good management of facilities like location in peaceful environment, more building, playground, ventilation boundary of school compared to private schools.
- The study found that 100 percentage private school had good management of facilities like school garden, furniture, classroom cleanliness compared to public schools.
- From the study and observation made by researcher, it was found that 100 percentage private school had found canteen facility, good cleanliness and most of the private school students satisfied their canteen facility compare to public school.
- From the study and observation researcher found that the physical facilities were found more in public school compare to private school but private school had found good management of school cleanliness compare to public schools.

Summary of the Finding

The major finding of the study is presented below:

Sanitary facilities

- The researcher found that 73.86 percentage public and 75.16 percentage of private school students had used excellent drinking water, 18.30 percentage of public and 11.77percentage of private school students had used good drinking water and 14.37 percentage of public and 13.03 percentage of private school students had used satisfactory drinking water, it means all the public and private schools had enough drinking water supply.
- It was found that 66.66 percentage public and 100 percentage private school used to water stored in drum whereas 33.33 percentage public school water is stored in tank it means all the private schools said that they are water is stored in the drum.
- It was found that 100 percentage public and 100 percentage private school has used tube well drinking water and they did not use to any water purification method, they used directly drink water which is not good for their health.
- The researcher study shows that 100 percentage public and 100 percentage private school found good management of toilet facility and enough water supply in the toilet.
- This study found that 100 percentage public school had found separate toilet facility but 33.33 percentage private school had found separate toilet facility. It means that public school had good manage for separate toilet than private school.
- The researcher found that 33.33 percentage public and 66.67 percentage private school cleaned toilet daily, 66.67 percentage public and 33.33 percentage private school's toilet cleaned weekly it means private school had better managed schedule of cleaning toilet than public school.
- This study found that 100 percentage public and 100 percentage private school had available of dustbin but 100 percentage private schools are managing dustbin in school appropriate than public school.

- The researcher found that most of the school students of private had burning waste disposal method whereas public school students had use composting waste disposal method.
- It was also found that 33.33 percentage public and 66.67 percentage private school dispose waste daily, while 66.67 percentage public and 33.33 percentage private school dispose waste weekly. It means private school had better management waste disposal than public school.

School plant

- The researcher found that 66.67 percentage public schools are found located in the village while 33.33 percentage public and 33.33 percentage private school are in the village and 66.66 percentage private school are located in the site of the road. Most of the public school are located in peaceful environment without any environmental pollution and therefore suitable for teaching and learning activities.
- The researcher found that 66.67 percentage public and 33.33 percentage private school had sufficient playground while 33.33 percentage public and 66.67 percentage private schools had no sufficient playground and 66.66 percentage public and private school had better cleanliness of playground. About 33.33 percentage public and 33.33 percentage private school had poor cleanliness of playground. It means public schools had better managed playground facilities than private school.
- The researcher found that 33.33 percentage private school had three and 33.33 percentage public school had more than three building. It means that private schools had found only two building whereas public schools had found more than three building means public schools had well managed building than private schools.
- The study found that 66.67 percentage public and 100 percentage private school had sufficient garden while 33.33 percentage public school had no sufficient garden, 33.33 percentage public and 66.67 percentage private school had satisfactory cleanliness garden. And 66.67 percentage public and 33.33 percentage private school had poor cleanliness of garden so that private school had better managed garden facility than public school.

- The researcher found that 33.33 percentage public and 66.67 percentage private schools had sufficient furniture whereas 66.67 percentage public and 33.33 percentage private school had no sufficient furniture and 66.67 percentage of public and 100 percentage private schools had cleanliness of furniture whereas 33.33 percentage of public school had poor cleanliness of furniture. It means that private school had better managed furniture than public school.
- The study found that 26.14 percentage of public and 32.68 percentage of private schools had excellent classroom cleanliness whereas 52.28 percentage public and 55.55 percentage private school had good condition of classroom. And 21.57 public and 11.77 percentage of private school classroom had satisfactory classroom cleanliness so that private schools had better cleaned classroom than public schools.
- The study found that both type of school had 100 percentage ventilation system but public school had better managed ventilation system than private school.
- The researcher found that 100 percentage public school and 33.33 percentage private school had boundary available so that public school had better availability of boundary than private schools.
- The researcher found that 84.96 percentage public schools student felt cheerful, 14.37 percentage felt tolerable and 0.65 percentage felt uncomfortable whereas 84.96 percentage private school student felt cheerful and 15.03 percentage student felt tolerable while entering school. It means that most of the students of public and private school felt cheerful while entering school.

Nutritional facility

- The researcher found that 33.33 percentage public and 100 percentage private school had availability of canteen facility. It means private schools had better managed canteen facility than public school.
- The study found that only 33.33 percentage public and 66.67 percentage private schools had good cleanliness of canteen. It means that private schools had maintained good sanitation.

- The researcher found that 27.45 percentage public school students and 83.67 percentages of private school students were satisfied of canteen facility but 72.55 percentage of public schools student and 16.33 percentage of public school students were not satisfied with their canteen facilities.

Summary

School is one of the important agencies that play vital role for the improvement of the health status of the nation. The most important thing of the school is its environment. These days, it is known as the major components of school health program. It supports directly and indirectly for achieving the quality of life of the children whose progress and welfare play a dominant role to run a country. It is important that children should be educated under wholesome or healthful environment, though it is difficult to manage healthful environment in the context of our country because lack of financial resources, awareness/ knowledge and manpower. Every school must consider about different environment phenomenon while starting overall education program.

The present entitled study “Situation of Sanitation in Public and Private Secondary Schools in Siyari Rural Municipality, Rupandehi District” was carried out then analyzed the school sanitation applying different variables generally related to find out the existing sanitation condition between public and private school of Siyari Rural Municipality. This study relates to compare the situation of school sanitation between public and private school, to compare the sanitation condition in between public and private school in Siyari Rural Municipality.

The review of related literature generalized that the environment of majority of the schools were not managed in healthful standard. These conditions were introducing with the lack of financial resource, awareness and blurred vision of the students at school management committee on environment that affecting directly or indirectly among school steadily.

This study is based on primary and secondary data as the descriptive survey design on collection of necessary information. There are all together 38 public and private schools in Siyari Rural Municipality by www.deorupandehi.gov.np. For this

purpose, all public and private schools were listed and then the researcher picked up three - three schools from the list using by convenient sampling method. There were total 1985 student from three public and three private schools. Researcher was taking 306 students considering from grade six, seven and eight in all schools among them 17 students were selected from each school using sample random sampling (lottery) method and similarly head teacher were selected by census method. Hence, 306 students from both type of school considering from grade six, seven and eight were selected as the respondent of this study. The researcher also visited directly all the sample school to secure necessary information with the help of interview schedule. The interview and observation from school were used as the tools of data collection.

After obtaining information, they are tabulated and trailed for analysis. Different books of foreign writer were also studied to know the standard requirement about environment related variables on school at the time of data analysis and interpretation. Simple statical techniques have been used to analyzed and interpret the data.

Chapter V: Conclusion and Recommendations

Conclusion

Conclusion is drawn on the basis of findings. This study gives the clear information about situation of sanitation in public and private secondary school of Siyari Rural Municipality. Education plays key role to increasing the level of health awareness. The researcher found that public school found more teacher than private school. And the researcher also found private school had found more boy student number than public school. Both type of school found enough drinking water. They directly used drinking water but water purification system was not made available by schools. All schools had found toilet facility and enough water supply in the toilet but public school had good management for separate toilet than private school. All school had found dustbin available but private school had better management of waste disposal schedule compared to public school. Most of the building size and shape of public school were appropriate than private schools. Most of public schools were located in peaceful area comparatively private schools. All the public school had sufficient playground facilities than private school. It was found that all private school had good management of facilities like school garden, furniture, classroom cleanliness. Most of the private school students satisfied with their canteen facility compared to public schools. All public school had good management of facilities like location in peaceful environment, number of buildings, playground, ventilation and boundary of school compared to private schools. From the study and observation researcher found that the physical facilities were found more in public school compare to private schools but private schools had found good management of school cleanliness compare to public schools.

Recommendation

On the basis of finding and conclusion of this study, following recommendations can be given for national policy, practice level and further study.

Recommendation for practice. The recommendation for practice are mentioned as follows:

- There should be provision of healthy canteen at school.
- Local organization can help in improving sanitation practice.
- Every school should manage sufficient playground, garden furniture and classroom cleanliness.
- The maintenance of physical facilities should be improved in school.
- Both public and private schools should manage facility of purification drinking water to all students.
- Every school should manage sufficient and separate playground, sport materials, equipment and sports teacher for sport activities.
- Classroom and toilet must be cleaned frequently time to time.

Recommendation for national policy: The recommendation for national policy are mentioned as follows:

- Every school authority should follow the tentative estimation and master plan while establishing the school.
- School health program should be included in the national level educational policy and should be implement in all districts.
- Proper health and sanitation program for the school should be included in the national policy for overall improvement of healthful conditions of schools.
- The NGOs and INGOs working in the field of the school sanitation should be involved to extend their program.
- Government stakeholder should be and implement strong rules about child friendly school environment.

Recommendation for further research. The recommendation for further research are mentioned as follows:

- The same type of study can be conducted in a large population covering the schools of the whole municipality/district.
- The researcher can use qualitative techniques rather than quantitative.

- A comparative study can be done on the sanitary facilities and its management between public and private schools.

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Appendix-I
Observation Sheet

| S. No | Observation check List | Yes | No | Remarks |
|-------|---|-----|----|---------|
| A | Water supply | | | |
| 1 | Drinking water/ sufficient | | | |
| 2 | Number of taps enough | | | |
| B | Toilet | | | |
| 1 | Toilet facility | | | |
| 2 | Number of toilet enough | | | |
| 3 | Cleanliness of toilet | | | |
| 4 | Separate toilet for girls, boys and staff | | | |
| 5 | Available of water in toilet | | | |
| C | School location | | | |
| 1 | Proper site | | | |
| 2 | Pollution free | | | |
| 3 | Sufficient space | | | |
| D | Boundary of school / compound wall | | | |
| E | Playground | | | |
| 1 | Playground in the school is sufficient | | | |
| 2 | Cleanliness of playground and safe | | | |
| F | Garden | | | |
| 1 | Sufficient of garden | | | |
| 2 | Cleanliness of garden | | | |
| G | Furniture | | | |
| 1 | Sufficient of furniture | | | |
| 2 | Fine | | | |
| H | School building | | | |
| 1 | Ventilation | | | |
| I | Classroom cleanliness | | | |
| 1 | Appropriate space for student in classrooms | | | |

| | | | | |
|---|------------------------------------|--|--|--|
| 2 | Dustbin in classroom | | | |
| J | Waste management/ disposal | | | |
| 1 | Collect waste regularly & dumping | | | |
| 2 | Dustbin in school | | | |
| K | Cafeteria | | | |
| 1 | Cafeteria is clean | | | |
| 2 | Cafeteria is separated from school | | | |

Appendix-II
Interview schedule

Interview for Health Principle

School Name:

Date:

Teacher Name:

1. How many students are there in your school?
a. Boys b. Girls c. Total
2. How many teachers are there in your school?
a. male b. female c. Total.....
3. Is there dustbin in your school area?
a. yes b.no
4. How often is it disposed?
a. daily b. weekly c. monthly
5. What types of waste are mostly produced in your school?
a. plastic pieces b. waste paper
c. dust d. others
6. Who collects and dispose the waste in your school?
a. students b. peon
c. sweeper d. other
7. Which method do you follow for disposing waste?
a. incineration b. dumping or composting c. other
8. Is there garden in your school?
a. yes b. no
9. Are these ventilations sufficient for maintaining classroom fresh?
a. yes b. no
10. Is toilet facility available in your school?
a. yes b. no
11. Is there water supply available in the toilet?
a. yes b. no
12. Which source of water do you use?
a. tap b. river
b. well c. pond

13. Where does water storage in?
a. bucket b. drum
c. tank d. other
14. How you purify the water?
a. filter b. boiled
c. chemical d. no use any methods
15. Is there canteen in your school?
a. yes b. no
16. Is there playground in your school?
a. yes b. no
17. What is the total area of playground in your school?
a. 0-5katha b. 5-10katha
c. 10-15 katha d. 15-20 katha
18. Is there is compound in your school?
a. yes b. no
19. Do you have enough furniture for school?
a. yes b. no
20. Do the classroom are sufficient for school?
a. yes b. no
21. Is this your own school building?
a. yes b. no
22. How many buildings are there in your school?
a. yes b. no

11. Do you use your school toilet regular?
a. yes b. no
12. Do you put water in the toilet after defecating?
a. yes b. no
13. Are you satisfied with canteen facilities?
a. yes b. no
14. Are you satisfied with your playground facilities?
a. yes b. no
15. Are your school facility sufficient for you?
a. yes b. no
16. Are your school buildings sufficient for you?
a. yes b. no
17. Do the classroom are sufficient for school?
a. yes b. no