Using Action Research to Improve Hygiene and Sanitation at Kinoni Integrated Primary School, Mbarara District

BY

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DECLARATION

I declare that this report is my original work made entirely for academic purpose and it has never been submitted for any academic degree award or published at any University or Institute of higher learning for any award.

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This research report has been prepared under my

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Signature of the supervisor _____ Date: _____

Name of the supervisor/Mentor: Dr Juliet Ndibaaza

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DEDICATON

This report is dedicated first to the almighty God for the wisdom and knowledge, provision, protection and good health that He granted unto me from the genesis of my journey till the end, and to my family and friends in appreciation for their endless support towards my success.

ABSTRACT

The study used action research approach to empower the community of Kinoni integrated primary school especially the pupils to identify their health related problems, prioritize them, identify solutions/interventions to the priority problems and implement the interventions identified in order to address the priority problem.

The main aim of the study was to empower the community of Kinoni integrated primary school and especially the pupils, to help them manage their health related challenges within their setting in a participatory and sustainable manner. The specific objectives of this study were to work with the community of this setting in order to identify their health related challenges, prioritize, and together identify solution to priority health issues and draw action plan to address them and implement the plan targeting the priority issue.

The methodology which was employed was majorly participatory rural appraisal using key informant interview, observation/transects walk techniques, and focus group discussions. The entire process involved parent's representative, teaching staff and non teaching staff, the pupils representative and class leaders.

Weekly reviews of progress of implementation were done involving the researcher, pupils selected health committee, action research focal teacher to determine any problem and address it/them timely.

Priority problem identified was poor hygiene and sanitation that involved poor disposal of rubbish, lack of adequate hand washing facilities at latrine points, lack of anal cleansing material in latrines leading to smearing feaces on walls which could lead to infection especially if one touched without noticing and generally dirty latrines and urinals.

Interventions identified to address the hygiene and sanitation problem included digging pits for rubbish disposal, the school administration asking pupils to bring toilet papers, having class rotational work schedule for cleaning latrines, putting in place more hand washing containers with soap and regularly filling the hand washing containers with water by employing porter and sometimes pupils themselves, writing reminder messages for washing hands after visiting toilet and using toilet paper for anal cleansing and regularly giving messages on school parade on hygiene and sanitation.

Conclusion:

This setting required innovative approaches, multipronged intervention and wider stakeholder engagement to have the pupils develop personal skills and environment that is safe and therefore promotes their health.

LIST OF ACRONYMS

AR	**:**	Action Research
FGD	**:**	Focus Group Discussion
GoU	**:**	Government of Uganda
HWWS	**:**	Hand washing with soap
IC	**:**	Implementing Committee
MoH	**:**	Ministry of Health
PRA	**:**	Participatory Rural Appraisal
RTI	**:**	Respiratory Tract Infections
SHT	**:**	School Health Teacher
UNICEF	**:**	United Nations Children's Education Fund
UPE	**:**	Universal Primary Education
WES	**:**	Water, Environment and Sanitation
WHO	**:**	World Health Organization
WSP	**:**	Water & Sanitation programme

DEFINITIONS

Empowerment: is process of enabling individuals to take control of their own health.

Findings: Summaries, impressions or conclusion reached after an examination of data.

Health promotion: Is the process of enabling people to increase control over their health and its determinants there by improve their health.

Hygiene: these are conditions & practices that help to maintain health and prevent spread of diseases.

Pupil: is person who is learning under close supervision of teacher.

Research: Is to study something systematically, gathering & reporting on detailed & accurate information.

Sanitation: deals with general cleanness of the environment.

School: School is a place where children learn and develop the life skills to function and thrive. **Participation** a process of engaging individuals in carrying out a given task

Setting: Is a place or social context in which people engage in daily activities in which environmental, organisational, and personal factors interact to affect health and well-being.

Sustainability: is ability to maintain the resources & implemented activities for the future.

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CHAPTER ONE: INTRODUCTION

1.0 Introduction

1.1 General introduction to the purpose of the study

This chapter sets out to describe action research, its importance in health promotion, its rationale in the setting chosen, the goal and objective of its application in the setting.

Action Research is a research in which the researchers work collectively with the community members for the new course of action rather than carry out research on them. It`s focus is innovatively to generate solutions to priority problems identified by the community who will use the findings of the research, and empower them to participate in research and implementation of the activities.

Action research also known as participatory and collaborative inquiry research, which is simply "learning by doing "where a group of people is helped to identify problems, prioritize the identified problems or most pressing health challenge, do something to resolve the prioritized health challenge, see how successful their efforts were, and if not satisfied, they try again or find another way of handling the problem (O'Brien, 2001).

Acton research is a study initiated to solve a prioritized problem by individuals working together as part of community practice to improve their health in a given setting. The term "Action Research" was invented by Kurt Lewin in 1946 for his concern to raise the self-esteem of marginalized groups, to help them seek "independence, equality, and co-operation through action research and other means (Lewin, 1946).

According to Kurt Lewin Action research is the process that gives confidence to the development of powers of reflecting thought, discussion, decision and action by ordinary people participating in collective research for the problems they have in common.

Action research helped there searcher to empower community members for a new course of action to help their community improve on their practices in relation to health. They together identified problems to be examined and then generated new knowledge about these problems and took actions to create a better situation in which the members of the community had an increased capacity to influence and control their destiny (Bordokos, 2010).

During the process of carrying out action research, the researcher only assumed a facilitator role with the main aim of nurturing local residents to take responsibility of the process of solving an

identified problem (O'Brien, 2001). This is in line with the Ottawa charter, 1986 action area of strengthening community action and developing personal skill (WHO, 1986).

Action research blends itself to the field of health promotion and fulfills both the empowering and enabling goals of health promotion where communities are empowered to identify, prioritize and resolve their health related problems which make their efforts sustainable. Action research aims to uncover and resolve problems rather than merely investigate them.

The fundamental aim of action research therefore is the improvement of practice rather than just the generation of theory. It employs the process for change where theory guides practices and practice informs theory. Action research seeks to promote improvement through specific change processes by focusing on individuals and their organizational systems within their own social contexts. It involves opportunistic planned interventions in real-time situations and studies those interventions as they occur, leading to further interventions and or improvements (Whitehead, 2003).

Action research can successfully be used to promote health in various settings such schools, hospitals, communities, and prisons to promote health and general well being of the people.

A setting is place where people actively use and shape the environment and thus create or solve problems relating to health (WHO, 2017). A setting also refers to the place in which people engage in daily activities and environmental, organizational, and personal factors interact to affect health and well-being.

1.2 Justification for selection of primary school setting for action research

School is a place where children learn and develop the life skills to function and thrive. Schools are thus one of the most important settings for children's physical, emotional and intellectual growth. Given that most children spend so much time in schools, they are also an important setting for public health interventions and an opportunity for health monitoring and surveillance. Schools are also the work environment for teachers and administrators, and a setting for many adult volunteers (NUEFELD et al 2014).

Therefore conducting study in School setting helped the community to identify their own problems and devise their own means of solving it. These problems include poor waste disposal, inadequate access to water, lack of enough latrines for pupils thus easy spread of communicable diseases among pupils and other stakeholders.

Through Action Research, these problems can be solved since health is created and lived by people within the setting of their everyday life where they learn, work, play, love and interact (The Ottawa Charter (1986).

The Ottawa charter 1986, states that, developing personal skills and strengthening community participation makes the interventions identified to address the problems to be owned by the stakeholders and therefore more sustainable in the long run.

A school is one of the most important settings for health promotion because it offers good opportunity to reach out a large population and enables the community members to be empoweredfor a lifelong healthy behavior. Primary Schools can promote pupils health through a variety of strategies including health education, physical education classes; nutritious school meals; opportunities to participate in physical activities, health related knowledge, attitudes and behaviors at an early stage when they are still in their learning process.

In schools, the overall goal is to create practical and repeatable process of interactive learning, evaluation and improvement that leads to increasingly better results for school health promotion program.

1.3 Background to the study area

Kinoni integrated Primary School is a mixed day and boarding primary school, located in Kinoni central village, Kitunguru parish, Rugando Sub County, Rwampara County, Mbarara district. It's approximately 265kilometers south west of the capital city Kampala and about 15km from Mbarara town off Kabale-Mbarara highway.

The school was started in 1927 by Church of Uganda (COU). Currently, it is government aided. It started as single school for boys and later integrated to mixed day and boarding school in 1981. The school comprises of both teaching and non-teaching staff and the enrolment is 813 pupils; 407 boys, and 406 girls respectively. School being church founded this helps nurture the faith of the children and promote good healthy environment.

The school structures are permanent with four blocks which comprise of Class rooms, staff room and offices. Outside the blocks, there is a kitchen, dormitories for girls and boys and this encourages good conducive learning environment for the children.

The school being along the high way school children are prone to accidents and injuries which is not in line with The Ottawa Charter 1986 where people are supposed to livein a healthy environment.

The school has 10latrine stances 0f which are used by pupils (4 for girls and 4 for boys respectively) and the other 2 stances are used by teachers, which is beyond the standard ratio of 1 stance to 50 pupils and this does not cater for the health of the pupils at school because they are prone to communicable diseases.

The nearest health facility is 300meters away from the school meaning children can access health services so easily.

What prompted the researcher to carry out research in Kinoni integrated primary school is to identify the major health problems faced by the pupils at school so together with the stakeholders of the school the researcher was able to carry out research, identified the priority problem faced by this community and came up with the solutions to priority problem.

1.4 Vision, Goal and objectives

1.4.1 Vision

To have an empowered community of Kinoni integrated primary school where every member contributes to its wellbeing and sustainability.

1.4.2 Goal

To identify Health problems faced by members of Kinoni integrated Primary School, prioritize the problems and implement sustainable mitigation measures to the prioritized problems.

1.4.3 Specific objectives of the study

To identify health related problems faced by their community by end of March 2019.

To prioritize the health related problems faced by their community by end of March 2019.

To identify solutions to the prioritized health problem faced by the community of Kinoni integrated primary school by end of March 2019.

To collectively implement the identified actionable solutions.

1.5 Justification of the study

This action research is intended to identify the most pressing health problems faced by the community members of Kinoni integrated Primary school and to find out the possible sustainable solution for the problem. Effective implementation of this action research will promote behavior change of the school community leading to improved pupil's academic performance and productivity in the future.

Health promoting school will reduce morbidity, mortality as well as health care, School children spend about one third of their time either in schools or doing school assignments, during which time they may be exposed to a variety of physical, social and psychological health challenges.

Schools therefore provide an ideal opportunity to detect and mitigate health challenges faced by children, and Kinoni integrated being church founded school, the church community is involved in nurturing the children and promoting healthy behaviors.

Also, improving sanitation facilities and promoting hygiene in schools benefits both learning and the health of the children. Thus gaining life-long positive Health behaviors and information regarding Health challenges in schools will be increased.

People have a right to participate individually and collectively in planning and implementation of activities that impact on their health. Through this action research, pupils were involved in identifying and prioritizing health problems faced at Kinoni integrated Primary School. They were also involved in implementing mitigation measures to the prioritized problem.

1.6 Reflection on Chapter one

I have found out that little is known about action research by many people especially in health research yet it`s the most important and effective research in health promotion, also coming up with action research report has not been easy because it requires time with frequent reviewing of literature which needs commitment.

1.7 Conclusion to chapter one

Action research is therefore a practical, collaborative and reflective approach that enables inquiry and discussion of challenges affecting the community. The process involved participatory activities

by pupils, teaching staff and non-teaching staff, parents and the researcher, yielding solutions to the prioritized Health problem faced by the school members of Kinoni integrated Primary school.

CHAPTER TWO: METHODOLOGY

2.0 Introduction

This chapter describes methods that the researcher used to identify, analyze and prioritize problems faced by community of Kinoni integrated primary school. It describes how the study participants were obtained, and expounds more on community entry, quality control, ethical considerations, limitations and delimitations, how data was collected and the tools that were used in data collection.

2.1 Community entry process

Community entry is the process of initiating and sustaining working relationships with community members which may lead into sustainable projects (Kimeu, 2013).The entry process into the community of Kinoni integrated primary began with presentation of an introduction letter from the faculty of health sciences of Uganda Martyrs University to the Assistant deputy head teacher of Kinoni integrated primary school who was sitting in for the head teacher.

The purpose of the researcher`s visit was communicated to the head teacher and there was full understanding and clarification of the study objectives, the process, required resources and roles of each stakeholder. Identification of activities and their roadmap was drawn during a meeting with the stakeholders or their representatives in accordance to the agenda drawn jointly. Later the researcher conducted stakeholders meetings with the Assistant deputy head teacher, pupil's representative, teachers, parent`s representative and matron.

Figure 1: Researcher handing in introduction letter from Uganda Martyrs University to the Assistant Duty Head Teacher

2.2 Problem identification / community diagnosis

2.2.1: Data collection and methods.

Data collection was through a community diagnosis that involved collection of both qualitative and quantitative data. The data was collected with the help of pupil's leaders, the school health teacher who were oriented on how to collect information that would be used to identify the problems affecting the community.

According to WHO, community diagnosis is said to be a quantitative and qualitative description of the health of the citizens and the factors which influence their health. It identifies problems, proposes areas for Improvement and stimulates action.

Participatory rural appraisal (PRA) methods were employed to aid and complete the process of collecting data for community diagnosis.

2.3 Problem prioritization

Prioritization is a process whereby an individual or group places a number of items in rank order based on their perceived or measured importance or significance. Prioritizations generally is a group process whereby organizational or health issues are ordered according to perceived significance or importance. Prioritizing issues is an important process, in that it assists an organization or community in identifying the issues on which it should focus its limited resources (CDC, 1988).

The problems identified were listed down and team members asked to choose the most pressing issue affecting the health of the community members to be ranked number 1, the next to be ranked number 2 and the last to be ranked number 3. This was done through multi-voting. The voting was done by both the stakeholders meeting participants and the focus group discussion which mainly comprised the pupils. The researcher guided the participants on issues to base on while voting that included how serious, how easy to solve, how urgent, cost of intervention on addressing the priority problem.

2.3.1 Key informant interview.

Key informant interviews are qualitative in-depth interviews with people who know what is going on in the community. The purpose of key informant interviews is to collect information from a wide range of people—including community leaders, professionals, or residents—who have firsthand knowledge about the community.

These interviews was held together with some of the main stakeholders such as the assistant duty head teacher of Kinoni integrated Primary School, parent's representative of the children, pupil`s representative, teachers and matron.

Using key informant interviews guide helped in collecting information from the key stakeholders in regard to the general issues pertaining the school and health issues affecting the pupils and how they can be solved. And it was face to face approach.

Key among the problems included injuries sustained after falling during games and sports, incidences of malaria. As guided by the assistant duty head teacher, a wider stakeholder engagement was made in a meeting that included representatives of the parents, the leaders of the pupils, the teachers and the matron. Prior to this, the researcher orientated the Assistant duty head teacher on how to guide the meeting of the stakeholders. The objectives of this meeting were to further explain the purpose of the study, the methods, overall goal and to seek support in case there were issues that required them especially the parents to support the health promotion and improvement.

Figure 2: meeting with key stakeholders at Kinoni integrated primary school. Researcher at the extreme corner on green cloth.

2.3.2: Transect walk

The researcher and the members in the different stakeholder representatives made tour around the school guided by the assistant deputy head teacher while observing different aspects of the environment around the school, asking questions and listening while notes were taken by the researcher on issues that affect the health of the pupils and other members around the setting, and each aspect relevant to health promotion.

The purpose of this exercise was to collect qualitative information while noting areas of strengths, weaknesses and provide opportunities to be used in generating discussion in the plenary at the end of the walk.

Figure 3: Assistant deputy head teacher taking lead in transect walk round the school.

Figure 4: FGD spearhead by focus teacher. Researcher seated next the boys while observing the process.

2.3.3 Observation

A checklist was used to make observations of human behavior through the non participant observation technique to gather additional information on behavior of individuals.

This involved systematic selection, watching and taking photos of the characteristics of the school environment objects for example state of cleanliness of the school compound and classrooms plus the latrines, the school assistant deputy head teacher used observation guiding tool during the walk.

2.3.4 Focus group discussion

A focus group discussion (FGD) is a good way of gathering people together from similar backgrounds or experiences to discuss a specific topic of interest. The groups of participants were guided by a moderator who introduced the topics for discussion and this helped the group to participate in a lively and natural discussion.

The researcher used the focus group discussion guide to guide the entire process of all the different focus group discussions. Minutes of meetings and attendance lists were prepared as evidence of the meeting having been held. In each group, a list of issues affecting the health of the community of Kinoni integrated were made and the health problems were compared and a finally priority problem was identified. At the end of the FGD, a health committee team was selected by the members in the two teams' girls and boys to spearhead the action research activities coordinated by the focal teacher.

The FGD participants included the class representatives of classes from primary three to seven and the leaders at Kinoni integrated primary school. These were categorized into 2 groups i.e. the boys and girls of 5 and5 members each respectively.

2.3.5Data collection procedure

Data was obtained on different visits to the school. The researcher made regular visits to the school that is on every Tuesday afternoon (after classes and during break time) in a month while ensuring minimal interruption of the schools routine activities.

On the first visit the researcher noted down information regarding the stakeholders from the school head. Then on the second visit the researcher met the assistant deputy head teacher from whom preliminary information was collected and recorded regarding the situation at school. The visit that followed is where stakeholders such as parents, representatives of the children, class captains, the

matron and the School health teacher and assistant deputy head teacher met and walk around the school compound was done while noting key aspects by the team of stakeholders using the observation guide which had earlier been designed by the researcher and explained to the school head teacher.

Details of findings with regards to description of key issues found during the walk around the school were noted on a predesigned template by the researcher showing the place, issues found, their causes, effects to the pupil's health and how they could be addressed.

On the other visits the researcher proceeded with the focus group discussions in which issues identified as problems were voted on by show of hand to choose the priority problems with guidance of the researcher on what to base on to choose priority. Findings were recorded and each problem given the number of persons voting for it.

In regard to activity progress more data was collected during review meetings with the research team earlier identified to represent each class from P.3 upwards and pupil's leadership. Information was recorded in minutes of proceeding of those review meetings.

2.4 Problem analysis.

Problem analysis involves identifying the overriding problem and establishing the causes and effects related to that problem. Problem analysis is important in that it provides a structured approach for identifying problems and their root causes to ensure that attention is focused upon the real issues.

The problem analysis is the phase in which the negative aspects of a given situation are identified, establishing the cause and effect relationship between the observed problems. The problem analysis is of prime importance with regard to project planning, since it strongly influences the design of all possible interventions (European commission, 2004).

Problem analysis was used by the primary stakeholders to identify the causes and effects of the problems they faced. It involved drawing a problem tree, from which the cause of the problem and its effects are identified by brain storming.

2.4.1 The problem tree.

A conceptual frame of a problem tree was drawn as recommended by the European commission, 2004 to aid in the process of analyzing the prioritized problem with the guidance of the researcher. Brain storming was done on the reasons for the occurrence of the problem and effects of the

problem so identified and prioritized. These were listed and the causes and effects identified by group member as one of them noted on the blackboard.

2.4.2 Solution tree

Solution tree as highlighted by Wendy, Jimaima and Boyd, 2008, was used as tools to analyze solutions to identified problems and the resultant effect of the implementation process. A solution tree like any other tree had the trunk representing identified problem to be solved, the roots represent the solutions identified to solve the problem and the branches to represent the resultant effects of implementing the identified solution. All these were arrived at through brain storming with the aim of enhancing participation in the problem solving process in a more transparent and visualized manner.

2.5 Quality control

Quality in qualitative research is underpinned by five concepts thus credibility, transferability, dependability, conformability and authenticity (Treharne, 2015).The main purpose of ensuring data quality in research is to present information that is credible. Such research follow research protocols, conducted in an ethical manner, and withstand the test of scrutiny by reviewers. Data quality is generally understood to be the degree to which data, including research processes such as data collection and statistical accuracy, meet the needs of users (Rama et.al, 2012)

2.5.1 Validity

Validity occurs throughout the steps in the research process where the researcher checks for accuracy of the findings through employing certain procedures as described by Creswell and Miller (2009).

For this study, the researcher used participants to check and determine the accuracy of the findings by taking back the analyzed data to the participants who provided comments on the findings. This process took a form of a follow-up interview for clarification and thus rendered the study findings were authentic. The tool on which information was collected was written in English but the researcher had translator who helped to translate to those who didn't understand English for easy understanding by all. The use of the right data tools was used to further enhance validity of information collected.

2.5.2 Reliability

As recommended by Noble and Smith, 2015to ensure reliability of information collected, bias was as much as possible avoided through carefully choosing participants who took part in FGD in which pupils from Kinoni integrated were included.

2.6 Ethical consideration

The researcher sought approval from the faculty of health sciences of the Uganda martyrs university upon presentation of a completed action research protocol.

Faculty of health science of Uganda Martyrs University issued the researcher with an introductory letter which the researcher used to introduce herself to the assistant deputy head teacher of Kinoni integrated primary school. The researcher explained the purpose and objectives of the study to the Assistant deputy head teacher so as to provide an understanding of why the research was to be conducted.

Prior to taking part in the research, participants were informed about the purpose of the research and then assured of their rights either to participate or not. This was done in form of a consent form which was given to each of eighteen years and above and also clearly read and also interpreted in local language (Luyankole) for those who couldn't understand English.

Consent form was given to each of the parent's representatives during stakeholders meeting to seek for their consent to allow pupils who were under the age of 18 years to participate in the research activities.

The key informants were interviewed after agreeing to participate in the study and this was ensured through their signature or thumbprint on the consent form.

Introduction to the focus group discussion was read out loud and clear to the participants. Information that seemed to be unclear was clarified so that each participant took an informed decision to or not to take part in the study. The researcher informed the participants of the period within which the study was to take place.

Data collected at the end was agreed upon by the participants. To avoid any interruptions in the daily school activities, research activities especially meetings, consultation were mainly held during break sessions or after the afternoon classes.

Participants were verbally appreciated for taking part in the data collection process and entire research project.

2.7 Limitations and delimitations

The project was spearheaded by pupil's leaders from the start though the upper classes didn't participate fully and viewed the project as exclusively for the young children at lower classes and boarding section yet children at lower classes interacted fully with the rest in an inclusive setting. This included sharing some sanitary amenities such as latrines.

To address limitations, in order to enhance participation of other upper class pupils, class leaders were met in a separate meeting and objectives of the project clarified in which support for project activities was sought since in an inclusive setting ,children from lower classes and boarding section needed support from day scholars and other main stream members.

Lack of prior experience in this kind of research project because it was the first time the researcher carried out this kind of study. This difficulty was over come through consultations with the supervisor and other people who had done this kind of research before.

2.8 Reflection

The researcher learnt that the community's perspective of the prevailing problems is completely different from the researcher's perspective.

Their criteria for prioritization was completely different from what I thought was urgent, the issues the researcher thought were critical and could not attract attention at all on their side.

CHAPTER THREE: RESULTS OF COMMUNITY DIAGNOSIS

3.0 Introduction to results of community diagnosis.

This chapter presents the findings of the community diagnosis according to the methodology used and the category of participants. The participants included the stakeholders such as teachers, parents' representative, pupil`s representative, the assistant deputy head teacher, and leaders of the pupils. The methods included the stakeholders meeting; focus group discussion the direct observation from the transect walk around the school.

3.1 Problem identification (community diagnosis).

Problem identification was a according to methodology used as detailed below:

3.1.1 Key informant interview

Using key informant interviews guide helped in collecting information from the key stakeholders in regard to the general issues pertaining the school and health issues affecting the pupils and how they can be solved, Those who participated were assistant deputy and SHT plus the researcher who was asking questions. And it was face to face approach.

Key among the problems included injuries sustained after falling during games and sports, incidences of malaria, the assistant deputy head teacher and SHT also stated that due to minimal space and increasing population waste disposal is problem. And that Children lack enough dormitories and the ones that are there are old and need renovation as it can bring serious issues once they crack.

Minutes of the meeting were made and attendance lists attached.

3.1.2 Transect walk/ observation

The walk within and around the school took a participatory approach involving the key informants and the researcher with the aid of an observation guide. Stakeholders involved in the transect walk were the Assistant deputy head teacher who took the lead, pupil`s representative, parent representative and researcher. During this process information was mainly gathered through direct observation, probing amongst and questioning the key informants.

The observational tool as a data gathering tool assisted in obtaining a visual view of the features in the school community that had an impact on health. The following features were observed during the walk:

School structures observed

The school had four permanent buildings which included two class rooms for mainly lower classes P.1-P.3 the other is for pupils from p.5 to p.7 then it had office block which was currently constructed and lastly staff room block.

Figure 5: Classroom block

The kitchen is housed in every old building with dilapidated floor, too old doors and inadequate ventilation. The cooking utensils in the kitchen were noted to have covers to protect the food from contamination.

Dormitories for girls were in newly constructed building with windows that are routinely opened with good ventilation. However the boy's dormitories were in old building with some of the windows which could not open and lock at all, posing risk of contracting respiratory diseases to the boys. It was particularly noted that some beds in the dormitory had no mosquito nets on. The floor in the girls dormitory was however well mopped /maintained.

Figure 6: Dormitory block showing some beds with and without mosquito nets

The administration/office block: The main office is well ventilated, painted and spacious. The head teachers' office, bursar and secretary's office is within this block

Figure 7: The main office/administration block.

Sanitation Facilities

The facilities observed were the pit latrines, hand washing facilities in girls section; pupils bath rooms, rubbish disposal pits and urinals.

Pit Latrines

The school had three pit latrines for excreta disposal that is; one block for teachers, one for girls and another for boys. In all the latrines used by pupils, walls were found smeared with faeces, lacking anal cleansing materials, floor littered with urine and faeces generally with dirty floor. This posed health hazard especially to pupils in lower classes who could touch faeces smeared on walls, step in urine on floor. Hand washing equipment was evidently missing in boy's latrines, water and soap was lacking conspicuously. It was also noted that there was no light or bulb at the latrines to enable easy reach to toilet at night by the pupils.

Figure 8: Boys latrines without hand washing containers

Figure 9: Girls pit latrine with hand washing jerricans without water

Bathrooms for girls and boys in Kinoniintegrated primary school

Figure 10: bathroom for boys in the boarding section

Figure 11: bathroom for girls in boarding section

Urinals were dirty and full of urine because of the increasing population of pupils even when they are cleaned within two hours it gets dirty and most times blocked making the urine not to pass so easily posing high risk of contracting diseases like urinal track infection especially to the girls.

Figure 12: urinal for boys dirty and full of urine

Rubbish disposal pit.

Two rubbish disposal pits were found around the school compound. The pits had become very shallow due to silting and rubbish was evidently scattered around them and some being blown away by wind around the compound.

Figure 13: Rubbish disposal pit with scattered rubbish

Water source and water storage two rain water harvesting tanks were found around Kinoni integrated primary school buildings and one at main stream section blocks the other at the girls' dormitory. These are used for harvesting and keeping water during rainy season. During dry season water is got from nearby protected spring. There were only two containers for water storage in the school.

Figure 14: water harvesting tank for safe drinking water and for use. Researcher washing her hands while the assistant deputy head teacher was observing

Kitchen area.

In and around the kitchen, it was noted that there was no drying rack for pupils' plates or cups. The walls and floor were too old and blackened by smoke. Utensils in the kitchen were notably littered all over the kitchen floor. Two out of three sauce pans containing beans and porridge were found uncovered due to lack of source pan covers.

Figure 16: local cooking stove

Figure 15: Uncovered saucepans with food boiling

Kitchen Store:

The store used for keeping food, saupans and other items temporarily, was found to be disorganized, with dilapidated walls and dirty floor.

Figure 17: Kitchen store

Figure 18: Dining Area

Dining Area:

The dinning place was temporal structure that pupils use though not big enough to accommodate all the pupils at school.

Food Store

Figure 19: Store of Plates

Figure 20: Store of Plates for scholars

The Compound

The compound was found with some stones around though well slashed and clean. The stones within the compound posed a risk of physical injury to the pupils. It was also evident that the compound had no trees for either shade/shelter or wind breaking. This as well could pose a risk of wind blowing off roof tops

Figure 21: School Compound

Sports facilities

Sports ground was found with numerous stones and cows grazing, though slashed but not well maintained. The playground is used for athletics and football and wasfound100meters away from the school compound. This is one of the facilities the school administration reported for developing pupils sporting talents

Figure 22: Sports Facility

Other areas:

It was particularly noted that there was no fire emergency equipment at the school to fight fire but the Assistant deputy said there is a plan to acquire one. The school didn't have dispensary for children that fall sick but the deputy said they always take the pupils to the nearest facility which 300 meters away from the school, and have two matrons and one specificallyisresponsible for pupil's health.

3.1.3 Focus group discussion

Observations about pupils led group discussions.

A Large number of pupils wanted to participate in the focus group discussions, but these were limited to 2 two pupils from each of the mainstream classes starting from primary three making a total of fifteen. Five were the leaders that included the Head boy and the Head girl from the upper primary and health prefect and representatives of boarding section.

The mix was meant to have a good representation from both sides. This is particularly so because some facilities are shared and hence the need for a common understanding of the project concept and activities. The researcher prior to the FGD trained the pupils' top leaders on how to conduct the FGD. This was in attendance of the research focal teacher as appointed by the school head. The group was further divided into two groups that is to say boys and girls. The boys FGD had seven members and the girls group had eight members.

Brain storming was used to generate the list of health challenges below where each one raised a hand and the selected chairperson chose one by one who talked what she or he felt was the biggest pressing problem on the pupils' health. The problems identified were listed accordingly and as shown in the table below by group:

Table 1: Health Challenges raised by pupils in the FGD.

Health problems	**Identified possible causes**	**Interventions by school administration**
Rubbish pit that is full to capacity with un burnt rubbish	Small pit in bad location	None
Eating uncovered food	Lack of covers for covering food	Administration trying to locate some finance to buy covers
Dirty latrines	Irregular cleaning, Careless use by some pupils	Encouragedpupils to clean the latrines more regularly
Eating inside the latrine	Bad behavior by pupils	Encouraged pupils to behave in proper manner
Not bathing and brushing teeth	Lack of proper hygiene practices by pupils	Encouraged pupils to always practice personal hygiene
No hand washing facility at latrine for boys section	Lack of funds	None
No sick bay	Lack of funds	None
No Physical Education and Health talks for upper primary	Were not on the time table made by the school administration	None
Not changing sanitary pads during menstruation	Lack of health messages reminders	Setting up school health committee
Smearing faeces on walls	Careless use by pupils and lack of anal cleaning material	None
Drinking un boiled water	Reluctance by pupils and teachers	Pupils encouraged to always drink boiled water and administration lobbing for more safe water cans
Eating on dirty plates	Lack of cleanliness by pupils	encouraged pupils to improve on cleanliness
No lights in the latrine at night	Lack of funds	None
Stealing pens and books	Lack of discipline from pupils	Encouraged pupils to always respect one another property

3.2 Problem prioritization

Before the process of problem prioritization,the researcher guided the FGD members on criteria to follow while prioritizing that included cost of solving it, the urgency to have it solved, the potential danger a problem posed if not urgently addresseed.

The problems identified by each group were grouped and summarised. Using multivoting method , the most pressing health challenge was identified.The results of the voting was as per the table below:

Table 2: Showing prioritized problem.

Health challenge	No. voted : GIRLS (n=8)	No. voted: BOYS (n=7)	Total votes
Personal hygiene	01	01	02
Sanitation and hygiene	4	5	9
Food hygiene	01	00	01
Drinking unboiled water	02	1	03
Not sleeping under treated mosquito net	0	0	0
No lights at night at latrines	0	0	0
Total	**8**	**07**	**15**

Figure 23: Voting for prioritization as the researcher observes and takes notes. Researcher seated next to the boys

After the conclusion of the voting, hygiene and sanitation was found to be the most pressing problem that affects the community of Kinoni integrated primary school.

3.3 Problem analysis

A Problem analysis phase using a problem tree as recommended by the European commission,2004 was undertaken to establish the causes of the poor hygiene and sanitation and the resultant effects on the entire community of Kinoni integrated primary school. This was in effect to enable the community in this setting to develop, adopt and implement tangible solutions to the root causes.

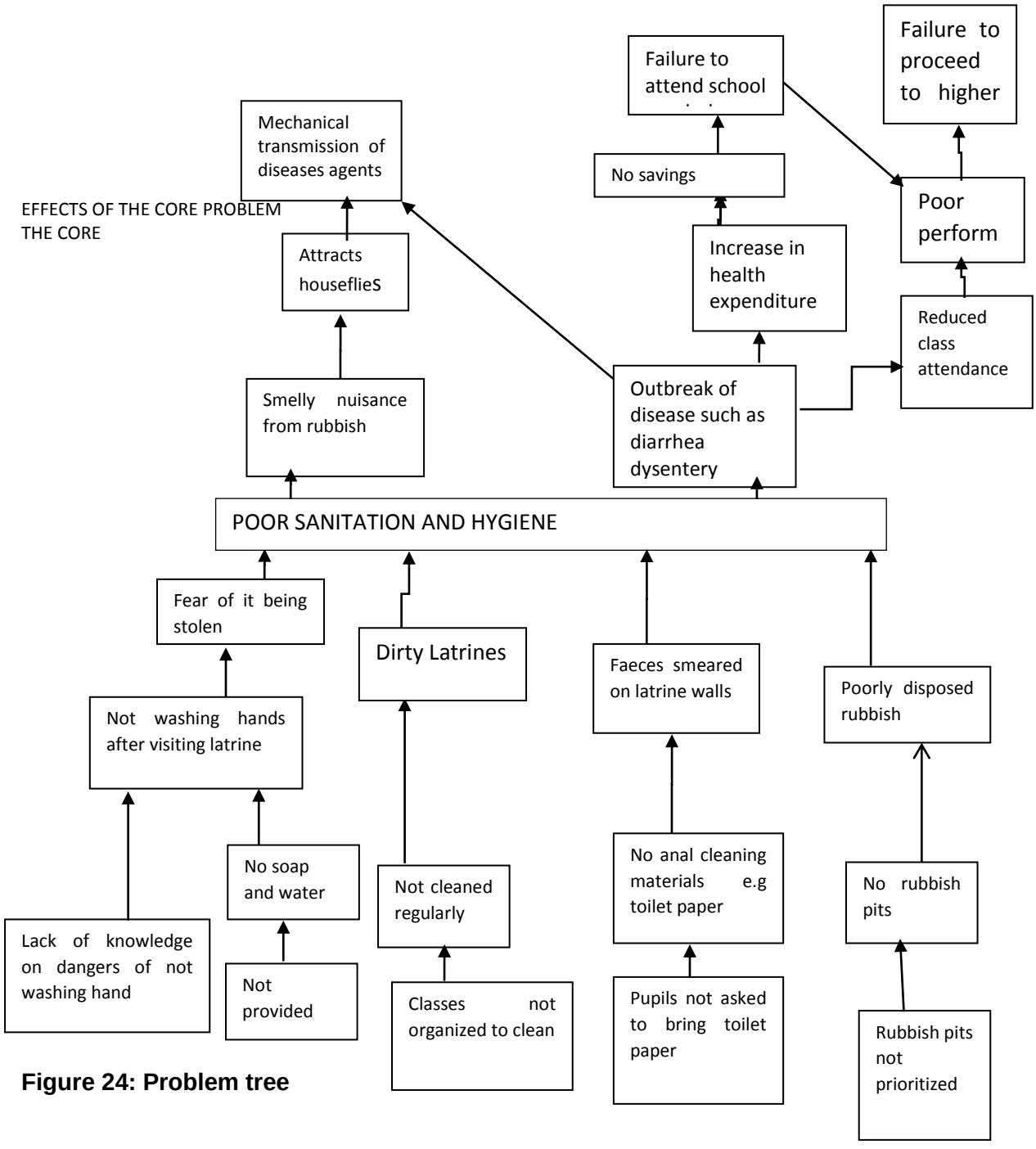

Figure 24: Problem tree

Solutions Analysis

Solutions or interventions suggested by the FGD were analyzed using the solution tree as recommended by Wendy, Jimaima and Boyd, 2008.

Using this classical solution tree frame work, the outcomes arising following implementation of the intervention were able to be predicted.

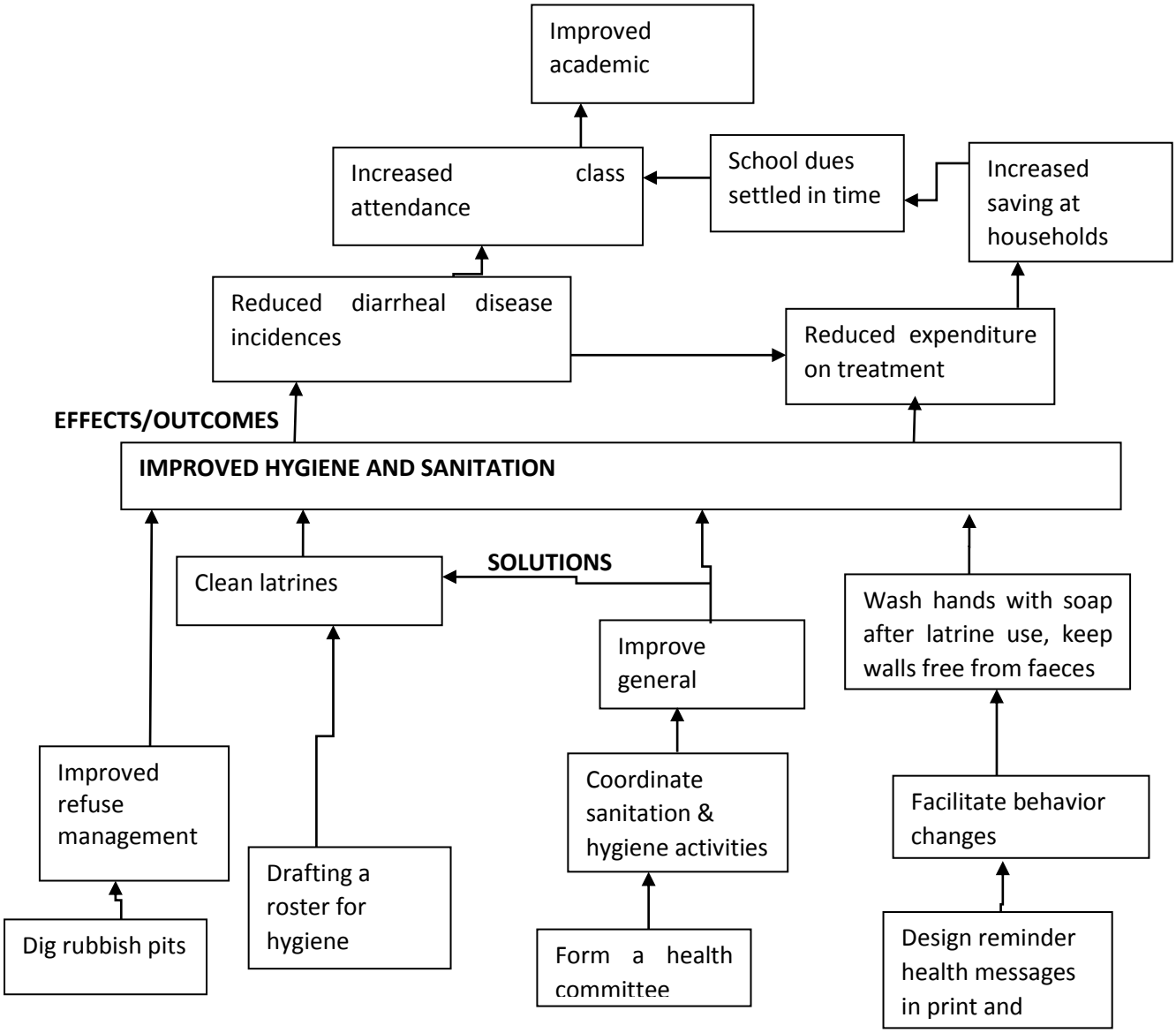

Figure 25: Classical solution tree

3.4 Problemstatementoftheprioritizedproblem

Poor sanitation and hygiene is one of the most observed public health problem in schools in Ugandan primary school settings. It is estimated that almost 75% of Uganda's disease burden is preventable and linked to poor hygiene and inadequate sanitation facilities and practices (Poonam and Mutono, 2008)

Sanitation and hygiene facilities are evidently inadequate at Kinoni integrated primary school which runs an inclusive education system.

During the walk around the school premises, hand washing facilities including soap and water were evidently missing on all the three latrines. Anal cleansing materials such as toilet paper were not available for use by the pupils. Inner surfaces of latrine walls were found smeared with feaces which could lead to diarrheal diseases to children who accidently touched the walls and failed to wash hands due to lack of hand washing facilities. Rubbish was illicitly found dumped without proper rubbish pits in place posing a smelly nuisance that could even attract flies.

The components of a good sanitation and hygiene in schools include: health-related policies in schools, hygiene safe water supply and sanitation.

Review of the only available records for sick pupils during the period between 30th October 2018 and March 2019, a total of 39 pupils at Kinoni integrated primary school were taken ill during this period with 17 of them presenting with diarrheal, dysentery and gastro-enteritis representing 40.7%, malaria cases totaled 10 representing 30.3%, respiratory infections were 6 out of total of 33 i.e. 18.1%, skin disease cases were 2 representing 6.1%, eye disease case was only 1(3.1%) and 1 case of no specific diagnosis. This indicates that sanitation/hygiene- related diseases are more prevalent in this setting.

Contributing factors to the poor sanitation and hygiene include among other lacks of hand washing facilities, lack of anal cleansing materials. , water and soap for hand washing on top of visibly absent hand washing water container and lack of knowledge about dangers poor hygiene.

Consequences of failure to address the above gaps can lead to outbreaks of severe diarrheal diseases such as cholera that are so fatal and can disrupt school programmes while endangering the entire neighboring community.

The school put in place water tanks for water harvesting and storage to partly address this issue. In spite of these school efforts, the problem still exists immensely.

Lack of awareness through health education messages on dangers of poor hygiene in a school setting notably that of children with disabilities compounded the problem. Lack of commitment on the part of pupils and school administration could partly be responsible for this state of affair.

There had been no previous attempts to engage the community members in the setting of Kinoni integrated primary school to discuss and address this hygiene and sanitation problem.

Undertaking this study/action research, therefore contributed in jointly identifying the priority problem, drawing strategies to address the gaps identified action plans made and eventually implemented them to address the prioritized problem.

3.5 Reflection

The involvement of the school community in identifying health challenges using different techniques and methods as well as deciding the problem of great importance, provided a starting base for a discussion on the possible solutions to the priority problem.

CHAPTER FOUR: LITERATURE REVIEW

4.1 Introduction

This chapter will focus on the literature related to the identified problem, its causes, and effects on the children's performance generally and how identified solutions have been successful in accordance to previous similarly done studies.

Many schools in low-income countries have inadequate access to sanitation and hygiene promotion according to Cecilia, 2019**.** Poor sanitation and hygiene is a common occurrence among primary schools worldwide. This can be described in terms of lack of clean latrines, lack of hand washing equipment.

Globally, in 2016, 66% of schools had improved single-sex sanitation facilities usable at the time of the survey and were therefore classified as providing a basic sanitation service. A further 12% of schools had improved facilities that were either not single-sex or not usable and were therefore counted as providing a limited service.

23% of schools worldwide had no service, and either relied on unimproved facilities, such as pit latrines without a slab or platform, hanging latrines or bucket latrines, or have no sanitation facility at all. On this basis it is estimated that over 620 million children lack a basic service and have either a limited or no sanitation service at their school (UNICEF, 2018).

Furthermore, globally only 4 countries provide inclusive drinking water for their school children, 17 countries provide inclusive sanitation and only 2 offer inclusive hand washing.
In eastern, southern Africa region, 53% of schools have access to adequate water supply; 45% of schools have access to adequate sanitation, 13% of schools have access to hand washing facilities.

In Uganda, hygiene is the greatest contributor to the overall disease burden. In a 2014 presentation made to the board members of Water Aid, Prime Minister Ruhakana Rugunda said that over 85% of all diseases found in Uganda are hygiene and sanitation-related. He reported especially high incidence of diseases such as diarrhea, cholera, dysentery, intestinal worms, typhoid and scabies. He also said that the country spends $158 million annually to fight hygiene related diseases (World Bulletin, 2014).

Access to safe and clean water and sanitation facilities is a basic right of all people, especially pupils at school, the denial of which can have serious implications on their well-being. For example, inaccessible toilet and water facilities are major contributing factors for school dropout especially girls.

4.2 Causes of poor hygiene and sanitation in Kinoni integrated primary school.

Appropriate sanitation in primary schools is fundamental for effective learning and prevention of diseases prone to children (Aremu, 2012). Clean water, basic toilets and good hygiene practices are essential for the survival and development of children. Although the need for sanitation is widely known, reality does not reflect this insight.

(Aremu,2012) states that reasons for poor sanitation and hygiene practices in schools further contends that long distance to the sanitation facilities, cultural unacceptability to children and lack of privacy, security risk and if in a state of disrepair constituted the reasons for non-use of the sanitation and hygiene facilities. This however does not seem to be the case at Kinoni integrated primary school. It relates to lack of emphasis and prioritization issues by school management and lack of empowerment of stakeholders in the setting to be able to manage their health related challenges.

Among the reasons most often mentioned to explain the often deplorable situation with regard to school sanitation and hygiene are: inadequate training of teachers, absence of functioning water supply and sanitation facilities, to enable students to put into practice what they have been taught, inadequate access to appropriate teaching methodologies and materials and increasing population pupils at school.

4.2.1 Effects of poor sanitation and hygiene to school pupils.

Dube and January (2012), assert that millions of school-going children miss or have ineffective schooling as a result of disease linked to unsafe drinking water , inadequate sanitation and hygiene . School health services have not yet developed in many developing countries.

Furthermore, in terms of sanitation deprivation, the water project report 2016, points out that one in every three people worldwide has no access to safe sanitation; again the problem is particularly pronounced in rural areas. Without access to sanitation, children's risk of disease rises dramatically further jeopardizing their chance of survival and often reducing the likelihood that they will be able to take full advantage of schooling. A lack of adequate sanitation facilities coupled with poor hygiene, impacts negatively on the disease burden of millions of children and adults through: schistosomiasis, intestinal worms, hepatitis, typhoid and other diseases.

The contamination of food and their lack of access to water, sanitation and hygiene services are also the leading causes of diarrhea among children. This then in turn of course, aggravates poverty and

has negative repercussions on productivity and wellbeing. World Vision, 2018, contends that access to clean water, sanitation, and hygiene (WASH) is essential for children in schools, particularly for girls. Contaminated water, poor sanitation or unhealthy hygiene behaviors increases the risk of contracting diarrheal and other WASH-related diseases, making it more difficult for children to stay in school and become empowered through education.

4.3 Importance of good sanitation and hygiene to school pupils

4.3.1 Disease prevention

Diseases related to inadequate sanitation and hygiene are a huge burden in developing countries. It is estimated that 88% of diarrheal disease is caused by unsafe water supply, and inadequate sanitation and hygiene makes a positive contribution in family literacy. According to a UNICEF study, for every 10 per cent increase in female literacy, a country's economy can grow by 0.3 per cent. Thus, sanitation contributes to social and economic development of the society and helps to improve the environment (UNICEF, 2016).

Good sanitation prevents infections such as those that cause dysentery. A simple habit of washing hands goes a long way towards preventing diseases. The stored water supply may also serve as a source of infection in the absence of hygiene (Kiran, 2017).

4.3.2 Importance of good sanitation and hygiene on children's learning.

According to partnership for child development report, 2013, children's ability to learn may be affected in several ways. Firstly, helminthic infection, which affects hundreds of millions of school-age children, can impair children's physical development and reduce their cognitive development, through pain and discomfort. Good hygiene can prevent helminthic diseases and diarrheal diseases an effective learning is improved through improved attendance and concentration (Child development report, 2013).

Good health is essential for learning and cognitive ability. Furthermore, ensuring good health when children are of school age can boost attendance and educational achievement. School-based health program can be amongst the most cost-effective of public health interventions; promoting learning, and simultaneously reducing absenteeism, they can also be used as leverage for existing investments in schools and teachers.

4.4 How to improve hygiene and sanitation inKinoni integrated school setting.

WHO, 2019 describes improved sanitation facilities that hygienically separate human excreta from human contact this for example includes latrine floor and walls that are free from faeces. On the other hand, improved hygiene practices include safe faeces disposal and hand washing with soap among others and provision of hand washing facilities.

4.4.1 Behavioral change interventions

Water, sanitation and hygiene (WASH) systems in schools contribute to successful education by promoting good health and supporting school attendance. Students face significant challenges when there are inadequate sanitation and hygiene systems (Michelle Redman et al, 2018).

Development and displaying print health message

According to (Adams et al, 2009) many children learn some of their most important hygiene skills and information at school, and for many this is where they are introduced to hygiene practices that may not be promoted or possible in the home. Teachers can be effective advocates for hygiene, through hygiene education and through acting as role models for schoolchildren.

Sanitation and hygiene messages were printed by the pupils and teacher of Kinoni integrated primary school, in line with (Adams et al, 2009) recommendations to further act as reminders for adoption of proper use of latrine including hand washing with soap and water. This is in line with (UNICEF, 2012) examples of health message addressing soap use, proper latrine use and safe disposal of other non-human excreta waste.

This aims at addressing behaviors that have been frequently found to be most prevalent. This is further reinforced by (UNICEF, 2016) still on messages emphasizing proper hygiene practices.

Peer-led Health education

(Nguyet, 2010) notes that Involving children builds their self-esteem, for they are proud of what they have done or are doing. The children engage in peer education, which not only promotes sustainability but boosts their confidence, promotes critical and creative thinking, and develops decision-making and problem-solving skills.

The researcher in conjunction with their focal teacher train them on how to relay health messages to their peer at school parade while the teacher attends to offer any extra support in case of need. In

line with Nguyet sassertion, the pupils designed a health education plan for regular presentation at school parade to further enhance behavioral change.

4.4.2 School health committee formation to improve sanitation and hygiene.

Involving the pupils in the promotion of sanitation and hygiene best practices, school health clubs can be formed as a way that can promote a healthy environment in a more sustainable manner.

The School Health committee is a group of pupils interested in working and coordinating their peer to ensure that their peers, and their teachers live in a healthy, clean, and safe environment free from preventable sanitation and hygiene related diseases. In line with (Holt and Hoppes, 20170), school health committee was established by the pupils with support of the researcher and guidance from focal teacher with membership responsible for various aspects that promote hygiene such as water refilling of hand washing cans, requisitioning for soap from head teacher, mobilizing classes for routine cleaning and reading health messages in school parade.

4.4.3 Safe disposal of solid waste

Solid waste in a school setting include waste paper, fruit peelings, left over foods and dropped tree leaves among. These if not properly collected poses unsightly environment and those that can rot may attract flies which in turn could facilitate mechanical transfer of diarrheal disease pathogens

4.5 Summary of literature review

In summary, several published studies and publications reviewed relating to the problem of sanitation and hygiene in schools, have shown varying degrees of success following the interventions similar to the ones suggested by the pupils of Kinoni integrated primary school. It’s therefore envisaged that the health of stakeholders will improve greatly over long run.

CHAPTER FIVE: THE INTERVENTIONS / INNOVATIONS

5.0 Introduction

This chapter will highlight the interventions to address the problem of sanitation and hygiene at the setting of Kinoni integrated primary school. It will further laid out the action plan objectives and strategies of how to solve the priority problem in a more sustainable manner. The time frame for implementation of the suggested intervention shall be shown, who was responsible for what and where it was carried out.

According to the prioritization of the community diagnosis, the major challenge was sanitation and hygiene of both children and the environment (toilets, compound and classrooms). Therefore all innovations were designed to address the specific challenge.

5.1 Proposed interventions

The implementation process had three phases which included the preparatory stage, implementation stage and lastly the exit stage. At each stage, objectives were set which helped the team to be focused and also to monitor and evaluate the programme since they were set along with activities and indicators. The entire process took three months, although the researcher's preference was for it to take longer. In order to have this addressed, away forward was made in terms of solutions to address the issue which included the following:

- Digging rubbish pits for rubbish disposal.
- A school health committee comprising the pupils and the focal teacher to coordinate activities that are geared towards improving sanitation and hygiene situation at school.
- Reading health messages during school parade time in order to regularly remind pupils on good sanitation and hygiene practices.
- Develop a plan for sanitation and hygiene activities according to class on a weekly basis.

5.2 Improvement objective and theory of change.

5.2.1 Improvement objective.

The main objective jointly identified by the stakeholders was to improve the general state of hygiene and sanitation at Kinoni integrated primary school.

5.2.2 Theory of change

The researcher was guided by a combination of behavioral change theories and models such as the social ecological model according to Langille and Rodgers (2010), that helps to understand factors affecting behavior to help develop strategies in social environment while the, the social cognitive theory according to Bandura(2009), presupposes that one may learn a behavior if one sees reinforcing information acting as reminders and the community organizational model that emphasizes participation. Ecological models of health behavior recognize multiple levels of influence on a person's health, including:

Intrapersonal/individual factors

These are factors which influence behaviour such as knowledge, attitudes, beliefs, and personality. The current study aimed at increasing participants' knowledge on the dangers of insufficient WASH and using a peer led strategy and build capacity among the pupil leaders and children to initiate and sustain sanitation and hygiene improvement initiative in which they can derive pride and satisfaction which has a positive influence on sustainability.

Interpersonal factors

This aimed at building social support since peer support can alleviate or create barriers to healthy behaviour change. Thus the current study aimed at identifying change agents and publicly praising them.

Institutional and Organizational factors

Institutional frameworks play an important role in behaviour change. In the current study, the researcher found out that there were already school arrangements for cleaning and other WASH activities. The school has a program for cleaning the latrines, fetching water for school and personal use. The current study reinforced these through supporting the pupil- led strategy that was intended to enhance sustainability.

Community factors

Among the community factors, the researcher found out that the community members more especially the parents have been minimally supporting the provision of toilet papers on the request of the school administration. This had been poorly adopted as many parents according to the head teacher complained about the rationale of them providing toilet papers in such a rural school setting

and therefore very few sent toilet papers to school. However during the study, the importance of availing anal cleaning material was embraced by parents.

Public Policy

There is a good national policy on school latrine density (students/latrine). Which recommends 1 latrine per 50 pupils? In this setting, this policy was not practiced due to big number of pupils at school and lack of enough space, and in addition hand washing facilities and anal cleaning materials were missing.

Behavioural Change and educational approaches

This approach seeks to encourage individuals to adopt desirable sanitation and hygiene behaviour through: health education messages on posters displayed around the compound.

Skill building using external resources available where by pupils with the help of patron in charge health.

Health education by trained members. This approach seeks to bridge knowledge gaps, increase awareness and to also adopt healthy practices and also improve their skill in putting in place appropriate technology of the tippy tap.

The community organization model

In this model, as put forward by Braithwaite et al (1989), public health workers help communities identify health and social problems, and they plan and implement strategies to address these problems. Active community participation is instrumental to the success of this model. This was evidenced by pupils putting up hand washing equipment, digging pits for rubbish disposal and organizing themselves in such a way to carry out sanitation and hygiene activities following their own action plan.

5.3 Research/actionplan-objectives.

The following objectives were identified to guide the action plan implementation to address the gaps

1. To establish a pupil led and teacher supported body for improving hygiene and sanitation activities.
2. Construct hand washing facility
3. To develop method of reminding pupils on good sanitation and hygiene practice.
4. To improve solid waste/rubbish disposal, daily cleaning of latrines and urinals and provision of toilet.

5.4 Plan of action

The researcher together with the SHT t set up an implementing committee, the followed by formation of a health club

At this stage the committee together with the SHT and the researcher will draw a plan of implementation. This will show the activity, when it is to be carried out and by who. The social learning theory will be employed in some activities. Furthermore educational, client centered, empowerment, participatory approaches will be used interchangeably.

Formation of an implementing committee

The SHT and the researcher spear headed this action. The pupils who were willing came up after being explained the whole idea of putting action of solutions. It was voluntary in nature.

Training of the IC

This committee was trained on what was to be expect, the major objectives and the work plan. Here they looked at what was to be implemented and followed by what and the time required for its accomplishment. How the monitoring and evaluation process of the activities was to be carried out.

Formation of a health club

1- The researcher together with the school health teacher took lead in setting up a school health club which comprised of representatives from selected classes of p.3, p.4, p.5andp.7. This health club will be responsible of the following.

Making sure the compound is cleaned through assuring the designated pupils to clean it, and this will be carried out by formation of duty roster for each class

The latrines, urinals and classrooms are regularly kept in clean conditions.

Will make sure that there is enough water for washing hands after using the latrine through putting up a roster, this roster will not discriminate between male and female.

Peer-peer mentorship whereby a child from a higher class will be responsible for children from lower classes this is to help in terms of better hygiene of the pupils in lower classes and also build these pupils in higher classes as responsible children which they would adopt until their adulthood.

As an innovation pupils from upper primary were requested to come with boxes which were placed in classrooms to act as litter bins. Each class had a temporal litter bin which when full is emptied and brought back to class for re-used.

2-Application of the social learning theory is a process by which ones' behavior is altered through observation and imitation of others behavior.

Pupils were learning by observation, they retained what they observed and asked to produce what they observed. In some instances reinforcements are given. These from the researcher and their teachers and later requested to reproduce what they had observed. This will be demonstrated on hand washing. The advantages that, the washing materials were available the only requirement was to teach these peers how to wash their hands clean.

The researcher demonstrated using a simple song which normally takes one minute and by the end of the song the hands are expected to be washed clean.

In order to encourage these peers to be clean, there were positive and negative sanctions given. This was through reading the names of the cleanest pupils and cleanest class on the parade at the end of the week and likewise to the most dirty pupils and class.

The researcher believed that the pupils would be motivated by this kind of theory which consisted of positive and negative rewards. This helped in sustainability since it is natural that everybody seeks for a positive sanction.

The implementation phase took around three months that's from the month of March to the month of end of July. At the beginning of July the researcher was exiting her area of study.

The researcher together with teacher Julius and the pupils worked to put up a talking compound about hygiene and sanitation information around the school. This helped to remind the pupils about their hygiene and sanitation messages at all times.

5.5 Time frame of the implementation of intervention/innovation

The following table show how the sanitation and hygiene at Kinoni integrated primary school were spread out and schedule for implementation:

Table 3: showing implementation time frame

Intervention	Time	Frequency	Person(s) Responsible	Resources Needed	Comments
General cleaning of toilets, compound, class rooms.	Monday –Friday 4pm in March-April 2019	Once every day	One class per day as per cleaning roster.	Brooms ,soap hoes, brushes	Assuming no other event disrupts the plan.
Reading health messages	Monday and Friday at school parade time	Twice a week	Focal teacher , pupils leaders	Written health message cards	Written messages availed
Construction of tippy tap	4pm to 5pm	One day in month	School health teacher/ pupils	Jerry cans, strings, ,poles	On assumption that school administration provides them in time
Train health committee on health education message relaying	Every Thursday 4-5pm	Once every two weeks on Thursdays 3-4pm	Health teacher, researcher	Written health message cards, Printed I.E.C Materials	On assumption that pupils are not engaged in other priority activities
Display print health messages around compound	second week of march 2019	Once and replaced if destroyed as need arose.	Project focal teacher, health committee members	Manila cards, iron sheet pieces ,nails, wood glue, paint	Resources availed in time.
Refilling of hand washing tippy taps with water	Daily (Monday – Sunday)	Every week day	Focal person in charge water /class on cleaning roster	IEC materials, stationary	On assumption that no other activities overtake WASH plans.

Digging 2 pits for solid waste/rubbish disposal. And recycle bins in the compound	fourth week of march 2019	Once in 2 months of project period	Health committee/pupils	Hoes, sacks	If hoes are availed in time.
Procure liquid soap for use in scrubbing latrine walls and floor/hand washing	On going		Head teacher	funds	Assuming funds would be available
Hold review meeting by health committee to assess project progress	every Tuesday evening after classes march –April 2019		Patron health committee/chairpers on school health committee	Attendance list	Hold review meeting by health committee to assess project progress
Send messages to parents to provide toilet paper for use in anal cleansing	Every Friday evening		Focal teacher/patron health committee, and teacher on duty.	Paper ,pens	Pupil's ability to deliver messages in time and parents ability to afford to buy toilet paper.

5.5 Reliability and Validity

5.5.1 Reliability

The information regarding the project performance after the implementation period was cross-checked to ascertain where the reported information was the actual on the ground. This was through interaction and interview of the chairperson of the school health committee.

5.5.2 Validity

Prior to publishing of this report, the researcher discussed this report with the head teacher, the focal teacher or chairperson of the health committee on the authenticity of the contents of the report and to give a go ahead to publish for dissemination.

5.6 Reflection

During the implementation of this project, it was particularly noted that involving a stakeholder right from project inception, guaranties full participation.

CHAPTER SIX: IMPLEMENTATION OF ACTION PLAN

6.0 Introduction

This section highlights actual activities carried out to address the identified problem of poor sanitation and hygiene at Kinoni integrated primary school.

6.1 THE PROJECT ACTIONS CARRIEDOUT AND THEIR OUTPUTS:

6.1.1: To establish a pupil led and teacher supported body for improving hygiene and sanitation activities.

This was chaired by the head boy. These had different responsibilities such as in-charges for water, soap, reading health messages at school parade and mobilization.

Outputs:
A school health committee was formed comprising of pupil leaders per class.

KINONI INTEGRATED PRIMARY SCHOOL
HEALTH COMMITTEE

	NAMES	CLASS	RESPONSIBILITY
1-	AINE SCOVIA	P.7	CHAIR PERSON
2-	ATURINDA FRANCIS	P.7	VICE C/P
3-	AINEMUGISHA IVAN	P.6	SPEAKER
4-	NAMTABA RUTH	P.6	IN-CHARGE CLEANLINESS
5-	NUWAGIRA RICHARD	P.5	MEMBER
6-	BYAMUKAMA PATRICK	P.5	IN-CHARGE COMPOUND
7-	AMANYA PATIENCE	P.6	IN-CHARGE LATRINES
8-	KABAGENYI JANE	P.7	READING MESSAGES
9-	NAKAGENYU AGNES	P.4	MEMBER
10-	KAKURU FRANK	P.4	URINALS
11-	NAGASHA JOYCE	P.3	MEMBER
12-	ARISHABA CAROLINE	P.3	MEMBER
13-	Tr. MIRIA MBABAZI	Tr	COMMITTEE PATRON

Figure 26: List of school health committee with their roles

6.1.2: Construct hand washing facility

Constructed a tippy taps:

Two more tippy taps were constructed by the pupils with guidance support from the focal teacher in charge health at Kinoni integrated primary school; water and liquid soap were poured within the water regularly for hand washing at the three latrine points.

Output:

Pupils started washing their hands with water and soap after visiting the latrine regularly.

Figure 27: Tippy tap constructed by pupils of Kinoni Integrated Primary School

6.1.3: To develop method of reminding pupils on good sanitation and hygiene

Developed a cleaning roster:

A roster to run for five days beginning Monday to Friday every week for classes from p.3 to p.6 was made by the committee members with consultation and guidance from the patron or the project focal teacher.

Output:

This was to ease coordination of sanitation and hygiene activities at the school.

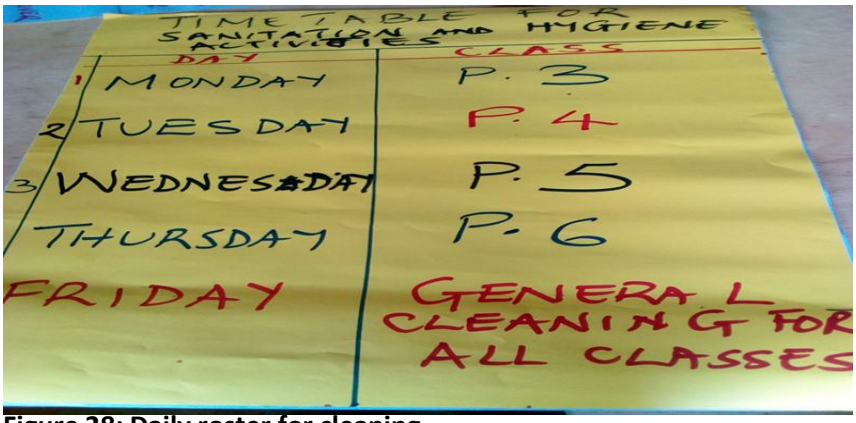

Figure 28: Daily roster for cleaning

Development of health messages

In order to address behavioral change, health messages were jointly developed by the school health committee with guidance from the researcher and patron/ focal teacher to remind pupils and other community members on good hygiene and sanitation practices. Health messages were developed and were displayed on wall of building to act as reminders of pupils to undertake hygiene practice.

Output:

Health messages were developed and were displayed on wall of building to act as reminders of pupils to undertake hygiene practice

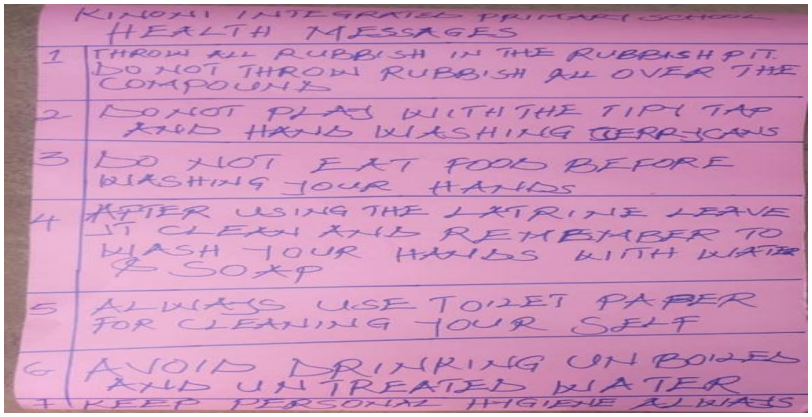

Figure 29: Displayed health messages jointly developed with pupils

6.1.4: To improve solid waste/rubbish disposal, daily cleaning of latrines and urinals and provision of toilet paper

Digging pits for rubbish/refuse disposal

In order to improve on solid waste management especially the rubbish generate at school that includes papers, peelings ,left over foods, and tree leaves. The pits were dug by the pupils, the tools used were hoes brought by parents of the pupils and the school administration contributed March boxes to regularly burn the dry rubbish to avoid overflowing of the pits.

Output:

Two (2) refuse pits were dug and six sacks were also brought by researcher and used as recycle bins within the school compound.

Figure 30: One of the rubbish pits dug by pupils at Kinoni Integrated Primary School

Figure 31: Recycle waste Bin constructed in front of classes by pupils

Daily cleaning of latrines and urinals, compound and classrooms

In order to improve sanitation and hygiene in Kinoni integrated primary school, daily cleaning of latrines was one of the key activities that were done by pupils. The schedule was drawn jointly by the pupils, and the patron/ SHT. For the schedule to be adhered to, the teacher on duty worked jointly with the pupils' leaders especially in supporting whichever class was on schedule to carry out the daily cleaning exercise.

Output:

Latrines, urinals, compound and classrooms were cleaned daily.

Provision of toilet papers

Toilet papers which were conspicuously missing at the beginning of the project, but after parents of the pupils started providing their children with toilet paper after receiving information regarding their need by school community. This was intended to prevent smearing of faeces on wall posing risk of faeco-oral infection especially to the pupils from lower classes that could easily touch walls soiled with faeces.

Figure 32: Toilet paper provided

Figure 33: A pupil scrubbing inside a latrine

6.2 The communication strategy

The role of health communication encompasses the study and use of communication strategies to inform and influence individual and community decisions that enhance health.

The communication objectives and target audience:

- This project included adoption of good and desirable hygiene and sanitation behavior in order to prevent diseases that are related to poor hygiene especially among school pupils as the target audience.

- The health communication strategies for delivering the project objectives included;
- Social mobilization- Through emphasizing pupils involvement in improving sanitation and hygiene at school by direct cleaning of the sanitation facilities coordinated by their own school health committee.
- Social Change Communication- Through formation and enabling the school health committee to in engage in a participatory process of influencing positive behavioral change.

Behavioral Change Communication- Through providing health information to pupils to increase knowledge and motivation to undertake positive behavioral change strategies through written health messages and health messages read at school parade.

The method of communicating:

- The health information was delivered in two forms:
- Through conducting health education sessions during school assemblies
- Designing health information and hanging the posters in and around school compound including near latrines to remind the pupils about good hygiene practices.
- Reading out health messages on good sanitation and hygiene practices at school parade.
- Communication channels through which pupils should communicate their grievances was established by specifying the role of different leaders in school.

Resources:

To deliver the strategy, resources such as markers, papers, flip charts and time together with personnel with skill, were assembled from the school administration and pupils and teachers. This were selected due to affordability and hence the likelihood of sustainability.

The targeted behaviour:

Motivation of pupils to remain self-driven in taking part in project activities was a key targeted behaviour. Regular hand washing after latrine use, using anal cleansing materials such toilet paper and not to smearing walls with faeces was key targeted behaviour to aid in faecal-oral related disease prevention.

Key communication facts:

Key issues to communicate included dangers of poor hygiene on pupils learning and general health, how to improve hygiene, and how to sustain such behaviour.

Indicators for progress tracking

In order to monitor progress, there was regular weekly meeting to track progress as per monitoring and evaluation plan availability. Determination of number of pupils undertaking positive hygiene behaviour was instrumental in establishing rate of adoption of good hygiene behaviour.

6.3 Sustainability plan/strategy

Sustainability plan according to Hitchcock and Willard (2012) was developed to guide the process of further implementation at the expiry of the two months of research project. This is intended to maintain the positive effect realized from the project activities.

Table 4: Table showing draft sustainability plan for improving sanitation and hygiene

Strategy	Time line	Responsible person/team	Status of completion
Establish a vision and mission for project	May 2019	Head teacher	
Enlarge the health committee to include more teacher from all sections	Beginning of June 2019	Head teacher and deputy	
Hold review meeting to establish outgoing projects outcomes or impact.	End of June 2019	Head teacher	
Create an independent budget for sanitation and hygiene activities	July 2019	School management committee	
Invite technical resource person periodical to carry out health education and other technical guidance	On going	Teacher in charge of health	
Strengthen adherence on hygiene activity roster for pupils	Ongoing	School Health committee and focal teacher	
Establish competition system for hygiene and sanitation activities by class and among individual pupils.	Start in October	Head teacher/teacher	
Establish a reward best performing classes and outstanding pupils in hygiene behavior	At the end of year during speech day (November/December 2019)	Head teacher /school management committee.	

6.4 Reflection of the intervention

The implementation of planned activities was quick to realize. This could have been attributable to the fact that every step of the planning bit was involving all the key stake holders especially the pupils and the project focal teacher.

6.5 Lessons learned/ way forward

It was particularly noted that an empowered community requires minimum effort but maximum cooperation to realize objectives of the project.

CHAPTER SEVEN: DISCUSSION OF RESULTS FROM THE IMPLEMENTATION

7.0 Introduction

This section high light a discussion of the information generated during the implementation phase in regard to its implication to the public health and health promotion.

7.1 The out puts

7.1.1 Formation of school health committee

This intervention of forming a school health committee was undertaken to enhance participation and sustainability since it would create a strong sense of ownership of whatever interventions. Mellanby, Reesand Tripp (2000), highlight the importance of peer led health promotion interventions in enhancing behavioral adoption and sustaining what peers relay to their colleagues. As the project closed, there remained a school health committee in place that will enhance efforts of sustainability so that the gains from action research project can be carried on.

Figure34: School health committee members.

7.1.2 Putting in place hand washing equipment ment

During implementation phase, pupils mobilized tools such as hoes, ropes from home and were supported by head teacher to provide jerry cans. The planning process for this intervention was jointly done by all the stakeholders. The status before implementation was in such way that only girls section had functional hand washing equipment.

A participatory approach that was used from the inception of the project could have led to the self-driven attitude exhibited by the pupils by them fully getting involved in implementing the activities and owning the project. This therefore is recommended for planners of public health intervention to consider community participation as a viable way of ensuring accessibility and effectiveness in primary health care programs (Kironde and Kahirimbanyi 2002).

The two latrines which had no hand washing equipments had two tippy taps put in place through their own efforts. In putting up the tippy taps, the pupils in the health committee were supported by teacher in charge health. The purpose was to impart skills of putting up tippy taps. The skills learnt were demonstrated when they put up two more on the remaining latrines.

Figure 35: Picture showing a latrine which had no hand washing equipment

Figure 36: Newly constructed tippy tap with water and liquid soap for boys section

7.1.2 Digging refuse pits for rubbish collection

Scattered rubbish including fruit peelings, dry leaves, waste papers and left over foods were a common sight prior to the project implementation. Risks of being infected with diseases related to poor hygiene practices were extensively discussed by researcher during one of the review meetings with the health committee of the school. It was appreciated that the availability of rubbish pits where excess rubbish could be burnt was a better way of managing the refuse to prevent fly breeding which would in turn provide mechanical disease agent transmission.

Figure 37 :Rubbish scattered before pit was dug.

Figure 38: Refuse pit was dug for rubbish collection and burning

7.1.3 Designing/preparation of health messages

Putting in place various equipment, tools and logistics to improve sanitation and hygiene practices couldn't be successfully used to improve sanitation and hygiene without the requisite behavior change of the community members. Through empowering members of the school health committee with knowledge and skills of passing message to the entire school community and writing message which previously were not available anywhere in the school compound, aided behavioral change. As recommended by Campbell (1994) tailored written messages are effective in fostering behavioral change because they address audience members by their characteristics.

The presence of messages across the compound (the talking compound), helps community members to constantly be reminded on consequences of poor sanitation and hygiene practices which in the long run can lead to upon contemplation.

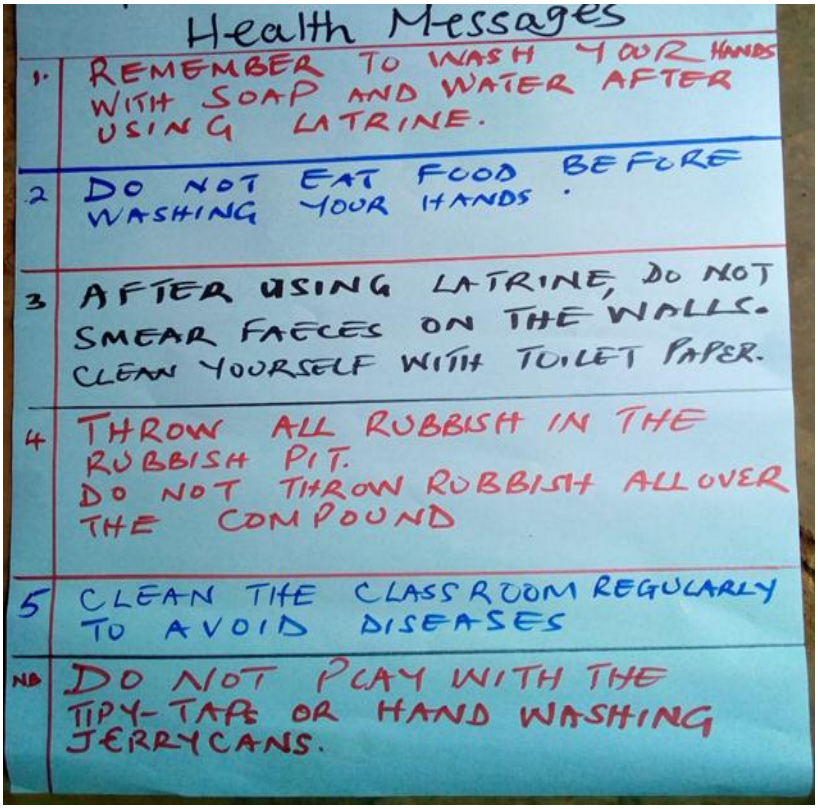

Figure 39: Written health messages pasted against a wall of main classroom block

7.1.4 Clean latrine with toilet paper

At the beginning of the project, following transect walk around the school, latrines were found to be dirty with walls smeared with faeces probably due to lack of anal cleansing material. At the closure of the project all latrines are cleaned daily following a roster by class. Parents are able to give their children toilet paper for children to use when they visit latrines. This is a land mark victory because most parents never supported the idea of giving toilet paper to their children.

Figure 40: on the leftInside of a latrine. Note the walls smeared with faeces and no toilet papers inside before implementation of the action research project.

Figure 41: On the right Inside of a latrine after project. Note the cleaner walls / availability of toilet papers inside.

7.2 Self evaluation

The research project was good and the objectives were achieved. In line with the Ottawa charter (1986) on health promotion, this project strengthened community action through working with them in their setting and developing personal skill in undertaking some of the preventive interventions.If his project were to be done again I would use the same methodologies because it brought on board the pupils from all classes though I would suggest that action research should be done for period of two years in order to asses and monitor proper implementation process.

7.3 Conclusion and Recommendation

In conclusion, involvement of stakeholders at start of the project made it easier to solve a problem affecting them and it also eased implementation process because there was sense of ownership of the entire project. It is therefore recommend that action research methodology to be used extensively in different settings.

Secondly ministry should integrate health promotion in school syllabus and parents and teachers should encourage involvement and engagement of the pupils in both school and home activities. There is also need to make health promotion a priority in the school budget.

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APPENDICES

APPENDIX I: INTRODUCTORY LETTER

Uganda
Martyrs
University

Making a difference

Faculty of Health Sciences
Email: health@umu.ac.ug
19th October, 2018

Re: INTRODUCING ACEN IRENE

The Responsible Officer

This is to introduce to you **MISS ACEN IRENE** **Reg. 2016-B192-11003** who is a bonofide student of the Faculty of Health Sciences at Uganda Martyrs University.She is undertaking a Bachelor of Public Health-Health Promotion Degree course. She is currently on research level and therefore requests to conduct Action research project from your setting.

Action research is an interactive inquiry process where the researcher facilitates the community in identifying their health problems, prioritize the most challenging, come up with the solutions to the priority problem and together implement the suggested solutions to solve that problem.

The protocol/plan to conduct the research has been presented and approved by the relevant University authorities.

Any assistance rendered to her in this respect will be highly appreciated by the university.

Should you have any concerns or queries, please do not hesitate to contact the Faculty Action Research coordinator at 0786859214, mbabaziscovia2@gmail.com.

Yours sincerely,

Dr. Miisa Nanyingi
Ag. Dean,
Faculty of Health Sciences,
Uganda Martyrs University

Received
Recommended to do the research at Kinoni Integrated Primary School
15/10/2019

UgandaMartyrsUniversityP.O. Box 5498 – Kampala – Uganda
Tel: (+256)038-410611 Fax: (+256) 038-410100 E-mail; umu@umu.ac.ug

APPENDIX II: CONSENT FORM

I am called **IRENE ACEN**, a student of Public health and Health promotion at Uganda Martyrs University.

I am conducting action research study to ascertain the health challenges faced by the student at your child's school so that we can together come up with possible solutions. It is through this study that we (me and the students) are going plan how to intervene to solve the identified problems so their participation is vital.

All proceedings from the discussions we hold will be kept confidential and will never be shared with anyone who is not part of the research team without the student's knowledge. The student's name will not be stated against the problem they raise, and this will further ensure confidentiality.

Participants will be free to terminate participation in the study at any time, and no penalties will be imposed for doing so. Participants will not be coerced to join nor will they be lured to join the study through use of incentives or payments.

As the parent/guardian of this student, do you consent that your child should participate in this research?

Thank you.

Parent's signature/Thumbprint……

APPENDIX III: INTERVIEW GUIDE FOR KEY INFORMANTS

1. What are the different health practices at Kinoni integrated primary school?

2. Are these practices appropriate for the school or you could change them if more resources are availed?

3. Do you have factors affecting health of the community of Kinoni integrated?

4. If yes, could you mention some of the factors affecting health?

5. Explain why and how they affect health?

6. Of all the mentioned factors, which ones are most important for the community here?

6. For how long have these issues oppressed this community?

7. Have you tried to solve them?

8. If yes, what maybe be the factors limiting the success of the intervention?

9. Comment on the general health practices in the community

10. What are the attitudes towards health practices in this community; do you feel you have a role to play in the health status of community members?

APPENDIXIV: INTERVIEW GUIDE FOR FOCUS GROUP DISCUSSIONS

1. What is health in your own understanding?

2. What are the different health practices in this community?

3. Do you think there factors affecting health in this school?

4. If yes, could you mention some of the factors affecting health in this community?

5. Explain why and how they affect health?

6. Of all the mentioned factors, which ones do you think are most important for the community here?

6. For how long have these issues oppressed this community?

7. Has the community of Kinoniintegrated tried to solve them?

8. If yes, what maybe be the factors limiting the success of the intervention?

9. Comment on the general health practices in this community

10. What is your attitude towards health practices; do you feel you have a role to play in the general health status of thefellowpupils of this community?

APPENDIX V: CHECKLIST FOR PHYSICAL OBSERVATION.

Object/practices observed	**Remarks**
Availability of sanitation facilities such as; pit latrines, toilets or urinals, bathrooms, sanitary disposal, rubbish pits or bins and hand washing facilities	
General appearance of the school/buildings such as; class rooms, pupils dormitories, offices, sickbay/dispensary	
Availability of kitchen and dining area for pupils	
Availability of a clean water source such as a tap or spring	
Availability of fire emergency plan	
Availability of waste management	
Availability of sports ground for games	

APPENDIX VI: RESEARCH BUDGET

S/N	ITEM	QUANTITY	RATE	AMOUNT
1	Transport and communication	2	100,000	200,000
2	Food and water	2	50,000	100,000
	Sub Total			
	Stationery and Data collection			
3	Ream of papers	2	17,000	34,000
4	Makers	12	1000	12,000
5	Pens	12	500	6,000
6	Masking tape	1	2500	2,500
7	manila	10	1000	10,000
8	pencils	12	500	6,000
	Sub Total			70,500
	Date Management and Analysis			
9	Printing and binding research report			50,000
10	miscellaneous			50,000
	Sub Total			100,000
	GRAND TOTAL			470,500

APPENDIX VII: RESEARCH TIMELINE

Activity	**Nov 2019**	**Dec 2019**	**Jan 2019**	**Feb 2019**	**Mar 2019**	**Apr 2019**	**May 2019**	**Jun 2019**	**Jul 2019**
Submission of research proposal									
Approval of research proposal									
Community diagnosis									
Analysis of findings from community diagnosis									
Implementation of action research interventions									
Analysis of results									
Writing final action research Report									
Submission of action research report									

APPENDIX VIII: MINUTES TAKEN DURING KEY INFORMAT INTERVIEW

1th/03/2019

MEETING HELD AT KINONI INTEGRATED PRIMARY SCHOOL

AGENDA

1. Opening prayer
2. Speech from Assistant ~~Deputy~~ Head Teacher
3. Communication from the Researcher
4. Formation of Research committee
5. Closure

Min 1: Meeting was opened with word of prayer led by sonia one of the parents.

Min 2: The ~~deputy~~ Head Teacher welcomed parents and all members present for the meeting and appreciated their commitment towards the school programs especially in regards to the development of the school.

~~She~~ further encouraged the parents to always nurture their children and encourage them to practice good hygiene even at home.

Min 3: The Researcher greeted member present in the meeting and later introduced her self to them. She further deliberated on the purpose of her visit: where by parents, Teachers and pupils representives asked the research to explain further what action research is all about, how it would benefit their community and how their children where to be involved without inconviencing school activities/programmes.

The Researcher explained to the parents and teachers what action research was all about and benefits of their ~~joinzed~~ participation and how their involvement would bring change of behavior.

The Researcher assured the members that the process would not interfere with the school programme since the research was going to be conducted at their free time which include during their

break times like lunch time and break time.

ATTENDANCE LIST

1. Kankunda Miria ~~AM~~ Ass DH/Tr.
2. Kagabsi Mourpen. ~~Mourpen~~ Ass. senior woman.
3. Nahafeero Firidays ~~Firidays~~ Tr
4. TUMUHE EPHRAIM ~~E~~ SENIOR MAN
5. ARINDA JULIUS ~~Julius~~ Tr.
6. ARINAITWE PETER ~~Peter~~ Tr.
7. AKANKWASA GAD ~~Gad~~ Tr
8. MUHEREZA GORDON ~~Gordon~~ COMPOUND teacher.
9. Amanya Christian christian pupil. Head boy
10. Ruyinda Trucy Trucy " Head girl
11. Ainomugisha Prossy ~~Aprossy~~ Health prefect.
12. Mpigikaa Vicent Tr.
13. Denis Miniisiima ~~Denis~~ Parent
14. Bongye ~~Richard~~ parent.
15. Kuwagio Richard ~~Richard~~ Parent 0785649455
16. Katamba Ruth ~~Ruth~~ parent
17. Alinda Mukama ~~Mukama~~ parent