CONTRIBUTIONS OF SCHOOL HEALTH EDUCATION IN PROMOTING HEALTHY LIFESTYLES IN KENYA: CASE STUDIES OF PRIMARY SCHOOLS IN NAIROBI COUNTY

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Contributions of school health

JUNE 2014
DECLARATION

I confirm that this research thesis is my original work and has not been presented in any other university/institution for certification. The thesis has been complemented by referenced works duly acknowledged. Where text, data, graphics, pictures or tables have been borrowed from other works - including the internet, the sources are specifically accredited through referencing in accordance with anti-plagiarism regulations.

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We confirm that the work reported in this thesis was carried out by the student under our supervision.

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DEDICATION
This document is dedicated to all human beings with a passion for humanity and unrelenting desire to appreciate longer healthy and fruitful co-existence.
ACKNOWLEDGEMENTS

The completion of this thesis was possible due to selfless support and good will from various personalities and institutions. This thesis is a monumental product of tireless support and unwavering encouragement from my family, in particular, my wife Virginia, who endured my resounding absence and championed on to keep the family fire burning.

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I wish to express my personal appreciation to all those significant others who in one way or another contributed to the realization of this valuable document. The list is too long to permit mention, but this does not by any stretch of imagination indicate dilution of gratitude. To all, I heartily say thank you very much.
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<tr>
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<td>Body Mass Index Body Mass Index</td>
</tr>
<tr>
<td>BPS</td>
<td>Bonoko Primary School</td>
</tr>
<tr>
<td>CD</td>
<td>Curriculum Developers</td>
</tr>
<tr>
<td>CQASO</td>
<td>City Quality and Standards Officer</td>
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<tr>
<td>CVDs</td>
<td>Cardiovascular Diseases</td>
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<td>DPAS</td>
<td>Diet Physical Activity Strategy</td>
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<td>DQASO</td>
<td>District Quality Assurance and Standards Officer</td>
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<td>FGD</td>
<td>Focus Group Discussion</td>
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<td>FPE</td>
<td>Free Primary Education</td>
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<td>GoK</td>
<td>Government of Kenya</td>
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<td>HE</td>
<td>Health Education</td>
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<td>HLS</td>
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<td>HSES</td>
<td>High Socio-Economic Status</td>
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<td>JPS</td>
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LSE  Life Skills Education
LSES  Low Socio-Economic Status
MoE  Ministry of Education
MoH  Ministry of Health
MPS  Msemayote Primary School
MSES  Middle Socio-Economic Status
MSS  Mean Standard Score
NCLSDs  Non-Communicable Life Style Diseases
NE  Nutritional Education
NGOs  Non-Governmental Organizations
PE  Physical Education
PTA  Parents Teachers Association
QASO  Quality Assurance and Standards Officer
SES  Socio-Economic Status
TV  Television
UHLs  Unhealthy Lifestyles
UNCRC  Convention on the Rights of the Child
ABSTRACT

A healthy lifestyle is an enviable ingredient in one’s life due to the unending benefits that it enables one to acquire and enjoy in life. These benefits include leading a healthy and productive life free from non-communicable lifestyle diseases such as obesity, hypertension, cancer, heart diseases, overweight and diabetes which have caused untold suffering to the contemporary society. Globally, the number of persons with non-communicable lifestyle diseases has increased dramatically over the past years, making them one of the most burdensome diseases. National surveys in most parts of Africa indicate that cases of non-communicable lifestyle diseases are increasing drastically. In Kenya, health education is included in the school curriculum; further, in the year 2009, the government launched a national school health policy to enhance the quality of health in school communities by creating a healthy and child friendly environment for teaching and learning. Health education on non-communicable diseases is a potent tool that can provide preventive knowledge and skills to pupils early in life during formative years. This is critical since through socialization, habits formed early in life may tend to outlast challenges in later life. In view of escalating cases of non-communicable lifestyle diseases, there was need to explore the contributions of the Kenya National School Health Policy and teaching of health education in promoting healthy lifestyles to enable pupils to be socialized to acquire good practices to prevent non-communicable diseases. The study was mainly descriptive. A multiple case study method was used to provide a detailed study of the schools sampled. Stratified random sampling techniques were used to select three primary schools study sites in Nairobi County which were ideal for this study due to their urban and metropolitan location. The target population was comprised of primary school pupils, teachers, parents, head teachers, Quality Assurance Education Officers in Nairobi County and curriculum developers in the Kenya institute of Education. The data collection tools were content analysis schedule, observation schedule, semi-structured interview guides and focus group discussions. Data was analyzed qualitatively guided by themes drawn from research objectives while quantitative data was analyzed using basic descriptive statistics and presented in pertinent themes. The study findings showed that there is likelihood of an upward exponential increase in non-communicable lifestyle diseases due to various factors that include lack of implementation of the Kenya National School Health Policy; lack of content dealing with non-communicable diseases in curriculum; use of teacher-centred teaching approaches which are theoretical and examination oriented leading to lack of action-competence; lack of good practices in feeding and physical exercises as well as socio-cultural beliefs. The study concludes that non-communicable diseases are likely to increase exponentially and geometrically since there are no proactive sustainable strategies to curb them. The government needs to mobilize the resources via the Ministries concerned to provide leadership in policies for advocacy, implementation, supervision and close monitoring of programmes on non-communicable lifestyle diseases.
CHAPTER ONE
BACKGROUND AND CONTEXTUALIZATION OF THE STUDY

1.1 Introduction
This introductory chapter provides a background of the problem of the study. In particular, the chapter provides background information on why an examination of the contribution of school healthy education programmes to promoting healthy lifestyles in Kenya is important. These concerns are raised in the statement of the problem, research objectives and research questions. Further, the chapter encompasses the assumptions and significance of the study, theoretical and conceptual framework and operational definitions of the key terms.

1.2 Background to the Study Problem
A healthy lifestyle (HL) is conceptualized in this study as any kind of lifestyle(s) that contributes to making one physically fit, energetic and at reduced risk for disease, based on the choices one makes about daily habits; often associated with good nutrition, daily exercise and adequate sleep which are the foundations for continuing good health (WHO, 2013:24). Healthy living is therefore about the choices people make regarding their nutritional and eating habits, keeping physically fit and emotional wellness. It is notable that a HL is the most valuable asset since it assures one of enjoyment of all other good opportunities that life can offer.

A HL can be attained through paying attention to five basic HL aspects such as maintaining optimum body weight through physical fitness, healthy nutrition and healthy eating, avoiding quitting smoking and stress management. The benefits of healthy living are innumerable and include but not limited to leading a productive life devoid of costly medical bills and Non-Communicable Lifestyle Diseases (NCLSDs). (Otieno, 2011:21; WHO, 2010:12; World Bank, 2011:30). NCLSDs refer to non-infectious diseases or illnesses that are caused by something other than pathogens (WHO, 2013). The term is used to imply a variety of conditions including obesity, cancer, cardiovascular diseases, diabetes mellitus, chronic respiratory diseases, musculoskeletal disorders and other conditions. Globally, one half of all deaths are from NCLSDs, and this proportion keeps rising. NCLSDs are also responsible for a high proportion of disabilities (WHO, 2013:38). Getting plenty of exercise, having regular health checkups, and eating healthy foods are good ways to not only enable one to remain in good physical condition but also reduce incidences of NCLSDs. Physical exercise in any form is an essential part of healthy living, whereas lack of movement or physical inactivity may contribute to innumerable health complications such as overweight and cardiovascular diseases among others.

WHO, (2010:12; 2011:4; 2013:22) reports that NCLSDs are by far the leading cause of mortality in the world, representing over 60% of all deaths. Out of the 35 million people who died from NCLSDs in 2005,
half were under age of 70, and half were women. Physical inactivity is identified as the fourth leading risk factor for global mortality. Physical inactivity levels are rising in many countries with major implications for the prevalence of NCLSDs and the general health of the population worldwide. Risk factors such as persons’ background, lifestyle and environment are known to increase the likelihood of certain NCLSDs. Every year, at least 5 million people die because of tobacco use and about 2.8 million die from being overweight. Obesity has reached epidemic proportions globally, with at least 2.8 million people dying each year as a result of being overweight or obese. Once associated with high-income countries, obesity is now also prevalent in low- and middle-income countries (WHO, 2013:22). Childhood obesity has more than doubled in children and quadrupled in adolescents in the past 30 years. Overweight and obesity are the result of “caloric imbalance”, that is, too few calories expended for the amount of calories consumed and are affected by various genetic, behavioural, and environmental factors. High cholesterol accounts for roughly 2.6 million deaths and 7.5 million die because of high blood pressure. Going by the current rates, by 2030, deaths due to NCLSDs are expected to increase to 52 million per year while deaths caused by infectious diseases, maternal and perinatal conditions and nutritional deficiencies are expected to decline by 7 million per year during the same period.

The concern with promoting healthy lifestyles and limiting the prevalence of NCLSDs is because of the established association between lifestyle diseases burdens and economic growth. A healthy population and work force have been assumed to favour economic development whilst unhealthy population has been associated with poverty and underdevelopment (Phillips, 1990:3).

It has also been argued that investing in health services increases returns from the human capital of society (Gertler, 1990:145; World Bank 2009:9). The World Bank (2009:10) also argues that although improved health, nutrition and education are ends in themselves, healthy and educated people are also principal means of achieving development and stability. Indeed, the World Bank (2009:24) also holds that improving health forms investment in human capital and has positive impacts on longevity, productivity, income, quality of living and socio-economic development in society.

Education and in particular School health education programmes have been shown in the literature to be critical in developing in individuals predispositions to adopt healthy lifestyle habits. Education and health are the two most important characteristics of human capital. Studies have explained the positive association between education and health in three aspects: one, better health enables one to invest more in education; two, common factors such as genetic endowment, social background or time preferences affect health and education in a similar way; and finally, education leads to better health (Groot and Maasen, 2006:18). Health education programmes in schools can be
conceptualized as a deliberate process of socialization aimed at enabling people and societies to adopt better and healthy lifestyles. It is based on some tacit understanding that if this process is not successful, then society in the final analysis is the loser since the wealth of societies is largely determined by the educational attainment and the health status of its population.

Health is inextricably linked to educational achievements, quality of life and economic productivity. By acquiring health-related knowledge, values, skills and practices, children can be empowered to pursue a healthy life and to work as agents of change for the health of their communities. Education that provides children with basic academic skills and specific knowledge, attitudes and skills related to health is vital to their physical, psychological and social well-being (World Bank, 2009:12). This is not only true in the short term; such education lays the foundation for a child’s healthy development through adolescence and across the entire life span. HE delivered through health-promoting school can address many of the major challenges to health throughout the world. These include communicable and non-communicable diseases including problems associated with lack of physical exercises. Schools are dynamic organizations that can respond to changing needs and environment (Groot and Maasen, 2006:10). Since the school years are a formative time in the development of a human being, the school setting provides an efficient means of improving pupils health, self-esteem, life skills and other abilities related to decision making, communication, understanding emotions, critical thinking and coping with stress and behaviour. In addition to providing a site where interventions against many specific diseases can efficiently and economically be implemented, schools can also provide the setting to introduce health information and technologies to the community and can lead the community by advocating policies and services that promote health.

The Kenya government has developed a comprehensive health policy that is aimed at improving the health of students in schools. The Kenya National School Health Policy (KNSHP) defines a comprehensive school health programme that will enable Government to address the needs of learners, teachers and their families. The programme intends to provide for quality health education and health services to promote overall health, hygiene and nutrition of children (RoK, 2009:64). This noble action perhaps can be used as an avenue to provide effective preventive HE to help children to avoid NCLSDs like overweight, obesity and diabetes among others. Ideally, HE enables good personal health and healthy young people are more likely to learn more effectively. HE enables health promotion in schools, which can assist schools to meet their targets in educational attainment and meet their social aims because young people that attend
school may enjoy good health which improves their concentration in school work. This has the potency to lead to better educational outcomes.

The KNSHP provides schools with opportunities to provide quality HE and health services to promote overall health, hygiene and nutrition of children. The programme, in addition is expected to provide for the mental and psychological health of children by providing a positive and safe physical and psychological environment in schools. The KNSHP Guidelines are based on five pillars of Children Rights as outlined in the United Nations (UN) Convention on the Rights of the Child (UNCRC), the African Charter on the Rights and Welfare of the Child and the Kenya Children Act 2001. These are rights for survival, education, development, protection and participation rights. In regard to the present study, the policy and guidelines are supposed to focus on the following five areas, among other objectives. These are improving children’s access to health related information; facilitating children’s active participation in decisions regarding their health and education; providing mental health education and promotion; providing sport and recreational activities for children with disabilities and monitoring children’s nutritional status and introducing feeding programmes.

Essentially, HE includes physical education that is taught in schools. This is because physical education includes physical activities and body exercises that have health benefits to pupils. Physical exercises provide opportunities for pupils to expend excess energy which could lead to accumulation of body weight if sedentarized. Pupils who are involved in regular physical activities and body exercises on daily basis develop active lifestyles where physical activities become an integral part of their daily activities which are routinized into active lifestyles. In essence, HE is also critical since it entails a continuing process of educating and informing pupils on how to achieve and maintain healthy lifestyles through diet and regular body exercises. It entails motivating pupils to promote environmental and lifestyle changes to facilitate their objective and vision (RoK, 2009:8). The youth and by large children have a sense of uniqueness and a feeling of invulnerability that leads them to think that lifestyle diseases and disorders cannot enter their lives. This could be demystified through teaching of holistic HE. Use of accurate information will not only overcome negative and fallacious beliefs but also enable them to embrace positive attitudes that will enhance disease prevention through behaviour and lifestyle changes. It is therefore important to review, promote and maintain up-to-date HE in schools.

HE in schools in Kenya and specially primary schools is important for several reasons. It is only at primary level that the majority of the learners get their formal education as approximately 85% of all eligible learners enrol in primary school, with only 26% of these proceeding to
secondary school (WHO, 2010:12). This implies that HE and physical practices received during this time provides a useful background for any further informally delivered HE and body exercises thereafter. Moreover, HE is important as part of basic education especially when it is increasingly acknowledged that the individual’s ability to diagnose and treat NCLSDs for themselves is highly expensive and may not be affordable by family (Musgrave, 1986:122; Scotney, 1984:142; WHO, 2010:42). HE in a school is a communication activity and involves learning and teaching pertaining to knowledge, beliefs, attitudes, values, skills and competencies. It is often focused on particular topics, such as tobacco, alcohol, nutrition; or it may involve reflecting on health in a more holistic way (Young and Currie, 2009:12).

Learners in primary schools are in their formative years, which makes it ideal for HE to enable them to acquire and form a solid foundation of body exercises and healthy feeding habits since habits formed early in life can be sustained as learners mature to adulthood; hence, will empower them to prevent NCLSDs. Indeed, this is ideal in Kenya, since majority of learners leave at primary school level (Muia, 2001:10); hence, provision of adequate and sustainable HE knowledge and skills on healthy eating habits and physical activity will have ripple effects to the greater population in successive generations. Schools can play a particularly critical role by establishing a safe and supportive environment with policies and practices that support healthy eating and physical activity habits.

The school offers an ideal opportunity for physical and HE which can reach not only the young learners in their formative years but, also successive generations of the immediate and the greater community when the learners mature to become adult members of the society. Thus, it may create a cycle of healthy lifestyles that may be a critical weapon to continue the fight against NCLSDs. Moreover, a primary school is not only a social institution but also part of the wider community that can be an entry point to ideas, concepts, knowledge, skills and attitudes for healthy lifestyles. Through the socialization processes in primary schools, healthy lifestyles can be learnt and internalized and, when eventually practiced, may create a cycle of healthy living patterns.

Studies have revealed that the conventional practice used in teaching HE in schools has been one of giving learners health information in the hope that it could be converted into appropriate action-oriented healthy feeding practices (Kinoti, 2003:68; Kitsao, 1999:48; Muia, 2001:32). This practice is mainly based on biomedical facts but it is now being questioned having been realized that knowledge about health does not necessarily result into change in behaviour particularly on individual’s action-oriented practice. Action-competence enables individuals to be responsive and responsible in their behaviour and actions from the point of knowledge that actions and choices that they make have consequences that affect them directly. This calls for a
review of teaching approaches used in HE, understanding of the perceptions of teachers, pupils and parents about HE in light of emerging NCLSDs. All these are critical issues that require close investigation and documentation. In addition, effective teaching of HE accompanied with regular and vigorous physical activity are good practices to prevent lifestyle diseases that are on increase even among primary school pupils; this calls for review of socialization structures used in HE in light of NCLSDs.

1.3 Statement of the Problem
The focus of this study was to establish the contributions of school health education in enabling learners to prevent non-communicable lifestyle diseases. The prevalence of lifestyle diseases, especially among the youthful educated population has been on the rise in Kenya. This is partly because of changes associated with globalization, rapid urbanization and peer pressure that have led to unhealthy dietary habits and physical inactivity. The government of Kenya however recognizes the acknowledged link between good health and learning on the one hand and education, good health and economic development on the other hand. Consequently, the school system has been identified as an avenue to socialize the youth in nutritional and other related educational practices that promote positive lifestyles with the hope that this will contribute to realizing a developed society in the long-term with less disease burden. According to government statistics children, aged 5-19 constitute 48% of the population; yet, this age group suffers varying but significant degree of ill health and morbidity that affect learning (CBS, 2009:34). Central to these challenges are communicable and non-communicable diseases like obesity, high blood pressure, diabetes, some varieties of cancer and CVDs among others. Reports show that about ten million Kenyans, mainly under age of 15 are victims of lifestyle changes that have led to habitual practices of over-nutrition, overeating amid a surge in cases of overweight, obesity and diabetes (Orengo, 2010:12; Otieno, 2011:16). Indeed, more than twenty thousand children including those in schools suffer from diabetes, which is the leading cause of heart diseases such as hypertension, stroke, heart attack and even some varieties of cancer. Cases of children and young people being diagnosed with NCLSDs in government health facilities are increasing (Jamal, 2010:10).

Unless addressed, the mortality and disease burden from these health problems will continue to increase. WHO (2013) projects that, globally, NCLSD deaths will increase by 17% over the next ten years. The greatest increase will be seen in the African region (27%) and the Eastern Mediterranean region (25%). In fact, this could soon lead move from an epidemic to a pandemic if preventive measures are not taken; further, it is notable that many if not all of the adults who are reported in various statistical reports in Kenya (Ithula, 2010:28; Jamal, 2010:18; Orengo, 2010:10; Otieno, 2010:12) as having NCLSDs, studied HE
during their primary school education. This raised serious concerns regarding health and in particular, the effectiveness of HE as a way of preventing lifestyle diseases.

To address these challenges, the government in August 2009, launched the Kenya National School Health Policy Guidelines (KNSHP) to complement existing national education and health policies and contribute in advocating for the accomplishment of health programmes in the education system. However, like any new programme, studies need to be undertaken to establish how the programme is being operationalized at the school level. In addition the role of the HE in enabling young learners to prevent NCLSDs had not been adequately explored through empirical studies, particularly in view of emergent lifestyles that predispose pupils to these diseases causing untold suffering. Many studies focus on malnutrition and deficiency diseases; leaving out NCLSDs, which gradually, have grown to become massive silent killer in the current society. Hence, there was a dearth of information on these issues; a task which this study attempted to address.

1.4 Purpose of the Study
The main purpose of this study was to explore and determine whether HE content in the KNSHP, curriculum and school practice could enable learners to acquire, promote and sustain healthy lifestyles to prevent emergent NCLSDs. Equally important was to explore the structures and teaching and learning processes in the schools to establish their efficacy in socializing pupils to acquire action-competence against NCLSDs.

1.5 Objectives of the Study
The study was guided by the following specific objectives;
(a) To examine the operationalization of KNSHP at the school level in respect to socializing pupils to prevent NCLSDs.
(b) To analyse the primary school HE curriculum content in relation to promoting healthy habits.
(c) To examine the teaching approaches in HE in primary schools in relation to enabling learners to realize HLs.
(d) To explore the perceptions of primary school teachers and pupils on the contributions of HE content to enabling pupils to practice HLs.
(e) To establish factors which limit the level of implementation of the KNSHP content in the selected case schools.

1.6 Research Questions
In order to be able to realize its objectives, the study was guided by the following questions:
a. What is the influence of KNSHP in enabling pupils’ to prevent NCLSDs?
b. Does HE in KPSC contain content that can promote HLs among pupils to prevent NCLSDs?
c. Can the teaching approaches that are used in HE enable pupils’ to acquire action-competence to prevent NCLSDs?
d. What are the perceptions of Primary School Teachers, Parents and Pupils on the contribution of HE to HL practices?
e. What factors limit the implementation of KNSHP in selected case study schools?

1.7 The Assumptions of the Study
The study assumed that:
   a. Education officers, head teachers, teachers, parents, community members and pupils consider effective HE as important tool to prevent lifestyle diseases.
   b. Health is important to all individuals and therefore they will seek to ensure healthy habits and action-competence in practicing HLs.
   c. Appropriate healthy lifestyles are developed and are influenced by socialization experiences during formative years in primary school education.
   d. Good and effective teaching in school HE has the capacity to socialize pupils in positive healthy habits in a way that will have an impact to their adult life and the community.
   e. The pupils being the key source of information and their teachers as well as School Administrators and members of school community would be willing to participate in the study.

1.8 Limitations of the Study
The study faced challenges due to constraints of time and finances because the researcher is self-sponsored and had to juggle between the study and the work as a tutorial fellow in department of educational foundations in Kenyatta University. Indeed, balancing studies and work is a daunting task that required great meticulity. These challenges required the researcher to work late at night and to put extra effort to keep strict timeliness as set in the research time frame. The researcher had to sacrifice and survive on a lean personal budget so as to save enough money to finance the fieldwork and defray the cost of writing a report.

1.9 Delimitations of the Study
The study was conducted in selected Public Primary Schools in Nairobi County of Kenya due to its in-depth analysis of cases involved in the study.

The study was limited to exploring the contributions of KNSHP and HE in school curriculum in promoting healthy lifestyles among Primary
School Pupils to enable them prevent NCLSDs. Nairobi provided the perfect site for a growing number of a youthful population that is indulging in lifestyles that can be termed unhealthy (eating of junk foods, physical inactivity/sedentary lifestyle, smoking, increased alcohol intake among the youth). Nairobi also presents the funny dichotomy between the affluent who indulge in modern eating habits that predispose them to unhealthy eating habits; and, the poor whose ambition of good eating is consumption of junk food, which ends up with the same result. The justification for the choice of primary schools was to capture a group that has not gone beyond the threshold of redemption. Perhaps this would help to show how HE can be used as a preventive tool in NCLSDs.

1.10 The Significance of the Study
The study is significant in that its findings, conclusions and subsequent recommendations are likely to provide valuable information on strategies that the MoE, Communities, Schools, Teachers, Parents and pupils could use to support HL among children to enable them to prevent NCLSDs. Scholars and prospective researchers may find the findings of the study very useful.

Further, the practical recommendations generated by the study may assist the policy makers in Gok ministries and specifically MoE and MoH and other related ministries (agriculture, finance etc) to formulate and institute policies to ensure food security and support healthy living through healthy feeding, sports and cultural practices. Such policies may guide food manufacturers and consumers and in particular, the government may exercise its influence to prevail on food manufactures to have a provision for bearing responsibility on effects of their products to consumers.

Further, the government through MoE and MoH can use the new findings to guide review, evaluation, strengthening and modification of HE to include vital content to enable prevention of NCLSDs. MoE and MoH may jointly refresh and invigorate teaching personnel to build their capacity and enhance their efficacy to be more effective not only in theoretical teaching but, also equip pupils with valuable skills, good practices and values to transform their lifestyle so as to cope with social dynamics and turbulence that may predispose them to lifestyle diseases in the contemporary society.

Community members like parents and schools sponsors and neighbours may take advantage of new knowledge availed by the study to adjust their lifestyle in terms of eating habits, attitudes and beliefs towards foods, socio-cultural beliefs about body size and shape in relation to healthy living and HLs that can prevent diseases. Further, they can extend the benefits of new awareness through advocacy awareness meetings to prevent lifestyle diseases.
At the school and institutional level, the study will assist the schools administrators and managers in making fundamental modifications, improvement and enrichment of the HE content and practices. This will not only help to highlight new practical educational approaches, and directions but new proactive and preventive strategies that can be adopted to overcome NCLSDs. Schools can use the findings to formulate new policies and make sustainable modifications to existing policies and practices.

Pupils may use the new insights from the study for their own use and, to mentor each other in child-to-child style during formal and informal interactions, where, they can enrich and share their experiences and promote good practices among themselves to prevent NCLSDs. The findings may provide a new source of empowerment and capacity building for the pupils in light of emerging challenges that require effective knowledge and skills to survive.

Finally, the study findings may be valuable to prospective researchers, practitioners and scholars who may use them to promote their efficacy in research and service delivery to their clientele in the greater society on issues regarding NCLSDs.

### 1.11 Theoretical Framework

The study used three theories. These were action theory, social learning theory and democracy theory. The rationale for the use of the three theories was to enable the study to achieve the objectives envisaged since, all variables could not be exhaustively captured by a single theory, hence a need to triangulate the tree theories. The three theories captured various aspects of the study, which make the findings of the study fairly reliable and accurate through triangulation. The various aspects of each of the three theories are hereby discussed.

Action theory tries to explain the actions of individual actors in typical situations for habits and by and large their practices or lifestyles. A basic proposition of this theory is that human actions are directed at the attainment of goals. Action theorists hold that, to explain an action or a habit, for the most part, is to understand the position of an actor in a particular situation (Cohen, 1978:75). It is also important to add that an actor’s knowledge and understanding of a situation will not only influence the course of action(s) taken but also subsequent practices, hence emergent lifestyle. Action theory is a sociological perspective that focuses on the individual as a subject and views social action as something purposively shaped by individuals within a context to which they have given meaning. The key tenets of action theorists issues such as motive, desire, purpose, deliberation, decision, intention, trying and free will in order to interprete human action. The social action theory stresses the ability of individuals to exert control over their own actions. The individual is not a passive receptacle of society's
directives, but an active creator of social behaviour. This theory implies that it is society which is constructed by the individuals, and not the other way around, as the social action theory believes human beings are capable of conscious thought and this enables them to be aware of themselves and others as social beings. People have their own motives and beliefs, and their own interpretation of the meaning of a situation, they control their own actions. Social action perspectives are so called because of this emphasis on people taking action, on directing their own behaviour. This approach is also known as an interpretive perspective because it sees people interpreting and giving meaning to a situation and to the actions and motives of others.

For actions to be seen as part of human behaviour or character, they have to be subjectively meaningful. Hence, to understand the conduct, perceptions, beliefs that inform habits and lifestyles of others, one must observe not only what they do but also, what meaning they attach to their actions. This will be greatly influenced by the level of knowledge they possess on that particular issue. Applied in this study, this theory posits that knowledge and good practices gained from the study of HE could inform the HLs that primary school learners will adopt and identify with; and perhaps, lack of it may lead them to UHL diseases due to lack of information.

Indeed, symbolic interaction, which is part of action theorists, hold that human beings have reasons for what they do, and they inhabit a social world permeated by cultural meanings (Giddens, 1993:720). Action theorists pay particular attention to ways in which definitions of reality are used and sustained by actors (Bilton, 1987:22). Actors are seen as conscious beings who exercise choice as they perform different roles. In this sense, then the actions are rational based on the available knowledge of good practices. In this study then, the theory was useful in determining how knowledge on HE or lack of it altogether affected HLs among pupils and the trends likely to emerge in future society. The theory enabled the study to find out whether the teaching approaches, methods, activities and resources used had the potency to socialize pupils to enable them draw accurate meanings that could inform their subsequent decisions and emergent actions that could determine whether they were predisposed to NCLSDs or not.

Jensen and Schnack (1997:165) posit that informed human actions are taken consciously having been considered; they are targeted hence, intentional. This implies that human actions are usually taken due to consideration which may be based on how an individual understands the circumstances; hence, good understanding of content taught in HE could inform intentions of the pupils regarding their choices in HLs. Human behaviour and subsequent actions emanating from them are a function of an individual’s choice dependent on the circumstances which shape their worldview. In this study, knowledge and skills acquired through learning of HE is expected to enable the learner to
make informed choices of action and good practices that ought to be adapted to prevent NCLSDs. Behaviour, habits and subsequent action-orientations and lifestyle practices may be a function of the interplay between personal knowledge and environment. Much of human behaviour and habits are learned in the course of interaction with the environment that comprise of peers and adults.

Bilton (1987:22) observed that there is a close connection between the learning process and the development of a thinking self. The education process facilitates learning where learners are socialized into the problem complex pertaining to the precondition for what occurs around them and with them. Learning exposes one to the worldview as defined by the circumstances in which live. In the context of this study, HE has an important role to expose learners to knowledge that will facilitate them to learn and acquire skills to prevent NCLSDs through healthy feeding habits and regular body exercises if the syllabuses contain the requisite content. Indeed, this enabled the study to explore and critically analyze the entire KPSC to find out whether it had any content on NCLSDs.

Conversely, where HE is not effective, learners may often practice UHLs that could predispose them to NCLSDs. While HE informs learners actions, their choice of actions must fit into the social situation where they live as well as the practical constraints they face daily. This connotes then, that the role and extent to which HE is translated into concrete action-oriented outcomes will not only depend on how HE is taught but also on the social and environmental circumstances of the learners in primary schools. All these were extensively explored in and out of the class in the schools sampled using the tenets of this theory.

Another theory guiding the study was democracy theory in education. Brazilian educator, Paulo Freire (1970:64), propounded theory of democracy and empowerment. Key propositions in Paulo Freire’s democratic theory are that dialogue liberates and monologue oppresses. The best way to start learning is as part of a dialogue-rich group. The richest learning begins with action, is shaped by reflection and leads to further action which has the potency to liberate an individual. Participatory methods and the encouragement of critical thinking results in a rigorous, but not rigid, pedagogy that is democratic in approach which empowers one to be in charge of his/her own life. The person who thinks and reflects goes about creating himself from the inside out. He creates his consciousness of struggle by transforming reality and liberating himself from the oppression that has been inserted by traditional pedagogy. In the same way, when he acquires a new way of thinking, his/her understanding of the social status that s/he holds changes him/her. It's not necessarily a materialistic understanding, but a cognitive one, whose importance is revealed in the liberation from oppression which is found in the interior of the consciousness of the individual who possesses it.
Freire (1970:66) puts forth a pedagogy in which the individual learns to cultivate his own growth through situations from his daily life that provide useful learning experiences. This is not pedagogy for the oppressed; it is rather pedagogy of the oppressed. The subject should build his reality from the circumstances that give rise to the daily events of his life. The texts that the individual creates permit him to reflect upon and analyse the world in which he lives - not in an effort to adapt himself to this world, but rather as part of an effort to reform it and to make it conform to his historical demands. Freire (1970:68) insisted that the function of education was to build on the language, experiences and skills of the ‘educatees’, rather than imposing on them the culture of the ‘educators’. Education needs to enable learners to use their own ways of speaking to articulate their shared understanding of how their world came to be like it was, is and how to act to change their future. From being a monologue process, education should be a process of dialogue in which educatees and educators engage in mutually respectful learning guided by passion and principle. This will help learners develop a consciousness of freedom, recognize authoritarian tendencies, empower the imagination, connect knowledge and truth to power and learn to be self-reliant. A core component of Freirian (1970:68) theory is that learning begins with action and is then shaped by reflection, which gives rise to further action. Learning is thus a continuous process, directed at enhancing the learners’ capacity to act in the world and change it. For Freire, whether it is called literacy or learning, this is the principal political task of any society committed to people-power.

In Freire’s terms, learning based on group dialogues is liberating for everyone involved in the process. By contrast, teaching based on individual monologues in an imposed language leads to silence and apathy, and is the ultimate form of oppression. In his analysis of the dynamics of power, Freire reserves the term ‘oppressed’ for those whose own voices are silenced because they are forced to speak with a voice that is not their own: “The oppressed are not only powerless, but reconciled to their powerlessness, perceiving it fatalistically, as a consequence of personal inadequacy or failure. The ultimate product of highly unequal power relationships is a class unable to articulate its own interests or perceive the existence of social conflict. In deed Freire demonstrates the empowering and democratic potential of education. Central to such a democratic pedagogy is shifting the emphasis from teachers to students, and making visible the relationships among knowledge, authority and power. Giving students the opportunity to be problem posers and engage in a culture of questioning in the classroom foregrounds the crucial issue of who has control over the conditions of learning, and how specific modes of knowledge, identities and authority are constructed within particular sets of classroom relations. Under such circumstances, knowledge is not simply received by students, but actively transformed, open to scrutiny and related to the self as an essential step toward agency, self-representation and
learning how to be creative rather than simply being passive. At the
same time, students also learn how to engage others in critical
dialogue and be held accountable for their views. This is the
empowering aspect of education.
Freire (1970:69) emphasizes that the learners should struggle with
ideas to find solutions to problems they face in everyday life which is
instrumental in raising their critical awareness, resulting from research,
from the efforts to create and re-invent. Education is the empowerment
of individuals through provision of learning (Freire, 1973:54). Freire
(1970:70) proposed a view of pedagogical approach in which people
are not only supposed to know the world around them but also to
transform it, thereby developing their critical consciousness. Ideally,
HE is critical to enable pupils acquire critical consciousness to prevent
lifestyles that predispose them to NCLSDs.

HE can be inspired by empowerment theory (Freire, 1970:46) which
focuses on facilitating individual and community choices by
supplementing knowledge acquisition with value clarification and
decision-making practice and community organizing skills through non-
traditional teaching methods. This can ensure that the ‘knowledge
experts’ are not only teachers and parents but, also children and the
wider community itself. Empowerment in HE is an approach in which
groups identify problems, critically analyse the roots of the problems,
and develop ways through which they can positively change their lives
and those of their communities to overcome the challenge. This may
require active listening, dialogue and action that makes uses of
learning cycle of ‘active listening-dialogue-action’ (Freire, 1973:65)
which is different from teacher-focused or didactic model. These are
critical issues that this theory enabled this study to explore in depth.

Members of the local communities can be empowered, as they will be
able to participate in the dynamics of social relations with a personal
sense of potency, critical political awareness and practical strategic
skills. Empowerment in this case can be a process that will enable the
community to develop participatory competence in collaboration with
pupils from the school. Further, according to Jensen (1997:120), the
basic pedagogical considerations behind the democratic paradigm of
HE are that use of HE knowledge and skills in our society is influenced
by the living conditions as well as lifestyle choices. Solutions to health
problems must be sought at both the structural or societal level of
living conditions as well as at the individual level; hence, skills and
knowledge from HE become potent. If people are to contribute to the
solution of their health problems, they have to be able to identify both
the individual and structural causes and the role of HE in promoting
healthy lifestyles to reduce NCLSDs. Then, using skills and knowledge
from HE, they may be able to develop their own abilities and action-
competence to positively change their lifestyle to pre-empt NCLSDs.
Schools are social institutions in the society with the responsibility of equipping their learners with adequate knowledge and commitment to make meaningful decisions and action to address the challenges posed by both lifestyle and societal conditions. The bottom line is provision of holistic health concept, which is action-oriented where learners actively participate in their learning process so that they can act on their health needs decisively. Applied in this study, this theory enabled the study to establish whether the KNSHP was being implemented in schools using a democratic and participatory approach where all educational stakeholders are consulted and actively involved to enable their efficacy in preventing escalating cases of NCLSDs. This was one of the gaps that the study hoped to fill.

Action-competence is an educational ideal and not a teaching method or an objective to be achieved, and for this reason, its development can be difficult to measure. However, components of action-competence have been suggested (Jensen, 1997:422); insight and knowledge, commitment and then action possibilities. Action competence is the ability to participate in social, democratic process, that is, to be a qualified participant, which implies the ability and the will to act for democracy (Jensen and Schnack, 1997:165). According to Jensen (1997:422), three main principles are integrated in the concept of action competence. It is based on a holistic concept of health, where lifestyles and living conditions, as well as physical and psychological dimensions are given importance. It is also based on a concept of action targeted towards solving problems [for example, In HE pupils actions can be prevention of NCLSDs through empowerment via preventive education], and involving participants in the decision-making process. Given this perspective, pupil’s participation in learning is an important aspect in action-competence. Participation is both a prerequisite for developing action-competence with pupils and an outcome of that process. The concept has proved efficient in western cultural context (Jensen, 1998:312). The link between action and action competence is complex. On one hand, action competence is supposed to lead to concrete action taking in the short or the longer run. In other words, pupils with high action competence are supposed to take individual or collective action to improve their own life or their living conditions. There are two types of actions, collective and individual actions. In order to qualify as collective action, the action must be taken by people who have common understanding and a common goal. Action competence is bound to include collective as well as individual actions targeting living conditions as well as lifestyle matters.

Jensen (1997:314) observed that knowledge has to be concretized before being translated into action-competence. Action-competence is the process by which learners use their experiences, knowledge and perceptions to take actions on issues they consider as important since
they affect their lives [for example, health issues like NCLSDs]. This involves acquisition of knowledge, willingness to act, and actual execution of any decisions reached. Action-competence has two major characteristics. One of them is that actions are purposively directed at solving problems. Secondly, those carrying out the action decide upon the action. Thus in action-competence, besides acquiring the necessary knowledge on the problem, learners need to be motivated to be committed as well as have a vision of how to translate their knowledge into actions that will solve their health problems and largely prevent NCLSDs.

This is achievable through action-competence where learners benefit from concrete action during the learning process. In this context, action-competence is realized after learners acquire knowledge and understanding that provides them with the capacity to ably and competently translate latent knowledge and skills into observable behaviour and actions manifesting their visions into practice. In this sense, then HE enables the learners to acquire health care seeking behaviour in the process of learning and gaining experience on how to take appropriate health actions to determine good health practices to deal with NCLSDs. This will bring appropriate change in learner’s perceptions of healthy lifestyles. Besides, HE should not only provide learners with functional knowledge, but also provide them with the motivation or the predisposition to use the knowledge and skills to inform their healthy practices and choices now and in future.

Further, within the context of action competence, it was necessary to examine the relationship between health action, that is, health care practices and the experiences. Actions and experiences are closely linked, since experiences are derived from actions; similarly, actions are in turn performed based on previous experiences, such as continuity in learning experiences and subsequent practices. It is also notable, that broad and inclusive HE which encompasses all aspects of diseases including communicable and NCLSDs is a major aspect of what learners experience within the broad socialization process in primary education to prevent NCLSDs among themselves.

Bandura (1977:24) came up with the idea of modelling or observational learning also known as social cognitive learning theory. Social learning theory explains human behaviour in terms of continuous reciprocal interaction between cognitive, behavioural, and environmental influences. Social learning theory talks about how both environmental and cognitive factors interact to influence human learning and behaviour. It focuses on the learning that occurs within a social context. The core tenets of this theory are that people learn from one another through observation, imitation, and modeling. The social learning theory emphasizes the importance of observing and modeling the behaviours, attitudes and emotional reactions of others.
Imitation is the first step in social learning. A skill is demonstrated by one person, and another person mimics or copies the skill. Modeling is a very effective tool to be used in a teaching situation. When students observe the teacher performing a new skill while describing it, they are apt to learn the skill more quickly. Modeling provides an alternative to shaping for teaching new behaviour. Observational learning is also known as vicarious learning. Bandura states that new responses are learned by observing others in new situations. Based upon the action or actions of the person being observed, we formulate our own ideas of how to react in a similar situation. Learning by observation (models): students learn by observing other people. For example, in health behaviours choices affecting health, such as smoking, physical exercise, dieting, condom use, dental hygiene, seat belt use, breast self-examination are dependent on self-efficacy. Self-efficacy beliefs are cognitions that determine whether health behaviour change will be initiated, how much effort will be expended, and how long it will be sustained in the face of obstacles and failures. Self-efficacy influences how high people set their health goals (Bandura, 1997:34). Self-efficacy is the extent or strength of one's belief in one's own ability to complete tasks and achieve goals. The assumptions of the social cognitive learning theory are: that people learn by observing others, learning is an internal process that may result in behaviour change and action-orientation where cognitive process play a critical role in determining what is learned. Behaviour and subsequent actions are directed towards particular goals that people have themselves.

Applied in this study, learners observe and imitate others through modelling their habits and actions like feeding habits, types of foods eaten, body exercises by seeing how others do these activities. Learners also develop good moral values and practices about feeding by watching others around them and being actively involved ‘in doing’. Learners also, acquire ideas and feelings that inform their behaviour by watching print and electronic media, family members, society members, teachers and classmates. They also learn and acquire behaviour by observing symbolic models, that is real or fictional character portrayed in books, newspapers, films, television and other media.

Applied in this study, this theory helped the study to determine the effects of school feeding programmes, junk food shops and eateries around the schools on formation of healthy feeding habits among pupils. This may determine the extent to which they are predisposed to NCLSDs and what appropriate intervention measures that could be taken.

Individual learners come to formal and structured educational programmes with some knowledge, ideas and beliefs about health practices. They also may have some experiences and skills relevant to health care practices. These may be acquired through the primary
socialization process at family and from other socializing agents in the
greater community who interact with learners before and after they
join formal learning system in primary schools. HE adds to this pool of
experiences and skills. In the context of this study, it was implied that
HE could either be active or passive experience on the part of the
learners. In the case of passive experience or learning, the learner was
at the receiving end of the exchange between self and the
environment. In the case of active learning activity, the learner takes
initiative and manages or is part of the learning process and the
environment hence acquires action-competence. This was critical,
since learners have to be actively involved in the learning process to
acquire the necessary skills and competencies to prevent NCLSDs
among themselves.

Accordingly, it was imperative that, this study used the three theories
in combination to capture critical issues envisaged in the study by
analyzing the HE content in KNSHP and KPSC. This was done by
observing the teaching and learning processes, contents and methods
as important and facilitating determinants of whether HE could be
translated into action-competence for HLs to forestall NCLSDs. The
researcher explored the perceptions of Teachers, Head teachers, pupils
and Parents regarding HE with particular bias to NCLSD and finally
investigated challenges that educational stakeholders face in
implementation of KNSHP and, factors that affect how pupils’ translate
HE into actionable and observable lifestyles for health living. This was
a reflection of how HE enables the development, empowerment and
eventual acquisition of meaningful action-competence towards HLs and
body exercises. Equally important, the theories also enabled the study
to look at the practical constraints that prevent HE to be translated into
action competence by learners to prevent NCLSDs. Ideally, HE should
involve pupils through active listening, dialogue and action to make
their own decisions about their own health, according to their own
perceptions of a healthy life and HLs upon exposure through teaching
and learning in HE programmes in primary schools. In this study it was
envisaged that use of the democratic approaches in education will
enable learners not only to make independent but, informed choices on
health eating habits, body exercises and use of good health practices
to enable action-competencies and use of good habits for healthy
living among themselves to prevent NCLSDs.

Finally, the three theories try to conceptualize HE and, specifically the
component dealing with NCLSD as a holistic continuum that influence
human behaviour. First point of the continuum is explained by the
action theory, which conceptualizes as well as explains the actions,
habits and lifestyles/practices of individual actors in groups and/or
individuals and motivating contextual factors that influence them. The
second point of the continuum explains that these actions are learned
and practiced within a democratic context where pupils are
empowered to acquire knowledge independently to be self-reliant, action-competent and make informed, responsive, responsible decisions and choices with knowledge of the consequence in terms of perceived benefits and risks. Finally, the third point of the continuum is based on social learning theory where once pupils acquire knowledge related to health lifestyles they should be able to acquire good health practices and be role models and share with others in the process of social interaction and socialization; only then, can learning on better health styles become complete and link the work of schools to communities as well as individual to groups.

1.12 Conceptual Framework
The conceptual framework that guided the study is based on the premise that HE can play an effective role in preventing NCLSDs by promoting healthy lifestyles in children early in their early childhood and formative stages of their life as illustrated in the Figure 1.1.

**School Health Education programme**

KNSHP
Adequate HE content in curriculum
Health promoting community
Health promoting families
Teacher preparedness
Supportive peer group
Learner-centred teaching methods
Motivating - Effective learning resources
The schematic representation in the Figure 1.1 is premised on the view that for HE to be translated into action-competence that promote good personal and school practices for HLs; there are facilitating factors in

**Healthy lifestyles**
- Healthy nutrition
- Physical exercises
- Positive attitudes
- Food policy
- Good hygiene
- Healthy habits

**Prevention of NCLSDs**
- Maintenance of optimum body weight (BMI)
- Low medical bills
- Productive and longer life span

**Healthy living**
school environment that enable learners to acquire what is taught and eventually put them into good practices that will improve their health. In school environment, such factors include effective learning approaches that are participatory and democratic to maximize learner participation and involvement in the learning process for desirable learning outcomes. This will not only make the learners active but also make them own the learning outcomes and be more creative and responsible in their actions and choices in daily living skills that they will use to prevent lifestyle diseases.

Further, the schematic representation shows an interplay of various factors that influence the learning outcomes in HE; these factors include effective implementation of KNSHP in all schools, teacher’s preparedness, adequate HE content that has relevant and appropriate teaching learning processes and resources, use of effective and learner-centred participatory approaches and supportive parents, peer groups and community among others.

School community support and parental support by provision of required resources and moral support are important to enable learner’s practice what is taught in HE in schools. The support provided by the parents will provide enabling environment that will lead to action competence through regular practice of skills acquired from content learnt. Similarly, HE that incorporates activities that promote body movements and exercises is critical in enabling learners to regular physical exercises that enable movements and better body shape or Figure , which provides good appearance. Ultimately, all this may lead to healthy living that is characterized by long and productive lives accompanied with reduced costs in medical bills among other social benefits.

HE will enable learners to acquire action-competence in healthy practices leading to healthy lifestyles resulting in fewer incidences of NCLSDs. In term of economic benefits, healthy lifestyles will individuals and societies to be productive and enjoy a higher living standards as well as a higher life expectancy. Similarly, healthy lifestyles will enable learners to be active and practice good body exercises and healthy eating habits that will improve their body shape and appearance.

Pupils observe and imitate what is happening in the environment and interactive they are able to translate what they observe into practical habits and beliefs, which are manifested through observable actions, conduct and behaviour. Supportive primary socialization in families may enable children learn and acquire healthy feeding habits which enable them to practice healthy living. Caring home environment provide opportunities for children to learn interactively as they socialize with other siblings, parents and neighbours. Families and communities can provide a supportive environment where children can
learn and practice health habits. This forms a good foundation for more HE in school and later in the greater society.

In particular, HE provided in early childhood is habit forming since secondary socialization provided in schools complement primary socialization provided by the families. Hence, the primary school becomes an important avenue for socializing learners to acquire desirable lifestyles, which include HLs and physical exercises for productive living. This may be effective through use of HE having adequate and relevant content in NCLSDs that will equip learners with valuable knowledge and skills that will inform their actions and choices. Similarly, good school practices enable pupils to form strong peer groups that are supportive of each other. In such a scenario peer mentoring and support will lead to good health practices and ultimately to HL.

Teachers’ use of inclusive teaching methods and participatory approaches will ensure effective, open and democratic environment where teachers and pupils interactively complement and learn from each other. This will ensure a socialization process where teachers and pupils learn resulting in better quality learning outcomes leading to action-competence. Eventually, pupils will make responsible choices and decisions that are informed by the kind of knowledge and skill learnt in HE. Pupils who are socialized using HE with appropriate content in NCLSDs will eventually acquire good health practices leading to healthy lifestyles.

Teachers’ innovative use of learning resources during the teaching process, support by school administration and community will ensure effective socialization process of the children to practice use of knowledge and skills acquired to realize action competence that could be useful in preventing NCLSDs. Use of good school practices regarding health issues such as eating habits and regular involvement in physical activities will enable pupils to form healthy habits that may lead to HLs. Through socialization HLs may ultimately transform pupils and by extension society to acquire capacity to prevent NCLSDs and enjoy a healthy and productive living. Healthy and productive living will enable individuals and societies to grow and develop their potential not only to live longer but also to enjoy unending benefits of civilization and modernity.

1.13 Operational Definition of Key Terms
A number of terminologies have been frequently used in the study that requires operational definition to contextualise their meaning to ensure clarity of communication in the study. The operational terminologies include;
Action - competence - refers to the process by which learners use their experiences, knowledge and perceptions to take informed actions on issues they perceive as important. This involves acquisition of knowledge, skills, willingness to act and actual execution of decisions reached.

Competencies - refers to the acquisition of independence and ability to effectively and intelligently utilize knowledge and skills deliberately to avoid and seek treatment on lifestyle diseases

Empowerment - refers to the process of making one to be capable of acquiring ability or authority to be in control to influence reform, decide, change, transform his/her lifestyle or destiny.

Health - refers to a state of complete physical, mental, psychological, social wellbeing and not merely the absence of disease or infirmity (WHO, 1948).

Health Education - refers to the process of instruction into acquisition of health knowledge aimed at increasing awareness of self, environment, change of perceptions and acquisition of skills and action competence to ensure health lifestyles for individual and communal wellbeing.

Health literacy - refers to a level of awareness on health issues that enable one to practice good practices to prevent NCLSDs.

Healthy lifestyle - as used in this study generally refers to a pattern of individual practices and personal behavioural choices that are related to elevated or reduced health risk. It includes those decisions made by individuals which affect their health, and over which they more or less have control.

Healthy lifestyle - refers to the process of learning, acquisition and sustained practice of positive health behaviour such as good feeding habits and body exercises to avoid lifestyle diseases such as obesity, overweight and diabetes.

Holistic health concept - implies absence of lifestyle diseases that is attained when one puts in practice the knowledge and skills acquired from HE in daily living.

Junk drinks - refer to carbonated fizzy drinks that are high in sugar contents.

Junk foods - refer to foods high in fat and sugar and low in roughage; ingestion of highly refined foods that may have no roughages.

Kenya National School Health Policy - refer to comprehensive school health programme, which is an integrated set of planned school-based strategies, activities and services designed to promote the optimal physical, mental, social and educational
development of pupils and to improve the health of the community. It is also referred as MoE school health policy.

Non-communicable lifestyle diseases - used strictly to refer to diseases associated with unhealthy feeding habits/dietary disease and lack of body exercise which develop later in life; such lifestyle disease are Cardiovascular diseases like heart attack, hypertension, congenital heart diseases like (lung cancer, breast cancer, prostate cancer, cervical cancer, blood cancer-leukaemia), Asthma; Epilepsy; Peptic ulcers; Anorexia nervosa; Albinism, obesity, overweight, diabetes and associated complications.

Optimum body weight - used to imply body weight that is attained through good healthy practices that does not predispose one to NCLSDs and their attendant complications.

Physical activity - any bodily movement produced by skeletal muscles that requires energy expenditure that has health benefits leading to HLs; for instance, regular and active engagement in games, sports, dance among others. Physical activity should not be mistaken with exercise. Physical activity includes exercise as well as other activities which involve bodily movement and are done as part of playing, working, active walking, house chores and recreational activities.

Physical exercise - refers to a subcategory of physical activity that is planned, structured, repetitive, and purposeful in the sense that the improvement or maintenance of one or more components of physical fitness is the objective; for instance PE that been formally planned and practically taught as ought to done involving a series of measurable activities within a specified time to realize health benefits.

Promoting healthy lifestyle - refers to practice of providing support, enabling environment, facilitating, preventing and encouraging children to learn, acquire and sustain good health habits like healthy feeding habits and body exercises to prevent lifestyle diseases like obesity, overweight and others.

Secondary socialization - is teaching and learning process that takes place in primary school using formal HE content to avoid non-communicable life style diseases.

Unhealthy lifestyles - refers to any habit and practices that can potentially predispose one to NCLSDs; for instance physical inactivity, poor eating/feeding habits, smoking among others.
CHAPTER TWO
REVIEW OF RELATED LITERATURE

2.1 Introduction
This chapter contains a thematic review of related literature guided by the research objectives. The themes are the need for the HE policy; the content analysis of KNSHP in socializing pupils’ to prevent NCLSDs; Content analysis of the HE in KPSC in relation to promoting good health habits to prevent NCLSDs; methods of teaching of HE; perceptions of teachers, parents and pupils on contributions of HE in HLs and factors that limit the implementation of KNSHP HE programme. The review is concluded with exploration of factors that determine translation of HE knowledge into action-oriented practices and a summary of related literature review showing the gaps the study hoped to fill.

The review has been done as per the following themes;

i. Prevalence of NCLDs
ii. Origin and Development of HE
iii. The Role of School HE Policy in Socializing Pupils to Acquire HLs to Prevent NCLSDs
iv. HE in School Curriculum
v. The Teaching Approaches in HE
vi. Perceptions of Teachers, Parents and Pupils on the Contributions of HE to HLs
vii. Factors that Limit Implementation of HE Programme to Prevent NCLSDs
viii. Summary and Gaps of knowledge in the Related Literature Review

2.2. Literature Related to the Main Concepts

Prevalence of NCLSDs
i. Global prevalence of NCLSDs
Non-communicable diseases (NCLSDs), also referred to as chronic lifestyle diseases, are the leading causes of death worldwide. In 2008, 80 percent of NCLSDs deaths were in developing countries, up from 40 percent in 1990. NCLSDs will steadily increase health budget in low-income countries. By 2030, low-income countries will have eight times more deaths attributed to NCLSDs than high-income countries (Irina, Nikolic, Stanciole and Mikhail, 2012:6).

NCLSDs related mortality is occurring at earlier ages in developing countries: 29 percent of NCD-related deaths in developing countries occur before age 60, compared with 13 percent in developed countries (Irina et al, 2012:16). For example, the average age of the first-time heart attack sufferer in South Asia is 53, six years younger than the world average. NCLSDs are now affecting more people who are in their
prime economically productive years, and these deaths are frequently preceded by years of disability. Four diseases, cardiovascular diseases, cancers, diabetes, and chronic respiratory diseases, are responsible for the majority of NCD-related illness and death (World Bank, 2011:12). These four, along with mental illness, will cost the developing world $21 trillion over the next two decades.

NCDs share four main behavioural risk factors, all of which will likely escalate in developing countries: tobacco use, harmful use of alcohol, insufficient physical activity, and unhealthy diet/obesity. According to the World Bank (2011:14), more than half of the NCLSDs burden could be avoided through health promotion and prevention initiatives. Relying solely on treatment options to combat NCDs is very costly, particularly in developing countries where governments and health infrastructures are unprepared to respond to this growing problem. A focus on strengthening protective factors and earlier investment in prevention of NCLSDs among young people is therefore essential (WHO, 2012:104). Indeed, this study is going to provide valuable contribution in fighting NCLSDs by availing useful knowledge that can be used for advocacy awareness campaigns and invigorating HE as part of health promotion.

HE is important during adolescence due to a variety of reasons. First, adolescence is arguably the best chance to build positive health habits and limit damaging ones. Two, adolescence is a time when the influence of peers and parents, as well as the targeted marketing of unhealthy products and lifestyles, is significant. Risk factors for NCLSDs such as the use of tobacco and alcohol are often established during adolescence (World Bank, 2011:16).

There is a direct relationship between harmful levels of alcohol consumption and NCLSDs such as cancers and cardiovascular disease. Adolescents who begin drinking earlier are more likely to become dependent on alcohol within 10 years than those who begin drinking at an older age, and they also increase their risk of road traffic accidents, unprotected sex, intentional and unintentional injuries, poor mental health and gender-based violence (World Bank, 2011:14).

Finally, insufficient physical activity and unhealthy diet can also lead to an array of negative physical changes in adolescence such as high blood pressure and overweight/obesity, which can trigger NCLSDs such as cardiovascular diseases, diabetes, and cancers in adulthood (Barry, Linda and Shu, 2012:24). Physical inactivity is on the rise, particularly among women. Obesity among women is especially high in some countries in Latin America and the Middle East. Rapid urbanization is also a driving force behind these risks, and signs of insufficient physical activity and unhealthy diet are quickly emerging in developing countries (WHO, 2013:102).

NCLSDs risk factors can be less damaging if addressed early in life, when habits are not yet well-established. Minimizing risk factors for NCLSDs, particularly during adolescence, offers the opportunity for better health, more years of productivity, and lower health care costs.
Some risks, such as poor nutrition, begin in childhood or during pregnancy and are a clear precursor for later health problems (World Bank, 2011:11).

ii. Prevalence of NCLSDs in Africa

According to the World Health Organization (WHO, 2013:14), more than 36 million people die each year from non-communicable diseases (NCLSDs), and nearly 80% of these are from low-to middle-income countries (LMICs). In the age of globalization and rapid urbanization, NCLSDs, which have previously been considered diseases of the wealthy, are increasingly making their presence felt - even among the poorest of the world. It is projected that by 2020, 73% of all deaths worldwide will be due to NCLSDs and that the burden of disease due to NCLSDs will rise by more than 60% in LMICs (Young, 2009:58). This rise in LMICs, as in the case of Africa (particularly Sub-Saharan Africa), is occurring against the backdrop of the existing burden of communicable diseases like HIV/AIDS, malaria and tuberculosis (TB).

Heart disease, stroke, cancer, diabetes and other chronic diseases are often thought to be public health problems of significance only in high income countries. In reality, only 20% of chronic disease deaths occur in high income countries - while 80% occur in low and middle income countries, where most of the world's population lives (WHO, 2013:18). Moreover, as described in detail in the WHO (2012:18) publication ‘Preventing Chronic Diseases: a Vital Investment’, the impact of chronic diseases in many low and middle income countries is steadily growing. In low income countries, cardiovascular diseases alone killed five times as many people as HIV/AIDS. In these settings, middle-aged adults are especially vulnerable to chronic disease. Thus, people tend to develop disease at younger ages, suffer longer, and die sooner than those in high income countries. This undermines countries' economic development as many of those affected are at the peak of their productive and economic activity. Non communicable diseases are the major cause of death and disability worldwide.

The WHO African Region has not been spared the global epidemic of Non-Communicable diseases and their debilitating and often fatal complications such as blindness, renal failure, gangrene leading to lower limb amputations and hemiplegic conditions. In the region, chronic diseases are projected to account for a quarter of all deaths by 2015. Non communicable diseases, the silent killers, have insidious onset, debilitating complications and result in painful deaths.

WHO (2013:201) projects that 28 million people in the African Region will die from a chronic disease over the next 10 years. The rate of increase of deaths from chronic diseases will outstrip that from infectious diseases, maternal and perinatal conditions and nutritional deficiencies more than 4-fold in the next 10 years - the former will increase by 27% and the latter by 6%. Most significantly, deaths from diabetes will increase by 42%.

African countries face a double burden of communicable and non-communicable diseases. Many African countries, together with other
LMICs, are currently undergoing an epidemiological transition from predominantly infectious to non-communicable diseases. This change can be attributed to changes in lifestyle like diet, physical activity, smoking and drinking habits. It could also be due to the changing demographic profile of the population (WHO, 2012:23). The population pyramids of African countries are becoming more cylindrical, as opposed to cone-shaped. Current projections show that the largest increases in NCLSDs deaths by 2020 will be in Africa. By 2030, the number of deaths due to NCDs in Africa is projected to exceed the combined deaths of communicable and nutritional diseases, and maternal and perinatal deaths.

The interaction between communicable and non-communicable diseases is increasingly placing a burden on health care systems and individual health. For instance, there is evidence that both Type 1 and Type 2 diabetes predispose one to TB infection, and that co-occurrence of these leads to quicker progression of either disease and greater deterioration of the affected individual (WHO, 2012:22). Secondly, diabetes also predisposes patients to other infections that, in turn, exacerbate hyperglycaemia. Two of the NCDs occurring as a result of chronic communicable diseases are cervical cancer, which stems from human papilloma virus infection, and hepatoma, which is associated with hepatitis B infection (Maher, 2010: 943-948).

The double disease burden, as shown above, threatens to overwhelm an already over-taxed health system in most African countries. Health services in Africa are typically under-resourced and the available resources are dedicated primarily to communicable diseases (Young, 2009:38). NCLSDs remain largely unrecognized as significant by African health and government authorities; hence the direct and indirect effects thereof are not accounted for. Although health ministries in Africa acknowledge the burden and impact of NCDs, only a few African countries have put in place chronic disease plans or policies (Maher, 2010: 943-948). Due to this seeming obliviousness to NCDs or failure to allocate resources towards their management, the real impact of the direct interaction of communicable and non-communicable diseases remains in most African countries unknown.

Health systems in Africa are largely unprepared to deal with NCDs, having previously been more geared towards communicable diseases (Maher, 2010: 943-948). (18) Historically, African health systems have developed in response to acute communicable diseases, with governments prioritising and allocating funds and training opportunities towards these conditions at the expense of NCDs (Kengne, 2009:92). Approximately 80% of health budgets in the region have been directed towards communicable diseases in the last decade. Many health facilities lack basic equipment for effective diagnosis and treatment of NCDs, while specialist NCD training and knowledge is poor among health workers (De-Graft, 2010:420). Furthermore, many people with NCDs do not report for health services, leading to an underestimation of the actual prevalence of these conditions. In turn,
this affects the allocation of funds to NCDs by governments, as they are not fully aware of the scale and impact of NCDs. While health systems are being realigned to better deal with the dual disease burden, the chronic lack of trained personnel detracls from the goal (De-Graft, 2010:422). Most countries also face inadequate health infrastructure. For instance, the Zimbabwean health care system, due to the political and economic unrest in the country, faces lack of equipment, shortage of skilled professionals and lack of essential medicines and commodities.

The relative neglect of NCDs by African governments may further complicate the health outcomes of African populations. NCDs usually go unnoticed and undiagnosed, often resulting in health complications among the affected individuals. Cumulatively, these could have far-reaching, negative implications for African populations and their respective health systems.

The lack of policies and strategies for the control and management of NCDs is an important factor in NCD control and prevention in Africa. NCDs are not viewed as development issues despite the fact that health and development go hand in hand - which is why three of the Millennium Development Goals (MDGs) specifically address health (WHO, 2012:468). Even though they form part of the MDGs, the economic impact of NCDs remains unacknowledged and underestimated (WHO, 2013:234). It is projected that the total global expenditure on NCDs will have reached nearly US$ 47 trillion by 2030 (World Bank, 2012:26).

There is a lack of political will to implement policies on the basis of current knowledge and guidelines, to realign government funding Many donor-funded programmes are targeted at specific diseases, thus discouraging a holistic view of NCD health risks in local populations (World Bank, 2012:80). The current level of health system response is clearly inadequate to handle the rising NCD epidemic as well as the communicable disease burden.

iii. Prevalence of NCLSDs in Kenya

Non-communicable diseases (NCDs) in Kenya accounted for an estimated 29% of all mortality in 2008. In 2008 the most prevalent NCDs were cardiovascular diseases (12%). Cancers, non-communicable variants of respiratory diseases and diabetes contributed 6%, 3% and 2% to total mortality respectively (WHO, 2008:27). In Kenya there is a department in MOH with responsibility for NCDs but there is no NCD prevention and health promotion nor any NCD surveillance, monitoring and evaluation unit. The government has treatment and control of NCDs done like for other diseases. The Kenyan government has no National health reporting system for NCD risk factors that can be used for advocacy and awareness campaigns (WHO, 2011:12). Nonetheless, there is attempt by NGOs to advocate and create awareness for diabetes. There is no integrated or topic-specific policy, programme or action plan which is currently operational for Cardiovascular diseases,
Cancer, Chronic respiratory diseases, Unhealthy diet /Overweight / Obesity, Physical inactivity and Tobacco.

Cancer is one of the major non-communicable diseases (NCDs), and together with cardiovascular diseases, diabetes and chronic respiratory diseases they cause over 60% of total global mortality every year (MOH, 2011:5). It is estimated that cancer kills over 7.9 million people globally every year constituting close to 13% of total deaths worldwide. While communicable diseases still remain the leading killers in many developing countries, the incidence and mortality from non-communicable diseases is rising rapidly (MOH, 2011:5). This has resulted in a ‘double burden’ of diseases which is imposing strain on existing health systems.

In Kenya, cancer ranks third as a cause of death after infectious diseases and cardiovascular diseases. It causes 7% of total national mortality every year. Although population based data does not exist in the country, it is estimated that the annual incidence of cancer is about 28,000 cases and the annual mortality to be over 22,000. Over 60% of those affected are below the age of 70 years. In Kenya, the risk of getting cancer before the age of 75 years is 14% while the risk of dying of cancer is estimated at 12% (MOH, 2011:5).

In many developing countries the rapid rise in cancers and other non-communicable diseases has resulted from increased exposure to risk factors which include tobacco use, harmful use of alcohol and exposure to environmental carcinogens. Other risk factors for some cancers include infectious diseases such as HIV/IDS (Kaposi’s sarcoma and lymphomas), Human Papilloma Virus (HPV), Hepatitis B & C (Liver cancer), bacterial infections such as Helicobacter Pylori (cancer of stomach) and parasitic infestations such as schistosomiasis (cancer of bladder). The leading cancers in women are breast, oesophagus and cervical cancers. In men, oesophagus and prostate cancer and Kaposi sarcoma are the most common cancers. Based on 2002 data from the Nairobi Cancer Registry, of all the cancers registered breast cancer accounted for 23.3%, cervical cancer for 20% and prostate cancer for 9.4%.

In 2006, around 2354 women were diagnosed with cervical cancer and 65% of these died of the disease. Cancer is a class of diseases in which a group of cells display uncontrolled growth, with intrusion on and destruction of adjacent tissues and sometimes spread to other locations in the body via lymph or blood (MOH, 2011:6). Most cancers form a tumour (growth) but some, like leukemia, do not. Cancer is now recognized globally as one of the leading non-communicable diseases. Second to cardiovascular diseases, cancers contribute to over 7.9 million deaths (13% of total global mortality) each year and this figure is projected to rise to nearly 10 million unless the problem is addressed urgently. This seems to suggest that Nairobi County leads in NCLSDs
due to changes in lifestyle resulting from rapid urbanization, modernization and sedentary lifestyles. This made Nairobi County ideal for this study.

The risk factors for cancer are profoundly associated with socio-economic status; they are higher in low social economic status while cancer survival is lower in the poor than in those in higher social settings. The risk factors for cancer can be broadly categorized into four types namely: behavioural risk factors, biological risk factors, environmental risk factors and genetic risk factors. Behavioural risk factors include; tobacco use, harmful use of alcohol, unhealthy diet and physical inactivity. Biological factors include overweight, obesity, age, sex of the individual and their genetic/hereditary make up. Environmental risks include exposure to environmental carcinogens such as chemicals, radiation and infectious agents (MOH, 2011:8). WHO (2009:9) Kenya country Co-operation strategy report (2008-2013) regarding NCLSDs observes:

The country is experiencing a growing threat of non-communicable diseases. The prevalence of diabetes has grown from 1% of the population to 3.3% over the last ten years, with up to 10% in the urban areas. Global youth tobacco survey indicates that 13% of the school-going children aged 13-15 years are active smokers of cigarettes. Road injuries are also on the increase. The ministry has established the division of NCDs to address the major NCDs. Human and financial resources are, however, a challenge in undertaking this effectively. (WHO, 2009:9).

These observations from the world health organization suggest that NCLSDs are prevalent and not much attention is given to them. The report goes further to state:

The threat of NCLSDs is growing and is increasingly contributing to morbidity and mortality, leading to a double burden of disease as communicable diseases are not yet fully addressed. NCLSDs are not given adequate priority due to limited data and lack of national policies on major NCLSDs. Financial and human resources are also a major challenge and have limited WHO support in this area. Technical inputs have been available, but have been piecemeal due to the wide scope of the work and interventions that are required to address the NCLSDs agenda. WHO’s comparative advantage in technical leadership
and coordination needs to be strengthened, particularly as there are a number of players in this field (WHO, 2009:24).

The report further notes:

Kenya has high burden of communicable diseases and a growing burden of non-communicable diseases and weak health systems characterized by inadequate health infrastructure, human resources and other health care inputs exacerbating distribution inequalities and health services utilization and a general Lack of comprehensive approach to intervention in some key areas (WHO, 2009:14).

Despite the fact that non-communicable diseases such as cardiovascular diseases, cancers, diabetes and chronic respiratory diseases are on the increase, the health systems in the country have traditionally concentrated on the prevention and control of communicable diseases. As a result, health and development plans have not adequately invested in the prevention and control of these diseases. The silent epidemic of non-communicable diseases now imposes a ‘double burden of disease’ to the country which unless it is addressed will overwhelm the country in the near future. This bias in the system has resulted in weakness in programmes that should be addressing non-communicable diseases and their risk factors in the country.

These observations suggest the need to conduct more studies regarding NCLSDs and in particular the contributions of HE and other school health policies in enabling pupils to combat NCLSDs. the finding will be critical in providing useful information for planning strategic measures to prevent NCLSDs. This is one of the gaps this study attempted to fill. Approaching health issues through preventive education is not only cost-effective but also proactive and pre-emptive.

2.2.2 Origin and Development of HE
HE has always been part and parcel of health care. Indeed, before the advent of modern medicine, HE may have the greatest benefit to the suffering human kind. Before the scientific revolution of the 16th and 17th centuries, HE was embodied in the instructions about healthy living habits, typical of Greek, Arabic and medieval medicine (Sifuna and Otiende, 1992:24).

In this instance, the advice of Hippocratic medicine on diet, physical exercise and rest was not based primary on a medical benefit but on
the prevailing world view of Greek society that emphasized harmony, balance and moderation (Sifuna and Otiende, 1992:26). HE in those times involved the application of common sense and the experience of earlier generations. It served the philosophical, ethical and moral goals of society.

The scientific revolution infused HE with medicine, being seen as a possibility to improve the human condition. Physicians started to see it as their duty to combat living habits conducive to ill health. In reality, the physicians were pursuing an obligation imposed on them by the Catholic Church during the middle ages. They shared with lay people their views on health living while reserving the treatment to the medical professions. Meanwhile, some lay people, being critical of medicine, saw everyone as capable of both preventing and treating disease. They thus instead wanted to provide their fellow (lay people) with necessary knowledge and skills i.e. HE.

Today’s HE can thus be considered as both the infusion of the medical as well as the lay people’s efforts to improve health of humanity. Another dimension responsible for the emergence of HE is that in search for lower cost and greater value for resources, governments through both the health care sector and the education sector have also been searching for new approaches to better health. In turn the health care sector has broadened its agenda to include disease prevention and health promotion while education sector focussed on learning both inside and outside the school. The net effect of all these developments has been that education has not only facilitated but also supported health care efforts through what has since come to be known as HE.

The relationship between HE and HLs continue to interest both medical and educational professionals. It is in no doubt that the health of the people and their lifestyle are closely linked. Over the years, there has been a series of international and national policy statements on school HE. Indeed, the school has been for a long time been promoted as a major setting for the provision of HE. The 1978 WHO/UNESCO Alma Ata conference more specifically linked HE to primary health care. It can also be safely said that the Alma Ata Declaration on primary health care gave the education sector a major role. In the 1978 Alma Ata conference, it is stated that:

Schools should provide the efficient means to attain primary health care and could ensure that young people can be educated to have a good understanding of what health means...of how to achieve it and...of how it contributes to social and economic development... (WHO, 1978:6-11).
A global review of the status of the school HE prepared by the WHO in 1990 stresses the importance of HE for all children whether or not they were able to attend school. Some of the recommendations of the review included:

There be a linkage of HE with education for all initiatives...A high priority be given to the pivotal role of teachers in the promotion of health in schools and communities and...that the school HE must be planned and implemented in the context of the pupils families and the wider community...

Indeed this recommendation seems to suggest the idea of health promoting schools and communities that can support and sustain good health practices among children who provide hope for continuity of HLs to prevent NCLSDs. Nevertheless whether, this is possible is what this study went out to investigate and document the current status of HE in schools.

In 1990, during the world conference of education for all, held in Jomtien, Thailand, a world Declaration of Education for All was adopted. Article 1 of the 1990 World Declaration of Education for All states that:

Every person, child, youth and adult shall be able to benefit from the educational opportunities designed to meet their basic learning needs...

These needs include both essential learning tools and basic learning content required by human beings to be able to survive, to develop their full capacities; to improve the quality of their lives and to make informed decisions regarding health issues. Hawes (1993:13) observes that “all governments agreed that health content and health skills are vital to the survival of human beings and, that HE would enable them to make informed decisions.” Children who are healthy also grow and learn better.

The Geneva 1991 consultation conference by WHO, UNESCO and UNICEF proposed that:

Schools and communities are natural partners in health promotion and disease prevention (WHO, 1991:120).
The thrust has since then been that the school becomes the centre of development including the promotion of health. This is all the more so in view of the fact that one objective of HE is the development of young people who as adults will contribute to the development and maintenance of health for self, their families and community.

i. **Overview of HE in Kenya**

In Kenya, efforts to involve communities in their health development through education started in 1952 with the creation of a unit for HE within the department of health (Mwalenga 1987:26). As of now HE is primarily provided by both ministry of health and education. There are a number of NGOs involved in health promotion but they mainly focus on topical issues such as child survival and development, control of communicable diseases, maternal and child health issue, reproductive health and counselling but, emerging health issue such as NCLSDs have not been given much attention though they are taking a heavy toll on humanity. This was a serious issue that this study went out to investigate.

In Kenya, HE is integrated into curriculum. As per K.I.E (1992:9) syllabus, HE was integrated into the science and home science syllabus. Successive changes in curriculum where subjects like home science which was a one of carrier subjects was phased out to reduce subject load has seen HE contents significantly reduced. Indeed small bits of HE are captured in a topic or two in science subject (K.I.E., 2002:12). The curriculum changes have seen knowledge in HE being significantly reduced. HE has never been a standalone subject in the Kenyan curriculum. The content of the HE syllabus includes information that is expected to lead pupils to improved health status and practices. Nevertheless, this study sought to find out the contributions of HE to empower pupils to acquire good practices to prevent NCLSDs. This is important since NCLSDs have and still continue to cause untold suffering to humanity.

2.3 **The Role of School HE Policy in Socializing Pupils in HLs**

A comprehensive, quality school health education programme should use the National Health Education Standards to guide curriculum development. The Standards focus on increasing functional health knowledge and identifying key skills that are applicable to all aspects of healthy living (Joint Committee on National Health Standards, 2007:41). These skills include identifying the influence of family, peers, culture, media, and technology on health behaviour; knowing how to access and use valid health information; and using communication, decision-making, goal setting, and advocacy skills to engage in health enhancing behaviours. Further, the effectiveness and quality of health education programmes have been linked to adequate instructional time devoted to health education in the classroom (Joint Committee on National Health Education Standards, 1995:12).
A strong relationship exists between school health education and health literacy (Allensworth, Wyche, Lawson and Nicholson, 1995:94). Health literacy is the capacity of individuals to obtain, interpret, and understand basic health information and services in ways which are health enhancing. The development of health literacy is essential for students to adopt and maintain healthy behaviours and have improved quality of life. The most effective means to improve health literacy is to ensure that education about health is part of the curriculum at all levels of education (Joint Committee on National Health Standards, 2007:28).

The American Cancer Society (2007:44), the American Diabetes Association and the American Heart Association (1998:34) encourage quality school health education within all schools in the United States through the use of strategies such as utilizing school health education programmes that adhere to the recommendations from the National Health Education Standards; employing highly qualified and effective health educators; ensuring recommended health education instruction time at the elementary and secondary levels and having a national plan and budget to support school health education.

The KNSHP defines a comprehensive school health programme that enables the Government to address the health needs of learners, teachers and their families. The policy is aimed at providing for quality HE and health services to promote overall health, hygiene and nutrition of children (RoK, 2009:8). The policy will in addition provide for the mental and psychological health of children by providing a positive and safe physical and psychological environment. The policy complements existing national education and health policies and will advocate for the establishments of health programmes in the education system. The Policy will be operationalised by the National School Health Guidelines. The guidelines have eight thematic areas. Thematic areas in the national policy include life skills, hygiene, nutrition and disease prevention and control which this study diligently explored. Further, the policy identifies research as a critical component of better and continued improvement in child health. This study will comply with the policy by availing the study findings to the government to fine-tune HE in primary curriculum in light of NCLSDs.

The school health policy emphasizes the government’s strong commitment to investing in the health of children, that prevention is the key to better health for all, and that school health policy and guidelines are important instruments towards this end (RoK, 2009:9). Further, the government policy is aimed at ensuring realisation of the right to health, education and ultimately the right to life of her children; where equity of access to services and quality of life are key commitments of the Kenyan Government. All this can be realised if the infrastructure is set in schools involving pupils, teachers, parents and
the local communities to enable them acquire the needed capacity to implement the policy. These are some of the issues that the study went out to investigate.

The National School Health policy and guidelines are based on five pillars of Children Rights as outlined in the United Nations (UN) Convention on the Rights of the Child (UNCRC, 1990:20), the African Charter on the Rights and Welfare of the Child (adopted in 1990 and entered into force in 1999) and the Kenya Children Act 2001. These are survival rights, development rights, protection rights and participation rights. Both documents intend to strengthen children’s capacity to fulfil/demand their right to health, and education by for instance improving children’s access to health related information and facilitating children’s active participation in decisions regarding their health and education. The realisation of the goals set in the policy documents will largely depend on mobilisation of the resources and active involvement of stakeholders, which were the main concerns of this study. Furthermore, they respect the inter-relatedness of human rights by linking the right to health to other human rights, such as the right to water, sanitation, information, food, nutrition, privacy and education. This study explored the implementation of school health policy and adequacy of HE content in primary school curriculum in order to find out whether pupils are being given their fair share of knowledge and skills as a basic right to enable them to fight NCLSDs.

Particular attention is put on the principle of non-discrimination and the need to promote equity among students. The policy requires the support given to students to be responsive to their particular needs, with special attention given to vulnerable children such as girls, orphans or students with disability (RoK, 2009:12). At the same time, it calls for awareness to be created among students as well as teachers, parents and the community at large on differences and existing inequalities related to gender and other characteristics. Some of the recommended measures for promoting equity/eliminating discrimination are promoting equal opportunities for girls to education and health, for example, by providing cheap sanitary towels; providing mental health education and nutrition; providing sport and recreational activities for children with disabilities and monitoring children’s nutritional status and introducing feeding programmes. This study explored the status of the feeding programmes in relation to empowering pupils to prevent emerging NCLSDs among themselves.

It was imperative, then that this study went out to explore the perceptions of teachers, parents, pupils and school administrators about the school health policy in relation to enabling pupils to acquire healthy practices that can enable them to prevent NCLSDs. This was a critical gap of knowledge that this empirical study endeavoured to fill.
Education and health are the two most important characteristics of human capital. Their economic value lies in the effects they have on productivity: both education and health make individuals more productive. Education and health have a considerable impact on individual well-being, as well living standards and lifestyle, which determine the quality of their health. The wealth of nations is largely determined by the educational attainment and the health status of its population. According to the 2003 Human Development Report, ‘Education, health, nutrition and water and sanitation complement each other; with investments in any one contributing to better outcomes in the others (UN, 2003:85). The quality of health is directly affected by the kind of knowledge and skills acquired from education and in particular HE. This was a critical issue that this study explored to find out whether the HE made the necessary contributions to enable pupils lead and enjoy healthy lifestyles that could enable them to be productive members of society.

Education has proven to be effective in moderating socio-cultural beliefs that facilitate social practices such as drinking habits. Studies in South Korea such as Contoyannis and Jones (2004:4) and Lee, Park, Kim and Kim (2007:10) noted that after the country experienced a dramatic expansion of education, health behaviour of men changed leading to less socio-cultural beliefs in favour of consumption of alcohol; this resulted in less consumption of alcohol. According to the study, Koreans, traditionally tended to underestimate significantly the harmful effects of alcohol and view alcohol positively as social lubricants. Koreans, for example often believed that alcohol helps people to get to know each other better, that alcohol is essential for creating a pleasant atmosphere, and not being able to drink can hurt the social and work lives of men. These findings confirm that lifestyles are affected by various socio-cultural beliefs and that such beliefs can gradually be transformed through education. It was instructive that this study explored various socio-cultural beliefs that contribute to lifestyles that may have adverse implications to health wellbeing.

Empirical evidence support the claim that there is a positive relation between education and health, in their survey of non market outcomes of education, Wolfe and Zuvekas (1997:85) identified health and health related effects of education. They found out there is a positive relation between one’s education and one’s own health status in that schooling made positive contribution to the efficiency of (consumer) choices (like on smoking and on the use of health care, by making many educated people to avoid smoking compared to those who are uneducated.

According to UN (2003:45), a cross-country comparison over time shows that increases in educational attainment precede improvements in health status (UN, 2003:87). This temporal sequencing suggests a
causal relation between education and health. As argued earlier, the causal relationship between education and health arises because higher education leads to a healthier life style since educated people are better able to gather process and interpret information about healthy behaviours and sustain good practices to keep fit and healthy. Moreover, educated people invest more in healthy behaviour, are less likely to smoke or be obese, take more precaution, have more means to lead a healthier life-style, and are better informed about it...and are therefore in better health), an effect on health care use (that is, the higher educated people use health care more often and are therefore in better health).

HE has a positive relationship with the health status of one’s family members (in particular on one’s children). Education leads to good health that may form a vicious cycle where parents with healthy lifestyle, of better health, and with higher income associated with better health may induce their children to attain more education, by providing them with more resources and better health; and, to adopt healthy lifestyle through influence on the children's lifestyle choices. Parental education is likely to be correlated to an individual's health-related behaviours through, for example, informal interactions between parents and children (Grossman, 2005:28). Healthy lifestyle leads to better health, and better health may lead to higher educational attainment. Education improves earnings leading to better well-being as well, for, example, children who are in poor health are less able or have less energy to attend school and this has adverse effects to education, while workers with poor health may not be as productive.

The link between education and health increases with age (Hammond, 2002:9), that is, health behavioural practices and lifestyles such as healthy feeding habits and participating in physical exercises on regular basis take root in later live where they constitute a cumulative effect on sustaining good health status. This means that the education differential in healthy behaviour is only translated into observable physical health differences later in life (Hammond, 2002:557). These findings confirm that effective HE programmes in primary education contribute greatly to the ultimate benefits of healthy lifestyles in later live. Empirical support for this claim is found in Groot and Maassen (2006a) who noted that the effects of education on self-assessed health become stronger as people get older.

Grossman and Kaestner (1997:12) observed that highly educated people are less likely to smoke, exercise more, wear seatbelts more often, and are more likely to participate in screening programmes for breast cancer and cervix cancer. The prevalence of overweight and obesity is also much lower among highly educated people (Kenkel, Lillard and Mathios, 2006:26). The prevalence of smoking is much higher among lower educated people. Among others, smoking
increases the risk of (lung) cancer and cardiovascular disease. Smoking has a substantial impact on mortality rates. Average life expectancy of smokers is about six years less than for non-smokers. Studies indicate that an increase in education induces individuals to exercise regularly, and to get regular health checkups. There is overwhelming evidence that an individual's educational attainment is strongly correlated with most health-related behaviours. In fact there is concomitant increase in use of voluntary counselling testing services among educated people compared to those less educated who are more prone to prejudices, misconceptions and fallacies as they tend to rely more on socio-cultural beliefs and power of magic.

It has long been observed that, for example, college graduates are less likely to smoke, less likely to be obese, and more likely to exercise than non-college graduates (Kenkel 1991:34; De Walque, 2007:74). Binge drinking, however, seems to be more prevalent among lower educated youngsters. Overweight and obesity like smoking is more prevalent among lower educated people. Obesity increases the risk for cancer and cardiovascular disease. However, the main impact of obesity is on morbidity rather than mortality (Kenkel, Lillard and Mathios, 2006:92). In particular, overweight and obesity increases the risk of diabetes. This answers the question why health behaviours and practices significantly differ between people of different levels of education.

These studies point out that education and health complement each other. They also reveal that HE, which is a component of education, has great contribution to health status of society. Based on these findings, it was critical to explore the health policy in education to find out whether it imparted skills and knowledge that could enable pupils to enjoy health benefits now and in future.

A relevant concern for health policy to note is that increasing the educational level of the population may not only improve the health status of the population but may also reduce the costs for health care (OECD, 2006:40). Educated people are more informed and more assertive about the opportunities and the possibilities to obtain medical help, which also increases the chance of health care use. Educated population adapts to good health practices that prevent diseases than uneducated peoples. Educated people have a longer life expectancy (OECD, 2001:2). Education is associated with a number of desirable aspects in life; studies have shown that happiness or life satisfaction is positively determined by health, a stable job, and a satisfying family life. Diseases and illnesses, unemployment, divorce and criminal behaviour are strong determinants of depressions and negative attitudes toward life (OECD, 2006:42). Many of the aspects that make people unhappy and lead to bad health are more prevalent among the lower educated than among the higher educated.
Unemployment rates are generally much higher among lower educated workers than among the higher educated.

People with low level of education experience more health problems and have a shorter life expectancy than higher educated. Lower educated people are more likely to smoke, engage in excessive alcohol consumption and to be overweight and obese. Lower educated people commit violent crimes more frequently. Other forms of criminal behaviour are also more prevalent among less educated (Groot and Maassen van den Brink, 2003:18; OECD, 2001:17). Education contributes to lower unemployment rates, less criminal behaviour and less unhealthy behaviour. There appear to be large benefits both for individuals and for society. More and better education could yield savings in health care. This makes that the relation between education and health has important implications for public (OECD, 2001:4; 2006:19). Education and health policies do not have an effect within their own domain, but they large benefits associated with these policies. This entails that these policies should not be looked upon in isolation, but that rather on a more comprehensive or integrated policy approach to education and health is called for; an issue, this study explored in depth to shed light in the Kenya HE perspective and emerging threat posed by NCLSDs.

HE may influence health by shaping people’s sense of control; and, their perceptions of the extent to which they can influence their life circumstances. Several studies have concluded that more education confers a greater sense of control, which perhaps is not surprising given the influence of education on prospects for jobs and income. Higher levels of education have been linked with greater perception of personal control, fostering skills, habits and attitudes such as problem-solving, purposefulness, self-directedness, perseverance and confidence that contribute to people’s expectations that their own actions and behaviours shape what happens to them (Cohen, Kaplan and Salonen, 1999:12; Mirowsky and Ross, 1998:44). Increased sense of control in turn has been linked with health outcomes including higher levels of self-rated health, lower levels of physical impairment, and decreased risk of chronic conditions; it also has been associated with health-related behaviours including smoking, alcohol consumption, physical activity and diet. Sense of control may also influence health through job-related pathways, by affecting a person’s job seeking and performance (AbuSabha and Achterberg, 1997:12; Bailis, Segall and Mahon, 2001:32; Leganger and Kraf, 2003:45). It is important to note that an individual with a greater sense of control may also be more likely to achieve higher educational attainment, making it difficult to separate out the effects of sense of
control and education on health (Eden and Aviram, 1993:4; Sherer, Maddux and Mercadante, 1982:8; Stajkovic and Luthans, 1998:40). Self-control enables to control and tame desire and temptations to indulge in risky lifestyles that predispose one to NCLSDs, which have adverse effects to ones’ health. Ability to exercise and practice use of self-control has great impact to ones’ health. Self-control is enhanced through HE. It was imperative, that this study studiously explored the contributions of HE to enabling pupils to acquire self control to avoid junk foods and drinks to prevent UHLs.

Parents’ HE is strongly linked to their children’s health and development (Chen, Martin and Matthews, 2006:30; Chen, Matthews and Boyce, 2002:41; Ross and Van, 1997:48). Parents with lower educational attainment typically face greater obstacles including lack of knowledge, skills, time, money and other resources for creating healthy home environments and modelling healthy behaviours for the quality of children’s health and development in turn influences health later in life, through both direct and indirect pathways (Egerter, Braveman and Pamuk, 2008:68; Halle, Forry and Hair, 2009:9). A large body of research has consistently linked adverse effects on brain, cognitive and behavioural development early in life with important health outcomes later in life, including cardiovascular disease and stroke, hypertension, diabetes, obesity, smoking, drug use and depression conditions that account for a major portion of preventable morbidity and premature mortality in the United States. Healthy development in childhood can also affect health later in life through its association with greater academic achievement and educational attainment (Miller, Simon and Maleque, 2009:44). The level of educational attainment children eventually achieve affects their health as adults, through the same pathways experienced by their parents, and it also affects the health of their own children in turn perpetuating a vicious intergenerational cycle of low educational attainment and poorer health (Sirin, 2005:48). HE is a potent tool that can not only break the vicious intergenerational cycle but also improve health conditions as well as sustain healthy lifestyles. This can only be possible by taking a critical review of the contemporary health policies to establish whether the HE content and structures that support it are meeting health challenges of the day.

Why should we care about school health education? The health and well-being of our children is not a matter of luck. It is not a chance or random event. It must be a planned and implemented for good health outcome. The case for well-designed, well-resourced, and sustained health education in our schools is compelling. Improved health status is of enormous economic value to individuals as well as society in general. An investment in health and, in particular HE is akin to prevention which is like putting money in the bank which provides insurance for the future of individuals and society (Allensworth, Wyche,
Lawson and Nicholson, 1995:6). This is noble due to the fact that HE is a proactive strategy which has enormous accrued benefits due to cost effectiveness when compared to curative or reactive strategies which are costly; for, example, through effective HE, it is easier and less costly to keep our children healthy than to fix preventable health problems later in life. Teaching HE early in life enables pupils to develop habilitation as a preventive strategy which is better than rehabilitation which is a curative approach.

School health education programmes can reduce health risk behaviours such as tobacco use, poor nutrition, lack of physical activity, drug and alcohol use, as well as actions that increase stress, risk of injury, violence; this is due to the fact that these behaviours are amenable to change; quality school health education taught by trained and qualified health educators provides the best opportunity to promote positive health behaviour among children and adolescents (Joint Committee on National Health Education Standards, 1995:32). Studies have also shown that health risk behaviours that contribute to the leading causes of death in the United States are often developed during childhood and prevention is the best cure for chronic disease (Joint Committee on National Health Standards, 2007:28). In US, this can be done utilizing school health education programmes that adhere to the recommendations from the National Health Education Standards by employing highly qualified and effective health educators; ensuring recommended health education instruction time at the elementary and secondary levels and having a national plan and budget to support school health education.

School health education provides the fundamental basis for instilling behaviours into young people to prevent or delay the onset of the leading causes of death in adulthood. The potential for school HE to improve health and save lives is significant. If a society is to keep children and adolescents healthy, it is important to find better ways to provide quality school and sustainable HE programmes in Education that should include emerging issues such as NCLSDs that threaten their health and wellbeing. This was a critical issue that this study went out to explore in Kenyan schools. An effective policy is one that achieves positive changes in targeted outcomes in disadvantaged groups: in their predisposing social conditions, in their intermediate risk factors and/or in their health (Millward, Kelly and Nutbeam, 2003:62). An effective policy is one, which achieves both an absolute and a relative improvement in the health of the poorest groups (or in their social conditions and in the prevalence of risk factors). A periodic analysis of policy impact therefore is critical to establish changes in the targeted outcomes among those groups defined as the worst off (Killoran and Kelly, 2004:48). In addition, information is required on relative changes in the health outcomes; such information is needed to find out the rate of improvement in disadvantaged groups; a faster
rate of improvement is the essential criterion of effectiveness of the policy in narrowing gaps in health outcomes which is an indicator of the goals that the policy was set to achieve (Graham, 2004:29). An effective policy is one that is associated with improvements in health (or a positive change in its underlying health determinants) for all socioeconomic groups up to the highest socioeconomic group and a rate of improvement, which increases at each step down the socioeconomic ladder. These are serious issues that policies are meant to achieve to enhance life chances of a citizen of any country; therefore, KNSHP is anchored on social inclusion to enhance better health for the children of Kenya hence periodic review of its progress in attaining its objectives is necessary. This was one of the objectives that this study set out to explore based on evidence available in the schools sampled for the study.

2.4 HE in School Curriculum
An analysis of upper primary school HE curriculum in Kangudo by Muia (2001:13) revealed that most of the content of HE was covered under home science syllabus, with some topics covered under science, agriculture, geography, history and civics (GHC integrated) and physical education (MoE, 1992:22); indeed, this showed that HE knowledge was scattered in various subjects which made it very difficult for the learners to recognize its impact on their HLs; hence there was need to review the situation after a decade to find out the current status of HE. This study went out to find out whether HE was offered as a separate subject; the study further analysed the content of primary school curriculum to establish whether it contains the requisite content that could equip learners with valuable knowledge and skills to prevent NCLSDs, which are of great health concern in contemporary society. This necessitated for an empirical study to provide valuable knowledge to fill that gap of knowledge. Indeed, other studies had dealt with other issues in HE such health seeking behaviour (Muia, 2001) and communicable diseases (Nyamai, 2009:162) and no empirical studies had been done on NCLSDs, an issue that this study attempted to unravel.

Today’s state-of-the-art HE curricula is critical to enable pupils’ to acquire good health habits to prevent increasing health challenges. Such HE curricula should reflect content from the growing body of research that emphasizes on teaching functional health information (essential knowledge); shaping personal values and beliefs that support healthy behaviours; shaping group norms that value a healthy lifestyle and developing the essential health skills necessary to adopt, practice, and maintain health-enhancing behaviours (Lohrmann and Wooley, 1998:76). Less effective curricula often overemphasize teaching scientific facts and increasing student knowledge.
An effective health education curriculum has the following characteristics, according to review of effective programmes and curricula and experts in the field of health education (Lohrmann and Wooley, 1998:66). A HE curriculum needs to focuses on clear health goals which are related behavioural outcomes. An effective curriculum has clear health-related goals and behavioural outcomes that are directly related to these goals. Instructional strategies and learning experiences are directly related to the behavioural outcomes (U.S. Department of Health and Human Services, 2011:24). A comprehensive HE curriculum ought to be research-based and theory-driven. An effective curriculum has instructional strategies and learning experiences built on theoretical approaches (for example action, social learning and democracy theories) that have effectively influenced health-related behaviours among pupils and youth in general. The most promising curriculum goes beyond the cognitive level and addresses health determinants, social factors, attitudes, values, norms, and skills that influence specific health-related behaviours. As such, effective HE programmes should have content that addresses individual values, attitudes, and beliefs. An effective curriculum fosters attitudes, values, and beliefs that support positive health behaviours. It provides instructional strategies and learning experiences that motivate students to critically examine personal perspectives, thoughtfully consider new arguments that support health-promoting attitudes and values, and generate positive perceptions about protective behaviours and negative perceptions about risk behaviours that may predispose them to health problems now and in future (Lohrmann and Wooley, 1998:112).

HE programmes should address individual and group norms that support health-enhancing behaviours and good practices. An effective curriculum provides instructional strategies and learning experiences to help students accurately assess the level of risk-taking behaviour among their peers (for example, how many of their peers use illegal drugs), correct misperceptions of peer and social norms, emphasizes the value of good health, and reinforces health-enhancing attitudes and beliefs (Contento, Balch and Bronner, 1995:24). An effective HE programme need to focus on reinforcing protective factors and increasing perceptions of personal risk and harmfulness of engaging in specific unhealthy practices and behaviours. An effective curriculum provides opportunities for students to validate positive health-promoting beliefs, intentions, and behaviours. It provides opportunities for students to assess their vulnerability to health problems, actual risk of engaging in harmful health behaviours, and exposure to unhealthy situations (Lohrmann and Wooley, 1998:28). Effective HE needs to addresses social pressures and influences among pupils and impact to their health. An effective curriculum provides opportunities for students to analyze personal and social pressures to engage in risky behaviours, such as media influence, peer pressure, and social barriers (U.S. Department of Health and Human Services, 2011:24).
Effective HE programmes builds personal competence, social competence, and self-efficacy by addressing skills. An effective curriculum builds essential skills which includes ability in important attributes like communication, refusal, assessing accuracy of information, decision-making, planning and goal-setting, self-control, and self-management...that enable students to build their personal confidence, deal with social pressures, and avoid or reduce risk behaviours which potentially make them susceptible to NCLSDs among others. For each skill, pupils’ are guided through a series of developmental steps such as discussing the importance of the skill, its relevance, and relationship to other learned skills; presenting steps for developing the skill; modelling the skill; opportunities for practicing and rehearsing the skill using real–life scenarios and providing feedback and reinforcement. These are critical to develop ability for action-competence (Tobler and Stratton, 1997:20). An effective HE programme need to provide functional health knowledge that is basic, accurate, and directly contributes to health-promoting decisions and behaviours. An effective curriculum provides accurate, reliable, and credible information for usable purposes so students can assess risk, clarify attitudes and beliefs, correct misperceptions about social norms, identify ways to avoid or minimize risky situations, examine internal and external influences, make behaviourally relevant decisions, and build personal and social competence. A curriculum that provides information for the sole purpose of improving knowledge on information will not change behaviour (Kirby, Coyle, Alton, Rolleri and Robin, 2011:202). Effective HE should use strategies designed to personalize information and engage pupils on emerging health issues. An effective curriculum includes instructional strategies and learning experiences that are student-centred, interactive, and experiential (for example, group discussions, cooperative learning, and problem solving, role-playing, and peer-led activities to provide opportunities to develop action-competence). Learning experiences correspond with students’ cognitive and emotional development, help them personalize information, and maintain their interest and motivation while accommodating diverse capabilities and learning styles (Sussman, 2005:84). Instructional strategies and learning experiences include methods for addressing key health-related concepts; encouraging creative expression; sharing personal thoughts, feelings, and opinions; thoughtfully considering new argument and developing critical thinking skills which promote independence and self reliance as well as enhance problem solving skills (Kirby, Coyle, Alton, Rolleri and Robin, 2011:82).

An effective HE programmes needs to provide age-appropriate and developmentally appropriate information, learning strategies, teaching methods, and materials. An effective curriculum addresses pupils’ needs, interests, concerns, developmental and emotional maturity levels, experiences, and current knowledge and skill levels. Learning is relevant and applicable to students’ daily lives. Concepts and skills are
covered in a logical sequence. Effective HE programmes are those that incorporate learning strategies, teaching methods, and materials that are culturally inclusive (Lohrmann and Wooley, 1998:44). An effective curriculum has materials that are free of culturally biased information but includes information, activities, and examples that are inclusive of diverse cultures and lifestyles (such as gender, race, ethnicity, religion, age, physical/mental ability, appearance, and sexual orientation). Strategies used should promote values, attitudes, and behaviours that acknowledge the cultural diversity of students; optimize relevance to students from multiple cultures in the school community; strengthen students’ skills necessary to engage in intercultural interactions; and build on the cultural resources of families and communities (Botvin, Botvin and Ruchlin, 1998:28). HE should provide adequate time for instruction and learning. An effective curriculum provides enough time to promote understanding of key health concepts and practice skills. Behaviour change requires an intensive and sustained effort. A short-term or “one shot” curriculum, delivered for a few hours at one grade level, is generally insufficient to support the adoption and maintenance of healthy behaviours. It should provide opportunities to reinforce skills and positive health behaviours (Lohrmann and Wooley, 1998:28).

An effective curriculum builds on previously learned concepts and skills and provides opportunities to reinforce health-promoting skills across health topics and grade levels. This can include incorporating more than one practice application of a skill, adding "skill booster" sessions at subsequent grade levels, or integrating skill application opportunities in other academic areas (Weed and Ericksen, 2005:8). A curriculum that addresses age-appropriate determinants of behaviour across grade levels, reinforces and builds on learning is more likely to achieve longer-lasting results (Kirby, 2001:12). Effective HE programme should provide opportunities to make positive connections with influential others. An effective curriculum links students to other influential persons who affirm and reinforce health-promoting norms, attitudes, values, beliefs, and behaviours. Instructional strategies build on protective factors that promote healthy behaviours and enable students to avoid or reduce health risk behaviours by engaging peers, parents, families, and other positive adult role models in student learning (Eisen, Pallitto, Bradner and Bolshun, 2000:62). An effective HE curriculum is one that includes teacher information and plans for professional development and training that enhance effectiveness of instruction and student learning. Teachers who have a personal interest in promoting positive health behaviours, believe in what they are teaching, are knowledgeable about the curriculum content, and are comfortable and skilled in implementing expected instructional strategies implement curriculum more effectively. Ongoing professional development and training is critical for helping teachers implement a new curriculum or implement strategies that require new skills in teaching or assessment (Nation, Crusto, Wandersman, Kumpfer, Seybolt, Morrissey-Kane and Davino, 2003:44). These were critical
issues that the study set out to explore regarding HE in KPSC with particular regard to NCLSDs which pose a challenge to humanity.

2.5 The Teaching Approaches in HE

Generally, the methods used for teaching a particular subject are critical determinants of the learning outcomes in the learning process. Effective learning of HE may be largely determined by the content, instructional approaches, learning resources and the context as well as by the process of learning. Schools play a critical role in ensuring high standards of teaching are kept to ensure high quality of learning outcomes are achieved. This is important to enable pupils to maintain health behaviour that can sustain good health practices to prevent NCLSDs. In the WHO’s (2007:28) Information Series on School Health, a decade of evaluation research indicates three important findings regarding quality school health education programmes (UNICEF, 2007:122). Health education that concentrates on developing health-related skills and imparting health-related knowledge and attitudes is more likely to help youth practice health enhancing behaviours. Skill development is more likely to result in the desired healthy behaviour when practicing the skill is tied to the content of a specific health behaviour or health decision. The most effective method of skill development is learning by doing involving students in active, participatory experiences, rather than passive ones. Evaluation of health education research shows promise of having a positive impact on academic achievement as it has on health outcomes. Well-designed and well-delivered school-based health interventions can enable students to prevent disease and injury (CDC, 2001:40). HE is a critical component of effective school health interventions.

Muia (2001:141) observed ‘Teachers rely on giving notes, asking pupils to copy from textbooks, use traditional teaching approaches like lecture method, practical lessons and demonstrations were not done regularly due to lack of time and material resources since parents could not provide money for the materials required. In the same study, teachers ‘blamed this on shortage of time due to pressure on examination grades and lack of material resources.’

The problem with lecture approach is that it does not allow pupils in primary schools the opportunity to interact and participate in the learning processes, which are critical for concretizing and internalizing the content learnt. Given the limited concentration span of pupils at this stage of their growth and development, then it possible that much of what was taught might not have been retained. In absence of any other recent empirical study, it was very informative for this study to establish the approaches used by the teachers and provide suggestions that can be useful to improve teaching approaches that can enable effective teaching and learning in HE given the emerging challenges posed by NCLSDs. This was a critical gap of knowledge since it may enhance learning outcomes and good practices in HE.
Similarly, Kinoti (2003:124), and Kitsao (1999:82) observed over-dependence on the didactic approach, which emphasized moralistic teaching of facts rather than motivation of children to take practical responsibility for their health, and wellbeing by applying the knowledge they gain in everyday life does not help the pupils to change their habits. They further noted the teachers had a habit to ‘overemphasize teaching examination subjects only’ that did not seem to ‘benefit pupils and by extension the community’ due to the fact that they hardly practiced what they are taught in HE which was not examinable in national examinations, given that their teachers were pre-occupied with ‘drilling’ in examinable subjects to pass exams. They claimed that it might lead to producing highly learned individuals who may however succumb to health problems some of which could have been prevented using proper health practices gained through effective teaching of HE in primary school.

In this study, the researcher interrogated the various approaches used by teachers to teach HE. In particular, it was important to establish whether the teachers use any of various forms of participatory approaches necessary to make the school a HE and promotion setting. A critical issue that the study explored regarding teaching was the resources that could be used to facilitate interactive teaching and learning in HE. The study explored whether teachers used a variety of learning resources to enable learners to interact with the content during the teaching process. Interactive learning process reinforces knowledge and skills to acquire action-competence that can enable them to use the knowledge responsible way to prevent NCLSDs. Additionally, this study drew its motivation from the health-promoting schools as a ‘settings approach’ to health promotion which reflects a conceptual shift from disease prevention approach which is focused on individual lifestyle factors to health promotion which addresses the broader social and environmental health. The settings approach acknowledges the complex interaction of factors that influence health in an organization such as a school (Booth and Samdal, 1997:92). Subsequent to the Ottawa Charter (WHO, 1986:102), the WHO developed the settings approach to health promotion. This approach focuses on the settings or place where people are at work or play for instance schools, markets, communities and villages among others. The advantages of the settings approach is arguably its emphasis on the environment rather than personal behaviour, which implies a shift away from disease, focused programmes to community collective participation and a more needs driven approach in HE. The international conference in Jakarta in 1997 strongly endorsed this approach.

The Jakarta Declaration on Health Promotion into the 21st Century states that there is evidence that comprehensive approaches to health development are most effective and settings offer practical
opportunities for the implementation of comprehensive strategies. Moreover, participation is essential to sustain efforts and people have to be at the centre of health promotion action and decision-making. Further, health learning fosters participation, access to education and information is essential to achieving effective participation and empowerment of learners and the local communities.’ Indeed, providing preventive HE education to young children cannot be over-emphasized. Abidha (1993:42) observed:

Unlike adults, children learn simple health messages in a very short time because memory is highest in childhood...they enjoy transmitting messages to other children and adults alike...they can use many channels of communicating messages such as play, drama, songs, dances, jokes...they are social, expressive and confident in whatever they want to communicate...most parents are keen to hear from their own children...

The preceding expose illustrates that adequate and effective HE curriculum can have ripple effects in informing and transforming the UHLs practices among pupils, peers, parents and by extension the community. Accordingly, then, one of the fundamental concerns of this study was to find out the approaches that the teachers employ in teaching HE in primary schools which is a critical determinant in enabling them to ward-off UHLs by bridging the gap between theory and practice. This is a critical gap that the study intended to fill by providing empirical findings upon which informed policies on teacher’s preparedness in handling health emerging challenges can be made to reverse the tide in NCLSDs.

2.6 Perceptions of Teachers, Parents and Pupils on the Contributions of HE to HLs
Perceptions play a great role in influencing habits, beliefs and attitudes that determine how one reacts or behave towards something; for example, perceptions determine whether a certain attitude is positive or negative which has implications on use and practice or lack of it all together. Mbithe (2008:132) in a study involving nutrition education, which is part of HE, intervention in primary schools in Machakos Sub-County observed taboos and beliefs have negative effects in food consumption patterns. The pupils learnt of the taboos from parents, grandparents, older siblings and other community members. In the same study, results from focus group discussions with parents concurred with those of the pupils, pointing to the role of the community in influencing dietary patterns among children. The findings of that study demonstrated that parental influence and support has great influence in children feeding habits. Indeed, this study explored
the role that parents play in society to enable pupils translate HE theory to practice and acquire good eating habits to prevent NCLSDs.

Further, Mbithe’s study recommended that KPSC be strengthened by widening the scope of nutrition education coverage. In addition, the study suggested that nutrition clubs should also be initiated in primary schools through which nutrition education could be taught at least once per week. Establishment and use of school gardens was also recommended as a simple and cost-effective means to improve nutrition education and nutrition standards in the schools. It was quite informative for this study to establish the status and practices in primary schools sampled in relation to escalating concerns of NCLSDs in current society and in particular schools in urban locations which face unique challenges like shortage of space and land among others... hence come up with the strategies and recommendations based on study findings that can be instituted to ameliorate UHLs that may lead to NCLSDs.

Further, in the same study, Mbithe reported that all head-teachers (15) and class teachers of class 5 and 6 (30 in number) reported that there was the need for nutrition education especially to girls who are likely to drop out of school due to pregnancies, early marriages or to search for employment (FAOa, 2005:12). It was apparent that the syllabus did not adequately address nutrition education and was perceived as an easy subject. On the contrary, a focus group discussion with parents showed that parents viewed the teachers as ignorant and insensitive because they were not teaching nutrition well as it was done in the earlier years. Nearly all the pupils (95.7%) also identified the need to increase effort on nutrition education. It was imperative that this study sought the views of teachers, parents and teachers about the current HE to fill this gap of knowledge that is critical if HE has to have a positive impact on HLs that will avert NCLSDs in our society.

2.7 Factors that Limit Implementation of HE Programme to Prevent NCLSDs
Several issues may affect the implementation of the school health educational programmes. These factors may range from the lack of capacity and preparedness of the technical personnel; teaching methods and availability of resources such a time, learning aids and books.

The training and equipping of teachers to interpret and implement any new curriculum is critical to ensure their efficiency and proficiency in implementation of the programme during the teaching process. This is also crucial because it is positively correlated to learning outcomes observed in the learners. Nyamai (2009:165) noted ‘Teachers involved in teaching HIV/AIDS had not been trained to teach the subject and in absence of relevant training to teach HIV/AIDS Education the teachers averred that they used any approaches they thought might be useful.’
Nyamai’s (2009:126) study dealt with a communicable disease that is HIV/AIDS which, may be accompanied with strong emotions and an avalanche of information from electronic and print media involved in advocacy campaigns; but this study dealt with NCLSDs which not much has been empirically researched, documented, publicized nor published, hence revisiting the issue of teachers preparedness to effectively teach this new area of emerging issues was critical. Indeed, a fresh approach as well as new knowledge and skills are of critical concern if teachers’ capacity and efficacy has to be enhanced to equip children with requisite competence to prevent NCLSDs in view of changes in lifestyle.

Lack of preparedness has had adverse effects in terms of quality teaching due to the fact that it cannot bring effective positive learning outcomes in the learning process due to the fact that teachers lack confidence and back up knowledge and skills to be thorough and effective since they do not have prior familiarization/interaction and knowledge of the new content nor essential delivery approaches which are quintessential for effective teaching and evolution of what is taught. It was imperative that, in absence of any other experiential study, then this study examined and assessed the teacher’s efficacy in HE teaching with a view of generating valuable suggestions that can improve efficacy of HE in promoting healthy lifestyles to curb escalating incidences of lifestyle diseases. The study also generated good practices from its empirical findings that can be valuable in improving learning outcomes in teaching primary HE programme.

Moreover, Mwaniki (2010:10), a health expert cum columnist with the Standard Newspaper in article titled surge in diabetes cases ‘worrying’ notes that;

Health experts have sounded an alert over the increased cases of diabetes which afflicts more than two million people in Kenya…out of these cases, more than 20,000 children suffer from the disease, which is the leading cause of heart diseases such as hypertension, heart attack and cancer…the disease is also the leading cause of amputations and eye-related conditions…in Kenya, there has been notable rise in diabetes type 1, which mostly develops in young people; but, 90% of the cases of diabetes is type 2, which is as a result of lifestyle choices…there is virtual silence on the causes and treatment for this killer disease and there is need therefore to carry out sensitization on the factors fuelling the spread of the disease…

In deed the preceding observations made a strong case for this study to critically analyse HE with a view to establishing its adequacy in terms of content, its efficacy in instructional approaches, as well as use of appropriate resources and teachers preparedness with a view of
making realistic and practical suggestions that could be instituted to strengthen the HE teaching to enable pupils avert NCLSDs.

Muia (2001:256) also established that the teachers’ knowledge of the subject was inadequate in some aspects of HE. Teachers revealed that some areas in the syllabus were hard to generate adequate information for teaching purposes and books sent to schools by KIE lacked enough content; indeed in the study one teacher informant reported that ‘the problem with HE content is the lack of resources to back it up since KIE books are too shallow and lack essential details.’

Further, Mandela (2010:210) in a study on gender and HIV/AIDS education in the multicultural context of schools in Kakuma refugee camp and its host community observed that many teachers in the study site lacked knowledge and skills to educate which was due to lack of teacher’s preparedness; indeed it was observed that some ‘teachers lacked linguistic skills to communicate basic concepts in the subject content’; for, example, ‘in a classroom observation, a female teacher consistently used wrong spellings and pronunciations of common words in a subject content.’

Similarly, Otiende, Bennaars and Groenewegen (1997:45) in a study entitled ‘School Health Education Project Research’ found out that there were gaps in the teacher’s knowledge; for example, they noted that ‘the teachers were aware that their knowledge was inadequate as required for classes four and five science and there were no resources to help them to adapt to this kind of knowledge.’ Thus in that study it was reported that the resources required by teachers for effective teaching were limited and this possibly affected their effectiveness in guiding pupils. All these studies revealed that teachers’ lack of up-to-date knowledge was a serious issue. This study diligently explored the situation in HE teaching and teachers’ perceptions of the HE to make viable recommendations to promote healthy lifestyles among primary school pupils to curb NCLSDs.

The challenge for educators and health authorities and communities worldwide is how to impart and meet the health knowledge, skills, practices and needs in today’s children, a task that this study sought to unravel. Ascroft (1994:3) observed that ‘the reality is that for too many children in the third world, their HE needs will go unfulfilled and they will grow up as ignorant as their parents and ready themselves to enter parenthood and perpetuate this ignorance to their children.’ This observation seems to indicate lack of appropriate HE programme is one of the factors that massively contribute to ignorance about healthy lifestyles in many communities in third world. It was critical that this study investigated the status of HE programmes in primary schools in Kenya with a view to making recommendations to remediate the situation. This may enable proactive strategies that can enable young
people who are the future of the society to prevent NCLSDs among themselves and enjoy healthy and productive living.

Lack of exposure to practical, adequate and relevant knowledge is a critical determinant of whether what is learned is translated into not only sustainable but also good practices. One of the preventive strategies to avoid overweight and obesity is regular exercises and body movements. Ithula (2010:22) observed that doing regular daily exercise like ‘walking more than driving increases the number of insulin receptors that develop on body cells’, thereby directing blood sugar to move into the ‘proper cells that will give the body energy and nutritive elements’. By doing this, the blood sugar does not linger in the body to cause dangerous effects such as ‘diabetes and other problems’. This helps to maintain healthy and normal body weight. Further, Ithula (2010:22) notes that use of proper diet and exercise can keep the body in tip-top shape and prevent NCLSDs such as diabetes and stroke.

One of the factors that lead to overweight is lack of precise diagnostic facilities that can help one to determine their Body Mass Index (BMI), which helps one to establish whether one is overweight, or not (Karoki, 2010:91). One way of determining if one is overweight is by calculating Body Mass Index (BMI). BMI gives an indication of whether one has healthy weight in proportion to one’s height. It can be calculated by weight (Kgs) divided by height in square metres. The device can be used to establish whether one is overweight quite early and enable one to adopt preventive strategies to avoid being overweight and attendant problems. Hence, this study aimed at finding out whether schools had equipments to detect overweight and whether pupils had sufficient knowledge to enable them to use them to keep their body weight in check to ward-off problems associated with overweight and obesity (National Heart, Lung, and Blood Institute, 1998:22).

Timberlake (1985:7) observed that ‘Health cannot be guaranteed by provision of health services alone but, freedom from disease will depend on broad economic development, improved food production, safe drinking water, better housing, provision of education and anti-poverty measures.’ The thrust of this observation is that success in education and indeed HE programmes will be determined by the kind of support they get from the school and the community. Timberlake (1985:7) cites the case of Senegal where school health groups have spearheaded campaigns for keeping water clean, careful disposal of wastes, disinfecting latrines and ensured that food sold in school’s is safe.

In Kenya, health clubs formed under a world health organization (WHO, 1996:98) School Health Education Project in Kangundo and Masii areas in 1996 have also focused on self, school and communal health
matters (Otiende, et al, 1997:53). Therefore, it was quite instructive for this study to fill this gap of knowledge by exploring the kind of support that the contemporary schools and communities are offering to support HE education programmes in primary schools to enable pupils to prevent lifestyle diseases in the society. The support given is critical in determining how effective HE programmes can be to curb risky health lifestyles that predispose young people to NCLSDs.

Muia (2001:57) observed ‘locality-specific factors have great influence in health seeking behaviour; such factors as cultural beliefs about illness, availability of herbal and traditional medicine, distance from health centre and HE programmes amongst the parents and the people in a given area’ have great influence in health of people. This observation seems to point out that other factors within and around the school locality determine how learners translate and operationalize the content of the skills and knowledge they acquire in the process of learning. This is a critical gap that this study intended to fill by establishing the determinants of healthy lifestyles among primary school pupils.

Primary schools are ideal setups for the promotion of HE in the contemporary Kenyan society since they represents close to half of the population in society with the onset of FPE. Moreover, a primary school has an important role in socialization, which ranges from benign to active social control. In the process, pupils learn and acquire action-competence. Schoolchildren are a captive audience who can systematically be trained through HE to influence the communities in desired directions (Amref, 1987:24; Muia, 2001:58). Primary schools have more or less replaced traditional institutions as socializing agents in the current parenting lifestyles with working parents particularly in urban and semi-urban communities where parents look upon primary schools to impart habits and discipline including those related to health to prevent diseases, which among many others include emerging NCLSDs.

The teaching and learning approaches adopted in teaching HE are a potent determinant on how effective what is learned is translated into action-competence. Abidha (1994:24) observed that ‘In Kenya, it has been noticed that in schools carrying out child-to-child approach in activities, the children participating are able to become more responsible, learn to help each other, carry health messages to their homes, know good feeding habits, improve cleanliness of school and even limit dangers to road accidents!’ This shows that promoting HE through provision of relevant knowledge with active involvement and support of the learners are critical determinant of the efficacy of HE programmes in primary schools, a concern that this study attempted to review in light of emerging challenges in the health lifestyle problems in society.
Kitsao (1999:8) and Kinoti (2003:84) noted pupils who translated their knowledge in HE into practice were more healthy and showed more responsibility towards the health of others. In the same study, the pupils who received motivation and encouragement from their teachers to practice behaviour conducive to healthy living in the school environment were more likely to do so than those who did not. These findings indicate that given the opportunity, resources and the benefit of HE, children will voluntarily make rational decisions affecting their health. HE knowledge alone is not effective in achieving maximum results; but, that knowledge needs to be supported by an enabling and reinforcing environment within the school and community. Hence, there was need to explore the role of HE in promoting desirable healthy practices in light of emerging social challenges posed by NCLSDs that was be done by conducting this study to fill that dearth of information.

Otieno (2011:12), a medical health specialist cum columnist in the Standard Newspaper article entitled ‘Obesity in children’ reports that more than ever before, more of our children and adolescents are overweight or obese; childhood obesity is a worldwide trend that has reached epidemic levels. More than two thirds of these overweight children will become overweight adults. About 80 percent of overweight teenagers will remain overweight as adults. Parental obesity more than doubles the risk of their young child, whether thin or overweight, becoming an obese adult. Genes, therefore, play a role but they are not the only cause. Otieno (2011:12) further observed:

The society supports obesity because it promotes less physical activity and more eating...our children spend a lot of time watching the television, which is a constant advertiser for fast foods and unhealthy snacks...the annual distance our children walk has fallen because they are either driven or bussed to and from schools...schools have fewer opportunities for daily physical activities because of an overloaded academic curriculum...many parents do not perceive obesity as a problem, because they believe that being plump is a sign of wealth and that their child is physically fit...

NCLSDs like childhood obesity are influenced by eating habits and general attitudes to food and lack of physical exercises. Consequently, the concept of healthy food takes into account feeding practices, individual’s perspectives on food, including visual appeal, taste, social aspects, accessibility to fresh, balanced and good quality food, and the sustainable production and distribution of food (Otieno, 2011:14).
Ultimately, such observations underscored the need to review the content of the HE in primary education, in particular at primary school level with a view to identifying curriculum gaps that need to be addressed; a task this study undertook. The study outcomes may be useful in strengthening HE to equip pupils with knowledge, skills and attitudes necessary to prevent NCLSDs. This will not only yield multiple but unending benefits to themselves and the society.

Muia (2001:13) notes that most primary school teachers felt that the school curriculum generally was too broad in relation to the amount of time it was supposed to be covered resulting in teachers being in a hurry to complete the syllabus. It was therefore important for the study to establish the situation in light of emerging issues like NCLSDs.

2.8 Summary and Gaps in the Related Literature Review
In an effort to point out to the contributions of this study, it is imperative to highlight the major issues brought out by the literature review and thereafter indicate the gaps this study intended to fill.

The studies reviewed show that there is a strong case for widespread and pervasive NCLSDs which are some of the public health problems in the entire world. In Kenya all clusters of population are affected including children; hence, there was a need to conduct an empirical study to find out the adequacy of HE in promoting healthy lifestyles among pupils to prevent NCLSDs. Hence there was need to review HE content in KNSHP and KPSC to find their efficacy in contributing to health lifestyles that can enable pupils to acquire action competence to prevent NCLSDs.

The studies have also reported that teachers use didactic, expository and teacher-centred methods in teaching HE; in the light of emerging issues like NCLSDs, this approach needs to be revisited with a view to explore other methods so that teachers may be adequately prepared in terms of knowledge and skills to enhance their capacity and efficacy in dispensing HE knowledge and skills to pupils to enable them obviate soaring case of NCLSDs among themselves. This is a critical issue that this study dealt with to avail empirical findings that could be used to inform choice of appropriate teaching methods in relation to emerging challenges posed by NCLSDs.

The studies reviewed have also dealt with communicable diseases such as HIV and AIDS; hence there was need to conduct a study on issues regarding NCLSDs; a gap that this study hoped to fill through an empirical study on the adequacy of National Health Policy and HE content in primary education curriculum to enable pupils prevent escalating issues of NCLSDs in selves and society.
The review has also established that majority of the studies have been done in rural settings in Kenya like Machakos and Kangundo, hence this study was conducted in schools in Nairobi County, which is a metropolitan environment and indeed a capital city. This has the potential to perhaps not only reveal very interesting findings and observation but also redefine the role of HE in promoting healthy lifestyles against emerging metropolitan culture and other global values in vogue to offset soaring cases of NCLSDs in urban settings.

It was imperative, then, that this study, endeavoured to investigate national Health Policy and the HE content, teaching strategies, resources used, challenges faced by schools and teachers, the experiences of learners during and after learning the current HE content so as to come up with not only informed but appropriate recommendations on ways to strengthen the contributions and the critical role of HE to enable pupils acquire action-competence to forestall NCLSDs, so as to lead not only healthy but productive lives. This is vital, since in addition to increasing the learner’s HE knowledge, which is a basic right; it will appeal to their commitment and vision to use health experiences to redefine their actions in light of emerging lifestyles. This calls for investigation of how the HE as offered in primary schools enable learners to orient their actions to appropriate HL to prevent NCLSDs. These are some of the critical gaps of knowledge that this study intended to fill based on evidence available from the informants of the study.

Ultimately, the studies reviewed have evidently demonstrated that the rapid increase in non-communicable diseases is attributed to social and demographic factors which include economic development, globalization of markets and urbanization. These factors lead to increased exposure to modifiable life style risk factors for NCLSDs. Most developing countries such as Kenya are undergoing rapid urbanization and economic development. These changes coupled with increase in globalization of markets for unhealthy foods and consumer products are raising risk factor prevalence in the population. To mitigate the health impact of these socio-economic transformations, the country must brace for a challenge in the prevalence of chronic non-communicable diseases. The prevention and control of these diseases therefore becomes a high priority to safeguard the gains made in economic development. Unfortunately, Kenya has weak health systems in all of the key areas that form the ‘continuum of NCLSDs control’. In addition, the country is classified as a low income country, with a heavy burden of communicable diseases. There is therefore an urgent need to make the most efficient use of limited resources available to make an impact in NCLSDs prevention and control through preventive education. This is only possible if the most efficient and cost-effective strategies are applied in disease prevention and control. This is most effective by undertaking research that will avail knowledge
that can be used to advocate and creative awareness through preventive education, a task that this study went out to achieve through a diligent analysis of the contributions of HE to fill the glaring gaps of information regarding NCLSDs. NCLSDs prevention services need to include the use of health protection, health promotion and disease prevention strategies which are possible through effective HE offered early in life. These services will alert the population of NCLSDs risk factors that promote healthier lifestyles and create healthier environments that aim to reduce potential risk factors to create health promoting schools and communities.

CHAPTER THREE
RESEARCH DESIGN AND METHODOLOGY

3.1 Introduction
The chapter focuses on research methods and procedures. In particular, the chapter gives information about the study design, study location, study population, sampling procedures, research tools, data collection and data analysis that the researcher used to collate data to respond to the objectives of the study.

3.2 Research Design
A research design is the conceptual structure within which research is conducted. It constitutes the blueprint for collection, measurement and analysis of data (Kombo and Tromp, 2006:48). It is regarded as an
arrangement of conditions for collection and analysis of data in a manner that aimed at combining relevance with the research purpose since it was the scheme outline or plan that was used to generate answers to research problems. It was used to structure the research, to ensure all of the major parts of the research project work together to try to address the central research questions to enable the study to capture pertinent so as to respond to research objectives adequately and sufficiently.

The study used Descriptive research design. Descriptive research design is a scientific method which involves observing and describing the behaviour of subjects without influencing them in any way. Descriptive research designs help provide answers to the questions of who, what, when, where, and how associated with a particular research problem. It can be used when collecting information about people’s attitudes, opinions, habits or any of the variety of education or social issues (Kombo and Tromp, 2006:49). The major purpose of descriptive research is description of the state of affairs as it exists. Descriptive studies are not only restricted to fact findings, but may often result in the formulation of important principles of knowledge and solution to significant problems. It was useful in learning about habits and lifestyles about NCLSDs and the contributions of HE that the study sought to unravel. The subjects are observed in a completely natural and unchanged natural environment which enabled the researcher to capture ordinary habits, behaviour patterns, practices and daily activities that determine lifestyles and trends. It helped in getting a general overview of the subjects in their natural settings hence allowed observations without affecting normal behaviour. Descriptive approach enabled the researcher to collect a large amount of data for detailed analysis.

The study used the case study which is under descriptive research design. A case study seeks to describe a unit in detail, in context and holistically (Kombo and Tromp, 2006:49). A case study is a study design that emphasizes in depth analysis of the study phenomena (Best, 1981:108; Merriam, 1998:100). This enabled the study to conduct in-depth investigations using a variety of data sources and different types of tools to be exhaustive to reveal various factors that contributed to lifestyles and their effect to the health of the pupils in real-life context (Gary, 2011:18; Thomas, 2011; Yin, 2009:12). In this study, the case study method was important because the study was dealing with checking the effectiveness of HE programme and its contributions to lifestyles issues, which required detailed observations of various social factors and their relationships overtime. These required detailed observation overtime to observe patterns of behaviour, which made case study to be important for establishing the effectiveness of School Health policy.
A case study is particularly useful where one can identify a case rich in information in the sense that a great deal can be learned from a few examples of the phenomenon in question (Merriam, 1998:101); an issue that the study explored using primary schools located in metropolitan environment in Nairobi County. This was quintessential in dealing with lifestyle issues that were envisaged in the study since the city is a focal point of people from various cultural backgrounds who have settled in the city. Hence, the issues of emerging lifestyles and concomitant NCLSDs was fairly captured in a city environment compared to a rural environment which may be occupied by a particular ethnic group and a culture with common lifestyle which may not be predisposed to pronounced cultural changes leading to emergence of lifestyle diseases and in particular NCLSDs.

The study used multiple case study method and specifically the descriptive-cross-sectional multiple case study involving three schools to capture socio-economic variables that affect lifestyles across pupils from various backgrounds. This approach enabled the researcher to have a detailed contextual analysis of lifestyles that could predispose pupils to NCLSDs. This research design made it possible for detailed examination of real-life situations to provide the basis for the application of concepts and theories and extension of methods used in the study. Case studies can be single or multiple-case designs. Multiple cases strengthen the results by replicating the pattern-matching, thus increasing confidence in the robustness of the theory. The quintessential characteristic of case studies is that they strive towards a holistic understanding of cultural systems of action (Stake, 1995:72). Multiple case studies involve selection of different cases with general or similar characteristics yet each with unique elements that are chosen in order that theories can be generated about a larger collection of cases (Wellington, 2000:32). A multiple case study was thus used to select three primary schools study sites. Although the schools selected were different in terms of socio-economic contexts, they all taught HE and were located within Nairobi County. Further, the choice of three schools was based on income and socio-economic background to enable the study to establish the effects of socio-economic status on HLs in society and in an urban environment in particular.

Thus, the study focused on three schools due to need for an in-depth nature of the study, which generated adequate data for the study. Moreover, the study was largely evaluative in nature. Patton (1990:48) observed that many evaluative questions lead to a collection of qualitative case data. The study diligently sought to gather comprehensive, systematic and in-depth information about HE so that the case analysis can facilitate judgment of the role of HE in promoting appropriate HL in pupils to prevent NCLSDs.

The study used triangulation technique to compare findings from each of the schools sampled guided by the themes drawn from the research
objectives. According to Kane (1995:42) triangulation is the use of more than one research techniques to more than one source of data, and more than one explanation to check information. It is a process in which researchers employ a variety of strategies of data collection and analysis that help to validate the findings (Kane, 1995:44). Triangulation was relevant because this research involved the use of a variety of data sources in the study for example from education officers, curriculum developers, teachers, parents and pupils. The logic of such triangulation in social research rests on the premise that no single method or tool alone could adequately give all round solutions and accurate explanations to all the problems of rival causal factors that synergize each other to predispose pupils to NCLSDs.

The study was mainly qualitative though quantitative evidence has been included to strengthen evidence of qualitative findings (Johnson and Christensen, 2008:34). Use of both qualitative and quantitative approach enabled the study to capture the ‘whole picture’ because where quantitative approach answered the question ‘How many’, qualitative approach could compliment by answering the question ‘What’ and ‘Why’ to enable the study achieve its objectives and also to show the relationships and the magnitude of each of the variables involved in the study (Aashakkori and Teddlie, 1998:90). Qualitative research is by definition exploratory (Creswell, 2008). In this study, qualitative methods involved expository, explanatory, narratives and photographs through verbal description techniques and analysis of the social phenomena that brought about behaviour changes among pupils that predisposed them to UHLs (Silverman, 2011:12). It was used to go deeper into issues of interest and explore nuances related to the problem of NCLSDs.

The rationale for use of qualitative approach in this study was that the researcher aimed at gaining a deep understanding of specific observable contributions of HE to lifestyle patterns rather than surface description of a large sample of a population to achieve the objectives of the study. It enabled the researcher to observe broad patterns of social behaviour, which generated data about human groups in social settings in the schools sampled (McLeod, 2008:70). It guided the researcher to be discreet by avoiding treatment or manipulation of variables, or imposing the researcher's operational definitions of variables on the participants; but allowed meanings to emerge from the participants. It was more flexible in that it could adjust to the social settings in schools to get a better understanding through first-hand experience, which enabled truthful reporting, and quotations of actual conversations, which enabled the researcher to understand how the participants derive meaning from their surroundings, and how their meaning influences their behaviour (Lichtman, 2006:70). The qualitative approach enabled the study to explore in-depth information about various factors that affect social factors that contribute to various lifestyles Qualitative research seeks to understand a given research problem or topic from the perspectives of the local population
it involves. Qualitative research is especially effective in obtaining culturally specific information about the values, opinions, behaviours, and social contexts of particular populations (Denzin and Lincoln, 2011:80; Lindlof and Taylor, 2002:50; Wolcott, 1990:50). The strength of qualitative research is its ability to provide complex textual descriptions of how people experience a given research issue. It provides information about the ‘human’ side of an issue – that is, the often-contradictory behaviours, beliefs, opinions, emotions, and relationships of individuals. Applied in this study, the study entailed a detailed description of existing institutional approaches in teaching HE in schools sampled and a diligent exploration of alternatives that could be used to make it more effective.

Quantitative research is use of numerical data in investigation of social phenomena (Creswell, 2008:10). In this study it was used to provide the fundamental connection between empirical observation and mathematical expression of quantitative relationships in order to effectively translate data into easily quantifiable measures and dimensions through Tables, percentages and tables. Use of quantitative research enabled the study to produce quantifiable, reliable data that is generalizable to some larger population with similar characteristics. Use of both quantitative and qualitative approaches complimented each other where reliability and validity of the study findings were greatly enhanced.

3.3 Study Locale

The study was carried out in primary schools in Nairobi County. Nairobi County has nine educational sub-counties notably Embakasi, Kasarani, Njiru, Starehe, Westlands, Dagorreti, Langata, Kamukunji and Makadara. The area covered in the study locale is captured in maps presented in Appendices I and II. In particular, Appendix II presents a map of Kenya showing location of Nairobi City where the study was conducted; while, Appendix I present the three districts and the three schools sampled for the study. The schools sampled represented various socio-economic classes in Nairobi County. The three schools were sampled from different sub-counties based on socio-economic information received from educational officers from Nairobi County Education Office. It was important to include pupils from various socio-economic backgrounds to explore the influence of and relations as well as emerging trends in lifestyles on pupils from different socio-economic statuses. Socio-economic status was the basis of stratification to capture trends in each level or strata as manifested by pupils during social interactions with peers in schools.

The choice of Nairobi County was informed by several reasons; first, Studies done in Nairobi have shown that 53% where diabetes contributed about 27.3 per cent of the total admissions of all hospital admissions were due to NCLSDs (Kenya Health Care Federation and Institute of Health Policy Management and Research, 2012:10). Current projections show that by 2030, NCLSDs will overtake communicable diseases as the leading cause of death in the low and middle-income
countries alike (World Economic Forum, 2011:4; WHO, 2011:242). This is because an aging population and lifestyle changes linked with economic development increase the risk factors for NCLSDs such as heart disease, cancer, chronic obstructive pulmonary disease and diabetes. Secondly, the fact that Nairobi is the capital/biggest city which has the most advanced metropolitan location and the most urbanized city in Kenya made it ideal to explore lifestyle issues envisaged in the study due effects of civilization, industrialization and attendants benefits of modern life and their effects to lifestyle patterns. Being in city location effects of rapid urbanization and industrialization coupled with changes in lifestyle among city dwellers enabled the study to capture data that enabled the study to achieve its objectives. This was possible since the city has people from diverse cultural backgrounds who migrated from various parts of the country and even outside the country and settled in the city in search of employment and business opportunities among others. Some of the causes of the rise in NCLSDs fatalities are due a change in lifestyle as the population surges towards urbanization where technology is used more than manual work. Regular use of technology in transport and other appliances implies less use of physical energy which may lead to accumulation of energy leading to overweight and obesity. Urban lifestyles may expose people to lifestyle of consumerism where high calorie junk foods which are highly refined are consumed as they are glorified as way of modern lifestyle through variety commercial advertisements in mass media. Junk drinks that contain high sugar content and artificial flavours are likely to be consumed due to lifestyle. Use of junk foods and drinks leads to unhealthy eating habits which together with reduced physical activity as more motorized transport is mainly used. This may lead to use of less energy which may increase body weight which may lead to NCLSDs. These lifestyles are common in urban environment that in rural settings, hence the choice of Nairobi County.

Finally, Nairobi has had rapid urbanization; Urbanization is an important factor in the aetiology of obesity, and a major risk factor for NCLSDs. It accelerates the changes in diet, physical inactivity and increases access to tobacco products and high fat foods, which are all risk factors of NCLSDs (Vorster, 2000:120). Diet and physical inactivity are modifiable risk factors associated with changes in lifestyle. Diets of the African population tend to differ between rural and urban dwellers. Studies have shown that rural dwellers diets are low in fat and sugar but high in carbohydrates and fibre (Steyn, 2001:120), while their urban counterparts show high fat and low fibre and carbohydrate intake (Bourne et al., 2002:12) which is typical of a Western diet. Popkin (1999:24) suggests that the shift from an agricultural economy to industrialization is one of the major economic changes that are associated with nutrition transition.

Purposive sampling, which is a non-probability sampling technique, was used to select the study locale. Purposive approach is a deliberate
technique where the researcher selects a unit for the study if the elements are chosen suit a certain criteria that is best suits the study (Gay, 1992:123; Kane, 1995:96). Nairobi County was purposively sampled because it had the variables the study was interested to explore due to its metropolitan location.

3.4 Target Population

A target population in a study is the number of a real or hypothetical set of people, events or objects, which the researcher wishes to sample for the study (Cochran, 1997:21). A target population denotes the ecological resource from which information is wanted. The target population is the entire group a researcher is interested in; the group about which the researcher wishes to draw conclusions (Black, 1999:12). The target population for a survey is the entire set of units for which the survey data are to be used to make inferences. Thus, the target population defines those units for which the findings of the study are meant to generalize.

The target population in this case were pupils in Standard Seven and their Teachers, School Administrators/managers, KIE HE curriculum developers and MoE Quality Assurance and Standards Officers (QASO). According to 2011:48 school statistics from the City Director of Education in Nairobi County, there are about 216 public primary schools with an estimated total population of 195 355 pupils. In Standard Seven, the total enrolment was 26 819 pupils, that is 13 026 boys and 13 793 girls respectively. School enrolements were captured using Appendix III.

The choice of pupils in Standard Seven was informed by the fact that these pupils were relatively mature and expected to have gone through most of the primary HE content from successive classes during their primary education; hence, accumulated sufficient knowledge and skills to enable them to respond adequately and effectively to issues raised in various data collection tools. Moreover, Standard Seven pupils have been in that school for long compared to those in lower levels of learning, hence they had interacted with the HE content longer and as such best placed to respond to the issues involved in the study so as to enable the study to achieve its objectives. Further, being a case study, the Standard Seven pupils were ideal informants due to their familiarity with particular routines, ethos and other issues related to their school which the study objectives envisaged to explore. The standard eight pupils were left out from the study since they were candidates and being in examination class it could interfere with their preparation and focus in the national examinations.

Other informants included teachers who taught science (HE was taught as a topic) and those involved in guidance and counselling, parents with children in Standard Seven and MoE staff were targeted to provide additional primary data. These was critical since they were key sources and providers of both formal and informal HE to pupils. Furthermore,
HE and health knowledge was largely the responsibility of pupils, teachers and supportive parents.

3.5 Sampling Techniques

Sampling is the act, process or technique of selecting a suitable sample or a representative part of a population for determining parameters or characteristics of the whole population (Kombo and Tromp, 2006:52). Statistical sampling techniques are the strategies applied by researchers during the statistical sampling process. This process is done when the researchers aims to draw conclusions for the entire population after conducting a study on a sample taken from the same population. Representativeness is the primary concern in statistical sampling (Castillo, 2009:5). The sample obtained from the population must be representative of the same population to enable generalization of the study findings.

The researcher received a list of Primary Schools from each Sub-county Quality Assurance and Standard Officer (Sub-County QASO) in each of the districts sampled for the study. The researcher with the help of socio-economic information regarding schools from the education office, stratified schools and then random sampled three schools according to socio-economic considerations of the schools such as amount of levies charged by the schools and other considerations as guided by respective Educational Officers to enable the study to achieve its objectives.

All public primary schools were stratified based on socio-economic status. In probability samples, each member of the population has a known non-zero probability of being selected; that is each member of population has equal chance of being selected for the study (Castillo, 2009:5). Stratification is the process of grouping members of the population into relatively homogeneous subgroups before sampling (Johnson and Christensen, 2008:80). A stratified sample is a probability sampling technique in which the researcher divides the entire target population into different subgroups, or strata, and then randomly selects the final subjects proportionally from the different strata (Castillo, 2009:6). A method of sampling that involves the division of a population into smaller groups known as strata. In stratified random sampling, the strata are formed based on members' shared attributes or characteristics such as socio-economic status among many others (Black, 1999:118). A random sample from each stratum is taken in a number proportional to the stratum's size when compared to the population. These subsets of the strata are then pooled to form a random sample for the study (Cochran 1997:28). This technique enabled the researcher to capture key population characteristics in the sample according to socio-economic status and their implications to NCLSDs that the study explored.
Applied in this study, a stratified sampling of the schools was done according to socio-economic status. The schools were stratified and categorised as HSES, MSES or LSES. The schools were stratified as shown in the Figure 3.1, subsequently; from each stratum, one school was randomly sampled.

Figure 3.1. Sampling frame showing Stratified Sampling of the Schools according to SES

The Figure 3.1 shows the three schools that were sampled according to SES. The sampling frame shows that each of the three major socio-economic statuses in Kenyan society were represented in the sample. This enabled the study to be more representative of the Kenyan society and in particular capture various SES and their lifestyle patterns. This was done by including schools that had pupils from various socio-economic backgrounds to enable the researcher to make comparisons and contrasts between various socio-economic groups in society and their implications for NCLSDs. It also enabled the study to establish if socio-economic status had any role in predisposing pupils to NCLSDs.

Moreover, the three schools were from different districts, for example, in Westland Sub-county, Bonoko Primary School (BPS) was selected to represent high socio-economic status (HSES). According to information from City Educational Officers in-charge of these schools, BPS enrolled pupils who were mainly drawn from a HSEs catchment area where it is located. This enabled the researcher to explore the contributions of HE to lifestyles among pupils from HSES. In Kamukunji Sub-county, Msemayote Primary School (MPS) was selected to represent middle socio-economic status (MSES) since the pupils who attend the school are drawn mainly from Uhuru Estate, which is owned mainly by civil servants. The school enabled the researcher to capture culture and lifestyle of pupils from middle class that enabled the study to explore the role of HE in promoting healthy lifestyles to prevent NCLSDs.

In Embakasi Sub-county, JPS (JPS) that has catchments from slums in Korogocho, Kiambio and Mukuru were selected to represent Low socio-economic status (LSES). The school enabled the researcher to capture various practice and lifestyles of pupils from LSES and how HE enabled them to promote HL to prevent NCLSDs. Choice of three schools from
different socio-economic status enabled the researcher to make comparisons from three different socio-economic backgrounds, which make the finding reliable.

The schools sampled for the study were Public Primary Schools because they are the ones that use the government-KIE curriculum that has HE, offer FPE and because they enrol pupils from their immediate environment. Public schools also apply and follow educational policies from the government which include KSHP and other health guidelines. This was critical for the study because it enabled the study to capture the variables envisaged in the study through a cross-section of the society hence making the findings valid and reliable. The urban location of the Sub-county and accessibility of the schools made it suitable for the study to explore the role of HE in schools exposed to changes in lifestyles in city environment with concomitant modernization and urbanization that have great impact or emerging lifestyles in society, which may predispose pupils to NCLSDs.

Further, only public schools were selected for study because previous attempts to study social behaviour in private schools had been met with resistance and hostility by administrators who fear negative labelling of their schools (Kombo, 1998:24). Being commercial institutions, adverse publicity could perhaps translate into fewer enrolments hence less income. Moreover, private Primary schools were not involved in the study since most of them offered curriculum that did not necessarily have HE and also the feeling that the administration in most of them may be uncooperative due to fear that the study may reveal issues that may adversely affect their reputation and enrolment; further, Private Schools may have personnel who might have gone through international curriculum and training which may not had HE, hence, not useful for the study.

In all the schools sampled, school administration did not allow Standard Eight pupils to be involved in the study because the schools had set strict schedules to prepare them for national examinations. The school administrators told the researcher and his assistants that PTA’s and education officers had resolved in their annual general meetings that Standard Eight pupils should be kept busy without and outdoor or external involvements so that the school can improve performance in examinations. They further said that ‘Standard Eight being the final year in school where candidates were to do a first and final national in primary education required a lot of sacrifices to be made to ensure nothing interferes with KCPE which is the first critical examination in pupils’ life‘; hence, pupils in Standard Eight were always kept busy in class by their teachers to ensure they were adequately prepared.

The researcher was allowed to sample other classes in the school except Standard Eight. In each of the schools sampled for the study,
purposive sampling was used to select Standard Seven pupils for the study. The logic of purposive sampling of Standard Seven was premised on the fact that apart from Standard Eight pupils who were candidates for national examinations who could not be sampled due to strict time schedules that schools had set to prepare them for national examinations, Standard Seven pupils were more exposed to HE compared to other pupils in the school based syllabus coverage, age and time spent in school which may have exposed them more to lifestyles due through formal socialization using formal curriculum and informal socialization through social interaction with other pupils, teachers and other socializers in the school fraternity.

Purposively sampling is a non-probability method where the researcher purposely targets a group of people believed to be reliable for the study to provide answers to research questions (Kombo and Tromp, 2006:56). Purposive sampling is a common non-probability method where the researcher selects the sample based on judgment, which is based on the objectives of the study (Black, 1999:24). In this study, the researcher purposively sampled Standard Seven pupils since it was representative of other pupils in the schools because it had boys and girls who had been in school the longest apart from Standard Eight, which was examination class which could not be sampled due to ethical reasons. The Standard Seven pupils had all the elements that could capture issues raised in the study objectives, which made the sample relevant and appropriate for this study. Applied in this study, purposive sampling enabled the researcher to select Standard Seven informants who due to being in school longer compared to other pupils had been exposed more to formal and informal socialization patterns in the schools which enabled the study to capture the contributions of HE to lifestyles.

The study used purposive sampling technique to select individual pupils to be involved in the study. In this case, purposive sampling involved selecting study informants from a list of cases by picking cases as determined by the researcher (Black, 1999:22). In this study, the researcher used a strict criterion so as to capture lifestyle and social behaviour patterns that could enable the study to capture the actual contributions of HE. The main criterion for the inclusion of the pupils into the sampling frame was the leadership nature of the pupils determined through the construction of a sociometric matrix of best friends from the class. Sociometry is concerned with the social interactions among any group of people like peer groups and cliques among pupils. The researcher and his assistants received information from other pupils and teachers that made selection of the pupils involved in the study quite objective. Sociometry is the systematic study of social interactions and social preferences among a group of people who share and interact in a common social environment (Black, 1999:24; Kidder, 1981:89). Sociometry identifies friendship and
work/play relationships preferences within a group (Muia, 2001:83). The rationale for using sociometry in this study was to enable the study to capture social groups that pupils identified themselves with so as to explore their social relationships and how they influenced each other as well as the results of group influences in lifestyles. This enabled the study to capture valuable information regarding lifestyles and how they related to feeding habits, play and physical exercises, which had implications to their health.

In this study, leadership was not explainable by any particular personality characteristic or constellation of traits (Kiddler, 1981:192). It was rather determined because of the interpersonal contribution of an individual in a specific group. Key informants are essentially individual pupils or a selected group who are in a position to provide the needed information, ideas and insights (Kumar, 1993:13). The body of pupils in any school is constituted by small subgroups and cleavages based on pupils interests. Each of the networks of these relationships has leaders. Hence, the choice of leaders through the sociometry nomination method to serve as key informants for the study was critical since leaders exercised great influences in various groups of pupils. This enabled the study to capture issues relating to lifestyles and influence of peers to particular tastes, values, inclinations, stereotypes, preferences and resultant lifestyles that would enable the study to achieve its objectives.

Applied in this study, peer influences in various group leaderships, feeding lifestyles and feeding habits were important relationships since they influence attitudes, feelings, beliefs and perceptions of members towards certain lifestyles that could predispose them to NCLSDs. This approach was quintessential in this study to establish the role of HE on healthy lifestyles of pupils since peer leaders used their influence and popularity to shape beliefs, habits and practices that informed peer influence on various lifestyles that were observable among pupils in certain classes; these influences determined the type of lifestyle adopted by other pupils which included language use like ‘sheng’, dressing codes, eating habits, games played and patterns/types of exercises. Peer leaders also exercised greater influence on social interaction and beliefs, views and perceptions of other pupils in the clique, which predisposed them to lifestyles that veered to NCLSDs; hence, it was critical that the study selected them as key informants of the study.

Key informants were essentially individual pupils or a selected group who were in a position to provide the needed information, ideas and insights (Kumar, 1993:13). The pupils who were selected were popular leaders of their groups of friends; therefore, they were considered qualified to be key informants since they influenced action competence in HE behaviour and habits of fellow pupils; hence, crucial for this
study. In each of the three schools sampled, all the pupils in Standard Seven were provided with pieces of paper and requested to write the names of their best friends in their class. The researcher then collected the papers and carefully analysed them to establish the most popular pupils who were had the highest frequency. After establishing the popular leaders among each gender, two sociograms were developed, one for boys and another one for girls. This was done, because ordinarily, observations reveal that girls and boys may tend to stay and associate in gender-segregated groups (Muia, 2001:89).

The lists of friends were sorted into two files, one for boys and one for girls. The development of a sociometric diagram started by writing the names of the popular pupils on a large piece of paper; more names were added and arrows drawn progressively showing the choice of friends depending on the popularity. At the end, a cluster of friends emerged. The pupils at the centre of the clusters were selected as key informants for the FGDs and unstructured interviews. The names of the informants were replaced with numbers due to ethical considerations. The diagrammatic representations of the sociograms were as illustrated in Figure 3.2.

Figure 3.2. Diagrammatic Representation of The Sociometric Diagram Showing the Sampling Process Used to Select the Sample of Pupil’s Informants for the Study
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The preceding sociometric process was done for boys and girls study informants separately to ensure gender parity. The overall sample size and the composition was determined as the fieldwork progressed. This strategy was because in qualitative study sample size depends on the purpose of inquiry, what is at stake, what will be useful, what will have credibility and what could be done with available time and resources (Patton, 1990:92). Gender parity was maintained in all the samples by selecting equal number of each gender to participate in the study so as to make the sample fairly representative (Kombo and Tromp, 2006:82).

### 3.5.1 Sample Size

Stratified random sampling was used to select schools that were sampled for the study. The schools were stratified according to their socio-economic status and then random sampled for the study. This ensured that each specific group was represented in the sample which was drawn from each stratum. A stratum is a subset of the population that share at least one common characteristic (Black, 1999:24; Castillo, 2011:12). In this study it was based on the type of socio-

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**Key**

Numerical numbers are randomized for the sake of identity of the cluster. The key informants will be identified by being in the centre of a cluster of friends in a rectangle. An arrow stands for the choice of a friend.

More arrows show that one has more friends hence more popular and perhaps influential in a group which made him/her to be selected for FGD because of the leadership role in the group; this implied that the persons selected were likely to exercise influence opinions/views/attitudes/beliefs about lifestyle patterns susceptible to practices that may predispose fellow pupils to practices that could predispose them to NCLSDs, hence very resourceful for this study.
economic class; that is either belonging to HSES, MSES or LSES. The schools were stratified and random sampled and sample size was as shown in Table 3.1.

<table>
<thead>
<tr>
<th>Type of School</th>
<th>Sub-county</th>
<th>Number selected of Schools</th>
<th>Pseudo name for the School</th>
</tr>
</thead>
<tbody>
<tr>
<td>High SES - Public</td>
<td>Westlands</td>
<td>1</td>
<td>Bonoko</td>
</tr>
<tr>
<td>Middle SES - Public</td>
<td>Kamukunji</td>
<td>1</td>
<td>Msemayote</td>
</tr>
<tr>
<td>Low SES - Public</td>
<td>Embakasi</td>
<td>1</td>
<td>Jitetee</td>
</tr>
<tr>
<td><strong>Total sample</strong></td>
<td><strong>3 Sub-</strong></td>
<td><strong>3 schools</strong></td>
<td><strong>3 Pseudo names for schools</strong></td>
</tr>
</tbody>
</table>

**Source:** Sampling frame

Table 3.1 shows the product of sampling process that was used to sample three schools for the study. The findings show that Bonoko Primary School in Westlands Sub-county was sampled to represent HSES; Msemayote Primary School in Kamukunji Sub-county was sampled to represent MSES while Jitetee Primary School in Embakasi Sub-county was selected to represent LSES. The schools were sampled to represent each socio-economic class to enable the findings of the study to be representative. The researcher further ensured the schools were from different districts of Nairobi County to ensure fair representation of characteristics of pupils in public schools to enhance reliability of the study findings. The entire report has adopted pseudonyms for schools and all informants due to ethical reasons to enhance confidentiality. A list of Pseudonyms is provided in the Appendix IV. Any semblance with known persons and places is purely coincidental. Data on enrolment was captured using Appendix III. The total sample for the study was 177 informants.

### 3.6 Research Instruments

Various data collection tools were used to collect data since a variety of tools captured various aspects of the study to make the finding more comprehensive to achieve the objectives of the study. A data collection tool refers to any device or instrument that can be used to collect relevant data to enable the study to realize it objectives; they are instrument used to collect information for use in performance assessment, self-evaluation and external evaluation (Census Bureau, 2010). Data collection tools can also entail to methodologies used to identify information sources and collect information during an evaluation (OECD, 2002:30).

The data collection tools were content analysis schedule, semi-structured interviews, observation schedules which included taking photographs and FGD. The study used a variety of data collection tools to capture adequate data to achieve objectives of the study. Further, use of variety of data collection tools enabled the study to triangulate
findings to identify any similarities and differences in lifestyles and their implications to health and health practices.

3.6.1 Content analysis schedule
Content analysis is a research technique for the objective, systematic, and quantitative description of manifest content of communications, which is useful for analyzing and understanding collections of text (Klaus and Angela, 2008:34). It is any technique for making inferences by objectively and systematically identifying specified characteristics of messages in the text and their implications and meanings (Neuendorf and Kimberly, 2002:10). Content analysis is a systematic procedure for the quantification and objective examination of qualitative data, such as written or oral messages, by the classification and evaluation of terms, themes, or ideas; for example, the measurement of frequency, order, or intensity of occurrence of the words, phrases, or sentences in a communication in order to determine their meaning or effect (Saladana, 2012:28). Content analysis is a research tool focused on the actual content and internal features of media. It is used to determine the presence of certain words, concepts, themes, phrases, characters, or sentences within texts or sets of texts and to quantify this presence in an objective manner. Texts can be defined broadly as books, book chapters, essays, interviews, discussions, newspaper headlines and articles, historical documents, speeches, conversations, advertising, theatre, informal conversation, or any occurrence of communicative language (Ader, 2008:84).

The study used both conceptual analysis and relational analysis (Berelson, 1971:74). Conceptual analysis was used to establish the existence and frequency of concepts most often represented by words of phrases in a text related to NCLSDs. Concept analysis was used to objectively examine the attributes of any NCLSDs concept as they occurred in documents and ordinary usage during teaching formal process and informal sessions in the schools in order to identify the meanings attached to the concept to find whether any message regarding NCLSDs was being used during socialization process in the schools sampled (Saladana, 2012:40). Relational analysis was used to examine the relationships among concepts in a text to find out whether they captured issues and factors that can enable pupils to prevent NCLSDs. Relational analysis enabled the study to explore the meanings of terms and concepts used in the text to establish whether they had any implications that could enable pupils to acquire lifestyles that could reduce likely trends in behaviour that are susceptible to NCLSDs (Krippendorff, 2004:45).

Content analysis was useful in this study because it a sociological strategy that enabled to explore the written content HE and its contributions to socialization processes and their effects to pupils’ lifestyle. This was critical since teachers mainly socialized pupils based
on syllabus content. The approach also enabled the researcher to analyze and interpret text content to achieve the objectives of the study by looking directly at communication in syllabus text and hence get at the central aspect of social interaction among pupils and teachers as they socialized each other using HE content in the official educational documents such as school health policy, the HE syllabus, schemes of work, lesson plans, learning resources, past examination papers and pupils notebooks. The documents analysed were KNSHP, KPSC which was comprise of Kenya Primary School Syllabuses, textbooks used in various subjects, teachers’ professional documents (schemes of work, lesson plans, records of work and learning resources), pupils exercise books, examination papers (school based examinations and KCPE).

A scheme of work is detailed work plan drawn by the teachers showing how s/he intends to implement the syllabus through actual teaching. A scheme of work is a breakdown of the syllabus into teachable bits of work per lesson within a given academic period like a one school term or more (Farrant, 1980:89). A scheme of work shows the schedule of activities and resources that the guides the teacher to ascertain the syllabus is covered.

A lesson plan is one of teaching record that teachers plan on daily basis to guide them during the teaching/socialization process in class. A lesson plan is drawn from a scheme of work. A lesson plan is a professional document detailing step-by-step procedure which a teacher deems appropriate in socializing socializees. It a good practice to have a lesson for every lesson taught (Farrant, 1980:92).

A record of work is one of professional record drawn and used during the teaching process. It shows the details of the topics covered in any class or level of teaching. A record of work is planned to accompany schemes of work to show the actual topics taught in any class and the dates when they were covered (Farrant, 1980:94). The researcher established that the records of work in various subjects do not have any content dealing or related to NCLSDs. This could be due to the fact that records of work are mainly drawn from schemes of work to show what has be taught in any particular class; and since schemes of work do not have any content in NCLSDs then records of work may not have any content on NCLSDs.

Learning resources are materials that enable effective teaching and socialization to enable socializees and socializees learn interactively to acquire action-competence in what they learn. Learning resources can be of various types such as charts, illustrations in the chalkboard, apparatus, real life examples, real objects and resource persons and any other improvisations (Farrant, 1980:66). They are quintessential in the socialization process for effective socialization of socializees.

The researcher extended the content analysis and explored pupils’ science notebooks that contained HE notes and any other related information. The search was also extended to other notebooks where
pupils recorded notes and assignments on a daily basis for revision and further practice when preparing for examinations. The study also analysed the number of lessons and time allocated to practical subjects like PE, games, and sports and compared it to other subjects since they had health implications to pupils. In fact, if more time was spent in PE, games, and sports, pupils could be physically active in doing physical exercises, which could have more health benefits leading to less vulnerability to NCLSDs.

The content analysis of the primary school HE content was done in all subjects in the KPSC to find out whether the objectives and contents covered issues in NCLSDs or related subject matter. This enabled the study to establish whether HE content has adequate content to equip learners with effective knowledge and skills to prevent NCLSDs. The content analysis was guided by predesigned checklists of questions, which ensured the analysis was focused to respond to issues raised in research questions and objectives of the study as shown in Appendix V - VIII. The logic of using content analysis in this study was to be able to explore whether the KPSC had any content in HE and then be able to establish its contributions to good health practices that can enable pupils to prevent NCLSDs. The syllabus content in HE was used to socialize socializees to acquire health practices to prevent NCLSDs. By exploring the content of HE, the researcher hoped that content analysis would enable the study to establish the effects of cultural change and different aspects of social behaviour in terms of lifestyles that made pupils to be susceptible to NCLSDs.

3.6.2 Semi-structured interview guides - (SSIGs)

This tool was used to capture data from the Education Officers (QASOs, Sub-county QASOs), pupils, parents, teachers, KIE curriculum developers and head teachers/school administrators using Appendices IX - XIII. A semi-structured interview is a flexible interview in which the interviewer does not follow a formalized list of questions; instead, he has a list of general topics or themes from the research objectives, which act as a guide (Warren and Karner, 2005:32). Structured interviews include a number of questions in pre-defined themes. In a semi-structured interview, interviewers can continue to ask questions until they fully understand the situation (Rubin, 2004). Use of ordinary conversation makes it easier to reassure informants and to win their cooperation and trust (Gubrium and Holstein, 2001:34). Semi-structured interviews follow an open and informal interview style (Chirban, 1996:42). A semi-structured interview is open; allowing new ideas to be brought up during the interview because of what the interviewee says regarding an issue under discussion (Britten, 1995:64). The interviewer in a semi-structured interview generally has a framework of themes to be explored (Bauman and Greenberg, 1992:30). When conducting semi-structured interviews, the interviewer is prepared with a list of questions and topics to be discussed.
However, the order of the questions and topics is undefined. It depends on the flow of the discussion.

The rationale for use of semi-structured interview guide in this study was to enable the researcher and his assistants to capture in-depth of information through flexible probing questions to understand perspectives and experiences as well as unexpected issues/topics emerge during the extensive and intensive discussions. Semi-structured interview encouraged two-way communication i.e. interviewees also asked questions which made the sessions quite interactive. Further, because the order of questions was not fixed, flow and sharing of views was more natural based on objectives of the study and themes derived from them. Use of semi structured interview also helped to create an informal, friendly atmosphere facilitating a ‘natural’ flow of ideas and opinions from researchers and informants as they engaged each other in a free and open forum.

Two trained research assistants assisted the researcher in data capture. A research assistant is a researcher employed, often on a temporary contract, by a university or a research institute, for assisting in academic research. Research assistants are not independent and not directly responsible for the outcome of the research and are responsible to a supervisor or principal investigator. The research inducted and trained the research assistants on particular duties regarding data collection process using data collection tools. This was important to enable their efficacy in piloting of research tools and later in data collection as well as running research protocols. The choice of graduate research assistants enables the study to involve personnel who possessed sufficient breadth and depth of knowledge in research methods and techniques to enable realization of research objectives.

The lead researcher acted as a moderator, probing issues raised by informants from one topic to another. The proceedings were taped or recorded with the consent of the informants. The lead researcher actively engaged the interviewees while his research assistants actively listened and took note. All researchers looked at the informants face keenly to note any appearances that could be a sign of any sensitivity; to explore emerging issues further in a close and friendly manner, the researcher picked up phrases that the informants used and used these to phrase more questions that made them to shed more information to enable the study to be more exhaustive. The researcher avoided giving opinions or judgments about what the informant said but occasional jokes and friendly gestures towards pupils were used break the ice and build rapport to make the process socially interactive. In many occasions, semi-structured interviews were often preceded by observations in the schools to capture contextual variables that influenced lifestyles and social interaction. Semi-structured interview sessions (SSIGs) were quite interactive to
enable the researcher to seek and probe in-depth information by the students about HE, body exercise, feeding habits, lifestyle and peer relationships among others that affect their lifestyle (Kombo and Tromp, 2006:92).

The tool enabled the study to provide incisive and in-depth data, which would not be adequately, captured using other tools. This tool also enabled close interaction of the study informants with the researcher, hence helped the researcher to probe further, weigh, question and seek adequate explanations on all the responses given. The potency of this tool also enabled the researcher to keenly observe all visible facial and body expressions and gestures, which were vital in authenticating the truth of various responses given by the study informants. In fact this tool enabled the researcher the rare opportunity of in-depth probes that shed more light and clarified various issues raised in various SSIGs, FGD’s and observation schedules. Similarly, the informants had the opportunity to question and seek clarifications from the researcher as well as confidence and trust through dialogue that made them to open up during the discussions and interviews.

SSIs offered flexibility for the both the researcher and interviewer to follow upon on any issues that were not clear; that is, to subtly probe and/or prompt informants to give as complete and accurate information as possible. This was because in SSIGs, neither the questions nor the answers were pre-determined. A predesigned checklist of questions, which only served to ensure that the interview was focused, guided the individual interviews. The order of issues to be discussed depended on the flow of discussion between the researcher and the informants. The interviewer framed the question in the course of the interview and probed the informants to elicit as much information as possible. This technique made informants to be relaxed as they responded to issues making their responses reliable.

Since the atmosphere was informal and conversational, SSIGs were less intimidating and therefore rapport was established easily for a study of personal matters relating to lifestyles. SSIs were important because of their ability to allow for further probing to gain clarity and to acquire new insights related to the topic of concern (Patton, 2002:92). Moreover, the semi-structured nature of the interviews gave special meaning and the interviewer and the interviewee controlled relevance as the context and the process. The interviewees were set free so as to able to give information from his/her vantage point of view; similarly the interviewer was able to take extensive notes and in-depth probe as much as possible.

3.6.3 Non-participant observation schedule
Non-participant observation schedules were used in the study to enable the researcher to capture information about the teaching and
learning processes used during HE and PE lessons as shown in Appendices XIV - XVI. Marshal and Rossman (1989:79) define observation as “the systematic description of events, behaviours and artefacts in the social setting chosen for the study”; observations enabled the researcher to describe existing situations using the five senses, providing a “written photograph” of the situation under study (Erlandson, Harris, Edward, Skipper, Allen and Steve, 1993:48). An observation produces more reliable information than interviews on actual behaviour patterns regarding social issues and lifestyle. Observations have the advantage of giving an unbiased picture of normal procedures and happenings in ordinary social phenomena which provides a real picture of actions, behavioural patterns, habits regarding lifestyle that are susceptible to NCLSDs. Observation is the selection and recording of behaviours as well as taking photographs of people in their natural environment. Observations are useful for generating in-depth descriptions of organizations or events, for obtaining information that is otherwise inaccessible, and for conducting research when other methods are inadequate.

Non-participant observation is considered as staple in anthropological studies, especially in ethnographic studies, and has been used as a data collection method for over a century. Non-participant observation has been noted as a beginning step in ethnographic studies. Further Schensul and Lecompte (1999: 91) noted:

Using non-participant observation in research helps to identify and guide relationships with informants...helps the researcher to get a feel for how things are organized and prioritized...how people interrelate and what cultural parameters are...show the researcher what cultural members deem to be important in manners, social interaction and taboos...help the researcher to identify cultural members, thereby easing facilitation of the research process...provide the researcher with a source of questions to be addressed with participants...

The researcher used non-participant observations in the study. Non-participant, or direct, observation is where data are collected by observing behaviour without interacting with the participants (Dewalt, Dewalt and Wayland, 1998:44). It implies observation where the researcher does not interact directly with the informants (Tonkin, 1984:88). This method is based on taking pictures, recording video, or taking notes at a distance. This method enabled the study to learn more about behavioural patterns and lifestyles of the pupils in their natural social environment in school. Further, it enabled the researcher
to observe social activities/actions and how pupils were formally and informally socialized and emerging lifestyle that determined their participation in feeding habits and physical activities/exercises and implications to NCLSDs. The approach was quite ethical because informants gave consent and there were no ethical problems. Non-participant observations ruled out any influence of the researcher since it was non-participant in nature and style, which made the findings failing authentic and reliable. The researcher ruled out ‘Hawthorne effect’ that could make informants behave differently from knowledge that they were being observed by observing them over a long period of time over a number of similar situations and taking photographs for comparisons (Tonkin, 1984:56).

3.6.4 Focus group discussions guide
The Focus Group Discussions guide (FGD) is potent in generating and collating vital information on collective views as well as validating them. The rational for use of FGDs was that the method was quick and cheap. FGDs also provided the study with a greater pool of expertise, which was tapped, than in individual interviews where more diverse views of the picture of study variables emerged since the contribution of one person often triggered others to share their views and experiences. They are also important in capturing perceptions, beliefs and attitudes as well as general meanings and interpretations that lie behind those views to capture an accurate opinion of issues. Ideally, a focus group is composed of individuals who share certain characteristics, which are relevant to a study (Kombo and Tromp, 2006:68). The FGD were carefully planned and designed to obtain information of participants beliefs, perceptions about HE, PE and school health policies and other habitual issues covered in research objectives about NCLSDs. FGDs were also useful in generating a rich understanding of participant’s experiences and beliefs regarding the issues under scrutiny (Bloor, Frankland, Thomas, and Robson, 2003:45; Morgan and Krueger, 1998:70). As a carefully planned discussion, the FGD’s was designed to obtain perceptions on a defined area of interest in a permissive, non-threatening and interactive environment. The discussion sessions were relaxed, comfortable and often enjoyable for participant as they shared their ideas, perceptions, feelings, beliefs, observations and experiences with the researcher; group members/discussants challenged each other by responding to ideas and comments in the discussions seeking clarifications of the views expressed which made the finding fairly accurate.

The FGD’s sessions enabled the researcher assisted by his assistants to gather and fairly validate vital data and broader understanding of various issues raised by various study informants. This was possible since FGD sessions were open and interactive forums where opinions and views were aired freely and debated not only thoroughly but probed exhaustively. In the interview and FGDs, the researcher probed
while his assistants listened and recorded the response carefully in notebooks. The researcher tape-recorded all the proceedings, which were later replayed to compare the audio recording and recorded observation. In sessions involving girls research assistants who happened to be women conducted the sessions to ensure gender parity. Nevertheless, the researcher followed keenly to capture vital findings for the study to realize its objective. The researcher conducted three FGDs in each school involving 6 boys and girls separately, where one FGD involved boys and girls together. Gendered FGDs enabled the researcher and his assistants to capture gendered perspective in the study. Appendix XVII guided the FGDs. In total nine FGDs were conducted in all the three schools sampled for the study. During the interactive FGD sessions, the researcher was able to capture ‘sheng’ names used by peers for popular junk foods and drinks guided by Appendix XVIII and XIX respectively; as well as their height and weight using Appendix XX to establish their BMI. The FGD sessions also made it possible for the researcher to capture valuable explanations that enabled comparison of data collected using SSIGs and observation schedules and seek more clarifications so as to draw fairly realistic and viable conclusions (Cochran, 1997:44).

The researcher took advantage of FGD sessions to brainstorm and probe the issues raised by various informants to get vital clarifications. This made the findings accurate since they were a product of a shared interactive forum and process. The FGD forums enabled the discussants to share their insightful observations and personal experiences about health and exercise. During the FGDs, the researcher-involved discussants to find their weight and height to enable determine their BMI. The BMI results were not disclosed to pupils due to ethical reasons. Various pupils were so excited to know their weight and height as well as those of others in the group. The researchers responded to questions from pupils’ informants on the importance and ways of maintaining optimum body weight.

FGD groups were gender sensitive, which enabled collation of broad views and experiences from both sexes. Adopting inclusive gender parity strategies enabled the study to vividly capture gendered perspectives in HE programmes. Further, FGD forums provided ideal opportunity for the pupils to challenge each other’s opinions, views, beliefs, interpretations of HE/PE in relation to social realities and experiences, compare notes and observations on various issues in HE/PE programmes to offer critical views on the way forward.

3.6.5 Photographs
The study captured various photographs as visual evidence of the observations in the schools to confirm findings triangulated from other data collections tools. The researcher took photographs of the school facilities, activities involving teachers and pupils involved in the study.
A photograph is an image of an object, person, scene, etc, in the form of a print or slide recorded by a camera on photosensitive material (Barnbaum and Nook, 2010:22). The researcher used a high definition digital camera to capture coloured photographs to enhance clarity and visibility of the pictures to portray reality of the findings to be fairly convincing. Photographs are effective in visual ethnography and visual sociology, which are useful in qualitative research, where Musello, (1985:39) observed:

The photograph is not a message in the usual sense…it is instead the raw material for an infinite number of messages which each viewer can construct…they provide interactive social context in which reality acquire meaning in terms of patterned social activity shaped by social context, cultural convections and group norms… (Musello, 1985; 39).

Photographs provide proof that something actually happened, keep memories alive and the unique properties are effective in articulation of natural happenings of events in details, which make powerful communication to the viewers since they enhance comprehension beyond what is conveyed in words. Meanings and interpretations are most often based on a belief in the photographs values as a document of natural events and on the recognition of its ‘iconic referents (Peter, Cecilia, Leonard and Matthew, 2005:32). The photographic illusion is increasingly expanded, however as viewers interact with the natural events depicted and draw references and significance from broad experiences, people and response, which they recall, derive from, relate and attribute to the depicted contents (McGuire, 1999:23). Further, use of clear photographs makes communication of the study findings objective and fairly effective in qualitative research by providing strong evidence of what was actually observed.

This was in accordance with the objectives of the study where photographic images were need as parts of evidence to strengthen findings captured using other data collection tools. Evidence from the photographs has been used to strengthen the case for triangulated findings of the study. The researcher took photographs of various pupils involved in the study. This was done with formal consent from the school and their parents as well as pupils themselves. Many pupils were willing and volunteered to be photographed; indeed some requested the researcher to make sure he includes their photographs in the study. The photographs have been included in the study findings to compliment findings relating to various objectives. Photographs are effective in communication of the study findings since they capture various social phenomena, which words cannot adequately explain. They enable validations of verbal observations through graphical representations.
As tools for observed data, photographs have been used extensively to portray actual observations to reduce distortion between the observer and what is observed since they were taken in natural settings and not in controlled conditions. The context or background of behaviour is included in observations of both people and their environment, which reinforces verbal statements of various observations given by various informants. The photographs were taken at all stages of data collection with the consent of the informants. The photographs have been used in the report where appropriate to strengthen the evidence triangulated from findings of other data collection tools.

3.6.6 Pupils’ food and exercise diaries
The study used these instruments to capture a sample of various types of foods eaten by pupils using a semi-structured diary within a week guided by Appendix XXI. Similarly, a diary was used to sample some of the physical activities that pupils are involved in within a week to gauge the involvement in physical exercises and body movement guided by Appendix XXIII. These tools enabled the study to determine various foods and physical exercises and their relationships to health practices that may predispose pupils to NCLSDs. A diary is a dated record that contains events, activities, experiences and/or thoughts or feelings on what has happened over the course of a day or other period (Teijlingen, Rennie, Hundley and Graham, 2001:48). A diary is also a dated record of events, transactions, or observations kept daily or at frequent intervals like a daily record of personal activities, reflections, or feelings (Cochran and Cox, 1992:48). Applied in this study selected pupils were guided and then given diaries to record specific activities involving foods and physical activities. Pupils were required to indicate types of popular drinks and foods eaten, popular name, times and their number of times eaten in a day while for physical activities pupils informants were required to indicate popular game/activity/event, popular name, mode of play[alone or with peers] and things/equipment used. These entries had to done in a diary for two weeks. In each case a total of 24 pupils [12 girls and 12 boys] were random sampled to fill diaries for foods eaten and Physical activities. In each of the schools sampled for the study both boys and girls were sampled to ensure gender parity.

3.7 Pilot study
Pilot studies represent a fundamental phase of the research process (Lancaster, Dodd and Williamson, 2004:24). A pilot experiment, also called a pilot study, is a small scale preliminary study conducted in order to evaluate feasibility, time, cost, adverse events, and effect size (statistical variability) in an attempt to predict an appropriate sample size and improve upon the study design prior to performance of a full-scale research project (Peat, Mellis, Williams and Xuan, 2002:41). Pilot experiments are frequently carried out before large-scale research, in
an attempt to avoid time and money being wasted on an inadequately designed project (Billé, 2010:38). A pilot study is usually carried out on members of the relevant population, but not on those who will form part of the final sample. This is because it may influence the later behaviour of research subjects if they have already been involved in the research. A pilot experiment/study is often used to test the design of the full-scale experiment, which then can be adjusted (Lancaster, Dodd and Williamson, 2004:89). A pilot, or feasibility study, is ‘a small experiment designed to test logistics and gather information prior to a larger study, in order to improve the latter’s quality and efficiency (Peat, 2002: 123). A pilot study can reveal deficiencies in the design of a proposed experiment or procedure and these can then be addressed before time and resources are expended on large-scale studies. Frankland and Bloor (1999:154) argue that piloting provides the qualitative researcher with a ‘clear definition of the focus of the study’, which in turn helps the researcher to concentrate data collection on a narrow spectrum of projected analytical topics. Piloting of qualitative approaches can also be carried out if ‘the researcher lacks confidence or is a novice, particularly when using the interview technique’ (Holloway 1997: 121).

The research instruments were piloted in Kenyatta University Primary School in Nairobi County with the assistance of two research assistants. The sample size for the pilot study comprised of 5 boys and 5 girls for FGDs in respective groups to ensure gender parity; and for SSIs the pilot sample encompassed 2 girls and 2 boys; 2 teachers and a teacher in-charge of curriculum issues in the school to represent KIE curriculum developer; Deputy head teacher represented head teachers; head teacher represented Education Officers; and one male and one female parent represented parents respectively.

In Kasarani Sub-county, Kenyatta University Primary School as the pilot school was purposively selected since it has pupils who have characteristics of the three socio-economic levels that is HSES, MSES and LSES; the catchment area of the school are children of all cadres of staff working in Kenyatta University who may be regarded as belong to HSES and MSES since they are university employees who earn a regular monthly which could be used to provide essential requirements for their children; similarly, the catchment of Kenyatta University Primary School extends to adjacent environments such as Kahawa, Soweto, Kilomita moja, Ruiru and Mwihoko which are inhabited by low income earners who are mainly casual workers in the university and surrounding estates; these will represent LSES. The teachers in the school guided the researcher to identify and select appropriate samples for each category to pilot the tools. The school had all elements envisaged in the study hence; it was possible to effectively test the study tools prior to their actual administration to capture
pertinent field data to achieve the objectives of the study. The pilot school did not participate in the final study due to ethical reasons.

During the piloting, the researcher and his assistants were able to check that the instructions given to investigators (e.g. randomisation procedures) are comprehensible and they were able to check the reliability and validity of results (Teijlingen and Hundley, 2001:44). In particular, the findings of the pilot study procedures were used to improve the internal validity of a data collection tools in a variety of ways. This is because the pilot study provided the researcher and his assistants with the opportunity to administer the questions in the data collection tools to pilot subjects in exactly the same way as it was to be administered in the main study and discard all unnecessary, difficult or ambiguous questions; they were able to assess whether each question captured an adequate range of responses to adequately achieve the research objectives. Further, they were able to establish that replies could be interpreted in terms of the information that was required for each objective after triangulation (Mason and Zuercher, 1995:62). They were also able to check that all questions were answered as well as ask the informants for feedback to sort out any ambiguities and difficult questions, record the time taken to administer each tool and decide whether it is reasonable in relation to the final study. Using the findings of the pilot study they were able to consult and re-word or re-scale any question that was not answered as expected. Piloting ensured that research instruments were efficient and capable of capturing valuable data with a fair measure of efficacy to all study informants.

The time taken in administering piloting was noted and guided the researcher to fine-tune the tools to make them proficient during final fieldwork. The findings from the pilot study enabled the researcher to edit and improve the structure and form of the questions in respective tools for data collection by correcting flaws, meaning and syntax; for example, more content was added in the content analysis tool to capture various aspects on implementation of KNSHP by various stakeholders in the schools; more areas of observations were also added in facilities observation schedule to capture more information on physical facilities and games equipments; in classroom teaching observation, issues regarding use of learning resources were include; other notable improvements were in the content in pupils diaries where details to capture junk drinks were factored and also more questions were added in FGD schedules. The findings of the pilot study also enabled the study to avoid ambiguous, vague, repeated and loaded questions. In addition, editorial and typological errors were also corrected after piloting which made the tools efficient in data collection to enable the study to achieve its objectives.

3.7.1 Validity
Validity is the degree to which the empirical measure or several measures of the concept, accurately measure the concept (Orodho, 2005:62). It is the extent to which an instrument measures what it is supposed to measure, (Kombo and Tromp, 2006:56). It was important to ensure content validity to ascertain that elements of variables envisaged in the study were a fair representation of the wider issues under investigation and that the study variables are addressed in depth and breadth. All data collections tools were constructed in close consultation with the university supervisors to ensure validity. Further, validity was established through rigorous pilot study of the tools to ascertain that they yielded consistent findings when used by various study informants were sampled in the school selected for the pilot study after triangulating the findings of the pilot study. The findings from the pilot study were triangulated to check the validity of data capture tools. The findings of the pilot study were further used to fine-tune and ensure the efficacy of validity of each tool prior to the actual field study.

During the field work validity was further enhanced through various ways. The long engagement in field work for the best part of the academic year ensured observations were taken for a long time by different observers who later triangulated their observations from various tools to strengthen validity of the findings of the study. The long period enabled the researcher and his assistant to observe the consistency and frequency of various activities, behaviours patterns, actions and school practices that influenced the lifestyle of the pupils and teachers in different periods of the school term. Use of research assistants in piloting and the data collection process further enhanced validity of the research findings. Use of photographs taken during the study enables the readers to validate contents observed in the photographs and what is reported in qualitative statement by the researchers and the ‘exposes and voices of various study informants. These strategies were taken to improve the validity of the study findings.

3.7.2. Reliability
Reliability concerns the degree to which a particular measuring procedure gives similar results over a number of repeated trials (Orodho 2005:49). It is a measure of degree to which a research instrument yields constant results after trials (Mugenda & Mugenda, 2003:38). The researcher used tested reliability methods, which involved administering the same instruments to many informants during pilot study to ensure reliability of the data collection instruments. Research assistants assisted the researcher during piloting. The findings of the pilot study from the researcher and his two assistants were triangulated to ensure reliability of the data collection tools. The findings of the pilot study were further used to fine-tune and ensure the efficacy of each tool to capture reliable data prior to the
actual study to validate the findings of the study to enable their generalizability.

The study used both qualitative and quantitative evidence to improve reliability of the study findings (Johnson and Christensen, 2008:16). During the field work reliability was further enhanced in various ways. The long engagement in field work for the best part of the academic year ensured observations were taken for a long time by different observers who later triangulated their observations from various tools to increase reliability of the tools to capture similar findings in different periods of the academic year. The long period enabled the researcher and his assistant to observe in various periods of the term as well as different times of the day within the academic term which was compared to identify the similarities and any differences. Use of same tools repeatedly which yielded similar results enabled the efficacy of research tools to capture reliable findings for the study. These strategies were taken to improve the reliability of the study findings.

3.8 Data Collection Procedure
The researcher got an introduction letter from Kenyatta University and Nairobi County Education Office and a research permit from the Ministry of Education (National Council for Science and Technology) using letters in Appendices XXIV - XXV. The researcher used the research authorization document to secure informed consent from each of the institutions sampled for the study that is MoE headquarters, field Education Offices, KIE and Schools. During the initial visit to KIE, the researcher acquired both volumes of Kenya Primary School syllabuses and analyzed the content of the HE syllabus guided by content analysis schedule. This was critical prior to the study so that researcher’s efficacy was further enhanced to be versatile and thorough during data collection process.

The researcher selected and trained two women who are finalists in Master in Health Education in the Department of educational foundations. The research assistant had to be rigorous socialized using data collections tools to abide by ethics and enhance their efficacy in data collection process to enable the study to achieve its objectives since they were involved in the entire process. The research assistants assisted in piloting of the tools and the entire fieldwork. The choice of the two person assistants was to ensure gender parity and improve the efficacy of the data collection process since they came from HE background. The researcher and his research assistants made several prior visits to each of the institution sampled for the study to book appointments with the officers involved. The prior visit enabled the researcher and his assistants to create rapport with Directors, County, Sub-county Education officers, Curriculum developers, Head-teachers and teachers after formalizations using introductory documents and briefing them about the study. The researcher and the informants
would then continue to set dates and time for the actual study. In all the institutions sampled, the officers were very friendly and researcher was granted permission to conduct the study.

In the schools sampled for the study, the researcher and his assistants reported early on appointed dates and time in the school, where head-teachers introduced him to teachers and then gave him the opportunity to brief them about the study; after which the researcher was linked to Standard Seven teachers who later facilitated the study. In each school sampled for the study, the Standard Seven teachers introduced the researcher to the pupils. In all the schools, the head-teachers liaised with Standard Seven teachers to introduce the researcher to parents who were sampled for the study.

The researcher and his assistants used to report to the schools sampled for nine months on dates and times set to administer the tools. In all schools sampled the researcher and his assistants observed various lessons and interacted with teachers and pupils widely; keenly observing the preparations, actual teaching, and evaluation of the pupils; he also observed and participated in outdoor activities like PE, ball games and sports occasionally taking pictures of pupils and teachers involved in various activities using observation schedules. After familiarization with each school and class routines, the researcher with help of his assistants sampled the study informants and commenced the study as scheduled. Prior familiarization with each school routine enabled the researcher and his assistants to be incisive during the interviews and FGDs involving various informants. This made the study to be exhaustive to achieve the objectives of the study. The informants were given clear guidelines and assured of confidentiality after which enough was given for semi-structured interviews and FGDs discussants to respond to the issues involved in the study. The researcher with help of his assistants sought clarifications by probing each issue raised exhaustively.

Data collection process was quite interactive. The data collection process was interactive and the researcher and his assistants are shown in the Figure 3.3 appendix XXVI in one of the schools during a FGD with pupils.

The observation in the Figure 3.3 in appendix XXVI shows the research during a FGD with pupils in one of the schools; the recording tape is can be seen in the foreground. The researcher and his assistants interacted with teachers and pupils in the process of the fieldwork. This enabled the researcher to find out how teachers and pupils interacted during HE and PE lessons, hence the researcher was able to observe closely and determine teachers’ preparedness and competence, types and use of learning resources used, lesson and teaching preparations, use of learning activities and teaching approaches used, how
participants communicated during the lesson, time spent in various activities during the lesson and kind of interaction between teachers and pupils. The researcher together with research assistants followed each activity keenly making observations and questioning appropriately to discover why informants acted/behaved in that particular way during certain activities. This enabled the researcher and his assistants to acquire valuable insights about social behaviour and the social determinants and influencing factors of certain lifestyles, which enabled fair interpretation of the observations and emergent findings. The researcher with the permission of the study informants took photographs that have been used to reinforce findings of the study.

The researcher and his assistants keenly listened and tape-recorded the proceedings, which they jointly transcribed. The researcher and his assistants talked less but, asked and probed repeatedly during FGDs to seek for details, clarifications and consensus from all the discussants during the FGDs. This enabled the informants to edit each other as they compared notes as well as to provide clear interpretation of various experiences.

The researcher and his assistants recorded each transcribed observation accurately and in details; they captured all the responses and inquiring for any clarifications where necessary. They wrote accurately by avoiding incorrect grammar, misspelled words and statement inconsistency among others that could jeopardize the validity of study findings. They were candid in expressing feeling to seek for clarifications and included the primary data in the final report. The inclusion of primary data like photographs, voices of the informants during interviews, exposes and citations in the final report allows the reader to see exactly the basis upon which the researcher’s conclusions made (Wolcott, 1990:120).

The procedure of data collection in each school, sampled was as follows; the researcher with his research assistants made observations guided by observation schedules; then interviewed the pupils and conducted FGDs for pupils; then, interviewed teachers then parents and head teachers. At the end of each session, the researcher and his assistants would jointly compile the report of the day together. After conducting the study in all the three schools sampled, the researcher and his assistants then visited and interview Sub-County Quality Assurance Officers (Sub-County QASO) in the three districts sampled and then KIE HE curriculum developers prior to interviewing senior Quality Assurance Officer (QASO) in the MoE headquarters. This procedure enabled the researcher and his assistants to make observations and investigate various issues observed or raised during interviews and FGDs in the schools in the field with education officers and curriculum developers to achieve the objectives of the study.
The data collection sessions were organized with the informants during their free time so that it was convenient and accommodative with their routines and personal issues to avoid undue interruption of their work in curriculum implementation as well as educational administration. The researcher and his assistants to made several trips to informants where it was not possible to complete the study owing to official meetings and other impromptu appointments.

3.9 Data Analysis

Data was cleaned. Data cleaning is an important procedure during which the data was inspected, checked and any erroneous data if necessary, preferable, and possible was corrected (Tabachnick and Fidell, 2007:42). Data was sorted to facilitate subsequent processing and analysis. It was sorted according to type of instrument used and then data collection tools were coded differently and separately.

Data was coded. Data coding is an interpretive technique that both organizes the data and provides a means to introduce the interpretations of it into certain quantitative methods (Saladana, 2012:32). Data coding made the researcher and his assistants to process and analyse the data in an efficient way. Coding also ensured privacy for the informants. In this study, coding was done using short labels made from the themes generated from research objectives. Coding was done after analysts read the data and demarcated segments within it according to themes. This was done at different times throughout the process, as the analysis was continuous. Each segment was labeled with a ‘code’ - usually a word or short phrase from the themes that suggested how the associated data segments informed the research objectives. When coding was complete, the researcher assisted by analysts prepared the reports via a mix of summarizing the prevalence of codes [Labels], discussing similarities and differences in related codes [labels] across distinct original sources/contexts, and comparing the relationships between one or more codes.

In an effort to ensure quality control in this qualitative and quantitative study, the researcher, assisted by his assistants thoroughly checked each observation, interview, FGD and photograph in the field, to ensure that all the information was properly collected and recorded. Before and during data processing, the information should was checked again for completeness and internal consistency. This included listening to the recorded tapes and going together through all recorded data several times.

Data analysis was therefore a continuous process throughout the study period, which enabled the study to be quite thorough in ensuring issues raised in research objectives were captured exhaustively and
effectively. Indeed, Sandelowski, Davis and Harris (1989:44) state that in a qualitative research, data analysis is done at two levels: continuously throughout the data collection period as well as after fieldwork has ended. The following were taken to organize and manage the data during the study period. Field notes were taken on a daily basis throughout the study period using well-secured notebooks by the researcher and his two assistants. The researcher perused through them on a daily basis, meticulously, several times; pausing to reflect to find out patterns emerging at the end of each day and in the event of any reflections, these were added on the margins and added as observer’s comments (OC). This was done repeatedly to ensure thoroughness and fair interpretation of the study findings by seeking immediate clarifications from the study informants and the research assistants where necessarily. This made the study to capture pertinent data including photographs to respond to issues raised in research questions. The researcher and his assistants meticulously listened to the recorded data and transcribed it accurately. They went through transcribed data severally listening to recorded tapes, pausing severally and discussing it to ensure accuracy. This was done several times over a period of days to improve efficacy and accuracy in transcribing the recorded content. The researchers then together listened to the recorded content slowly following transcribed/written content to compare and ensure accuracy. This was repeated several times after a number of days to correct any anomalies to ascertain accurate and authentic report.

The researcher analyzed the qualitative data systematically having organized it into categories and themes guided by research objectives; the researcher triangulated data from various tools and identified patterns and relationships on which to base an analysis of the findings guided by research objectives. Triangulating quantitative and qualitative research increased confidence in both as well as the findings. According to Kane (1995:64) triangulation is the use of more than one research techniques to more than one source of data, and more than one explanation to check information. It is a process in which researchers employ a variety of strategies of data collection and analysis that help to validate the findings (Kane, 1995:66). Triangulation techniques were relevant because this research involved the use of a variety of data sources in the study for example from education officers, teachers, parents and pupils. The logic of such triangulation in social research rests on the premise that no single method or tool alone could adequately give all round solutions and accurate explanations to all the problems of rival causal factors that synergize each other to predispose pupils to NCLSDs. Case analyses were done for interviews, observations and FGDs. This enabled the researcher to highlight the main points and to see what information is generated. Any emerging patterns were noted and recorded accordingly under respective themes and subthemes.
Basic descriptive statistics were used to analyze the data quantitatively. The number of times a statement occurred as reported by various observers was used to determine the frequency of occurrence of the social action, which was used to calculate its frequency and percentage that were used to present quantitative data. The percentages were used to draw graphs and chart to present analyzed data. Data from books, observations and in-depth interviews are analyzed using ground theory and content analysis approaches (Denzin, 1994:33). These were based on the following ‘Affixing codes to the transcribed data; noting reflections and remarks from participants; noting action barriers and potentials; sorting and sifting through data to identify differences and similarities between themes; then, isolating the patterns and processes to find commonalities and differences; elaborating on and discussing generalizations based on the existing body of knowledge and identifying emerging themes.’ After the data was analyzed qualitatively and quantitatively it was triangulated and presented using thematic approach based on themes generated from research objectives. Under Thematic approach information has been sorted out, classified and categorized under the themes and subthemes identified guided by research objectives. All the material relevant to a particular theme was put together. The frequency with which an idea, word or description appears was interpreted as a measure of importance, attention or emphasis. The findings of the study guided the researcher in drawing pertinent conclusions and recommendations emanating from the study.

3.10 Ethical Considerations

The researcher and his assistants ensured that participation in the research was voluntary and the participants were accorded prior debriefing. This was done to ensure all informants were informed as fully as possible of the nature and purpose of the research, the procedures to be used, the expected benefits to the participant and/or schools, government and the greater society, the potential of reasonably foreseeable risks, stresses, and discomforts, and alternatives to participating in the research.

Direct consent was sought from MoE, educational officers and head-teachers through a prior written consent and appointments using letters in Appendices XXIII - XXV. Similarly, parents, teachers and students were debriefed prior to seeking their informed consent to participate in the study. This study the research tools had a written guideline on top of each toll that assured informants of confidentiality. The integrity of each informant was strictly safeguarded, and ethical values were respected in the entire study process and in the final documentation. The informants were also made aware that they were at liberty to withdraw from the study at their convenience. The researcher and his assistants were very careful when selecting participants for the photographs. This was important so as to respect
informants’ rights to privacy and avoid duress, psychological stress, personal embarrassment and humiliation and, to rule out any other form of coercion to get an informant to participate. As recommended by Beauchamp and Childres (2009:38), since some of the respondents were children, the study involved their parents and schools as closely, transparently and responsibly as possible. In all photographs informants, teachers and the school administration gave prior informed consent. In fact in some cases the informants declined to be captured in photographs and the researchers respected their wish; for example, teachers who were marking pupils work during PE time in classrooms. The dignity of all the informants was always respected.

Participants were assured that the information that they provided will be kept in strict confidence and would only be used for the purpose of the study as indicated in each instrument. Further, clear guidelines, which were written on top of each data collection tool were used to ensure that study informants do not write their names or indicate any other marks that could have revealed their identity. The data was coded for purposes of confidentiality. Due to ethical considerations, the entire study has adopted pseudo names of persons, places and schools in data analysis and presentations of the findings. Any semblance to real persons or places at anytime is purely coincidental.

At the end of the study, the findings will be disseminated through Kenyatta University annual postgraduate seminar, the University Library and copies of the thesis will be sent to the National Council of Science and Technology, which issues research permits in Kenya. Copies of the study findings will also be sent to the study informants in participant Schools, Education Officers and other stakeholders in Nairobi County. MoE and KIE will also be given copies of the study findings for further action. The findings will also be disseminated in the form articles published in relevant academic publications.

CHAPTER FOUR
DATA PRESENTATION, ANALYSIS AND DISCUSSION
4.1 Introduction
This chapter comprises presentation, analysis and interpretation of the data, which are presented thematically guided by the research objectives. The objectives that guided the study were:

- To examine the operationalization of KNSHP at the school level and how it influenced socialization of pupils to prevent NCLSDs.
- To analyse the Primary School HE content to find out whether there was content in NCLSDs.
- To examine the teaching approaches in HE in primary schools to find whether they enabled learners to realize good HLs to prevent NCLSDs.
- To explore the perceptions of Primary School teachers and Pupils on the contributions of HE to enable pupils to practice HLs to prevent NCLSDs.
- To establish factors that limited the implementation of the KNSHP programme in the selected case schools.

4.2 General and Demographic Information of informants sampled for the study

The researcher sampled various informants in the sample schools. The informants in schools included: pupils in Standard Seven and their teachers, Head-teachers, parents and quality assurance and standard education officers and KIE curriculum developers in charge of PE and HE. The overall study informants are tabulated in Table 4.1.

<table>
<thead>
<tr>
<th>Informants</th>
<th>Institutions</th>
<th>Number sampled by gender</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Male</td>
<td>Female</td>
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<tr>
<td>Pupils interviewed</td>
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<tr>
<td></td>
<td>MPS</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>JPS</td>
<td>4</td>
</tr>
<tr>
<td>Category subtotal</td>
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<tr>
<td>Pupils selected for FGDs</td>
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</tr>
<tr>
<td></td>
<td>MPS</td>
<td>6</td>
</tr>
<tr>
<td></td>
<td>JPS</td>
<td>6</td>
</tr>
<tr>
<td>Category subtotal</td>
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<td>18</td>
</tr>
<tr>
<td>Pupils who filled diaries - Physical activities</td>
<td>BPS</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>MPS</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>JPS</td>
<td>4</td>
</tr>
</tbody>
</table>
### Table 4.1

<table>
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<th>Category</th>
<th>BPS</th>
<th>MPS</th>
<th>JPS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pupils who filled diaries - Types of foods eaten</td>
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<td>4</td>
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<td>MPS</td>
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<td></td>
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<tr>
<td>JPS</td>
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<td></td>
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</tr>
<tr>
<td>Category subtotal</td>
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<td>12</td>
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<tr>
<td>MPS</td>
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<td></td>
</tr>
<tr>
<td>JPS</td>
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</tr>
<tr>
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<tr>
<td>Subject teachers - PE</td>
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</tr>
<tr>
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<tr>
<td>MPS</td>
<td>1</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>JPS</td>
<td>1</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Category subtotal</td>
<td>3</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Head Teachers</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>BPS</td>
<td></td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>MPS</td>
<td></td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>JPS</td>
<td></td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Category subtotal</td>
<td></td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Parents interviewed</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>BPS</td>
<td>4</td>
<td></td>
<td>4</td>
</tr>
<tr>
<td>MPS</td>
<td>4</td>
<td></td>
<td>4</td>
</tr>
<tr>
<td>JPS</td>
<td>4</td>
<td></td>
<td>4</td>
</tr>
<tr>
<td>Category subtotal</td>
<td>12</td>
<td>12</td>
<td>12</td>
</tr>
<tr>
<td>KIE curriculum developers</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>KIE</td>
<td>2</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>MoE</td>
<td>4</td>
<td></td>
<td>2</td>
</tr>
<tr>
<td>Category subtotal</td>
<td>91</td>
<td></td>
<td>86</td>
</tr>
<tr>
<td>Total of the sample in 3 schools</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 4.1 summarizes demographic information of respondents who participated in the study. As evident from Table 4.1, the informants comprised of 108 pupils who included boys (54) and girls (54); 3 head-teachers (2 female and 1 male); 33 teachers (18 male and 15 female teachers respectively); 24 parents (12 male and 12 female parents respectively); 3 KIE curriculum developers (the lady in charge of PE and two gentleman, one who was in charge of primary science which includes HE and one in charge of orientation of the new syllabus for teachers); and 6 Quality Assurance and Standard Education Officers (QASO) (4 male and 2 female officers). The total sample for the study was 177 informants.

In terms of gender parity it was not possible to equalize teachers because in the three schools, one was headed by a man and two were headed by lady head teachers; similarly, in two schools sampled the class teachers, PE and HE had male teachers while others were lady teachers; and Quality Assurance field Education Officers comprised of
only two ladies against the 4 male informants sampled; in KIE, two officers were sampled who comprised one male and one lady curriculum developers in charge of PE and Science [which includes HE]. Nevertheless, the study sample captured the views of the two genders in the findings to ensure gender parity.

4.3 The Level of Operationalization of KNSHP as a strategy to teach HLs in the sample schools

The first objective of the study was to analyse the KNSHP policy and its implications to socializing pupils in HLs to prevent NCLSDs. In this regard, the researcher conducted an in-depth analysis of KNSHP policy in an effort to establish its efficacy in socializing her pupils to prevent NCLSDs. The analysis has established various issues, which have been triangulated and presented in respective subthemes guided by the research objective.

The researcher endeavoured to unearth issues related to KNSHP in an effort to find out how schools were implementing it and their experiences. It was also important to establish whether the policy had any content that could guide schools to ensure promotion of healthy lifestyles among children to improve health and learning outcomes of the pupils with particular emphasis on NCLSDs.

The findings of content analysis of KNSHP established that there was content in the policy document that contains information on types of NCLSDs. It is noted that RoK (2009) states that:

Although a majority of non-communicable diseases occur during adulthood they are caused by accumulated exposure to major risk factors resulting from unhealthy lifestyle, unhealthy diet, physical inactivity from childhood; and hereditary factors. Non-communicable diseases are not transmitted from one person to another except those genetically transmitted. A large number of non-communicable diseases are related to lifestyle and physical inactivity but bring about preventable health complications in later life (RoK, 2009:39).

The findings show that the policy has contents that have good explanations regarding NCLSDs and how they are caused and their effects in pupils’ later life. Further, analysis of the policy document revealed the contents include types of non-communicable diseases. The policy document notes that:
Types of non-communicable diseases include Cardiovascular diseases like heart attack, hypertension, congenital heart diseases; Diabetes; Obesity; types of cancer like lung cancer, breast cancer, prostate cancer, cervical cancer, blood cancer (leukaemia); Asthma; Epilepsy; Peptic ulcers; Anorexia nervosa; Albinism (RoK, 2009:39).

These findings show that the policy document has content on various types of NCLSDs. Analyses of the policy content further revealed that the contents include causes and risk factors associated with NCLSDs in schools. The policy document notes that:

Risk factors associated with non-communicable diseases include smoking; excessive alcohol use; exposure to chemicals and radiation; consumption of junk foods (foods high in fat and sugar and low in roughage; ingestion of highly refined foods; lack of physical activity; hereditary factors and chromosomal disorders; some unknown factors and environmental pollutions (RoK, 2009:40).

Infact the content analysis revealed that the planners had noted that NCLSDs are an emerging issue that is fast becoming a serious public health problem in Kenya because they noted, “though previously rare, non-communicable diseases have become an emerging public health problem in Kenya”.

It is notable in the same policy document that policy makers suggested expeditious measures that can be taken to prevent the spread of NCLSDs. The policy document noted that:

Strategies directed at improving dietary habits, increasing physical activity and promoting good health practices can reduce the risk factors that cause these diseases (RoK, 2009:39). For these reasons the following measures will be ensured; Schools shall educate children on the predisposing factors and prevention of non-communicable diseases...Emphasis will be laid on healthy lifestyles including diets, physical activity, control of drug/substance abuse, mental health and other lifestyles (RoK, 2009:39).
The policy document went further to specify what actual preventable measures can be taken to prevent NCLSDs at institutional level. The policy document suggests that:

Preventive measures against non-communicable diseases should include eating of healthy foods (balanced diet at all times and avoiding junk food); prohibiting smoking and abuse of other drugs and substances in schools; encourage physical exercises in schools; conducting regular medical examinations and screening in schools; schools with feeding programmes should ensure that the children eat a diversified and balanced diet at all times at school, and at home; offering guidance and counselling services in schools (RoK, 2009:40).

The findings reveal that KNSHP has content on NCLSDs. The findings in the content analysis show that KNSHP has clear guidelines that also included content on issues dealing with NCLSDs like types, risk factors and preventive measures against NCLSDs. Nevertheless, the study established that there was total apparent disconnect between the theoretical content in the documented policy and what was happening in all the three schools sampled for the study. The study established that none of the schools had any established structures in place to support implementation of the KNSHP since all they informants said they were neither aware of policy nor seen any documentation of it. The teachers, head teachers, parents and pupils reported they were not aware of the KNSHP.

In all the three school there were no structures as documented in the KNSHP implementation guidelines to facilitate implementation of the policy by the school fraternity. Structures such as community health extension committee and school health committees comprising of teachers and parents and pupils’ health clubs were inexistent. In fact, all informants said they were not aware of such structures.

In all the three schools sampled, the head teachers, parents, teachers and pupils reported that “they were not aware of KNSHP or any MoE School Health policy”. For instance, Zuku, a girl from MPS said that “we are not aware of the Ministry of Education school health policy” but she went on to say “our teachers tell us to wash our hands any time we visit the toilet”. Zuku also observed, “our teachers encourage us to wear clean school uniforms and keep our classes and compound clean”. These findings suggest that schools are keen on ensuring general cleanliness of pupils and the school compound to avoid communicable infections and diseases but issues regarding NCLSDs
are not given prominence. In an interview, Soki of MPS confirmed by saying:

> We are not aware of any Kenya national school health policy or non-communicable diseases because they are not in the syllabus and the ministry of education has not shown interest in them by sensitizing us or writing a circular to schools providing guidelines on the same... (Head-mistress, MPS 001HM, 2012).

This finding confirms that schools were not aware of KNSHP. In addition, the finding also shows that schools are keen to teach what is documented in the syllabi. Perhaps teaching what is in the syllabus is informed by the fact that KCPE and other tests are based on objectives, hence basing teaching on that may increase chances of better results. Since MoE school healthy policy may not feature in examinable subjects, it may not be given much attention. On further probing on institutional based efforts and initiatives on school-level policies regarding the health of the pupils, Soki noted:

> We have school level policies regarding cleanliness in schools that are part and parcel of school rules and regulations that emphasize on pupils personal cleanliness, wearing clean school uniforms, clean hands school policy, clean compound and generally clean classrooms... (Head-mistress, MPS 001HM, 2012).

The researcher noted school policies also lay emphasis on issues related to communicable diseases like HIV and AIDS; cleaning hands to avoid communicable infections. The schools had good graphics on the walls. In fact, the graphics by extension contained some fact from HE as sourced from the science syllabus; which, indicates that they are meant to reinforce the syllabus to boost academic performance.

It is quite instructive then, that this studious silence about lifestyles that potentially predispose pupils to NCLSDs is self-reinforcing since pupils unconsciously acquire practices that predispose them to NCLSDs which become habitual hence becomes part of their lifestyle. This puts them at a greater risk of developing NCLSDs without their knowledge that such lifestyles are risky. Interviews with pupils in all the three schools revealed that pupils have good knowledge on communicable disease and appreciate the need to “keep their hands, hair, uniforms, compound and classrooms clean” as well as how to deal with communicable diseases like HIV and AIDS but no idea about NCLSDs diseases like diabetes, obesity or even overweight. The researcher,
noted that JPS had many taps and wash basins in strategic places in the compound with a caption “clean hand for healthy living” written on the wall adjacent to it but one critical observation was that they rarely had flowing water on daily basis. For example, in BPS, taps had flowing water but they had no sinks and wash basins which potentially could be hazardous to pupils health. One of the observations is show in the Figure 4.1 appendix XXVI.

The findings in the Figure 4.1 appendix XXVI shows children washing their hands in open water tap in BPS. The muddy and dirty surroundings pose a potential health threat to naive children. The researcher observed in JPS and MPS there were few taps although in both cases, it was reported that their water systems were often disconnected due to unpaid bills and most times the researcher witnessed that the taps were dry. These findings may confirm that school health policies in the schools focussed on communicable diseases. The study informants revealed that school health programmes were headed by the teachers with support of the some soap companies who advertised their products through schools. Perhaps, this could be an indication that in absence of support from soap manufacturing companies, ‘clean hands policy’ in schools would not have been possible.

The findings in this section show that schools were not implementing KNSHP. The expectations were that schools were actively implementing the KNSHP guided by the policy framework to ensure health promoting schools and communities. The implementation could be evident if there were vibrant structures attesting to policy implementation where various stakeholders through joint committees involving parents, teachers and pupils and members of greater community would be actively involved as stipulated in the KNSHP frame work. Accordingly, in the absence of the structures in place, schools were not socialising pupils to acquire observable actions and action-competence to prevent NCLSDs as envisaged in the theoretical framework guiding this study. It was evident that pupils, teachers, parents and school communities were not being empowered (Freire, 1970:44 and 1973:62) through education on NCLSDs to prevent NCLSDs through raising their awareness for individual and collective actions.

### 4.4 Analysis of the Primary School HE content in relation to promoting HLs

The second objective of the study was to analyse the Primary School HE content in relation to promoting good health habits to prevent NCLDS. The researcher conducted in-depth analysis of the Kenya Primary School Curriculum to discover whether it contained content that could enable pupils to learn and practice HLs that could enable them to prevent NCLSDs. The various findings are presented in various subheadings guided by the research objective.
The Kenya Primary Schools Education Curriculum is operationalized and implemented using various documents that are used by teachers and pupils in an interactive learning process to socialize each other. The researcher explored the content in each of the socialization documents used by socializers and socializees. The researcher analyzed various official documents that are used in the teaching and learning process of the pupils to find out whether they have content that deals with NCLSDs. The documents analyzed were school syllabuses, textbooks used in various subjects and in particular those of science and PE, which are the carrier subjects of HE. The findings revealed that science textbooks used by pupils and teachers did not have any content in NCLSDs (Karaka, Nyangasi and Mwangi, 2008:80; KLB, 2010:12; Orina and Wamwea, 2012:40). The study also noted that all the primary science textbooks were written using the KIE 2002 primary syllabus though they had no content in NCLSDs. The researcher also analyzed the content in textbooks that are meant to be used by pupils and teachers in PE though observations revealed that PE was not taught. The findings show that textbooks were written according to the new primary syllabus (JKF, 2002:36; Kiganjo, Mwathi and Kamenyi, 2004:124) but did not mention any NCLSDs or relate physical exercises to prevention of NCLSDs. It was interesting to note that in one school there were only two copies of PE textbooks, two of the schools sampled had only a single copy of a PE guide for teachers’ only, and there were no PE textbooks for pupils. This may indicate that PE teaching was not given much attention.

The researcher went on to explore other teaching documents prepared and used by teachers and pupils in the process of teaching and learning contained content regarding NCLSDs. These documents included teachers’ professional documents (schemes of work, lesson plans, records of work and learning resources), pupils exercise books, examination papers (school based examinations and KCPE). This was important to enable the study to establish whether the documents used in the process of teaching pupils had any information that could enable them to acquire preventive knowledge and skills that could empower them for healthy living to curb NCLSDs.

The researcher commenced the analysis by exploration of the national goals and objectives in KPSC. The aims and goals are contained in the syllabus. Every subject in the KPSC has a syllabus. The rationale of analysing the content of each goal was to establish what they said about HE and in particular, what they said about NCLSDs. A curriculum includes all indoor and outdoor subjects, activities and programmes of instruction and socialization of socializees in any educational institution.
The Kenyan Primary School Curriculum (KPSC) is documented in two volumes, which are volumes One and Two which both contain all the subjects that are taught at the entire Primary School level. The subjects contained in Volume One are “English, Kiswahili, mother tongue, physical education and creative arts” (KIE, 2002a); While Volume Two contains “mathematics, science, social studies, Christian religious education, Hindu religious education and Islamic religious education” (KIE, 2002b). The KPSC is put in two volumes for convenience during use since being in one document could have made it voluminous and weighty. The total number of subjects in the two volumes of KPSC is ten. The content analysis also revealed that Lifeskills education is not included in the two volumes of the syllabus. This perhaps confirms that the subject is not regarded as of equal significance to others included in codified syllabus. This may imply teachers may treat it as a lesser subject and may not give it much attention in terms of planning for its teaching.

The KPSC has explicit goals of education in Kenya. It is notable that stakeholders state the goals in non-ambiguous style in an effort to enhance interpretation and implementation. The documents state that education in Kenya should “promote positive attitudes towards good health and environment protection (KIE, 2002a & b: iv-v). This excerpt shows that Primary Education aims at enabling pupils to acquire holistic development of individual persons including physical wellbeing, which consist of good body health and clean environment for healthy living conditions. However, good health should capture issues related to NCLSDS as it does for communicable diseases to enable pupils enjoy health benefits of their education. The KPSC also provides the objectives of Primary Education in Kenya, which has issues related to HE by stating that education should enable pupils to “develop into a self-disciplined, physically fit and healthy person” (KIE, 2002a & b: vi). It is notable then that, “being physically fit and a healthy person” requires one to apply preventive knowledge to prevent NCLSDs, which have caused untold suffering to self, and society.

The preceding excerpts indicate that education in Kenyan schools is aimed at socializing students to enable them grow and develop in all aspects to become self-disciplined, physically fit and healthy people in society. This is noble to enable pupils to be disciplined in their eating habits and physical exercises to enable them to lead a healthy and productive life in society devoid of NCLSDs.

In an effort to find whether content on HE is contained in Primary School Education, the researcher commenced by carrying out a diligent search of HE content in all subjects contained in Kenya Primary Education Syllabus. The researcher went through the KPSC and identified that HE education is covered in two subjects only, that is science and physical education. It is quite interesting to note that even
the newly introduced Lifeskills Education (LSE), which is mainly aimed at equipping learners with skills for self-reliance and independent living, does not even mention NCLSDs. Perhaps, one would wonder why a vital area of knowledge such as HE which is quintessential in all aspects of human existence is barely captured in a few topics and with minimal emphasis in a serious educational syllabus as it curtails knowledge to pupils and by and large society. Perhaps, bearing the implications of good health to existence of self and society content in all subjects can include various aspects of health knowledge to enable learners acquire knowledge-what (causes), knowledge-how (prevention) and knowledge-why (implications) to appreciate effects to their health and that of society. It will enable pupils appreciate the prevalence, distribution and magnitude of the problem. Inclusion of content in other subjects will enable pupils acquire expressive language which is critical in creating more awareness to prevent diseases.

The researcher-analysed content in various textbooks used different subjects that contained HE to find out if they had any content dealing with NCLSDs. The researcher explored and analysed the entire KPSC and found that only a few subjects had content in HE. The subjects were science, PE and social studies.

The content analysis in science subject commenced with the general objectives of teaching science in Primary Education in the country. It is notable that the objectives are stated in clear and explicit terms. The general objectives of teaching the subjects have captured issues related to HE and PE by stating that the learner should be able to “improve the body physical fitness and maintain good health...” (KIE, 2002a: 38-39). The preceding excerpt indicates that general objectives of teaching science and PE include issues related to HE such as to improve body physical fitness and maintain good health by utilizing opportunities in school, home and community. The researcher analyzed the content of Science syllabus in each class topic by topic to establish the number of topics that contained HE content. The findings are presented in the Table 4.2.

<table>
<thead>
<tr>
<th>Class</th>
<th>Number of topics in the syllabus</th>
<th>Topics with HE</th>
<th>Percent age</th>
<th>HE Content</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Human body [parts]; HE - hygiene</td>
</tr>
</tbody>
</table>
The findings in the Table 4.2 indicate that the entire Kenya primary school syllabus has topics that have HE content in varying amounts perhaps depending on the classes or level of learning. Further, the findings show that class 8 has the highest content of HE with only 33% (3/9 topics), followed by classes two, three, five and six which have only 30% (3/10 topics) each; while Standard Seven had the lowest with only 20% (2/10 topics) respectively.

It is also notable from the findings in the Table 4.2 column 3 dubbed ‘HE content’ what was actually regarded as HE was just only 1 topic in every class while the other 2 were actually regarded as science though they had content related to HE. This in effect reduces HE to a bare minimum. This may mean that HE is reduced further since what is taught may not be related to daily practices that relate to health of...
pupils in school and community, but just taught as scientific facts for examinations. This may have implications in teaching because very little may be covered as per the few topics, hence may not have much influence to change of lifestyle among pupils. Further, if teaching is examination oriented and there are few questions going by the limited content in HE, it may imply that learning may be more theoretical than practical. The apparent disconnect in knowledge presentation for ‘examination purposes’ and not ‘for daily health practices’ makes pupils to continue with old habits, practices and behaviours which are susceptible to UHLs. This may be due to absence of content on NCLSDs in the syllabus.

In addition, the findings show that there are slight variations of HE content in various classes in primary education. One then may wonder why some classes have topics, which were quite short while in other classes the topics have more details. In the light of new knowledge in various topics, perhaps there is need to review and rationalize the content to equip pupils with new skills and knowledge to meet health challenges in the current society.

The researcher went further to analyze the contents of each of the HE topics in science syllabus of each class to find out whether they contain knowledge on NCLSDs. The findings indicated that there is no content in HE that addresses NCLSDs. This evidently shows that pupils may not be equipped with vital preventive knowledge and skills that could promote HL to empower them to prevent NCLSDs, which are a critical issue in contemporary society. The findings prove the content in HE has no contributions that can enable pupils to acquire knowledge and skills to prevent NCLSDs.

The researcher analyzed the content in KPSC objectives to find out whether they include objectives that capture the role of the PE in primary school education. It was notable that one of the objectives of primary education includes this critical area of knowledge by assertively stating that Primary Education should “develop into a self-disciplined, physically fit and healthy person” (KIE, 2002a:168).

The researcher went further to analyze the content in Kenya primary school PE Syllabus to find out whether it contains information dealing with NCLSDs that can be used to enable pupils relate PE knowledge with prevention of NCLSDs. The researcher observed that “the entire PE content in Kenya primary school syllabus has clear goals such as to promote positive attitudes towards good health and environment” that is, education should inculcate in the youth the value for good health in order to avoid indulging in activities that will lead to physical and/or mental ill-health (KIE, 2002a:167-169).
The researcher analyzed the textbooks that are used to teach PE by teachers. The PE handbooks for teachers have clear objectives for teaching PE in primary schools as contained in PE syllabuses. It is notable that textbooks do not have any information relating PE to NCLSDs. one, then wonders, why this anomaly? Could it be due to the silent nature of NCLSDs? or, perhaps planners do not foresee any harm that can result from modernity and change in lifestyle, new eating patterns since HE as in the current syllabus hardly focus on relating diet and physical activity? Overall, availing complete information with clear explanations and examples could enable pupils who may be naive to relate theoretical knowledge to their health and perhaps be intrinsic motivated to participate in PE. Complete and accurate linking information has potency to motivate and energize pupils to synergistically participate in physical activities routinely and passionately owing to perceived benefits to their health. This may form a strong foundation for physically active lifestyle that is self-sustaining to curb increasing incidences of sedentarization in our society.

The researcher analyzed pupils PE textbooks and noted they have a variety of physical activities with clear instructions on how they ought to be performed but do not have any information to explain any health benefits of regular physical exercises to growth and development of a learner. Similarly, missing out is that the PE content does not relate physical activities to NCLSDs that threaten the learners’ life. This implies that pupils have no background information and knowledge that could enable them to learn about health benefits of PE and body exercises and how they relate to their growth and development.

Critical also, the PE syllabus and textbooks do not mention or relate PE knowledge to any lifestyle that can enable or even motivate the teacher to teach learners how to prevent NCLSDs. moreover, there is no mention of health benefits and implications to one’s life and how they may enable one to enjoy the benefits of hard-earned academic knowledge in future life. Perhaps, with vital notes on immediate and lifelong benefits of physical exercises there could be attitudinal change. In absence of this, one may safely conclude that without relating the benefits of PE to any known health problem emanating from NCLSDs; pupils and teachers may not take PE seriously like other eximiable subjects. This leaves pupils vulnerable and susceptible to NCLSDs since they have no preventive education.

All the preceding findings confirmed that there was no theoretical content in PE that addresses NCLSDs. Theoretical knowledge informs, relates and provides the teacher with convincing and objective reasons why it is important to teach pupils the skills and knowledge. Further, it enables teachers and pupils to see direct benefits of PE to their health and largely that of society. Vital linking information showing benefits of PE to prevent NCLSDs could give teachers and pupils the impetus to
adapt active lifestyles that incorporates physical activities as part of their daily lives. Lack of this evidently shows that teachers and by extension, pupils may not be acquiring vital preventive knowledge and education that could empower them to prevent NCLSDs, which are a threat to their life and a burden to society.

The KPSC theoretically recognizes the enormity of PE in enabling her pupils to lead a HL but does not relate that knowledge to NCLSDs. The apparent disconnect may create a gap of knowledge that perhaps predisposes pupils and teachers to NCLSDs which may curtail the enjoyment and benefits of their hard-earned knowledge once they become victims of such diseases. It has also the ripple effect in government and greater society since diseases increase medical bills and reduce productivity in formal employment.

Further, another crucial issue in primary school PE syllabus is that it does not contain specific theory content that has valuable and informative knowledge that pupils can take as notes to promote and enable their awareness of the health benefits of each of the physical activities contained in the syllabus and reference books. Thus, this is critical so that in the contemporary knowledge-based society, pupils can take initiative to acquire and practice as good health practices for health based on specific practical physical exercises and body movements. Perhaps if knowledge of the health benefits is put in PE text books and then the text are available to pupils, they can make pupils on their own volition to take the initiative to regularly engage in some physical exercises and activities in appropriate dosages, intensity, frequency and amounts occasionally in spite of the pressure to excel in academics. This suggests that there is need to include theoretical knowledge in the syllabuses to compliment the practical skills and, in particular those relating to NCLSDs for the pupils to go hand in hand with the knowledge to enhance their capacity to acquire action-competence. It is notable that essential knowledge repackaged in textbooks with clear illustrations explaining the dosage of physical activities and time required for each accompanied with health benefits viz-a-viz probable NCLSDs can be very informative. The knowledge gained can empower and socialize socializees to take action to pre-empt NCLSDs.

Physical inactivity has compounding effects over time. It affects the intellectual, financial, physical, metabolic, social and emotional well being of the individual. It leads to lower physical fitness, which is associated with lower test scores. Further, children associated with physical inactivity are likely to be inactive in adulthood (WHO, 2013:120). According to the report, physically inactive children are likely to miss school two days higher than average, experience more problems in physical and mental development and that three out of every 10 are likely to be obese. Inactive children are likely to become
inactive adults. Later in life physical inactivity increases periods of ill health and morbidity. Perhaps the most dangerous of all, physically inactive parents pass along the same patterns to their children.

The findings in this section evidently show that KSPC and its various subjects do not have any content specifically dealing with NCLSDs. Accordingly, in the absence of content as well as attendant structures, the schools are not socialising pupils to acquire observable actions and action-competence to prevent NCLSDs as envisaged in the theoretical framework guiding this study. It is evident that pupils are not being empowered (Freire, 1970:62 and 1973:74) to prevent NCLSDs.

The researcher went further to explore the time allocated to PE teaching in KPSC. This was important to enable the study to establish if PE was given similar number of lessons like other subjects. This could also enable the study to find whether PE was being given similar attention like other subjects. It enabled the study to establish if there was evidence to confirm if the lessons were actually being taught and implemented as they appear in the planned timetables in the schools.

The researcher explored the distribution of lessons in the KPSC as planned by KIE to establish the time that should be allocated to PE according to the syllabus. This was important because if PE was given the actual practical time as given, it could enhance physical activities and body exercises that have health benefits to pupils, which could make them less susceptible to NCLSDs. The findings are shown in Table 4.3.

<table>
<thead>
<tr>
<th>Class</th>
<th>Number of PE lessons per week</th>
<th>Duration of each lesson</th>
<th>Total lessons per week</th>
<th>Percentage time per week that ought to be spent in PE</th>
<th>In class</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 - 3</td>
<td>5</td>
<td>35 minutes</td>
<td>35</td>
<td>14.3</td>
<td>85.7</td>
</tr>
<tr>
<td>4 - 8</td>
<td>4</td>
<td>40 minutes</td>
<td>40</td>
<td>10</td>
<td>90</td>
</tr>
</tbody>
</table>

Source: KIE, 2002a

The finding in the Table 4.3 show that out of 35 lessons in a whole week, only 5 lessons (14.3 %) and 4 lessons (10%) out of 40 lessons are allocated for PE in lower and upper primary classes respectively while 85.7% (30 lessons) and 90% (36 lessons) of the time is spent in class for studies. It can also be noted that going by this arrangement upper primary classes spent an entire day in class every week without and physical activity. Given the heavy academic workload, staying in class an entire day, without PE, may deny young pupils an opportunity for healthy refreshment from physical activities that are essential for healthy growth and development. In addition, going by this arrangement as documented in the syllabus, it perhaps implies that PE
ought to be almost a daily activity in lower primary classes where pupils need at least 30 minutes for good health and development. This will be in tandem with WHO recommendations which emphasize that in “order to improve cardio-respiratory and muscular fitness, bone health, and cardiovascular and metabolic health biomarkers, children and youth aged 5-17 years should accumulate at least 60 minutes of moderate-to vigorous-intensity physical activity daily (2 bouts of 30 minutes)”. Vigorous and intense activities should be incorporated, including those that strengthen muscle and bone, at least 3 times per week. For this age group, bone-loading activities can be performed as part of playing games, running, turning or jumping (WHO, 2013:45). The researcher analyzed individual school timetables in the schools sampled for the study to find out whether PE is allocated the lessons recommended by the Kenya Primary School Syllabus guidelines. The findings are presented in the Table 4.4.

<table>
<thead>
<tr>
<th>School</th>
<th>Classes</th>
<th>Number of PE lessons per week</th>
<th>Duration of each lesson</th>
<th>Total lessons per week</th>
<th>Percentage time per week that ought to be spent in</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bonoko</td>
<td>1 - 3</td>
<td>3</td>
<td>35 minutes</td>
<td>35</td>
<td>11.4</td>
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<td></td>
<td><strong>In class</strong></td>
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<td></td>
<td></td>
<td>88.6</td>
</tr>
<tr>
<td>Msemayote</td>
<td>1 - 3</td>
<td>3</td>
<td>35 minutes</td>
<td>35</td>
<td>11.4</td>
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<tr>
<td>Jitetee</td>
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<td><strong>In class</strong></td>
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<td>88.6</td>
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<tr>
<td>Bonoko</td>
<td>4 - 8</td>
<td>4</td>
<td>40 minutes</td>
<td>40</td>
<td>7.5</td>
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<td><strong>In class</strong></td>
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<td>92.5</td>
</tr>
<tr>
<td>Msemayote</td>
<td>4 - 8</td>
<td>4</td>
<td>40 minutes</td>
<td>40</td>
<td>7.5</td>
</tr>
<tr>
<td>Jitetee</td>
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<td></td>
<td></td>
<td></td>
<td><strong>In class</strong></td>
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<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>92.5</td>
</tr>
</tbody>
</table>

Source: observed from each of school sampled from the study

The findings in the Table 4.4 show that PE was given less lessons than the ones recommended in PE syllabuses. The researcher inquired from KIE curriculum developers and head-teachers of the schools sampled why PE time had 3 and 4 lessons instead of 5 and 4 lessons in lower and upper primary respectively as stated in the PE syllabus. Madam Mseto in-chARGE of PE and all head-teachers reported, “1 PE lesson from both upper and lower primary was used to teach Lifeskills Education” as directed by “a MoE directive”. This explains the reason for variation for time set for PE according to the KIE syllabus and what was allocated in the respective school timetables.

The research later confirmed with MoE that a directive was given to all schools to use 1 PE lesson to teach LSE. The researcher also established that MoE directive on LSE was that it should be taught in all classes in primary education but it is not examinable. LSE is meant
to equip pupils with skills for life but surprisingly the researcher explored the syllabus and books used where it was established that NCLSDs were not included. Critical also, none of the skills in LSE is related to NCLSDs to enable young and innocent children to see the link/connection between the skills in LSE, their health and NCLSDs. Perhaps, issues concerning NCLSDs due to their silent nature had not caught the attention of LSE CDs and MoE policy makers. Nevertheless, young pupils need clear and connected knowledge in their formative age to enable them to develop conceptual skills as they are guided to see relationships and interconnectedness of knowledge, practices, beliefs, lifestyles, peer influences and the likely impact it has in their health. This is critical since many pupils are very young, innocent and quite naive and the school is the only place where they can learn preventive knowledge and skills. This perhaps could motivate them to use preventive knowledge to their advantage.

Accordingly, the findings in Table 4.3 show that PE time is significantly reduced further making pupils to stay indoors (92.5% of the time for upper primary and 88.6% of the time for lower primary classes). Spending longer hours sitting in class may make pupils to adapt to sedentary lifestyles and through regular socialization process; it may ultimately lead to inactive sedentary lifestyle, which is prone to NCLSDs.

The researcher analyzed the content in all other subjects in the Kenyan primary school syllabus such as English, Kiswahili, Social studies, Creative Arts and Mother tongue. It was generally observed in the content part of English, Kiswahili, creative arts, social studies, mother tongue subjects; a statement has been included stating that “the content has been carefully selected to infuse emerging issues related to child labour, technology, gender responsiveness, child rights, drug abuse, personal hygiene, HIV/AIDS, corruption and integrity education” (KIE, 2002a:51). The preceding excerpt from KPSC does appreciate that emerging issues have been recognized in KPSC and relevant emphasis given in terms of content using a variety of subjects, but it is notable that there is neither content nor any mention of NCLSDs, which is a critical issue in the contemporary society. One then, wonders why KPSC does not take note of a critical issue like NCLSDs while communicable diseases are given enough latitude.

It was notable that Lifeskills syllabus is not included in the codified KPSC but it is put alone in separate booklets, perhaps a sign that it was not a key aspect of traditional and examinable curriculum. The researcher undertook analysis of Lifeskills education (LSE) which officially takes “1 PE lesson in every class and in effect reduces PE time”, making pupils more sedentary in class. The analysis aimed at finding out whether it contained content dealing with NCLSDs. The researcher found out that “the entire Lifeskills syllabus and the content
do not contain information about NCLSDs”. This perhaps shows that NCLSDs are either not considered a threat in society or due to their silent nature, they are unnoticed altogether. Nevertheless, communicable diseases like HIV and AIDS are included.

The researcher analysed the content of various professional documents and records made and used by socializers to socialize the socializees to find out if they had any content dealing with any aspects of NCLSDs. The documents analyzed were schemes of work, lesson plans, records of work and learning resources. The researcher examined the content of the schemes of work for various subjects in the KPSC to find out if the content and objectives contained any information related to NCLSDs. The researcher established that schemes of work in various subjects had no content dealing or related to NCLSDs. This perhaps may be because the syllabuses that teachers use for planning schemes of work do not say anything about NCLSDs. It can be noted that since teachers follow the syllabus which does not even mention NCLSDs, then it is no wonder that teachers do not include content in NCLSDs in their work schedule.

The researcher went through various lesson plans drawn by teachers to find out if they had any content related to NCLSDs. The researcher established that the lesson plans used by the teachers did not contain any content related to NCLSDs. This may be due the fact that lesson drawn from the schemes of work, which are also a product of the syllabus that does not include content dealing or related to NCLSDs. This is quite instructive since teachers plan and teach what is in the syllabus because it is the one that is used to set examinations for pupils in various levels of learning.

The researcher delved further to analyze other records available in the schools such as school inspection reports from head-teachers, teaching inspection reports, subject reports from teachers, subject panel records which contain views and particular suggestions about how to improve teaching and learning process. In particular, subject panel records show particular topics and ways that are suggested to improve teaching by subject teachers in an effort to improve overall performance. The records contained general statements on how to improve mean-scores through extra tuition and drilling of pupils in the morning, lunch break and evening. The records had no information relating to NCLSDs.

In an effort to find out whether teaching/learning materials contained any information related to NCLSDs the researcher analysed the content in learning resources. The researcher observed and analyzed content in the few learning resources, which included the content in the chalkboards that were used by teachers for writing lesson summaries as the lesson, progressed. The researcher listened to the content in verbal teaching in various lessons that were observed and, explored
the content in all learning resources and established that they had no content on NCLSDs. This perhaps was because teachers tend to source resources that enable achievement of lesson objectives, which were drawn from the syllabuses; and since syllabuses do not contain objectives touching on NCLSDs then, learning resources did not contain content on NCLSDs.

The researcher noted “many classes in all the schools had no charts and no other wall hangings nor any science/nature corner where learning aids used in teaching and learning science could be displayed”. One of the observations is shown in Figure 4.2 appendix XXVI.

The observations in the Figure 4.2 in appendix XXVI indicate that learning resources may not be in “regular use during teaching since the walls were bare of any display of learning resources”. The soft boards were torn and in poor condition showing evidence of perennial lack of use.

The absence of learning resources in classroom walls may indicate that teachers rarely make or use learning aids. It is a good practice in teaching to hang learning resources so that pupils can freely refer to them during the learning process and later as they make and edit their notes. Moreover, it enables pupils to review their knowledge as well as notes. This may reduce individual difference between pupils and improve learning outcomes.

Lack of learning aids with information about NCLSDs implies that pupils may lack valuable knowledge and skills that could enable them to prevent such diseases. Indeed, lack of knowledge and skills may unknowingly predispose them to lifestyles that are vulnerable to NCLSDs due to sheer ignorance. Lack of knowledge unconsciously predisposes pupils to regular and daily practices and habits that through regular use form risky lifestyles that predispose them to NCLSDs.

These findings compare favourably with Mwanga (2004:200) in a study involving community-integrated and action-oriented HE intervention in Mwanza Tanzania, where it was observed there was lack of teaching aids for HE that is pictures, posters, and flipcharts, which presented a challenge to pupils and teachers. Lack of use of teaching aids make a teacher encourage chorusing of answers creating collective passivity which may make teaching easier and assumes pupils have understood which may not be the case. Mwanga went further to observe that pupils would easily understand many of the topics in HE if they had the benefit of clear, visual representation of abstract concepts using learning aids in class instead of the teachers reading aloud from the text and trying to explain orally.
Further, Linney (1995:34) argues that pictures can help people escape from what Freire (1970:63) called the “culture of silence” and help them to “find their voice.” This is not a voice that can speak only in words of one syllable, but one, which speaks in the rich, complex and creative language of pictures. Use of learning aids that are conspicuous, legible and captivating promotes creativity in pupils. Pupils also learn creatively, critically and broadly, which enriches their learning experiences and outcomes in terms of action-competence whose potency in curbing NCLSDs cannot be gainsaid.

The researcher together with his assistants keenly explored pupils’ science notebooks that contained HE information; they also extended the search to other notebooks where pupils’ record notes and assignments on daily basis for revision and further practice when preparing for examinations. It was quite instructive to note that all the pupils’ notebooks did not contain any information on NCLSDs. This may confirm that pupils are only taught and guided by their teachers to strictly follow the syllabus in order to pass examinations.

In order to explore further whether HE was examinable, the researcher went on to take a detailed analysis of the past school based examinations scripts and Kenya Primary Certificate of Education (KCPE) examination papers. The researcher analyzed KCPE for the last four years to find out the frequency of questions in HE and, in particular if they touched on any NCLSDs. Going back four years enabled the researcher to have a fair view in terms of frequency of questions in HE in order to ascertain whether in the past four years, issues regarding NCSLDs which is one of the emerging health issue in our society had captured the attention of examiners and teachers. The findings are shown in the Table 4.5.

<table>
<thead>
<tr>
<th>Year</th>
<th>HE questions</th>
<th>Questions on communicable lifestyle diseases and nutrition</th>
<th>HE content</th>
<th>Questions on NCLSDs</th>
</tr>
</thead>
<tbody>
<tr>
<td>2007</td>
<td>8</td>
<td>2</td>
<td>HIV and AIDS [1]; water borne diseases [1]</td>
<td>0</td>
</tr>
<tr>
<td>2008</td>
<td>7</td>
<td>2</td>
<td>Vector borne diseases [1]; HIV and AIDS [1]</td>
<td>0</td>
</tr>
<tr>
<td>2009</td>
<td>6</td>
<td>3</td>
<td>HIV and AIDS [1]; immunizable diseases [1]</td>
<td>0</td>
</tr>
<tr>
<td>2010</td>
<td>8</td>
<td>4</td>
<td>HIV and AIDS [2]; food preservation [1]; infectious diseases [1]; water borne diseases [1]</td>
<td>0</td>
</tr>
<tr>
<td>2011</td>
<td>7</td>
<td>2</td>
<td>HIV and AIDS [1]; deficiency diseases [1]</td>
<td>0</td>
</tr>
</tbody>
</table>

Source: KCPE exam papers 2007 - 2011
The findings in the Table 4.5 show that issues about communicable diseases like HIV and AIDS, vector borne and waterborne diseases among others are examined. It is also notable that NCLSDs are not covered nor given any attention in the KCPE. In order to be exhaustive the researcher went through various school-based tests, mock KCPE examinations, learning resources available, pupils’ notebooks and also listened and observed various lessons in class; but, established they did not contain any information on NCLSDs.

All the preceding findings collectively confirm that NCLSDs are not contained in primary education. One then wonders why a critical emerging issue like NCLSDs has not been given any attention in spite of the KPSC saying that emerging issues should be included in primary education. Perhaps then, emerging issues need to be specified, where one would still wonder why NCLSDs, which have hitherto caused untold damage to society, have not been given any attention. Further, these findings may confirm that teachers teach what is contained in the syllabus and any other issue not in the syllabus even if it affects society negatively; is not given any attention. One may infer from the findings that perhaps if NCLSDs are to be given due attention and their knowledge assessed accordingly, then, they have to be formalized in school syllabuses.

These findings agree with a study by Mwanga (2004:207) involving community-integrated and action oriented HE intervention in Mwanza Tanzania; which observed that, “making HE examinable in the examination oriented school-environment, was the best way to make teachers, learners and parents take the subject seriously.” Perhaps, examinations being the only tool to confirm whether one has knowledge regarding any issue can make teachers and pupils focus more on health knowledge. In the process of reading for examinations, they may gain useful health knowledge that can enable prevention of lifestyle diseases. Nevertheless, examinations per se are not a panacea to acquisition of practical knowledge as they may lead to exam-oriented approach which may have undesired effect, that is, teaching and learning for exams which may not bring change in the learners’ attitudes, beliefs and behaviour necessary to prevent lifestyles diseases. Perhaps health issues could be incorporated into every subject since health is a crosscutting issue.

The findings reveal that contents in various subjects in KPSC, textbooks, learning resources and examination tools do not content essential knowledge in NCLSDs. Accordingly, it implies that pupils may not get essential secondary socialisation that could individually and collectively empower them to transform their behaviour and habits as well as take personal responsibility and prevent NCLSDs (Bandura, 1977:80; Freire, 1973:72). Essential education on NCLSDs is important since individual pupils come to formal and structured educational
programmes with some knowledge and beliefs about health practices, which may have negative effects to their lives if not corrected. The education process facilitates learning where learners are socialized into the problem complex pertaining to the precondition for what occurs around them and with them (Bilton, 1987:38; Cohen 1978:62). It provides an opportunity to socialize the socializees to learn healthy habits and unlearn unhealthy habits to acquire action-competence in healthy lifestyles. Learning exposes pupils’ to the worldview as defined by the circumstances they are in as well as empowering them to be assertive and develop resilience to overcome challenges. In the context of this study, HE has an important role to expose learners to knowledge that will facilitate them to learn and acquire skills to prevent NCLSDs through healthy feeding habits and regular body exercises if the syllabuses contain the requisite content. Perhaps, essential knowledge and good practices gained from the study of HE could inform the HLs that primary school learners will adapt and identify with; and perhaps, lack of it may lead them to UHL which predispose them to NCLSDs due to lack of information (Giddens, 1993:52).

4.5 Analysis of the teaching approaches in HE in relation to enabling learners to realize good HLs

The third objective of the study was to examine the teaching approaches in HE in primary schools to establish if could enable learners to acquire good HLs; regular practice of good habits and HLs could enable pupils to acquire action-competence. The researcher endeavoured to critically observe the teaching methods that were used by teachers who taught HE in Science and PE. The findings are triangulated under various subheadings, which are guided by the research objective. The researcher focused on teaching of subjects that contained contents in HE which were science and PE.

The researcher noted PE, games and athletics had significant contribution to health and wellbeing of the pupils and by and large prevention of NCLSDs. It was pertinent to examine the teaching approaches in PE in primary schools in relation to enabling learners to acquire health benefits from physical exercises to prevent NCLSDs.

In an effort to explore more about the teaching of PE in each of the schools sampled, the researcher observed various facilities and equipment meant for PE and games. Observations included the physical condition of facilities/equipment, physical sizes, number, evidence of regular use and maintenance among other issues. The physical condition of facilities/equipment determined their usefulness in PE and games. This was meant to enable the researcher to establish how often pupils were involved using the facilities and equipment for Physical activities that were beneficial to their health.
The researcher explored the teaching of PE in the three schools sampled. The researcher observed in all schools, many classes did not go out for PE as scheduled in the timetables. The study findings and observations seemed to correlate in the three schools. In all schools, efforts in teaching to improve mean scores and academic performance were given more prominence and PE and other outdoor activities were not given much attention. The researcher observed that by not going out for PE, the duration or the time that pupils remained in class was increased. The habit of staying in class without any physical activity institutionalized the sedentary lifestyle and physical inactivity. In BPS, the researcher noted that pupils rarely went out for PE for a full lesson but often they were allowed to go out shortly during PE time. The researcher noted that though pupils were allowed to go out for a few minutes, mostly they were on their own as teachers marked pupils’ written work. It was also noted that pupils were not guided nor directed to do any specific physical activity but just told to go out briefly for a recess. The researcher observed pupils could just idle, walking aimlessly, chat or eat whatever they had in their pockets, which implied that the few minutes were not used for any planned and beneficial physical activity since they were not engaged in any organized or planned beneficial physical exercise. In MPS and JPS, the researcher noted pupils almost remained in class most of the time. However, teachers and pupils revealed that when time nears for mock examinations, monthly examinations, end of term examinations or end of year examinations pupils spent the entire time in the week in classes as they intensify preparations for examinations to ensure they pass well. During such periods, all outdoor physical play activities and PE are suspended. The variations in PE time perhaps were due to socio-economic status where parents, teachers and pupils in MPS and JPS reported, “Children need to be kept in class to pass examinations so as to make it in life”. They revealed, “Good performance of children assured themselves and their parent’s better future prospects” as they would get “well-paying jobs and help parents and other siblings”. Nevertheless, within the same school, PE attendance was affected by other factors; for example, Kiki, a Standard Seven boy in BPS observed “that the mood of the teachers and performance of pupils in assignments and examinations determines whether a class would be allowed to go out briefly to play during PE lesson as the teacher marks our work”; similar experiences were reported by Zuku, a Standard Seven girl from MPS who noted “Pupils who did poorly in mathematics were kept in class while those who did well were allowed to go out during PE time”.
In all the three schools pupils and teachers said, “In term three they spent all the time in class to prepare for end of year and national examinations”. Katoto of JPS observed:

Classes start early as six o’clock and continue the whole day until late in the evening... teachers literally compete to come to class for revisions and further practice since term three is examination period where every effort is geared towards passing end of year as well as national examinations to be allowed to join Standard Eight so that one can realize his/her dreams of joining good secondary school... (A Standard Seven Girl, JPS 005G, 2012).

The findings are quite instructive that teachers concentrate on academic work in classrooms to ensure pupils excel in examinations while they leave no time for PE and other outdoor physical activities and body exercises. These practices reinforce sedentary lifestyles. With this kind of socialization there is a likelihood of producing a generation of pupils who if and when they become teachers may reign on their pupils to acquire the same attributes in order to excel in studies; such a vicious cycle may predispose future society to NCLSDs. It is notable that adverse implications of sedentary lifestyles characterized by staying in class for the entire week and term are not noticed. This finding suggests teachers kept their pupils in class to ensure they studied intensively in order to do well in examinations. The finding by extension may also imply that most of the time is spent in classes doing academic work in order to cover the syllabus and ensure good performance. This in turn would assure pupils good examination results and hopefully, better prospects in future life; but, one wonders whether that can be achieved without healthy bodies. This perhaps demonstrates lack of knowledge on health benefits associated with physical activities or may be teachers have misconceptions that involving pupils in sports can compromise academic performance.

These findings seem to be in congruence with a study by Wawire (2006:116) who established that the major emphasis even in preschool curriculum content was laid on cognitive development component of Early Childhood Education (ECE). Further, Wawire noted that numeracy and literacy activities were more prominent compared to those in the physical (PE) and creative areas. Pupils who could not do well academically were forced to repeat classes to improve in academic work. More attention went to academic work instead of PE to avoid class failure and class repetitions. These findings confirm that Physical exercises are ignored from lower primary, which may have acute
negative consequences to the health of the pupils. This could be
worsened by consumption of junk foods and junk drinks.
Appropriate practice of physical activity assists children to develop
healthy musculoskeletal tissues (bones, muscles and joints); develop a
healthy cardiovascular system (heart and lungs); develop
neuromuscular awareness (coordination and movement control) and
maintain a healthy body weight (WHO, 2013:118). Further, regular
physical activity has also been associated with psychological benefits
in young people by improving their control over symptoms of anxiety
and depression. Similarly, participation in physical activity can assist in
the social development of young people by providing opportunities for
self-expression, building self-confidence, social interaction and
integration. Further still, physical exercises improve muscular stamina
and bone structure making one physically strong and, in most cases
reduces onset of osteoporosis (American Journal of Medicine, 1993:28;
has also been demonstrated that having healthy and strong body has
many health benefits (Johnell, 1997:92). It can also be suggested that
physically active young people more readily adopt other HL behaviours
that can reduce NCLSDs. Pupils who are active in PE demonstrate
higher academic performance.

The researcher investigated whether pupils and teachers had PE and
games uniforms. This was important to find out whether they were
prepared for PE. Good preparation for PE includes having appropriate
uniforms, which may change their attitude towards physical exercises
since having PE, and games uniforms may motivate them to
participate in physical activities. Use of PE and games uniforms also
enables pupils and teachers to keep their school uniforms and personal
clothing clean. Generally, the teachers in three schools sampled said,
“they had no games/PE uniforms of their own nor provided by the
school”. Teachers also said, “Pupils are required to purchase personal
games and PE uniforms as part of school uniforms”.

The researcher observed PE and games activities and confirmed that
teachers and pupils in the few times they went out for such activities
they had no PE uniforms but they were in their full school uniforms.
One of the observations is presented in the Figure 4.3 appendix XXVI.

The findings in the Figure 4.3 appendix XXVI show that pupils went out
for PE in their full uniform and only removed their leather high-heeled
shoes when in the field. At times, the researcher noted teachers
chatted in groups as they watched pupils play (Figure 4.3). These
practices perhaps, demonstrate how they are unprepared for physical
activities since they “are occasional and brief interludes in between
serious studies as they were short-lived and done as an afterthought”.
Lack of PE uniforms and active involvement of teachers perhaps
reveals the contempt given to subjects not examined in formal
examinations. It is also notable in the Figure 4.3 that “teachers’ active presence is grossly lacking as at times teachers stand and chat”; which implies that “the brief PE activities are so disorganized that pupils may not benefit health wise”. It was equally noted that physical activities did not last for 30 minutes, neither were they intense and vigorous to reach “minimum dosage” to be beneficial to pupils health; and, not all pupils were actively involved.

In an interview with Kiki, a boy from BPS, the interviewee revealed that their “school has a set of games uniform that adorn the colours of the school” but on further probing on when they are used, Kiki revealed that “they are only used by those selected to represent the school during annual games/sports” and then “washed and returned to the store to be used again during such events”. These observations were similar to those of Zuena from BPS who revealed noted:

> Even pupils who are chosen to play in school PE and Games teams are not allowed to play and practice using official school uniforms belonging to the school except during official games days when competitions are taking place... (A Standard Seven Girl, BPS 001G, 2012).

She went further to reveal that “even pupils who are in school teams and do not have their own PE/games uniforms are not allowed to practice using PE uniforms from the school” but, “play using their own ordinary school uniform during regular practices”. Other pupil interviewees also reported, “Some balls and nets that are in good condition are kept in school store and pupils are allowed to use them only during school competitions”. During other times, the school teams play with old and nearly worn-out balls.

These findings suggest that PE and Games are not regular activities in the daily curriculum implementation programme but they are only done to enable participation in school competitions only. With only occasional debut in physical activities for selecting a few pupils for school teams, it implies that other pupils are denied health benefits of PE, games and athletics which could have adverse effects to their health. Further, it may make them see no health value in physical exercise, games and athletics beyond school competitions.

In fact, the researcher observed during the few stint occasions that pupils from various classes went out for PE on their own or briefly accompanied by their teacher, they were in their full uniforms including leather shoes; but at times they removed leather shoes and walked or ran around in their socks.
The researcher went further to explore how PE time was utilized in the schools sampled. This was important to find out whether activities that pupils were involved in had any health benefits. Generally, in all the three schools, the researcher noted that PE time was mainly used to mark pupils work or teach and cover for the lost time. It was only in few occasions where pupils were allowed to go out of class briefly. For example, in a FGD with teachers in Jitetee, Mbote, one of the three senior teachers in the school observed:

PE time comes as relief for me to mark heaps and heaps of mathematics books from my classes and at least clear, the backlog of the previous week as I allow pupils to show their creativity out there in the field with peers…
(Male Teacher, JPS 001M, 2012).

While Soma, a female teacher from MPS revealed that “PE time provides me with an opportunity to deal with pupils who do not complete their work as good and hardworking pupils take a break to go out to play on their own”. On further probing Soma revealed that “Good and hardworking pupils” are those who are serious and complete their work on time and do well in class; they are allowed to go out and play while those who are not doing well to raise MSS are detained in class. This may imply that PE time is used as a reward for good academic work, which motivates good performance. Further, these observations indicate that PE time is not taken seriously nor taught in formally organized and objective manner like examinable subjects. Poor teaching makes pupils not to learn, internalize and practice the formal knowledge and skills as planned in the PE syllabus. Additionally, it reveals lack of seriousness and teachers and pupils do not appreciate commitment, which perhaps shows that importance of PE. It also confirms that there is lack of knowledge on health benefits of physical activities, which could enable pupils, and their teachers prevent NCLSDs.

In all schools, 95% (35) of teachers and 90% (98) of pupils reported that a lot of time was required to improve subjects that had low MSS. For example, Wanja, a female teacher from MPS asserted, “sacrificing time for subjects like PE and others which were not examinable in national examinations was a better option”. Surprisingly, on further probing Wanja, observed:

The MoE directives that PE lessons can be used to teach another new subject called lifeskills education show us that our government is only keen on academic excellence and not outdoor activities; after all outdoor not examinable and...no one appreciates even if a teacher
trains pupils to do well in PE, ball games and sports...one is only recognized when pupils do well in academic work... (Lady Teacher, MPS 004L, 2012).

The preceding observation show that the government directive that 1 PE lesson be used to teach LSE by extension was construed to mean that PE is not important since it is not even examined nationally. It is also puzzling and one wonders how a government can reduce PE time yet in KNSHP (RoK, 2009:44) it is stipulated that ‘schools should instil PE and sporting activities to improve health of the pupils’ (RoK, 2009; 45). The policy further states that ‘PE should be compulsory in all schools and should not be substituted for other subjects’ (RoK, 2009; 45). The policy document also directs that ‘adequate time should be allocated for physical activities for all children’ and ‘teachers should emphasise the benefits of physical activities in achieving good health and disease prevention by encouraging physical activity by all children’ (RoK, 2009;45).

Further, the findings also reveal that teachers are motivated to dwell more on examinable subjects to gain glory and rewards that accrue from good results. This in essence may explain why pupils are kept in class during PE time to increase time for drilling and coaching to pass well. Indeed, this defeats the essence of quality teaching to gain essential knowledge and skills for life beyond examinations. Moreover, staying in classes for long hours may reinforce sedentary lifestyles by promoting physical inactivity, which is a recipe for NCLSDs. It was also noted that there are no indoor PE or any other activities that involve physical exercises and body movements in KPSC. Teachers and pupils also confirmed this during the interviews and FGDs.

These findings indicate also that the since PE is not given adequate attention and time for pupils to acquire a culture of being physically active through regular and consistency in practice that is skill-based, then it implies they are likely not to be empowered knowledge-wise and skill-wise to acquire action competence. Action competence is necessary to enable pupils to be assertive and sustain the positive attitude of being actively involved in physical activities to have sufficient exercises that are beneficial to their health (Jensen and Schnack, 1997:80). Generally, physical activities are skill-based and require time and resources which schools need to provide so that pupils can develop positive attitude towards physical exercises. Therefore, pupils are unlikely to acquire and develop practical principles that can integrated in the concept of action competence in physical activities for healthy lifestyle. Healthy living is based on a holistic concept of health, where lifestyles and living conditions, as well as physical and psychological dimensions are given importance (Jensen, 1997:82).
The researcher used a detailed observation schedule to investigate the physical size of playing fields; their physical condition during dry and rainy season and physical condition of facilities and equipment. It was important to establish the adequacy of physical facilities and equipment in all schools sampled to find out whether they were adequate and in good condition to enable pupils to conduct daily outdoor and indoor physical exercises as guided and required by Kenya Primary School PE and games syllabuses. The researcher had enough time to observe use of the facilities by pupils in term one and term two when games and athletics were conducted according to the calendar of events from MoE.

Since the onset of Free Primary Education (FPE), there has been a steady increase in enrolment in many schools. It was quite pertinent for the study to observe and examine the physical size of playing fields to find out whether all pupils had adequate space for physical activities such as PE, games, sports and athletics since, active participation in these activities had direct effect to their healthy living.

In an effort to explore more about playing fields, the researcher went further to establish the actual measurements of various playing field in the respective schools to find out if they were in conformity with the standards required by international community for football, netball and volleyballs. The researcher established that MoE directives require the schools to have standard facilities and equipment that conform to international standards to ensure quality. Use of standard facilities and equipment would enable Kenyan athletes to compete fairly with others in international sports such Olympics and ball games. It would also provide career opportunities in sports and games. The findings are presented in the Table 4.6.

<table>
<thead>
<tr>
<th>Type of the field</th>
<th>Detailed specifications</th>
<th>International standard measurements</th>
<th>Measurements of playing fields in the schools sampled</th>
</tr>
</thead>
<tbody>
<tr>
<td>Football field</td>
<td>Field - Length x width</td>
<td>110 m x 50 m or 105m x 68 m</td>
<td>Bonoko: 80 m x 40 m</td>
</tr>
<tr>
<td></td>
<td>Goal posts width</td>
<td>23.4 ft</td>
<td>20 ft</td>
</tr>
<tr>
<td></td>
<td>Height of goal posts</td>
<td>10 ft</td>
<td>8 ft</td>
</tr>
<tr>
<td></td>
<td>Marked Borders and internal marking</td>
<td>Only borders are marked</td>
<td>Only borders are marked</td>
</tr>
<tr>
<td>Netball</td>
<td>Field - Length x</td>
<td>30.5m (100ft) x</td>
<td>20m x 10</td>
</tr>
</tbody>
</table>
The findings indicated in the Table 4.6 show that measurements of playing fields and pitches in all the schools were below the international standards (Football rules and application, 2012:120; Netball rules and applications, 2012:22; Volleyball rules and applications, 2012:34; WHO, 2013:56). MoE has directed use of the same standardized measurements in all educational institutions to ensure uniformity of facilities and equipment during use. The findings in the Table 4.6 show that schools that had field measurements below expected standards were MPS and JPS. In MPS, volleyball field measured 20 ft by 10 ft and JPS volleyball field measured 28 ft by 13 ft instead of standard measure of 60 x 30 ft. It was also notable football, netball and volleyball pitches did not have internal markings to enable pupils to keep to their positions during playtime to learn and benefit from using them. It is also evident that the height of goal posts in all three schools that is BPS, MPS and JPS (football goal posts height were 8, 8 and 7 ft; volleyball net posts were 9, 8 and 7 ft; while netball rings were 8, 7 and 7 ft respectively); this shows height of posts were below recommended standard height of 10 feet. This implies that facilities were below standards; hence, it shows pupils do not meet the requirements and standards of practices when doing physical activities like athletics when using these facilities. This may have adverse effects to health benefits from physical activities. Further, the facilities were not in good shape due to poor maintenance. One of the observations is shown in the Figure 4.4 appendix XXVI.

The observations indicated in the Figure 4.4 appendix XXVI show that volleyball courts are unmarked and the posts are short. It is also notable that goal posts are short and the field is unmarked. The observations in the two Figure s shows that games facilities are in poor condition and neglected. This perhaps demonstrates that physical activities are not given regular attention. The findings may suggest that use of substandard facilities and equipment may deny pupils the health benefits. This potentially can lead to UHL.
The researcher went on to explore populations of pupils in each school in order to find out whether facilities, equipments and playing fields were adequate during school outdoor activities like PE, games and sports. The findings are shown in the Table 4.7.

<table>
<thead>
<tr>
<th>School sampled</th>
<th>Enrolment in 2012</th>
<th>Number of classes in the school</th>
<th>Facilities</th>
<th>Number of pupils involved by gender during ball games</th>
</tr>
</thead>
<tbody>
<tr>
<td>BPS</td>
<td>Boys = 1 234</td>
<td></td>
<td>Football</td>
<td>2 boys</td>
</tr>
<tr>
<td></td>
<td>Girls = 1 424</td>
<td></td>
<td>Netball</td>
<td>14 girls</td>
</tr>
<tr>
<td></td>
<td>Total = 2 658</td>
<td>54</td>
<td>Volleyball</td>
<td>12 boys</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Basketball</td>
<td>10 boys</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Indoor</td>
<td>None</td>
</tr>
<tr>
<td>MPS</td>
<td>Boys = 1 104</td>
<td></td>
<td>Football</td>
<td>22 boys</td>
</tr>
<tr>
<td></td>
<td>Girls = 1 223</td>
<td></td>
<td>Netball</td>
<td>14 girls</td>
</tr>
<tr>
<td></td>
<td>Total = 2 327</td>
<td>46</td>
<td>Volleyball</td>
<td>12 boys</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Indoor</td>
<td>None</td>
</tr>
<tr>
<td>JPS</td>
<td>Boys = 1 102</td>
<td></td>
<td>Football</td>
<td>22 boys</td>
</tr>
<tr>
<td></td>
<td>Girls = 1 216</td>
<td></td>
<td>Netball</td>
<td>14 girls</td>
</tr>
<tr>
<td></td>
<td>Total = 2 318</td>
<td>44</td>
<td>Volleyball</td>
<td>12 boys</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Indoor</td>
<td>None</td>
</tr>
<tr>
<td>Total pupils</td>
<td>7 303 pupils</td>
<td></td>
<td>Total pupils in school teams</td>
<td>154 pupils</td>
</tr>
</tbody>
</table>

Source: Records from sampled schools

The findings indicated in the Table 4.7 show that schools had large populations of pupils and many classes. The researcher noted that in games time in each of the schools sampled only pupils selected to join school teams were involved in games activities with teachers in charge of various games. A total of only 154 pupils who were selected to participate in school teams were the only ones active while the rest of pupils and other teachers who supervised pupils to sit down and cheer the teams were not actively involved. In terms of percentages, the number of pupils involved in active play in any games day in all schools was barely 2.11% (154 out of 7 303) were those in the teams selected while whooping 97.89% (7 149 out of 7 303) just sat down for hours together with their teachers in any given games day. This was quite instructive since the sedentary lifestyle were being extended from classroom to the field as teachers supervised pupils to sit on the grass as teachers sat on chairs to conduct outdoor activities (Figure
The motive of school sports and games days was not health but competition, which may clearly reveal that such activities may not have any health benefits to the few pupils and teachers participating in them. Furthermore, they are not a regular daily or weekly activity, which again shows may not be intensive to be of any health benefit. In fact they were meant to pick best competitors participate inter-school competitions to earn fame and reputation for the school. One of the observations is presented in the Figure 4.5 appendix XXVI.

The findings indicated in the Figure 4.5 in appendix XXVI show that usability of school facilities, equipment and fields is meant for the selected few who have the talent and ability to be in the school team to enable schools to win in sports, games and athletics. This does not only confirm gross inadequacy of facilities due to large population of pupils perhaps due to FPE but, lack of creativity among teachers in the use of the few facilities to ensure every pupil is active during physical activities. It was notable that simple play items like skipping ropes, beanbags and improvised play material were lacking in all the three schools sampled for the study. Majority of teachers and their pupils just sat instead of involving themselves in some beneficial physical exercise in the sidelines of the field or even in class. What was quite surprising to the researcher was that teachers actively supervised pupils to sit still and, those who moved and wandered around were warned and even punished. Only a few games teachers and teams were active.

These scenarios were repeated for the entire term in the schools during games, sports and athletics time. This may confirm that teachers were unaware of health benefits of physical exercise to pupils. Instead, they regarded time for games as another opportunity to select the best talent that can enable the school to “win and be famed”, perhaps an extension of the spirit of competition in academic excellence glorified in education. Further, it may evidently confirm that teachers are utterly ignorant of the risks posed to health of pupils by extending sedentary lifestyle in the playing fields. It may also demonstrate that games and sports in schools are not done for health benefits of the pupils but just for competitions. This may show that in absence of games and sports competitions, no physical activities would be conducted in schools.

The research inquired from games teachers, other teachers and pupils on how they could involve other pupils not in the teams in physical exercises alongside teams. In all schools, the teachers felt that with increase in enrolment and limited facilities it was possible to involve them as spectators to offer necessary moral support as they cheer the teams to enable the schools to win. Teachers and pupils reported that with FPE play facilities and classrooms were too congested even when they had to use them in shifts. Congestion adversely affected
efficiency and effectiveness of teaching and learning including co-curricular activities like PE, games and sports. It is notable that the large population of pupils and lack of knowledge of health benefits of physical exercise could pose a big challenge to schools leading to ingrained sedentary lifestyle and increased susceptibility to NCLSDs in future society. Perhaps, if teachers and pupils could be exposed to new knowledge on lifestyles that are prone to NCLSDs, they may change and embrace physical activities.

4.5.1 Usability of the playing fields during various Seasons
The physical conditions of the playing field were important since they affected the usability during outdoor activities in the playing field throughout the term by the pupils and teachers. It was pertinent to observe the physical conditions of the playing fields in the schools during different seasons of the year to establish whether they had any impact on outdoor physical activities since PE syllabus does not have indoor activities.

The researcher noted the school fields in the three schools were very dusty during the dry season. The researcher observed that the dust reduced physical activity of the pupils during break time and also during the time when pupils were occasionally allowed to go out to play on their own during PE time due to negative effects to their health and cleanliness. It was also notable that dust had negative effect to games and athletics activities as it made pupils to dislike the soiling of their uniforms and negative effect it had on their health leading to coughing and sneezing as some were allergic to dust. Some pupils were seen just standing on the peripheries of the fields to avoid dust. An observation in JPS during the dry season is shown in the Figure 4.6 in appendix XXVI.

The observation indicated in the Figure 4.6 in appendix XXVI shows a dusty playing field in JPS. Too much dust affected participation in physical activities in the fields due to allergy and soiling of the uniforms. It was also reported and noted from teachers that dust also affected teacher’s participation in physical activities. Teachers also reported that they did not have any PE uniforms, which they alleged that it affected their participation in physical activities since dust, and dirt would soil their clothes, which would make them uncomfortable the rest of the day.

The researcher observed the conditions of the fields during rainy season with a view to explore their usability in physical activities. Generally, the researcher noted that the fields in the three schools had poor drainage due to cotton soils that tended to hold water after the rains. One of the observations is shown in the Figure 4.7 in appendix XXVI.
Figure 4.7 in appendix XXVI shows a large pool of rainwater in the playing field. This evidently revealed that the field could not be used due to poor drainage. This made them not to be useful during rainy season. Moreover, playing fields in MPS and JPS had numerous pools of water, which made the field muddy and soggy as well as being hazardous to health due to disease pest like worms and bilharzias. The field also had overgrown grass which hampered physical exercises, as they could be safe haven for harmful pests and snakes. The worst affected as shown in the Figure 4.7 in appendix XXVI is located in a lowland/depression and floodwater from the surrounding estates filled the field and part of classes anytime there was a drizzle.

The researcher noted there was reduced physical activity in the fields as teachers and pupils remained in class to avoid soiling their uniforms in the wet fields. This was because the PE syllabus in Kenya has only outdoor activities, which require open and expansive playing fields. Physical activities and exercises in Kenyan schools are adversely affected by wet and dry weather conditions since they are mainly done outdoor. The PE syllabus does not have any information of indoor activities, which may be used to conduct indoor PE. Indoor physical activities could enable pupils to enjoy health benefits as they conduct indoor PE. Perhaps due to large enrolments in schools and reduction of space due to school buildings, inclusion of indoor PE activities may be a noble idea that could enable pupils acquire healthy lifestyle.

The researcher observed the physical condition of the facilities and equipment available in the three schools sampled for the study during the dry and wet season during fieldwork. This was important because the physical condition of the equipment and facilities determined whether it was in good condition as well as regularly used for PE teaching and learning process in all seasons throughout the year when the school curriculum in games and PE is expected to be implemented. The observations also enabled the researcher to validate the views given by pupils and teachers during the interviews and FGDs.

The researcher noted PE and games equipment in the three schools sampled had similar characteristics where “equipment for outdoor activities like football, volleyball, basketball, netball were in poor condition of disrepair”. The observations of under-utilized and neglected sections of the school fields were found in three schools sampled for the study. One of the observations is presented in the Figure 4.8 in appendix XXVI.

The observations indicated in the Figure 4.8 in appendix XXVI show that PE and games facilities are in very desolate condition of disrepair; they are neglected and covered with tall grass due to lack of regular use. In fact, only small portions that are often used by pupils had short grass due to effect of “pupil’s feet” that trump on them during break
time. In the three schools, the researcher observed broken, bent and missing equipment and facilities like “nets, logged goal posts and missing netball rings”. The fields were not “marked or demarcated to suit standards required by specific games like netball, foot ball, rounder and athletics”.

However, there was variation in this condition of facilities, for example, the researcher observed in BPS, which has pupils from HSES; the physical facilities were in fair condition. MPS had a swimming pool which the researcher was told by teachers that it is used as an income generating project for the school. Nevertheless, teachers and pupils told the researcher that the facilities were grossly underutilized since pupils mainly remained in class to ensure good academic performance. In BPS, the games teacher said that the swimming pool was not used by pupils since the water is very cold and made pupils to suffer from “colds” which affected their health since the school had no provisions to warm the water. The games teacher told the researcher that the swimming pool is open to members of public for a fee, which earns some income to the school. Some of the observations are shown in the Figure 4.9 in appendix XXVI.

The Figure 4.9 in appendix XXVI shows some of the swimming pools in the schools sampled for the study. BPS and MPS had swimming pools but teachers and pupils said ‘it has cold water and it was rarely used since cold water made pupils ill’. Nevertheless, they reported that members of public were charged fees to use it over the weekends. Generally, all these findings seem to show that physical facilities are grossly underutilized which implies that physical activities and exercise are not done since major emphasis is on academics. The tendency to ignore exercises and movement creates a culture and attitude of sedentarization, which is a fertile ground for NCLSDs.

4.5.3 Teacher’s knowledge and prowess in PE, games and athletics
The researcher explored the games teachers’ knowledge about marking of various dimensions of playing fields for different games and activities in PE, ball games and athletics. Knowledge about field measurements is important to ensure the facilities are standardized and that pupils who use them meet international and national standards. The researcher noted games teachers were not aware of standard measurements of various playing fields. Baraka, a games master from BPS revealed, “We do not mark the fields because we rarely use them unless when occasionally we are lucky to host interschool annual games or athletics”. Similar sentiments were reported by Zuri, a games mistress of JPS who said, “Our playing field is small in relation to our large population of pupils and we only use it when we cannot access nearby city council stadium which is marked by a national athletics body”.
The games mistress went further to reveal that even during school games’ competitions they hired other people to mark the playing fields for since they had no knowledge of the measurements required to measure and mark the various games and athletic fields. Zuri and Baraka went on to reveal, “Our school had no relevant books with information about measurements of the playing fields for various games and sports”. On further probing, Zuri said; Even if we had books showing standard measurements, the size of the school field would not be enough to fit standard measurements required for various playing fields since the school compound is small and has been taken up by buildings due to increase in school enrolment...(A Lady Teacher, JPS 006L, 2012)

This shows marking of playfields is not taken seriously. Moreover is quite serious manifestation of incompetence since as professionals teachers are expected to teach and practice measuring and marking various types of playing fields with pupils. Teachers are expected to be truthful and involve pupils in marking playing fields as part of school curriculum to equip them with vital practical knowledge and skills for self-reliance and career prospects in later life. Moreover, the knowledge and skills acquired would enable pupils to appreciate use of standard facilities and the role of play activities and body exercise in their healthy lifestyle. The findings also seem to suggest that teachers may not have adequate knowledge in PE perhaps due to the fact that they pay more attention to examinable subjects or they may have not studied PE altogether. This is likely lead to a scenario where action-competence among pupils will be elusive and may not possible because teachers do not have the wherewithal to socialize pupils to be acquire HLs (Freire, 1973:64).

4.5.4 Other factors that reduced pupils’ participation in physical exercises
During the interactive sessions with the study informants, the researcher and his assistants established that other factors in the school reduced pupils’ active involvement in physical activities. These factors included daily use of vehicles to and from school, pupils’ negative attitude towards physical activities and support by parents, increased enrolments due to FPE in the school against fixed land size.

i. Use of motorized transport to schools
Involvement in physical activities was further reduced because pupils used motorized transport to and from schools. In BPS pupils are picked and dropped to school by their parents while in MPS and JPS pupils either commuted using public or school transport means and, a few
walked to school. Some of the observations are shown in the Figure 4.10 in appendix XXVI.

The findings indicated in the Figure 4.10 in appendix XXVI show various vehicles and buses used transporting pupils to and from school. These were mainly used in BPS due to the HSES while MPS and JPSs used mainly used public means. The finding suggests that pupils do less physical exercise as they rely on motorized transport. This may lead to lack of health benefits from walking. Walking is good for one’s health while using motorized transport may lead to energy build-up and overweight which could be detrimental as they predispose one to NCLSDs. Pupils need to be taught about the risk of being overweight as well as the role and importance of physical activities like walking, running and play to good health; for example, regular and adequate levels of physical activity reduce the risk of hypertension, coronary heart disease, stroke, diabetes, breast and colon cancer, depression and the risk of falls as well as improving bone and functional health. These are the key determinants of energy expenditure and thus, fundamental to energy balance and weight control for good health and good body size/appearance/outlook. This gap in knowledge can be filled through HE that encompasses NCLSDs.

ii. Effects of increased enrolment on PE

The researcher conducted a diligent observation of the kind of play activities of pupils during break time and where they were done. The researcher observed pupils used to play during occasional short PE lessons and break times in-between spaces around classrooms, corridors, staircases and behind classes due to lack of enough space. One of the observations is shown in the Figure 4.11 in appendix XXVI.

The findings indicated in the Figure 4.11 in appendix XXVI show pupils playing in a small car park in the school. This seems to indicate that schools have limited space for outdoor physical activities due to increase in enrolment of pupils and lack of space for expansion. This could have negative implications to outdoor activities; which may have adverse health effect to pupils due to sedentary lifestyles, which are prone to NCLSDs. The trend is likely to worsen unless school space is increased and good planning of facilities done.

The preceding findings also show that PE and games which include vital body exercises and movements for healthy lifestyles are not given enough time and quality attention required by the primary school syllabus. Instead, pupils spend more of their time in class and any time they are on their own briefly doing uncoordinated and disorganized physical exercise that may not add any health value to themselves. Moreover, it may imply that they are not likely to learn, enjoy and practice vital body exercises and activities for healthy living in their lives as most of the times they are used to sedentary lifestyle in class.
This socializes pupils to acquire and adapt to sedentary lifestyles as a way of life; these tendencies will eventually make them susceptible to NCLSDs; and, ultimately become victims of diseases that could be prevented through regular dosage of adequate body movements and exercises in terms of frequency and intensity.

A study by Lancet, in a British Medical Journal (2012:34) dubbed “Physical inactivity kills 5 million a year” observed “a third of the world’s adults are physically inactive, and the couch potato lifestyle kills about five million people every year”. Experts said that, “roughly three of every 10 individuals aged 15 years or older — about 1.5 billion people — do not reach present physical activity recommendations”. This was said in a report that described the problem as a “pandemic.” The picture for adolescents is even more worrying, with four out of five 13 – 15 year-olds not doing adequate physical exercises.

In addition, Lancet (2012:28) noted that physical inactivity was described as failing to do 30 minutes of moderate physical activity five times a week, 20 minutes of vigorous activity three times a week, or a combination of the two. The researcher went on to report that “physical inactivity increases with age; it is higher in women than in men, and more prevalent in high-income countries. The researcher went on to note, “inactivity was a risk factor comparable to smoking or obesity. The report said, “Lack of exercise causes an estimated six percent of coronary heart disease cases, seven percent of type 2 diabetes (the most common form) and 10 percent of breast and colon cancers”. The study suggested, “Reducing inactivity by 10 percent could eliminate more than half a million deaths every year”, though the report said that the estimates were conservative.

Further, Lancet (2012:33), comparing physical activity levels with population statistics on diseases like diabetes, heart problems and cancer, it was found that “lack of exercise claimed more than 5.3 million of the 57 million deaths worldwide in 2008”. Further, the reports observed that “the human body needs exercise to help the bones, muscles, heart and other organs function optimally”, but “populations are walking, running and cycling less and less as they spend more time in cars and in front of computers and television screens”. The Lancet series called for “global efforts to promote physical exercise by improving pedestrian and cyclist safety on city roads”, for example, more physical education with a variety of body movements and physical exercises at schools and homes and also promoting access to free public exercise spaces and venues in society.

In an endeavour to explore more about pupils’ involvement in physical activities within a day, the researcher gave out a diary to each of 24 pupils (12 boys and 12 girls respectively) to record all activities, which they were engaged in at any particular time of the day for two weeks.
The was aimed at enabling the researcher to find out what kind of physical activities and play games that pupils engage themselves on their own within a day. This enabled the study to explore whether pupils took any initiative to participate in any physical activities in and out of school and whether PE knowledge had any influence to their lifestyle. In addition, it enabled the researcher to find out whether pupils utilized the knowledge learnt to enable action-competence through practical activities and circumstances in real life both in school and at home. Further, it enabled the researcher to find various activities that pupils were involved in and how much time was spent in each activity in a day. The findings in the pupils’ diaries were analysed and expressed in percentages to show how pupils spent their time in each day. The findings are shown in the Figure 4.12.

N=24 hours

Figure 4.12. A pie-chart showing activities that pupils are involved in a day

The findings presented in the Figure 4.12 indicate that most of the time in a day is spent in class work (41.7% or 10 hours in a day) apart from 8 hours for sleep (33.33%), 2 hours for watching movies (8.33%), 1½ hours taken by meals (6.25%) and 1 hour for doing assignments (4%) and commuting to and from school respectively. The findings show that many pupils had barely minimal or no physical exercises apart from perhaps commuting to school where they use motorized transport as most of the time is spent in “studies” and the rest in “watching TV soaps and listening to music”. In fact, in interviews and FGDs pupils confirmed the activities shown in the Figure 4.12 and went further to reveal that parents and teachers required them to devote much of their time in studies at both “home and school”. In fact, in BPS pupils said they had “tuition at school” and “even some had private tuition in their homes to enable them to do assignments.” Pupils also reported that parents and elder siblings helped them in schoolwork. The information in the diaries suggests overwhelmingly that pupils are not involved in physical activities and physical exercise, which indicates they are more sedentarized in terms of lifestyle. The findings bring out a pattern of activities that precludes physical activities, which tend to predispose pupils to sedentary lifestyles making them more susceptible to NCLSDs.

Action for healthy kids (2009:42) observes, “Families should be good role models in doing physical exercises and body exercises for the children”. In particular, fathers should play with children to demonstrate the role and importance of body exercise and physical activities in their health and growth. This can be an effective positive reinforcement than support through praise in the context of primary socialization in the family. Physical activity has been shown to be
important for healthy body growth and development. Children who are highly active reduce incidences of cardiovascular problems, develop strong bones as well as enhanced psychological and psychosocial well-being. In addition, healthy children have less chance of childhood overweight and obesity due to leaner body mass.

In the US, the Joint Committee on National Health Education Standards (2007:44) recommends that “students in Pre-K to grade 2 receive a minimum of 40 hours and students in grades 3 to 12 receive 80 hours of instruction in health education per academic year”. Opportunities for children’s physical activity include structured and unstructured activities. Structured activities include participation in organized sport, physical education at school or sports classes at school. Unstructured activities may include walking, cycling and jogging among other. A pattern of inactivity and sedentary behaviour often begins early in life within the family, extends to school days, and has the potential to persist throughout one’s life resulting in a loss of health and productivity as an adult.

Physical inactivity is now identified as the fourth leading risk factor for global mortality. Physical inactivity levels are raising in many countries with major implications for the prevalence of non-communicable diseases and the general health of the population worldwide (WHO, 2013:42). For children and young people, physical activity includes play, games, sports, transportation, chores, recreation, physical education, or planned exercise, in the context of family, school, and community activities. In order to improve cardio-respiratory and muscular fitness, bone health, and cardiovascular and metabolic health biomarkers WHO (2013:120) recommends that “Children and youth aged 5-17 years should accumulate at least 60 minutes of moderate-to vigorous-intensity physical activity daily; amounts of physical activity greater than 60 minutes provide additional health benefits; most of the daily physical activity should be aerobic. Vigorous-intensity activities should be incorporated, including those that strengthen muscle and bone, at least 3 times per week; for this age group, bone-loading activities can be performed as part of playing games, running, turning or jumping. Physical activity should include all children and these recommendations are relevant to all healthy children aged 5–17 years unless specific medical conditions indicate to the contrary.

The concept of accumulation refers to meeting the goal of 60 minutes per day by performing activities in multiple shorter bouts spread throughout the day (for instance 2 bouts of 30 minutes), then adding together the time spent during each of these bouts. These recommendations are applicable for all children and youth irrespective of gender, race, ethnicity, or income level (WHO, 2013:124). For inactive children and youth, a progressive increase in activity to eventually achieve the target shown above is recommended. It is
appropriate to start with smaller amounts of physical activity and gradually increases duration, frequency and intensity over time. It should also be noted if children are currently doing no physical activity, doing amounts below the recommended levels would bring more benefits than doing none at all. Appropriate practice of physical activity assists young children to develop healthy musculoskeletal tissues (that is bones, muscles and joints); develop a healthy cardiovascular system (that is heart and lungs); develop neuromuscular awareness (that is coordination and movement control) and maintain a healthy body weight.

Physical activity has also been associated with psychological benefits in young people by improving their control over symptoms of anxiety and depression. Similarly, participation in physical activity can assist in the social development of young people by providing opportunities for self-expression, building self-confidence, social interaction and integration. It has also been suggested that physically active young people more readily adopt other HL behaviours like avoidance of tobacco, alcohol and drug use and demonstrate higher academic performance at school. Solutions to health problems must be sought at both the structural or societal level of living conditions as well as at the individual level (Jensen, 1997:84); hence, if PE was taught to equip pupils with skills and knowledge it would become potent. If people are to contribute to the solution of their health problems, they have to be able to identify both the individual and structural causes and the role of PE in promoting healthy lifestyles to reduce NCLSDs.

iii. Contributions of Parents towards Pupils’ Sedentary Lifestyles

In an effort to explore more about home environment, the researcher probed and sought to find out what happens in home environment in an effort to find out the physical activities, games or sports activities that pupils engaged in when at home alone or with parents.

All the pupils’ discussants in JPS were emphatic that “their parents did not allow them time to play while at home and, they live in congested environment where space was a problem”. Ato, a boy from JPS observed, “We have no places to play at home and our parents tell us passing exams and becoming important in life is first because it assures one of better future life.”

In FGD, pupils from MPS said that their parents tell them that “play activities are not a top priority” compared to “success in examinations”; Zuku, a girl from MPS said her parents tell her that “PE, games and sports are not important unless you have a talent that can make you to be included in national teams to get a lot of money”. In the same discussion, Kekimoja, another female pupil from MPS said her mother usually tells her that “since PE and games have no formal tests
or examinations, they are not important…it is a waste of time, energy and resources instead of serious studies to better one’s life for a better future.” But, pupils from BPS revealed very interesting findings because all discussants said that “their parents always told them that play activities were good” but “doing well in studies was more important”; Zaki, a boy from BPS observed that “my parents tell me exercises are important…but they go to gym alone and do not tell me about non-communicable lifestyle diseases”; whereas in the same fora, Kaki observed:

My parents buy for me all good and sweet foods that I eat at home, school, and keep me in the house to read so that I can pass examinations ...sometimes I feel bored and tired but they cannot let me play since they say it wastes time for studies... (A Standard Seven Girl, BPS 002G, 2012).

These findings demonstrate that many parents keep their children indoors doing studies so that they can excel in examinations, particularly those in examination classes. This habit is an extension of sedentary lifestyle practiced in schools, which potentially may make pupils more vulnerable to NCLSDs.

The researcher probed more about the kind of “sweet foods” bought by their parents. The discussants were quite passionate that parents bought all kinds of “sweet foods from supermarkets” in an effort to motivate them to concentrate and do well in school work; Kiki, a boy from BPS revealed that “my parents buy for me sweet food like cakes, smokies, chips, juices, hamburgers, soda, sausages”; while, Zaki, another male pupil from BPS said that “my parents buy all books for reading and examination papers from schools that do well in KCPE and hire a teacher to teach me at home so that we can do well in studies and get good jobs like them”.

The researcher went further to probe whether parents allow their children to be engaged in any physical exercises or take them out during weekends. Msetobora, a Standard Seven boy in MPS reported that “when one is a candidate in an end of year school-based or national examination class, one is left at home to study or to be given private tuition while siblings go out because parents desire good results to avoid embarrassments, poor results and repeating classes”. Nearly all discussants said, “The only relaxation time is when they are allowed to watch their favourite TV programmes”. Kimencu, a Standard Seven girl in JPS said, “Parents allow us to watch our favourite TV programmes as incentive to motivate us to read more and work hard”. The findings suggest that much attention is given to “a study to excel in examination. Education is a form of investment”. This socializes pupils to acquire sedentary lifestyles in order to concentrate in
academic work. This habit increases the risk of NCLSDs due to lack of body exercises; worse, children of “upper class parents” are at a even greater risk since they are provided with “plenty of varieties of junk foods” and “locked in with private tutors to ensure good results in examinations”.

The researcher delved in in-depth incisive exploratory interviews with various parents to unearth more about their feelings regarding schoolwork, play and body movements in relation to the health of their children. In interviews with parents, Eva, a female parent informant from JPS said that “I cannot allow my child to play or do any other work at home since she needs to be serious and do school work to pass well in examinations for a bright future”; she went further to say that “after doing well in exams then she can play and do other things later”. Zuma, a male parent informant from MPS shared similar sentiments when he reported, “play tends to make my son’s performance deteriorate and so I have to ensure he is always in his room reading because I cannot afford private tuition”. The findings show that parents take exceptional care to ensure their children do well in examinations as a ticket for better life for themselves and their families. This perhaps is premised on the fact that parents in LSES invest their hope in their children to support them economically in later life.

In MPS and JPSs, pupils from humble backgrounds expressed their opinions. Jojo said “my parents give me household chores like washing, ironing, sweeping, cooking, selling items and shopping, leaving me no time for play; they also tell me to read and do school assignment after household chores”; while Kadzo reported that “a girl is always given more household chores than a boy”. In fact, television programmes are so popular that, Kimencu, a girl in JPS, said, “TV soaps are so interesting that one cannot afford to miss them. Even if there was opportunity for play, I would sacrifice and watch a movie”. The preceding findings amplify the fact that reading and television watching are activities that are more frequent for pupils when at home. These tendencies promote sedentary lifestyles that make pupils vulnerable to NCLSDs.

Wanja (2011:28) in a report dubbed “Children growing fatter and sickly due to junk foods” observed, “Kenyan children and youth are walking less and eating more junk food”. As a result, they are “growing fatter, lazier and sickly than their peers a few generations back”. This is the worrying message from a new study highlighting what students do between the end of the school day and before dinner. The report observed, “Kenyan children are at a higher risk of developing chronic lifestyle diseases such diabetes because they are barely engaged in physical activity”. The report blames this on parents’ predilection for technological gadgets that ensure their children spend very little energy on domestic chores and physical entertainment. The report also
notes, “there are much energy-saving devices around children; who are also eating more unhealthy foods”; this is turning “them into junkies and dummies before puberty”.

A study by Onywera, Adamo and Sheel (2010:123) on child obesity and fitness levels among Kenyan and Canadian children from urban and rural environments found that sedentary behaviours like watching TV and video games are frequent among urban Kenyan children unlike their rural counterparts. The study further observed in contemporary living populations, the availability of sedentary pastimes will likely replace more active ones as electricity and other similar amenities become available to the rural Kenyan population. It was notable that in rural Kenya, greater physical fitness was due to preservation of a more traditional and active lifestyle and less reliance on automobile transport and avoidance of a sedentary lifestyle. According to WHO (2011:34) behavioural risk factors such as smoking, excessive alcohol consumption, physical inactivity and obesity are the key risk factors that make people susceptible to diabetes type one. Kenya is experiencing increase in diabetes, heart disease, cancer, chronic lung, neurological, psychiatric diseases and injury even before communicable diseases like malaria, HIV and tuberculosis have been brought under control resulting into ‘double burden of diseases’. Other studies suggest that viewing television and other screen time are at least partly to blame for increased patterns of inactivity among children (American Academy of Paediatrics, 2001:62); Excessive screen time has also been associated with poor eating habits and an increase ill health (Robinson, 2001:52); Further, spending too much screen time has been implicated in child obesity by displacing physical activity and increasing calorie intake, perhaps caused by the effects of advertising and reducing resting metabolism (Crespo, Smit, Troiano, Bartlett, Macera and Andersen, 2001:46). These studies corroborates with a 2013 World Health Organization report warning that nearly 43 million children under the age of five were overweight. Nevertheless, these findings imply that children have taken to sedentary lifestyles, which predispose them to preventable diseases associated with being obese, overweight and stunted growth.

The effects of parents’ and teachers’ emphasis on academic work while discouraging play activities as ‘time wasters’ changed the attitude of pupils towards physical exercise. This was more notable in classes eight and seven where majority of pupils were a bit hostile towards outdoor activities. In fact, 90% [98] of the pupils who were interviewed from the three schools reported, “pupils are not keen on going for PE because everybody wants to study and improve marks to pass exams and make our parents and teachers happy”. Teachers and pupils said this habit was more notorious in term three when nearly each day including Saturdays are also used for tuition and revising for examinations.
The researcher explored the attitude of pupils towards PE and its importance in relation to good growth and physical development of the body. 90% [98] of all pupil discussants were aware of the importance of PE though they said, “serious studies come first due to pressure to excel in examinations and be assured of prosperity in life”. Wendi from JPS said, “My parents and teachers prevailed on me to make a decision between play and studies”. This is because her parents accused her of being too playful. Wendi noted:

PE is good, social, and enjoyable as it gives us time to play games, leisure and relaxation but our teachers and parents require us to remain in class and work hard to pass examinations to have good future life... (A Standard Seven Girl, JPS 008G, 2012).

In addition, Kokomica who had made similar observations noted:

Physical exercise makes us healthy and makes us grow well...it entertains us well and helps us to relax while we play with each other...but it consumes time that one could use to revise for examinations for a better future... (A Standard Seven Boy, MPS 001B, 2012).

These observations show that pupils are a bit aware that physical exercises are good for healthy development of their bodies though they have been socialized by their parents and teachers to devote their time to studies. The findings also confirm that social learning and modelling (Bandura, 1977:40) from parents and teachers was quite effective reinforcement in making pupils to acquire and perfect sedentary lifestyles for success in examinations and also eating of junk foods which were provided by parents as a reward to motivate them to study for long hours.

The researcher went further to inquire how frequently pupils were allowed by their teachers to go out for PE in a week. The pupil discussants in various schools had interesting observations regarding their teachers’ attitude towards PE. In a FGD, Jojo noted:

We only go out depending on the mood of the teacher, that is, when in good mood our teachers allow us to go out on our own and we play our own games...our teacher marks our books or goes to staffroom to talk with other teachers... (A Standard Seven Girl, MPS 003G, 2012).
Whereas, Kanyoro, a boy from JPS said, “when our teacher is in a bad mood we remain in class and read for examinations...other times our teacher comes and tells us that those who have not paid all tuition money would not be allowed to go for PE”. Zeki, a girl from JPS also went on to add that, “other times our teacher may say we made noise in class, failed in exams or we did not finish homework and cannot go for PE”. In a swift rejoinder, Kakangu, a boy from JPS revealed, “At times the teacher says he wants to cover for the time that he was absent from school or came late for lesson...then we stay in class and do not go for PE”. The preceding findings indicate that PE time is used for other examinable subjects. It is also notable in all the preceding responses that pupils did not mention that PE can enable them to prevent NCLSDs. This may indicate that the informants were not aware of NCLSDs or benefits accruing from PE exercises and body movements to prevent NCLSDs.

Further, the discussants reported that “time for non-examinable subjects like PE and Creative Arts was used for teaching examinable subjects like Mathematics, English and Social Studies”. This implies that even LSE is not taught since it is not examinable. In JPS pupils reported, “Those who did poorly in mathematics were always kept in class doing more practice and extra assignments in the subject during outdoor activities”. This finding confirms that secondary socialization by teachers mutually complement and further reinforces primary socializations from the parents where pupils are persuaded to sit for long hours and study in order to pass examinations at the expense of beneficial physical activities.

On issues about participation in other outdoor activities like games and sports that provide physical movements and body exercises, the discussants in all FGDs had interesting findings. It was instructive that pupils from MPS and JPS said that they remain “in class most of the time due to pressure to improve academic performance in examinations which are seen as a gateway to prosperity”. Indeed, Kanyoro, a boy from JPS revealed that “we only go out for games once in a term when teachers want to select a team to be coached for Sub-County games or sports”. Jojo noted:

We are told to stay in class to read, work hard and revise so that we improve our performance in examinations because our teachers and parents tell us that is why we are in school to work but not to waste time with play... (A Standard Seven Girl, MPS 003G, 2012).

The researcher probed further, about the state and kind of games and sports equipment that they use for games and sports activities, all the discussants in JPS were more emphatic in saying “the equipment and
facilities were only used during important school activities during athletics and ball games”. They said that only those selected were allowed to use the facilities and equipment during the time of activities. Meci, a girl from JPS revealed, “Games equipment like balls, nets, goal posts, games and sports uniforms (shoes, track suits, gloves, jerseys, boots among others are bought by donors but are only used by selected teams for competitions”. Interestingly, Zaka, another girl from JPS explained, “after school competitions, balls, nets and games/sports uniforms are washed and stored until the next competition”. On further probing about days that were set out for games and sports, Ato noted:

Selected teams play on a Fridays a month before competitions and only those selected for divisional teams and later if they make it to the Sub-County continue with the games while other pupils go back to class for studies since games/sports day is only once in term two... (A Standard Seven Boy, JPS 001B, 2012).

While in a FGD, in BPS, where pupils come from up-market and well–off background, all the discussants said that parents provided them with games uniforms and equipment but they were “not always used as most of the time they were busy in class”. Kiki, a boy from BPS said, “Our parents have bought us PE and games uniforms; but we rarely use them since we do not often go out to play due to a lot of class work”. On further probing, Zuena, a girl from BPS noted, “Our teacher once in a while allows us to go out and play briefly in our uniform because of lack of space for changing and limited time for play”. These findings show that most of the time is spent in class due to pressure to do well in examinations. This implies that pupils adapt to sedentary lifestyles in class. Sedentary lifestyles become habitual with time and age as they are reinforced through regular practices in schools supported by parents who are keen on good results in theoretical examinations. Learners adapt to the sedentary values that school and society socializes them to achieve (Bandura, 1977:48).

Sedentary lifestyles were further supported by strict time schedules in the daily school routine where most of the time was taken by studies. The researcher noted teachers used to teach during early morning preps (6:30 - 7:30 a.m.), mid-afternoon preps (1:30 – 2:00 p.m.) and late afternoon preps (3:30 – 5:30 p.m.). During these sessions pupils had to pay some tuition charges for teachers services. Teachers said, “Tuition payments made pupils and parents to be more serious in their work”. These findings amplify the fact that almost all the time in school is occupied with class work.
iv. Some of the observable effects of lack of physical exercises on pupils

In an effort to find out effects of lifestyle on physical appearance of pupils, the researcher keenly observed the pupils in and out of class. The researcher also sought consent, took weight, and measured height of a random sample of 24 pupils to establish an estimate of their BMI. BMI is a number calculated from a child’s weight and height, that is, weight in kilograms divided by the square of the height in meters (kg/M²).

\[ \text{BMI} = \frac{\text{weight in Kgs}}{\text{Height in M}^2} \]

By the current World Health Organization (WHO, 2013:128) criteria, a BMI <18.5kg/m2 is considered underweight, 18.5-24.9 kg/m2 ideal weight and 25-29.9kg/m2 overweight or pre-obese. The obese category is sub-divided into obese class I (30-34.9kg/m2), obese class II (35-39.9kg/m2) and obese class III (≥40kg/m2). BMI is a reliable indicator of body fatness for most children and teens (WHO, 2007:122). Additionally, BMI is an inexpensive and easy-to-perform method of screening for weight categories that may lead to health problems. For children and teens, BMI is age-and sex-specific and is often referred to as BMI-for-age. After BMI is calculated for children and teens, the BMI number is plotted on the BMI-for-age growth charts (for either girls or boys) to obtain a percentile ranking. Percentiles are the most commonly used indicator to assess the size and growth patterns of individual children. The percentile indicates the relative position of the child's BMI number among children of the same sex and age (WHO, 2007:124). The growth charts show the weight status categories used with children and teens (underweight, healthy weight, overweight, and obese). For instance, BMI-for-age weight status categories and the corresponding percentiles like underweight (less than the 5th percentile), heavy weight (5th percentile and less than 85th percentile), overweight (85th percentile and less than 95th percentile) and obese (equal to or greater than 95th percentile).

The BMI-for-age percentile is used to interpret the BMI number because BMI is both age-and sex-specific for children and teens (WHO, 2007:129). These criteria are different from those used to interpret BMI for adults, which do not take into account age or sex. Age and sex are considered for children and teens for two reasons, that is, the amount of body fat changes with age (as BMI for children and teens is often referred to as BMI-for-age) and the fact that the amount of body fat differs between girls and boys.

Schools had no BMI devices, which could enable pupils and teachers to monitor their weight and perhaps take appropriate preventive measures. The researcher took a random sample of 24 pupils [8 from each school where 4 boys and 4 girls were involved to ensure gender parity] to calculate their BMI. The findings are presented in the Table 4.8 in the same state due to lack of national standardised BMI percentiles for children less than 18 years of age for comparison.
The findings presented in the Table 4.8 suggest that pupils of the same age had great disparities in the weight. For instance, weight of boys aged 13 years ranged from 35 – 61 Kgs, girls aged 12 year ranged from 40 – 63 Kgs and, girls aged 9 years ranged from 29 – 62 Kgs among others. The findings show quite big disparities in body weight among many pupils of the same age and in the same class and age group, which could only be attributed to sedentary lifestyle and feeding patterns. This may be attributed to lifestyle as opposed to genetics since in reality such disparities cannot be due to inheritance. Due to lack of up-to date data from MoH, BMI percentiles could not be plotted and compared. Therefore, MoH country specifics on BMI for children of same age are needed for fair comparison, interpretation and accuracy (WHO, 2007:132). All in all the findings in Table 4.6 show big disparities in body weight and big body size among pupils of the same age could be attributable mainly to changes in lifestyle. It was notable that most of the pupils who had big bodies were mainly found in BPS where pupils were from HSE and very few cases in JPS, which had a catchment of pupils from LSES. This perhaps shows that socio-

<table>
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<th>School</th>
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<th>Age in years</th>
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<th>Body weight in Kg</th>
<th>BMI in Kg/M²</th>
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<tr>
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<tr>
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<td>Girl</td>
<td>6</td>
<td>0.96</td>
<td>34</td>
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</tr>
</tbody>
</table>

Source: Field data
economic differences can contribute to big body size, weight and appearance due perhaps to feeding habits.

Further, observations showed that many pupils were quite big in size compared to some of their peers and age mates in class. It was notable that teachers and other pupils referred to pupils who were bigger in size as “fat, big, well-off (or in Kiswahili as mdosi, mtajiri, msonko, kubwa) the pupils felt famed. The researcher was told by “pupils and teachers such terms were titles of honour that showed one comes from a rich and prestigious background of caring and loving parents”. The researcher noted teachers and other pupils used to praise them by saying they were “fed on plenty of nutritious and high class foods and drinks” associated with the rich and wealthy who may have high disposable income. Interestingly, it was notable that pupils were proud of it, shared lunch, and even bought foods and drinks for other pupils. The researcher observed many cases of children who were “big size”, “well rounded”, “fat”, “overweight” or “obese” in the three schools. The observations showed that some pupils were “big in size” compared to age mates which may be interpreted as a sign of overweight and obesity.

The researcher noted that children who were “big size”, “fat”, “well-rounded in shape”, “overweight” or other pupils respected those who were “obese” as they were highly regarded and presumed to come from well-off backgrounds where they were deemed to “thrive in plenty”. Infact interviews and FGDs in all the three schools revealed that pupils admired and liked those who were fat. In deed pupils from LSES complained that what they lacked was money and resources to be fed and be fat like their fellow pupils. This finding manifests socio-cultural beliefs and attitudes that tend to glorify people who are fat as being wealthy and prosperous making pupils to envy such characteristics. These beliefs tend to glorify overweight and obesity hence making pupils susceptible to NCLSDs.

The findings conform to those of a study by Onywera (2010:122) who found that strong socio-cultural beliefs in developing countries exacerbate the fight against the physical activity transition and result in a commensurate rise in childhood obesity. In many developing countries, strong socio-cultural beliefs that obesity, or “roundness” is something to be revered and a sign of wealth and prestige are encouraged. Kenya, like many other African nations, is experiencing these challenges.

The researcher went further to explore teacher knowledge of objectives of teaching PE in Kenya primary school curriculum. Interestingly none of all the teachers in the schools sampled could “accurately state any of the objectives of teaching PE in primary school”. All teachers who are in charge of PE reported very interesting observations when the researcher probed why they do not teach PE. In
all schools all PE teachers had similar experiences; they revealed that more time was spent in class work; Mbote, a male teacher informant from JPS observed: “we pay major attention to examination subjects because the head teacher, parents and education officers require from us that all pupils should pass examinations well to reduce wastages in education”.

Soma, another male teacher informant from JPS reported that “even in checking and endorsing teachers’ records, head teachers, heads of subject panels and even education inspectors do not bother to check anything concerning PE and games teaching or records. This may confirm the fact the subjects that are not part of examinations are not given much attention may due to the fact that they are erroneously not seen as adding any value to MSS that determine academic performance. This action and attitude from curriculum overseers may send signals to teachers that non-examinable subjects are not important. Little, wonder, teachers teach examinable content during the time meant for PE and other non-examinable subjects. This indicates that health benefits of PE and its potency to promote healthy lifestyles among pupils may not be realized.

Zedeki and Charu, both male teachers from MPS reported that during field education meetings with teachers and education officers, PE teaching has never been mentioned. Zedeki observed:

Education officers do not mention anything about PE teaching...not lesson planning or teaching resources... educational officers only announce dates for competitions and importance of making payments on time to enable good planning for the events of the sports and athletics day...a lot of time is taken to emphasize on teaching examinable subjects to improve academic performance... (Teacher, MPS 001M).

On probing further why Education Officers do not discuss issues about teaching of PE and other co-curricular subjects, teachers attributed that to the fact that “PE and related co-curricular content were not examinable subjects”. Mtutu, a female teacher from JPS observed “PE and other Co-curricular subjects are not examined in annual national examinations and do not have mean-standard scores for comparison”. Further, Mtupeni, noted:

Only announcements are made for games and athletics events where schools are told only to present teams for a day to select pupils who will proceed to divisional and then Sub-County
games/athletics as other pupils and teachers are ordered to return to classes and work hard to improve the mean scores... (Lady Teacher, MPS 002L, 2012).

Mtupeni, went on to say that even “the so called quality assurance education officers from MoE head quarters do not bother about PE and outdoor activities when they visit schools” or when they “occasionally call teachers for Sub-County educational meetings”. The researcher inquired from the teacher informant why she referred to QASO as the “so called” and the lady teacher passionately said that “QASO do not meet the expectations of the standards they claim to represent but in practice do more harm than good”. These remarks perhaps reveal that teachers do not take QASO seriously.

The preceding remarks overly suggest that PE is not given any attention both in theory and practice as ought to be since it is not one of the premium examinable subjects in national examination. This can then confirm that UHLs and practices in schools may promote and socialize pupils to adapt to physical inactivity making them more susceptible to NCLSDs. While sharing the above sentiments, Kim, a PE teacher in MPS also noted “our senior teacher who is also in charge of curriculum implementation only collects and forwards schemes of work to the head teacher who only stamps and signs the same without looking at or checking the details”. Similarly, interesting observations came from Mtupeni, a female teacher informant from MPS who said: “since PE is not taught we usually copy schemes of work from each other year after year for the sake of records and only forward them to leaders for usual stamping”.

These finding confirms that PE, games and sports are not given attention that is given to formally examinable subjects apart from a few occasions during term one and two when it is the season for athletics and ball games respectively. This may create a lifestyle of impunity in these subjects where pupils are likely not to be given much attention to them since their teachers do not show much zeal in teaching them. In return, through observation and imitation pupils like their teachers and parents pay attention to examinable subjects only. This forms a pattern and culture where pupils strive to do what is required to make them get the coveted fame and accolades for “passing academic and theory exams”, with little or no knowledge of the adverse effects of lack of exercises on their health.

The researcher went further to explore whether teachers attend any educational meetings to gain new insights in teaching and learning process. This was critical to find out whether educational meetings by QASO enhanced the efficacy and efficiency in teaching and learning outcomes. In deed teachers said that during educational meetings,
“they” (referring to educational officers) “quarrel and blame teachers using all manner of words” about poor performance and “low MSS in our schools” due to what they call “absenteeism of teachers, lack of seriousness, poor planning, not giving attention to pupils, laziness, don’t care attitude and other unethical practices,” but “the issues about subject content and methods of teaching are hardly addressed”. Asked whether quality assurance educations officers had specialized knowledge of the subjects taught in Kenya primary school curriculum, all teachers emphatically said, “from the way they observe and interact with them as they do their work it is evident they have no specialized knowledge in the subjects they claim to inspect”. In fact, Baraka from BPS was quite emphatic:

We highly doubt whether any educational officer has any specialized knowledge of the subject that they inspect because even from their advice and reports of inspections no technical or specialized advice is given that can help us either technically or professionally on new instructional methods that can be useful in improvement of content delivery and performance in any subject... (Male Teacher, BPS 001M, 2012).

While, Zyongo, another teacher informant from BPS said:

I do not think education officers have any specialized knowledge than regular class teachers since I know officers who were just picked from schools, which were not even doing well academically and discipline-wise... and next day they went around inspecting schools and advising teachers... (Lady Teacher, BPS 002L, 2012).

In a similar discussion, Naliaka, a female teacher in JPS whose team produced three pupils who participated in national ball games observed:

We have never had a PE specialist inspecting PE teaching; even for games/sports training sessions the specialists are gotten from classroom teachers but overseen by well-fed Education officers in smart suites and ties who
The findings confirm that teachers fail to teach PE because QASO do not bother with checking what is done in it since it is not among examinable subjects. These finding are puzzling because it appears that QASO are not aware of KNSHP which is a policy document from the MoE, which they represent, clearly emphasising the importance of teaching PE in all schools. Perhaps, they are not aware of its contents altogether. Nevertheless, the findings concur with a study done by Onywera (2010) which observed, “It is not only parents who are failing the youth”. In the same study, the government scores a ‘poor grade C’ on implementing policies on physical education (PE). The PE course is a compulsory course in teacher training colleges, but it is not taken seriously in school largely due to laxity by MoE inspectors who are supposed to enforce the curriculum which by extension includes KNSHP.

In a FGD, Mtupeni, a male teacher from MPS revealed “many of the so called education officers are those promoted from among nondescript persons from poor performing schools who are able to buy their way into positions of leadership”. Zuri, a female teacher informant from JPS was more categorical in saying:

> Many officers have no background knowledge in quality teaching, advisory services and even school inspection apart from the little they learn and acquire in the process of visiting schools...no wonder they are only keen on mean standard scores on examinable subject without paying any attention to sensitize teachers on how it is realized... (Lady Teacher, JPS 006L, 2012).

The preceding findings indicate that possibly, many educational officers particularly those dealing with primary section do not possess any specialized knowledge in a particular subject area since they are directly promoted from among primary school teachers who may not have specialized knowledge in the subjects by virtue of their training. Perhaps, they may be ignorant of KNSHP from the MoE that they claim to represent since they do not give it any visible attention in all schools that they visit.

The researcher went forth to seek views of Quality Assurance and Standards officers (QASO) in the three Sub-Counties sampled for the study on school inspections. This was critical because by virtue of being Educational Officers in the field they had valuable information about the teaching of HE, PE and other subjects within their areas of jurisdiction. The researcher explored various issues that Quality Assurance and Standards Officers check when they visit schools. The
three officers had similar experiences. Ogopwa, the Quality Assurance and Standards Officer in charge was particularly emphatic:

We visit schools for general inspections on teaching progress and syllabus coverage... during a visit we inspect records of teaching... observe teaching process in classes...inspect facilities, equipments and learning resources... we write school inspection reports and advice teachers individually and collectively... (Lady QASO, MoE 002L, 2012).

While Mkali, the QASO in Kwao Sub-County observed:

We visit schools to check on administrative issues like teaching, preside over annual general meetings, election of management committees, change of management, handing-over, take-over...to inspect schools on various issues and advice school administration, teachers, students and parents on issues touching on school development and academic performance... (Lady QASO, MoE 001L, 2012).

The finding shows that QASO check on a variety of issues when they visit schools. Nevertheless, they gravitate on academic excellence while little or no attention is given to physical activities and those amplifying body movements. In another interview, Mambo, QASO in the expansive Mjini Sub-County observed:

Among other issues, we visit schools to advice on academic standards and good performance... more attention is given to schools that lag behind in mean standard scores to advise them on ways to raise their performance... (Male QASO, MoE 003M, 2012).

These observations suggest that quality officers give more attention to academic performance; this leads to emphasize of good MSS. The findings also show that QASO have comprehensive view of the school during inspection since all aspects of the school are covered during a visit.

The researcher probed about the teaching of HE and generally all the three quality assurance officers had similar views since they noted “HE is taught in topics included in science subject in all classes”. When
probed further about their experiences on how it was taught in the schools visited, Ogopwa observed:

Teachers plan and make schemes of work, lesson plans and record of work...they keep records for teaching and up-date them on daily basis to show the progress in syllabus implementation...we check these records and then advise them accordingly... (Lady QASO, MoE 002L, 2012).

When asked whether she was aware of objectives of teaching HE, Mkali said “I think the objectives of teaching HE are the same as those of teaching science teaching since teachers teach it in the same way they teach science.” The findings suggest that QASO could not confidently identify objectives of teaching HE in schools. This may have implications to the effectiveness and ability to check quality of what teachers teach in the same subject.

The researcher went to seek the views of Quality Assurance and Standards Education Officers (QASO) on issues regarding teaching of HE and PE. Interestingly, QASO said “less attention is given to PE, games and sports activities in the schools’ though they usually “advice head-teachers and teachers to take physical activities seriously” and “teach them as they are guided by the school curriculum”. Probed further to explain why teachers exhibited such behaviour, Ogopwa, a senior QASO in MoE said “a lot of attention is on examinable subjects to raise mean standard score though we usually advise them to ensure effective teaching of all subjects in Primary School Curriculum”.

The researcher went further to probe why QASO lay particular emphasizes on MSS and all officers were emphatic that “it was the most quick and effective way of gauging performance in a school”. Mambo, QASO in Mjini Sub-County was a bit emphatic in saying:

Improvement of education standards is a core MoE policy and subject mean standard scores are the only benchmarks and indicators of choice for academic performance and good standards of education prevailing in any school...we are concerned with improvement of mean standard scores to give more opportunities to more pupils to pass to better their future... (Male QASO, MoE 003M, 2012).

However, Ogopwa was more categorical and went further to state that “emphasis on mean standard scores is meant to make teachers work hard and set targets to be realized by all means possible to avoid laxity
since many teachers do well under pressure”. Mkali, QASO in Kwao Sub-County made more revelation by stating that:

Stressing on mean standard scores is meant to motivate pupils and teachers to work hard and keep focus...above all, it is the only indicator for providing evidence of achievement in what is taught and learnt since most schools are lagging behind in spite of hefty funding and investment of public resources and FPE funds... (Lady QASO, MoE 001L, 2012).

While, Mambo, QASO in Mjini Sub-County said:
we urge teachers to do more teaching to improve performance without compromising co-curricular activities which are critical in this country...after all schools which do well in games and sports are also known to do well in academic work... (Male QASO, MoE 003M, 2012).

The findings suggest that QASO give ‘lip-service to co-curricular activities’ as major attention is given to improvements of academic standards as an indicator of educational prosperity. This is evident by the major emphasis given to MSS as the key benchmark of education development and achievement.

This has adverse effects to quality teaching since it reduces teaching to a mere exercise of unhealthy competition to have the best MSS as the standard indicator of educational quality. This makes teaching to be examination oriented. Indeed, these findings confirm that the Kenyan education system is examination-oriented which are mainly used for selection and certification process and they do not pay attention to formative monitoring such as fostering diligence, confidence, promptness and timeliness aspects, which are vital for students (Deolalikar, 1999:94). In Kenya, national examinations determine the selection of what topics to be taught and given emphasis by teachers. This is because teachers’ performance in teaching and by and large quality in education is based on improvement in MSS. This emphasis on examination results does not only create distress on the students but also on teachers who spend more time in marking students’ assessment tests, coaching as well as drilling students to enable them to pass theory-based examinations than getting to know their students’ interests, potentialities and abilities which would be useful in enhancing the education process. Moreover, the preceding observations suggest that educational officers are very authoritative and forceful on school inspections, which may intimidate teachers.
The researcher went further on an incisive probe to find out what made teachers not to use their knowledge in PE to benefit themselves through doing regular physical exercises and involve pupils to adhere to guidelines by QASO and teach PE as ought to be done. It was notable that the reasons given by the officers were in total congruence. Though interviewed independently in different date and venues, the QASOs were emphatic that teachers rarely plan nor teach PE. Semakula, a senior QASO in MoE noted:

Teachers mainly have no lesson plans for PE since it is not one of the examinable subjects… that is complimented by weakness by school administrators who do not follow planning and observe actual teaching of PE apart from rubberstamping the schemes of work… (Male QASO, MoE 004, 2012).

Asked why and what they did to enhance head teacher capacity and change of attitude towards teaching of PE, Semakula, insisted:

Most head-teachers are not necessarily the best when it comes to actual teaching as well as qualifications…some of them feel challenged and cannot garner confidence to strictly follow-up their teachers who happen to have better mean standard scores in their subjects… (Male QASO, MoE 004, 2012).

While, Mbwenye, a QASO in Mtaani Sub-County noted:

Infact, we have it on our records that many head-teachers are so unqualified to head schools but are there because they have political godfathers…infact many are corrupt, inept, mismanage and misappropriate schools resources including time and funds… (Male QASO, MoE 002M, 2012).

The findings confirm that political expediency is rampant in education. Appointment of educational administrators is particularly notorious in this. Similarly, Mpoa, a QASO in Tuitu Sub-County emphasized:

The school reflects the image and character of the head teacher…if head teacher is keen and active, so does the school…and if lazy, lethargic, non-performer, the school performance generally nose-dives whether in academics or co-curricula’s… (Male QASO, MoE 001M, 2012).
The findings suggest that QASOs are aware that head-teachers are critical determinants of educational performance and achievements in their schools. They also show that head-teacher splay a crucial role in learning and teaching outcomes in learning institutions.

The researcher went further to explore the feelings and views of senior QASO in charge of primary PE about lack of effective teaching of PE in schools. Semakula, the senior QASO in MoE headquarters, was more vehement on why PE subject was not taught, since he strongly felt that though one PE lesson has been taken by Life skills Education (LSE) which is non examinable subject, schools fail to teach PE due to:

Teachers sheer laxity, laziness and negative attitude... reluctance ...lack of creativity in use of time and improvisation of learning resources...teachers see no value or importance in teaching PE nor do they plan for it...they only pretend to teach PE when officers are in school... (Male QASO, MoE 004, 2012).

He further noted:

Head-teachers perpetuate a culture of impunity and attitudes of business as usual way of doing things...after all, they do not care about teaching of non-examinable subjects... (Male QASO, MoE 004, 2012).

On why PE teaching time was taken by LSE, Semakula averred:

Issues and challenges in contemporary society like HIV and AIDS, drug abuse, indiscipline and other social vices pose a greater threat and danger to pupils who are not adequately equipped with lifeskills education particularly as they mature and proceed to secondary schools, colleges and universities ...(Male QASO, MoE 004, 2012).

Infact, Semakula went further to say that the incidence of immoral behaviour and unethical practices like strikes in schools, particularly in secondary schools has gone down. He noted:

Lifeskills education has the potency to enable pupils to be self-disciplined, mature, critical and creative thinkers who are decisive... responsible...self-disciplined and lead
independent lives away from parents as they pursue education and settle in career...(Male QASO, MoE 004, 2012).

On the specific issues regarding content and specific skills that are required in teaching PE, Semakula was emphatic in saying:

In primary school level inspections, educational officers are not subject specialists but only have adequate useful knowledge and experience in teaching and inspection of all subjects having been teachers themselves before being promoted to become inspectors ...

(Male QASO, MoE 004, 2012).

But on competence and ability of those heading schools, he was quick to point out:

Massive and endemic corruption has been ingrained in education system to the extent that even head-teachers and others school administrators are no longer those who are qualified on merit but those who are politically connected and are able to work their way through the system...

(Male QASO, MoE 004, 2012).

He strongly felt:

The biggest challenge facing educational sector in the country leading to poor standards and other vices was poor management by incompetent administrators due to lack of merit in appointments... corruption and ethnicity have greatly permeated the sector...

(Male QASO, MoE 004, 2012).

The researcher explored his experiences in secondary school PE inspections. On secondary school inspections, he revealed:

Subject specialists are involved in schools inspections...these are subject specialists who head directorate of quality assurance in MoE and chair sessions in KIE and Kenya National Examination Council (KNEC) dockets respectively...

(Male QASO, MoE 004, 2012).
The findings suggest that education in primary school faces many challenges, which perhaps could be solved by hiring effective educational administrators and managers and subject specialists as quality assurance and standards officers.

Nevertheless, the findings suggest that non-examinable subjects like PE are not given prominence in schools and attention by field education officers is grossly lacking. This makes teachers not to give much attention to subjects that are not examined compared to the attention given to subjects examined in national examinations. Indeed, from the interview it was evident that teachers’ have general awareness on the importance of physical exercises on health and academic performance but they ignore teaching PE and instead use PE time for teaching subjects that are examined in national examinations. The emphasis on examination was due to the perception that success in examinations would translate into success in future life after education; hence, if NCLSDs were included in examinable syllabus, perhaps, based on similar perception, pupils’ could be more successful not only in other issues but also in preventing NCLSDs through good health practices.

The preceding finding concurs with findings in a study done by Onywera (2010:120) which found that “though physical education is slotted in the school timetable as required by government policy, most schools use the time to teach other examinable subject”. The habit of keeping pupils in class where they are not involved in PE and other physical activities socialises them into sedentary lifestyles. This risky practice could make them susceptible to NCLSDs. Moreover, failure to teach PE inhibits development of both healthy minds and bodies.

**4.5.5 Teaching of Science**

In an effort to explore more about the teaching of HE in each of the schools sampled, the researcher observed actual teaching of Science subject as well as the learning resources used for teaching science which was the carrier subject for HE. Observations included the various resources such as learning aids, apparatus, pupils note books, assignments, class activities and other materials used during teaching in terms of their physical condition and usability, adequacy against large population of pupils in the class, legibility of the content in the blackboard in light of overcrowded classes, physical sizes of chalkboards that contained lesson content, number, storage, evidence of regular use and maintenance among other issues. This was important to enable the researcher to examine the teaching approaches in HE in primary schools in relation to enabling learners to realize positive healthy lifestyles to prevent NCLSDs. The physical condition of learning resources and science equipments determined their usefulness in practical teaching activities, which affected the quality of learning outcomes since pupils have to interact with them as
they acquire socially desirable knowledge and skills. The findings are presented in the subsequent sections.

i. **The condition of teaching facilities in the classrooms**

The researcher noted that some chalkboards were small and rarely painted in black colour. Some of the observations of faintly painted are presented in the Figure 4.13 in appendix XXVI.

The findings indicated in the Figure 4.13 in appendix XXVI show that some of chalkboards that were faintly painted and had faded. This made writings not to be legible for pupils who were at the back of the overcrowded classrooms. It was also noted that some chalkboards in MPS and BPS were quite small. The researcher noted that teachers used to keep on rubbing frequently before pupils finished writing. Pupils who sat behind the class were more affected. The researcher noted that most pupils used to leave many blank spaces in their notes. Teachers informed the researcher they had a lot to write but the chalkboards were small. This may imply that teachers may not be effective in providing enough content. It also implies that pupils may not get much in learning new concepts, spellings and other key information that can enhance better learning outcomes.

ii. **Why Teachers rarely make Learning Aids**

The researcher went further to explore the use of learning resources in teaching and learning process. In an interview in BPS, Museveni, a female teacher said, “we do not have time to make learning aids because we have many lessons to teach”. Similar views were shared by Kazini, a male teacher in JPS who said, “we have a lot of marking to do due to the large number of pupils and we have no time to make learning aids”; on further probing he revealed that “materials like manila papers, felt pens and writing inks are not available in school”; While, Mutete, a female teacher from MPS said, “making learning aids is hectic and time-consuming”. These observations reveal that learning aids are not in frequent use in teaching and learning.

The researcher went further to observe actual teaching and learning on daily basis during the data collection period in all schools sampled for the study. On all occasions, the researcher used a detailed and exhaustive schedule when observing the lessons from the beginning to the end. In all the three schools, the researcher observed, that the three HE teachers frequently used didactic, teacher-centred approaches, talk and chalk and even at times dictating notes. At times they also used lecture method, rote learning and memorization of facts and sometimes question and answer method. It was also noted that teacher-centred experiments and occasional use of teacher-made charts were used. Additionally, teachers rarely involved learners in the use of demonstrations, projects, nature walks, visits, discussions and collaborative methods when teaching. Use of these teaching pedagogies may likely lead to a scenario where action-competence
among pupils will be elusive because teaching in schools does not socialize and promote active listening, dialogue and action which makes use of learning cycle of ‘active listening-dialogue-action (Freire, 1973:70) which is different from teacher-focused or didactic model.

Interestingly, many teachers spared no time to evaluate their lessons through planned questions unless occasionally by “use of past exam papers” due to what they referred to as “lack of time” and the desire to cover syllabus ahead of time and revise it several times to improve class performance. These findings show that teaching is geared towards improving marks scored by pupils which are taken as indicator of how knowledgeable one is, that is, more marks meant more knowledge while, few marks implied less knowledge and perhaps less ability. This may create unhealthy pressure and competition among pupils, which may be counterproductive. Mwanga (2004:200) in a study involving community-integrated and action-oriented HE intervention in Mwanza Tanzania observed that if pupils learn just to get marks or to please their teachers and parents, the reward would be appreciation from other people. Mwanga further noted that knowledge gained through this form of learning is seldom lasting and, if pupils work like scientists discovering things and produce new knowledge themselves, the reward will be an inner satisfaction and knowledge will last longer because pupils themselves are constructors of knowledge. This makes pupils to actively construct knowledge and understanding rather than being passive recipients.

The researcher observed that some classroom walls did not have any learning aids. In some classes, however, the walls did have nails or soft board to hang any wall hanging. One of the observations is shown in the Figure 4.14 in appendix XXVI.

The observations indicated in the Figure 4.14 in appendix XXVI suggest that teachers rarely use learning aids during the teaching and learning process. It was also notable that some class walls had no hooks and soft boards which may further indicate that learning aids may not have been used. This undermines their teaching efficacy and effectiveness since what is learnt may be easily forgotten as pupils may lack touch with reality. It may also make pupils fail to see the immediate benefit of knowledge apart from learning “factual knowledge to pass examinations”.. In such a scenario, emerging problems like lifestyle diseases may become a big challenge due to lack of preventive and practical knowledge gained from school.

iii. Why teachers use teacher-centred teaching methods in teaching science
Using incisive interviews with teachers, the researcher probed why teachers used the teacher-centred approaches when teaching. In all the three schools, 90% [33] of the teachers’ informant shared similar
views; some said that they have many lessons, which do not “allow them enough time for effective planning”; while others said, “free primary education has seen increase in enrolment of pupils beyond the carrying capacity of the classes and teacher-centred methods were more convenient”. Zyongo, from BPS observed:

The lesson time is too short for pupils’ activities and the class size is too big...learner-centred methods are time-consuming in terms of preparations and actual teaching...we have a lot of lessons to plan and teach in a day which leaves us with only limited time for preparations hence we go for the better option of teacher-centred methods of teaching... (Lady Teacher, BPS 002L, 2012).

On how their pupils took the teacher centred-approaches, Sadaka, another female teacher from BPS was more emphatic in saying that “pupils are only keen on important points that can enable them to pass well in the examinations which make teacher-centred methods an ideal choice”. While in JPS, Mueni felt:

The school term is short and over-loaded with other activities which consume class time and one has to use the time economically so that one covers the syllabus in time to start serious revisions for examinations which are a critical issue...that is why teacher-centred methods becomes a good option...(Lady Teacher, JPS 002L, 2012).

Another science teacher, Nzugo, from JPS complained that finances for buying materials for practical work and learning resources were not adequate from FPE funds. Nzugo noted:

Resources for learning activities/experiments are expensive and FPE provides limited funds which mainly cater for a few text books which are also not enough since one is shared among 1-2 pupils in small classes and 4-6 pupils in big classes...hence a temptation to use teacher-centred methods that do no necessitate use of resources that are unavailable ... (Male Teacher, JPS 004M, 2012).

While in a FGD in MPS, teacher Charu who teaches science reported that:

being effective in class does not necessarily require too much of learning resources but in being organized and using simple language
and examples which are obvious to children...and being resourceful by having good knowledge of the subject to identify key points and ideas in every topic.. (Male Teacher, MPS 002M, 2012).

The researcher and his assistants probed further on how teachers could be effective without use of learning resources and Teacher Charu went on to reveal that:

Even in teachers college, effective tutors whose subjects were always done well rarely used learning resources but used to give a variety of examples, which were familiar to us, and we passed very well in national examinations... (Male Teacher, MPS 002M, 2012).

Interestingly, teacher Zedeki who noted supported Teacher Charu reported:

Since Educational inspectors, administrators and parents are keen on improving mean scores for better performance...one has to teach key points and major facts to improve performance to boost pupils morale for better results which may not necessarily require use of learning resources... (Teacher, MPS 001M, 2012).

Teachers gave the preceding explanations to justify over-reliance on teacher-centred teaching methods where, they used few if any learning aids due to the reasons given. These findings perhaps confirm that use of teacher-centred methods is learnt quite early through formal socialization during teacher training in colleges and, perfected later through practice by use of syllabus that requires specific learning outcomes based on theory-based examinations to meet the expectations of the society. This implies that pupils are unlikely to be empowered to be assertive, practical and realistic in taking own initiatives, be independent and self-reliant and responsible. Further, these findings also confirm that bad practices and negative attitudes develop quite early in teaching profession which may be perhaps why explain some habits are difficult to change. This may be a critical challenge in modelling a democratic learning environment for the pupils since they are not actively involved to become ‘knowledge experts by developing self-hood and critical awareness’ through the learning process (Freire, 1973:68). This is necessary for action-
competence, which is important for healthy living in the wake of NCLSDs.

These findings concurs with those of Mwanga (2004:192) in a study involving community-integrated and action-oriented HE intervention in Mwanza Tanzania, where it was noted many teachers use teacher-centred instructional methods that are ineffective in meeting the goals of HE. He further noted there was a connection between the lack of teaching aids and the dominant use of “chalk and talk” classroom instructions. In absence of visual aids, teachers were inclined to resort to what has worked in the past...further, he observed that teachers were viewed as the source of knowledge regarding important health information and pupils were passive recipients. The teaching strategies widely used questions, where pupil-teacher interaction emphasized repeating back correct answers collectively (chorus method) with often a sing word rather than problem-inquiry/problem-solving interaction. Classroom teaching was a form of one-way communication, from teacher to pupils. These findings agree with those of a study done by Wawire (2006:108) who found out that some teachers (5%) were “unfriendly and abrasive to pupils”. The researcher further observed, “some teachers had bad practices” that featured in the lessons observed; such practices include “long monotonous lessons involving the same activity where pupils were observed to lose interest, get restless and doze off during the last stages of an activity”; another such practice was “the prolonged use of chorus answers to teach numeric and literacy concepts”; similarly, pupils were asked “to repeat after the teacher or answer questions in a group”. These practices ignore individual learning needs and abilities of the pupils which reduces efficacy in teaching and learning processes.

Infact 90% of the teachers interviewed, who happened to prefer use of teacher-centred approaches, felt that use of that approach enabled a teacher to “teach accurate facts in a summarized fashion”. They further said that it enabled pupils to learn and “memorize accurate facts” with ease as it does not require learning aids which they said “poor schools” could hardly afford. Teacher interviewees went further to reveal that “pupils are mainly keen only keen to learn what can enable them to improve their performance” and they are not interested in “too much reading” and “book work”. Charu, a senior teacher from MPS observed:

The mean score syndrome is such a serious issue and the syllabus is broad and even if teachers spent so much time with practical work, use of learning resources and experiment without general improvement of the mean score, school administrators, parents and education officers would be too harsh or too
This finding implies that many teachers use teacher-centred methods for their convenience to cover the work and revise so to improve MSS. The findings also demonstrate that learning is not interactive which may make learners not to acquire action-competence and practice what is taught through acquisition of new lifestyles. This is due to overemphasise on theoretical knowledge to pass examinations.

Interestingly, interviews with head-teachers of the three schools sampled revealed that as administrators, they appreciated the use of learner-centred approaches in teaching but asserted that “a lot of emphasis was given to improving the mean scores and that teachers were at liberty to use all ways to improve performance”. They alleged that quality assurances education officers, parents and entire society were particular on “improvement of performance and the teachers have to use all means possible to achieve that, lest they suffer the consequences”.

Indeed, in an interview, Jemini, the Head mistress of BPS, said, “MoE has categorically stipulated that improvement of mean scores is a critical determinant in performance contracting of head teachers”. This confirmed the views of teachers, which perhaps explains why they use “teacher-centred approaches to maximize on time and resources at their disposal to keep pupils in class most of the time”, and teach to “improve MSS to safeguard their jobs, secure promotions” and other awards like “teacher of the year award” which are based on best MSS per subject.

In two separate interviews, Moose, a long serving senior teacher from JPS and Soma, female teacher from MPS who had applied for promotion on merit claimed that they were not promoted due to “low MSS in their science subjects in KCPE”. These revelations were confirmed by their head teacher who went on to say that, “improvement of performance can only be shown through increase in MSS that are used to determine whether a teacher is to be promoted on merit based on his or her good work in class.”

In spite of these observations, the three schools had a good learning atmosphere and teacher-pupils relationships were good though the pupils were mainly kept busy in class writing “important points for the examinations”. It was also notable that no pupils’ work was displayed in class room apart from JPS where pupils claimed that their previous teacher used to do it, but the displayed work was pulled down by “bad and jealous pupils”. In addition, the class had “no window panes and lockable door which made wall hangings to fade or disappear altogether before pupils could benefit from their contents”. The teachers used “strong lockable cupboards to keep textbooks to prevent
them from being stolen by pupils”, which limited the use of textbooks by pupils.

The researcher observed each class in JPS had a strong lockable cupboard that was in-built to secure textbooks and other stationery that were shared by pupils during lessons. In fact during FGDs and interviews, pupils revealed “they had few text books in science which used to be shared during the lessons” and “locked by their teachers after use to minimize losses, tear and wear”. They said, “it limited their exposure to HE”. Moose, of JPS noted:

In our school we discourage pupils to carry books home since many pupils are poor and use either polythene paper bags, small bags and others carried books by hand…and the few text books available are worn out easily…moreover many of our pupils tend to drop out of school and disappear with textbooks which made the school to adapt the policy of locking books in school… (Male Teacher, JPS 007M, 2012).

Further, teachers in JPS confirmed, “nearly all parents were very poor and, could hardly afford to pay for books if their children lost them” which made them to lock them in cupboards after use.

These findings agree with those of a study by Mwanga (2004:206) in a study involving community-integrated and action-oriented HE intervention in Mwanza Tanzania. Mwanga observed pupils in the study schools were found to have content problems in some areas of HE partly because they lacked access to texts that would give them information on diseases in question. Lack or shortage of teaching resources was started by the teachers and observed to be one of the biggest constraints to the effective teaching of HE curriculum in the study schools. This was true of both teacher’s references and pupil’s text. Since in all the schools involved in the study, textbooks and teachers were the main and sometimes the only means of curriculum delivery to the pupils, it is essential that pupils have adequate access to texts not only to save lesson time spent on dictating notes but also to make lessons more interesting, allow access to the illustration of the texts in the books and all promote understanding of texts and allow pupils to study and refer to texts outside the classroom.

The habit of the teachers in the study schools denying pupils free access to textbooks by locking them up in the cupboards on pre-text that they are scarce and could easily get damaged is detrimental to children’s development of cognitive skills. Provision of textbooks to pupils could also mean they complement teacher’s notes with content from the texts. Relying on teacher’s notes means that the quality of
what is learnt could be compromised as it depends on the teacher’s ability to make clear, concise, comprehensive and coherent notes. It is therefore important that both teachers and pupils have access to not only official classroom texts but, also reference materials and other teaching resources. Children need to develop higher order thinking skills such as problem solving, critical thinking and reasoning. Pupils especially need reference books that give information on the aetiology and prevention of NCLSDs.

The findings also confirm that many teachers drill and coach pupils to memorize key points to enable them pass objective questions in examinations. There are serious weaknesses in this kind of teaching because it leads to passivity due to lack of active participation and interactive learning where pupils interact with learning resources practically in the learning process to foster their creative ability. It may also produce weak and passive pupils who may lack critical problem solving skills.

4.6 Perceptions of Primary School Teachers, Parents and Pupils on the contributions of HE

The fourth objective of the study was to explore the perceptions of Primary School Teachers, Parents and Pupils on the contributions of HE to enabling pupils to practice HLs. The researcher with his assistants went out to conduct extensive investigation of perceptions, feelings, beliefs and attitudes that teachers, parents and pupils have regarding the contributions of HE in enabling pupils to not only acquire but practice HLs which are potent in prevention of NCLSDs. In this section, the study went further to explore the perceptions of teachers, parents and pupils about KNSHP, School level policies and HE, which was taught in KPSC and their contributions to good health practices in schools. This was crucial to enable the researcher to capture feelings, beliefs and other issues that determine and inform their health practices as human beings. The in-depth findings have been triangulated in various subthemes guided by the research objectives.

4.6.1 Perceptions of teachers about the contributions of school health policy

The researcher explored the feelings and views of teachers about KNSHP policy in the three schools sampled. Generally, in all the schools the head-teachers and teachers reported, “they were not aware of the KNSHP nor its requirements and what is entailed in the policy”. They reported that they did not even have “any documentations and records that could possibly show the implementation of the policy in their schools”. Nevertheless, head-teachers and teachers revealed that they had developed school guidelines and policies meant to encourage pupils to practice what they learned in HE. In the absence of KNSHP policy, the researcher found it pertinent to scrutinize the health policies
and guidelines in each school to establish whether they covered issues related to NCLSDs.

In JPS, the head teacher and teachers revealed that they were not aware of MoE School Health Policy, but said that educational officers who occasionally visit the school to advice teachers on academic performance laid little emphasis on cleanliness. Godei noted:

> Our school has a health policy that support clubs to promote health among pupils...clubs are supported by non-governmental organizations such as; KWAHO – Kenya Water Health Organization which supports the school in terms of maintaining good hygiene, clean toilets and clean water system in the school... they also repair toilets... (Head master, JPS 001HDM, 2012).

The findings show that schools are supported on communicable diseases which is part of public health campaign but one wonders why serious issues like NCLSDs which are part of public health miss attention. Godei, went on to report that, “my school has a donor funded feeding programme for pupils and parents...in fact it is the one that makes pupils come to school since when it is interrupted for one reason or another...school attendance sharply declines only to pick when the programme resumes”. Nzugo, a male teacher from the same school observed, “There are serious cases of absenteeism among our pupils due to hunger when school feeding programme is not operating...since most families can barely feed their children”.

The preceding observations were shared by all teachers in JPS including their head teacher who said that “a good number of parents come to feed in the school due to high levels of poverty and high prevalence of HIV and AIDS.”. He said many parents are either infected or affected. They also said some pupils take their school meals home to share with their ailing parents/guardians. The findings show that health issues in schools are given much attention. However, there is need to give attention to NCLSDs which also related to eating habits and change in lifestyle based on socio-dynamics in modern society.

In JPS the head teacher and teachers reported that a NGO assisted by well wishers assisted the school to have hand washing basins and soap jelly in various parts of the school compound so that pupils could use them to wash their hands in accordance with the school policy of clean hands. In the same school, well-wishers and other donors helped the school to label and draw graphics on walls with a message “clean
hands for healthy life” caption above every hand washing points to enable pupils realize the importance of having clean hands. However, Azeka noted:

The donors have put hand-washing basins outside the school toilets to enable pupils wash their hands anytime they visited the toilets, but the water supply in the school is unreliable and, the taps are dry most of the time... (Lady Teacher, JPS 004L, 2012).

This finding implies that the practice of encouraging pupils to wash their hands may not be effective because of the water shortage in the school because the school had also few water tanks that mainly stored water for school feeding programme. The head teacher said, “They are looking for another donor to help the school acquire water tanks for the school”. The researcher went round the school and observed the hand washing basins were dry most of the time due to water shortages but had good labels. One of many observations is shown in the Figure 4.15 in appendix XXVI.

The findings indicated in the Figure 4.15 in appendix XXVI show steps for washing hands, which perhaps show that schools had effective general health policy that focused on body cleanliness, which was backed by visible graphics that reminded pupils on procedure of washing hands. It is also notable that findings in Figure 4.15 show a detailed procedure in conspicuous writings to capture attention of pupils, but there is no mention of NCLSDs. Moreover, clear guidelines regarding feeding habits, when and what to eat are conspicuously lacking.

In Bonoko, the researcher noted hand washing taps and basins did not have any information on the walls on importance of clean hands, which could persuade and remind pupils on daily basis to make washing their hands part of their daily practice. Written instructions and persuasive graphics always act as a constant reminder to pupils, which enable them to acquire and make it a habit and daily practice to wash their hands; that with regular practice, becomes part of their character and lifestyle of practicing cleanliness.

The researcher noted as part of school health policy, all the schools had a “wall painted with drawing and messages about communicable lifestyle diseases”. The content of the information in the posters educated and informed pupils on good practices to prevent communicable lifestyle diseases. This information is valuable since it could enable pupils to acquire and practice preventive practices, which through regular practice ultimately become part of their lifestyle for
healthy living. One of the observations is presented in the Figure 4.16 in appendix XXVI.

The findings in the Figure 4.16 in appendix XXVI confirm that schools have health guidelines for their pupils. It is also notable that the content of information and drawings were on communicable diseases like HIV and AIDS, waterborne diseases among others, but no information regarding NCLSDs. This could be perhaps because NCLSDs are not in the syllabus and, since schools focus on what is in the syllabus since it is examinable. Further, focus on what is examinable will enable the school to improve the mean-score, which is the yardstick of choice by MoE to determine effective teaching as well as performance in education. Nevertheless, lack of information on NCLSDs does not rule out that pupils are not susceptible to them but rather they are inherently predisposed since ignorance is not a preventive measure. This gap in formal and informal socialization in the schools and families may make pupils fail to acquire values, behavioural patterns and habits that can empower them to develop healthy lifestyles to prevent NCLSDS (Bandura, 1977:82).

It was also very interesting to note that in JPS information about prevention of communicable diseases was linked to academic performance (Figure 4.17); a factor that perhaps made pupils more committed to the practices contained in the poster in an effort to do well in the examinations. The observations are as shown in the Figure 4.17 in appendix XXVI.

The Figure 4.17 in appendix XXVI shows that schools lay exceptional emphasize on academic performance such that any activity in the school is geared towards academic performance. This is important since it will make pupils to be a bit focused in their work. What were however conspicuously lacking were the effects of NCLSDs on academic performance which needed to be included to make the pupils acquire a complete picture of reality in society since they have the basic right to holistic education as a tool for the empowerment of individuals through provision of accurate knowledge (Freire, 1973:68). Pupils have right to truth that concerns their life and in particular health welfare, which is basic for survival.

In MPS, the head teacher and teachers claimed, “They had no idea regarding MoE school health policy”. However, Soki, the head mistress, noted that “such a policy if any could be very important to enable schools improve health and well being of the schools and the pupils”. Teachers reported, “Their school does not have a written Health policy but they lay emphasis on cleanliness”. This was done during assemblies when pupils are inspected and advised by their respective class teachers and teacher on duty. Kekimoja, a girl in MPS observed, “During the morning school parades, our teachers always tell us about
personal cleanliness”. On probing what issues teachers laid emphasis on, Kekimoja said:

Teachers tell us on importance of cleaning classes, compound, wearing clean uniforms, washing hands after visiting toilets, eating clean foods, keeping short hair and trimming nails; wearing short-heeled shoes, brushing teeth regularly…(A Standard Seven Girl, MPS 002G, 2012).

These observations show that teachers were aware of importance of personal and compound cleanliness. This made them to prevail on pupils to make it a good habit to wear clean school uniforms and keep their bodies clean to prevent diseases. This shows pupils are being taught good practice on cleanliness but good practices regarding NCLSDSs are grossly lacking.

Indeed, the researcher used to report to schools quite early in order to make detailed observation of all school routines. This enabled the researcher to familiarize himself and make detailed observation of all the school activities. On many occasions, he attended the morning assemblies and witnessed the class teachers and teachers on duty checking pupil’s cleanliness assisted by class prefects because of the large number of pupils in the schools. For instance, on several occasions, the researcher noted that in JPS, pupils who were found not to be clean were made to kneel down in the dusty compound, which “made them to become dirty”. This was serious during dry dusty seasons and wet muddy seasons. The school has also intermittent supply of water. The head teacher of JPS reported, “MoH through the city council health workers deworms pupils twice a year”. These findings show that schools put good emphasis on pupils’ cleanliness. There is also good effort to ensure class and compound cleanliness. These good practices are important since they enable pupils to acquire good practices that form part of their lifestyle and character. Regular observance of good hygienic practices will ultimately enable them to prevent communicable lifestyle diseases.

i. Perceptions of primary school teachers on the contributions of HE to healthy practices

The researcher sought the feelings of teachers about HE. The teacher informants in all the three schools sampled for the study overly expressed positive attitude towards “HE as a potent area of knowledge in light of emerging lifestyle diseases” in contemporary society. Syungi, a male teacher informant from BPS noted, “HE enables children to acquire good healthy habits early in life which enable good character formation in feeding habits and helps them to keep fit to avoid diseases”.
The researcher went further to probe about NCLSDs; 95% (34) of all teachers in the three schools felt that the current content of HE in KPSC was “inadequate” to enable learners realize and achieve perceived health benefits both for communicable and NCLSDs. In a FGD involving teachers in Msemayote, Mfariji reported that HE content in KPSC is “scattered and sprinkled in various subjects like in science, PE, creative arts and social studies in tiny bits of information”. They noted, “It is very difficult to coordinate and teach effectively” since many of the “subjects that contain tiny bits of HE” are “not priority subjects” because they are “do not feature much in school-based and national examinations”. This implies that they are “not part of priority subjects” that constitutes “improvement in MSS, hence teachers do not lay emphasis on teaching them.” This finding suggests that teachers have a positive attitude to subjects that are examinable while they have negative attitude towards the subjects that are not examinable. Perhaps, the positive attitude towards examinable subjects was driven by the desire to excel in performance to earn promotions and career advancement as well as to earn glory, reputation, accolades and fame from parents and school community.

In all the schools, 97% (35) of teachers felt that “nearly all teaching in primary education was more theoretical since time for practice and resources for practical work were grossly lacking.” Sadaka, a female science teacher informant from BPS was emphatic that “most of HE teaching is theoretical and the tight schedule of teaching in the KPSC does not offer opportunities for practical work and projects that may take useful time for teaching academic work”.

Similar views were expressed in Jitetee, where in the discussions about HE some teachers felt that “the content in HE does not necessarily require much of practical activities to be grasped by the pupils” and the syllabus “does not include practical projects and activities”. Eva observed:

> The HE content is more theoretical and pupils learn without much of the practical activities... infact apart from a few drawings, many books that we use have not recommended much on practical activities that a teacher can involve the pupils in doing... (Lady Teacher, JPS 001L, 2012).

While Mfariji, a female science teacher informant from MPS went further to “explain that primary teaching was about equipping pupils with factual information to enable them to pass examinations”. She said, “HE in primary syllabus was meant for academic exams that are theoretical since they were no practical examinations in primary level”.

Sadaka, a female science teacher informant  from BPS was emphatic that “most of HE teaching is theoretical and the tight schedule of teaching in the KPSC...”
These observations affirm that teachers teach HE theoretically since they perceive that theoretical knowledge will enable pupils to pass examinations well since they are tested using theory-based examinations only; hence, by doing things theoretically, then pupils get used to theoretical knowledge that has no practical and observable effects in their daily practices in their daily living activities and lifestyles.

**ii. Why teachers are not aware of NCLSDs**

The researcher went further to probe whether teachers’ had any knowledge of NCLSDs. This was important since it is a determinant in the efficacy in teaching and learning outcomes. It was revealing to note that teachers in all the schools sampled teachers reported, “They had no knowledge about NCLSDs”. Eva, a female teacher informant from JPS was a bit forthright in stating, “We are not aware of NCLSDs or what factors cause or lead to them?”

On further probing why teachers were not aware about NCLSDs, 96% (35) of teacher informants in particular singled out the KPSC, which they said, “it does not contain any content on NCLSDs”. Kim, a PE teacher from MPS observed “the books and resource material lack content on non-communicable diseases”. Indeed, Eva, a female Science teacher informant from JPS was more categorical as she noted “even the so called supplementary reference books...including those of KIE, do not contain any content on non-communicable diseases”.

These observations from the teachers suggest that books and other reference resources do not have necessary content that can enable teachers and pupils acquire valuable skills and knowledge on NCLSDs. The findings reveal that teachers over rely on content in textbooks recommended by MoE which largely demonstrates lack of use of other reading materials outside school recommended texts. This demonstrates narrowness and limitations on teachers as professionals who ought to be at the cutting-edge of knowledge in a knowledge-based society. It may also reveal teachers poor reading culture after formal education. Since, largely, teachers teach what they are aware of, then, it perhaps indicates that pupils may lack preventive knowledge and skills, which may make them more vulnerable to NCLSDs.

In an effort to explore the efficacy of teachers’ knowledge on the subjects that they teach, the researcher probed teachers’ knowledge about various issues relating to teaching HE including objectives and content. It was interesting to note that teachers in JPS and MPSs could not even mention any of the “objectives of teaching HE in spite of having scanty knowledge of the same”. They reported that they focused so much on other contents in science subject since “HE was
rarely examined in national examinations”; above all they claimed available books including “those of KIE” lacked the content on the same and, that “students never ask questions on in HE.” In fact, one young lady teacher, Njeni observed:

We did not cover them in college, which shows they are not necessarily important...and, even in teachers meetings where education officers teach teachers on how to improve teaching of science in order to improve performance, no one mentions anything about non-communicable diseases... (Lady Teacher, MPS 003L, 2012).

The preceding observations suggest that teachers do not have adequate information or knowledge about NCLSDs. In all schools, the teachers asked the researcher to explain to them what NCLSDs are and what causes them. The researcher had to explain to teacher informants in all schools issues on NCLSDs. The teachers’ reactions were notable in terms of “surprise...amazement and shock on their facial expressions”. The teachers’ blamed the government for lack of sensitisation and not including the content on NCLSD in the HE syllabus. They complained that “the MoE does not take them for refresher courses” nor “provide them with in-service courses to upgrade their knowledge” but always “harassed them through surprise...impromptu and fault finding school inspections” in an effort to make them produce “better results through improved mean scores....” The preceding findings seem to suggest that teachers do not have adequate knowledge and capacity regarding NCLSDs. This is a crucial gap of knowledge that needs to be filled to reinvigorate HE to enable teachers to teach pupils to prevent NCLSDs.

The findings are in congruence with those of a study by Mwanga (2004:201) which reported that there were two kinds of gaps in teachers competence required for good teaching. The first was the kind that the teacher was aware of and sought to fill by searching for information. The second kind of knowledge was missing without the teacher being clearly aware of it. Teachers complained about not having adequate information on certain details of the HE content and the change of syllabuses; teachers also complained of lack of time to complete syllabus and in many cases they had to rush to finish on time; the syllabus did feature some content which teachers found hard to find information on. Further, Mwanga (2004:200) observed neither the Tanzania institute of education texts nor the other textbooks from the ministry of education and culture (Tanzania) were helpful enough to equip teachers with knowledge and skills to be effective in teaching. He noted that the content problem indicators included frequent requests by Tanzanian teachers for training in first aid; more
information in drug abuse; no sources to help adapt knowledge to the needs of pupils and observations in the classrooms.

Mwanga (2004:207) notes that teachers in Tanzania suggested that the best way to improve the way HE is taught in schools would be to make it a separate subject with its own developed curriculum that is teaching/learning materials and schedules on school timetable. Ultimately, the informants affirmed that in view of the potency of knowledge to enable pupils and largely the greater society to enable them fight against NCLSDs, “MoE and by and large the government should expeditiously institute all possible measures to empower society to acquire preventive education on NCLSDs”.

The findings also concur with Mandela (2010:181) who observed that teachers capability to deliver effectively is determined not only by cognitive knowledge, pedagogical skills and motivation but by the attitude towards the subject matter...she further observed that due to lack of teachers preparedness some teachers lacked linguistic skills to communicate basic concepts in the subject content...in a classroom observation, a female teacher consistently used wrong spellings and pronunciations of common to the subject content...for instance the teacher frequently wrote the word “tranmittion” instead of transmission; “absence” instead of “abstinence”; “intercoruse” instead of “intercourse”. These findings overly point to the need for language induction course for all HE teachers to enhance their efficacy in content delivery.

Mandela (2010:210) further observed that, “many teachers in the study sites lacked knowledge and skills to educate in a multicultural setting”. In the same study, classroom observations showed that some teachers over-engaged learners of their own cultural background at the expense of cultural groups. This was the case, particularly when a teacher belonged to the majority ethnic group. Jackson (2003:39) advises that a multicultural educator ought not to concentrate on certain cultural groups of learners but, rather, s/he should act as a true connoisseur of gemstones, who values every gem (learner) for its unique beauty, facets and origins.

iii. Challenges faced by teachers in teaching HE
The researcher went further to explore the challenges that teachers faced in teaching science which is a carrier subject of HE; the findings reveals that in all the schools, the teachers had similar problems. For example in JPS, teacher Matu observed, “we have no time for individual attention of weak learners since we are understaffed, overloaded and there is too much work for marking due to over-enrolment in classes due to FPE”.

While teacher Wanja from MPS shared similar experiences by saying that “at the end of the busy day teaching and marking we are so tired… and one has to share the remaining time between planning lessons and assignment for the next day and marking pupils’ work”. The preceding observation show that teachers have no time to make learning resources; perhaps due to the heavy workload and the fact that they have a lot of marking due to high enrolment of pupils in their classes due to FPE.

The researcher used to walk around the school compound after observing teaching in the sampled class to making various observations in other classes as teaching was in progress. The researcher noted that classes were congested and pupils were so squeezed that movement inside the class was a big challenge. One of the observations of the findings is shown in the Figure 4.18 in appendix XXVI.

The Figure 4.18 in appendix XXVI shows that classes were congested which pose a big challenge to teach effectively, give individual attention to pupils or even mark pupils work on time. These challenges made teachers not to be very effective in terms of preparations for the lesson contents and perhaps teaching-learning resources, which are critical for effective teaching. Indeed this led to poor learning outcomes, which may perhaps explain why performance in science was a bit low. Interviews with educational officers confirmed the preceding findings from the teachers.

These observations resonate well with those of a study by Mwanga (2004:158) in a study involving community-integrated and action-oriented HE intervention in Mwanza Tanzania where it was observed teachers noted pupil’s knowledge in health is gained from participatory and hands-on approaches but, a number of factors militate against this; a lack of teachers skills, lack of adequate in-service training activities and school materials, too many pupils in the classrooms, too much work pressure on the individual teacher and an overloaded curriculum. They believed in the possibility and the value of pupils working as health agents in the local community (including non-school going children and family members).

4.6.2 Perceptions of pupils on the contributions of school health policy to good health practices in schools

The researcher inquired from pupils in all the three schools sampled about their feelings on the contributions of KNSHP to good health practices in their schools and to themselves. This was important because good health practices provide enabling environment for good lifestyles that prevent NCLSDs.
All the pupils’ informants (100%) from all schools claimed they were not aware of MoE policies regarding health apart from the health information that their teachers emphasize during school parades. In the absence of MoE School Health policy, the researcher found it pertinent to explore the perceptions of pupils on school-based policies and find out whether they contained issues related to NCLSDs. In all the schools, pupils reported that teachers check and tell them about the importance of cleanliness during the school parades. Kaki observed:

In school parades, our teachers tell us about personal cleanliness, wearing clean uniforms, brushing of teeth, washing hands after visiting toilets, polishing shoes and combing hair, sweeping classes and keeping the compound clean... (A Standard Seven Girl, BPS 002G, 2012).

These observations point out that schools laid emphasis on importance on general cleanliness on the pupils and compound. There are also good efforts on checking and advising pupils about cleanliness that may enable them to acquire good habits and maintain cleanliness for healthy living. In the three schools, pupil’s informants also confirmed they learn about health issues during HE lessons, which are part of the science subject. However, they reported that their teachers do not mention NCLSDs to them.

The researcher explored the perception of pupils regarding health messages passed to them during school parades. Pupils reported, “They used health knowledge to avoid dirt that can make them sick”. Msetobora noted:

Health knowledge has helped us to know importance of being clean in body...wear clean school uniforms, polish our shoes, wash hands after visiting the toilet, comb our hair; why we should keep our classes clean...and how to avoid bad behaviours that can make us get HIV/AIDS...(A boy, MPS 004B, 2012).

The findings suggest that pupils do apply health knowledge to improve their health practices and habits by ensuring body and compound cleanliness. These good practices may lead to healthy lifestyles that might prevent communicable diseases.

The researcher went further to explore whether pupils had any knowledge about NCLSDs. All informants in all schools reported that NCLSDs are not taught in their schools. In fact, the researcher had to explain to them what NCLSDs are. In an interview, Kaki observed:
I read about increasing stories of cancer in a newspaper bought by my mum...I asked her what caused it and she told me to ask my science teacher...when I asked our science teacher she told me that it was not in the syllabus and I should focus on relevant knowledge first and pass exams and then do other things later... (A Standard Seven Girl, BPS 002G, 2012).

In separate interview, Gachoki reported:

Our teachers told parents during PTA that we should be discouraged from reading other materials such as newspapers since they waste time for revision and do not contain useful information to help us in our studies...they may also expose us to irrelevant information and pornography that may have a negative effect on our thoughts, behaviour and academic performance... (A Standard Seven Girl, JPS 007G, 2012).

The findings suggest that teachers focus on teaching what is in the syllabus as well as discourage reading any other content that is not relevant to examinations. The findings also confirm that teachers give particular emphasis on activities and knowledge that complements what is in the syllabus in order to improve academic performance. This perhaps was meant to make pupils focus on syllabus though in essence it limits pupils' knowledge in broader issues that affect their lives.

The researcher and his assistants established from teachers and pupils that schools had had no guidelines or feeding policies for pupils. This was notable since pupils used to eat all manner of foods regardless of quantity and quality. The foods were sold in school canteens and by food vendors in the school and the neighbourhood. The absence of effective feeding guidelines made pupils to eat a variety of junk foods and junk drinks most of the times.

One way of applying HE knowledge is by using that knowledge to select and eat foods that enable good health of the body. In an attempt to explore the effects of HE knowledge on health practices regarding feeding habits, patterns and types of foods eaten by pupils, 24 pupils from the sampled schools were given a diary to fill the types of foodstuffs consumed on daily basis for two weeks. This was important to establish types of foods eaten and their frequency as an indicator of their popularity. The frequencies were converted into percentages to show the popularity of various types of foods among pupils. This could
enable the researcher to find out whether junk foods were consumed and their frequency to gauge their popularity. The findings are presented in the Figure 4.19.

**Figure 4.19. Some of junk foods that were popular among pupils**
The findings in the Figure 4.19 shows that 94% [23] of the pupils ate cakes and Sausages and smokies respectively; while 92% [22] ate chips and 90% [20] ate mandazi, sweets and samosas among other junk foods that were popular foods among pupils. The findings were similar among both genders.

In terms of schools, the patterns were similar since cakes and biscuits appeared to be the most popular foods; but, the variations occur where pupils from BPS which has pupils from HSES; have their purchases from upper market supermarkets which were exquisitely prepared cuisines and superbly packaged juices; while, those of MPS (MSES) and JPS (LSES) Primary Schools have locally packaged polythene packaged juices and a variety of cheap cookies from roadside food vendors supplemented with “Vunjika biscuits” from Dandora air force dumpsites as reported during interviews and FGDs.

The variations in foods eaten are caused by socio-economic differences between pupils but all pupils consumed junk foods; thus, making them vulnerable to NCLSDs. This may make pupils to have “big bodies” as observed and reported. These findings show that peers socialize each other to acquire a culture of consumerism and habits of eating junk foods and drinks. Learners also develop values, habits and practices about feeding by watching others around them and being actively involved ‘in doing’ (Bandura, 1977:82). This may imply that socialization agents in the schools and society mutually complement each other to reinforce unhealthy eating habits among pupils who model each other issues of SES notwithstanding since junk foods and drinks are affordable. The habit of eating junk foods is likely to make pupils become overweight and obese. These findings resonate well with WHO (2013:124) global public health survey, which observed, “Childhood obesity is one of the most serious public health challenges of the 21st century”. The problem is global and is steadily affecting many low- and middle-income countries, particularly in urban settings. The prevalence has increased at an alarming rate. Globally, in 2010 the number of overweight children under the age of five is estimated to be over 42 million; where, close to 35 million of these are living in developing countries. The WHO report continues to reveal, “Overweight and obese children are likely to stay obese into adulthood and more likely to develop non-communicable diseases like diabetes and cardiovascular diseases at a younger age”. NCLSDs such as some varieties of cancer that are/increasing geometrically in society are associated with obesity and overweight which are dietary issues; for example, overweight and obesity are established risk factors specifically for adenocarcinoma cancer of the oesophagus. Diet is
thought to be important in the aetiology of this disease; substantial evidence suggests that risk is increased by high intakes of some traditionally preserved salted foods, especially meats and pickles, and with salted junk foods per se (Institute for Cancer Research, 1997:120). Colorectal cancer incidence rates are approximately ten-fold higher in developed than in developing countries, and it has been suggested that diet-related factors may account for up to 80% of the differences in rates between countries (WHO, 2013:118). The best-established diet-related risk factor is overweight/obesity and physical activity has been consistently associated with a reduced risk of colon cancer. Cancer of the pancreas is now becoming more common in developing countries. Overweight and obesity possibly increase the risk. Some studies have suggested that risk is increased by high intakes of red meat (Norat, 2002:50; WHO, 2013:116).

Breast cancer is the second most common cancer in the world and the most common cancer among women. Among the major causal factors are dietary habits and physical inactivity. In fact, age at menarche is partly determined by dietary factors, in that restricted dietary intake during childhood and adolescence leads to delayed menarche (Hardman, 2001:70; Lancet, 2002:124). The only dietary factors, which have been shown to increase the risk for breast cancer, are obesity and alcohol. Obesity increases breast cancer risk in postmenopausal women by around 50%, probably by increasing serum concentrations of free estradiol. Obesity in premenopausal women is likely to lead to obesity throughout life and therefore to an eventual increase in breast cancer risk.

Though little is known about the aetiology of prostate cancer, ecological studies suggest that it is positively associated with a “westernized” diet (include but not limited to junk foods and drinks) (Doll and Peto, 1996:49). There is almost universal agreement that some aspects of the “westernized” diet are a major determinant of risk; for instance, there is some evidence that risk is increased by high intakes of meat and fat, and that risk is decreased by high intakes of fruits and vegetables, dietary fibre, folate and calcium. There is a strong association between per capita consumption of meat and colorectal cancer mortality, and a recent systematic review concluded that preserved meat is associated with an increased risk for colorectal cancer but that fresh meat is not (Cummings and Bingham, 1998:78). Overall, the evidence suggests that high consumption of preserved and red meat probably increases the risk for colorectal cancer. Diets high in red meat, dairy products and animal fat have frequently been implicated in the development of prostate cancer (WHO, 2011:200). Overweight and obesity are established risk factors for cancer of the kidney, and may account for up to 30% of kidney cancers in both men and women (WHO, 2013:114).

The researcher went further to analyse the pupils diaries to find out the types of drinks that were frequently used by pupils to find out popular drinks among pupils. This was important to enable the researcher to
establish more on feeding patterns and emerging trends among pupils that perhaps could have implications on their lifestyle. A sample of 24 pupils were given diaries from the three schools where they recorded the foods they ate for two weeks. The findings were analysed to establish the most frequent drinks among the pupils. The frequencies were converted into percentages to find the most popular drinks among pupils. The findings are presented in the Figure 4.20.

Figure 4.20. Some of Junk drinks that were popular among pupils

The findings in the Figure 4.20 show that popular junk drinks among pupils were locally made juice (98% [24]), bottled soda (96% [23]), Pepsi cola and supermarket juice each (90% [22]) respectively among others were most popular beverages among pupils in the schools sampled.

Socio-economic differences were manifested since pupils from BPS used bottled soda bought from upper market supermarkets while those of MPS and JPS consumed cheap juices packaged by local food vendors near school peripheries and “Pepsi cola juice tablets” that were dissolved in water and sold in school canteens as shown in the Figure 4.21 elsewhere in this report. The findings reveal that junk types of drinks were popular among pupils in the study locale. Regular consumption of junk foods and drink may predispose pupils to unhealthy eating lifestyles making them susceptible to NCLSDS.

Further, the study findings revealed that junk foods and drinks were popular among pupils in the schools sampled. This was further confirmed when during interviews and FGDs involving pupils in all schools. Pupils said that “junk foods and drinks were available in school canteens and food kiosks near or on the way to school” and even some said, “Parents pack them to be carried to school to be eaten as ten o’clock snack and lunch.” In fact, the research observed children eating junk foods such as “short sweet cakes, potato crisps and juice during break times”.

The researcher observed pupils queuing to buy junk foods and junk drinks from vendors who lined up in shelters and canteens in the schools. It was notable that pupils from all classes consumed junk foods and drinks. Junk foods and drinks were sold in different amounts to cater for pupils of all socio-economic classes. Sharing of foods and drinks was also very common among pupils. Hygienic issues were not observed as pupils and food vendors did not even wash their hands. The researcher noted even after handling dirty coins no one bothered to wash hands though some vendors kept a karai with recycled water. Foods were poorly put in unclean polythene bags and containers and sold in a dusty environment. Some of the observations are shown in the Figure 4.21 in appendix XXVI.
The Figure 4.21 in appendix XXVI shows various types of junk foods and drinks being sold to pupils. This was done in school canteens and open-air vendors in all the three schools. The figures show how pupils literally scramble for junk foods and drinks and share with peers. The observations show that all pupils from all classes were involved which indicates that such habits and lifestyles begun early in life from lower classes. Learners also, acquire ideas and feelings that inform their behaviour by watching print and electronic media, family members, society members, teachers and classmates and peers (Bandura, 1977:80). This may suggest that through regular practice then children get accustomed to eating and consuming such junk foods become a way of life that is in vogue. The findings confirm that schools have no feeding policy to guide pupils on what, when, how and why about feeding.

In an effort to explore further, the researcher visited the school canteens and school surroundings in the three schools and observed various types of stocks of junk foods and drinks. Infact canteens and kiosks were too stocked that food vendors stepped over foods as they moved in and out with difficulty when selling. This showed that business was quite booming. Some of the observations were as shown in the Figure 4.22, 4.23 and 4.24 in appendix XXVI respectively.

The findings in the Figure 4.22, 4.23 and 4.24 in appendix XXVI indicate that junk foods and drinks were found within and around the schools sampled for the study. The findings in the Figure 4.24 confirm that drugs like cigarettes and others may be finding their way to schools as they could be sold to pupils as they buy junk foods and drinks. The findings also show that junk foods and drinks are packaged in various quantities so that they are affordable to all pupils. Packaging in various portions encourages and promotes their consumption.

In addition, the findings also show that schools have no food policy that can be used to guide and advise pupils about eating habits and when and perhaps what to eat and the health implications that it may cause to their body. This is important preventive education that can enable pupils acquire healthy feeding habits to reduce NCLSDs. In absence of a formal content on NCLSDs and school policies that could be used to socialize pupils to acquire HLs, peers and society socializes pupils to consume junk foods and drinks, which have high likelihood of increasing their susceptibility to NCLSDs in the long run (Bandura, 1977:82).

The findings also show that schools in Kenya do not conform to WHO (2013:62) guidelines on diet, physical activity and health. In paragraph 49 (WHO, 2013; 49) of the global strategy on diet, physical activity and health (DPAS) the following recommendation is made to member
states: that, “school policies and programmes should support the adoption of healthy diets and physical activity.” To assist member states in diet physical activity strategy implementation at the country level, WHO produced the document “School Policy Framework: Implementation of the Global Strategy on Diet, Physical Activity and Health”. The overall purpose of this tool is to guide policy-makers at national and sub-national levels in the development and implementation of policies that promote healthy eating and physical activity in the school setting through changes in environment, behaviour and education. This is important to guide pupils in their eating habits for healthy lifestyle.

The researcher further probed the feelings of pupils about sharing food with peers. Pupils said, “They share foods with peers since they eat together.” They claimed that eating together with friends made one to be “respected and regarded as popular, generous, friendly and famous”; it also “made one to be helped by others when s/he does not have food or money to buy foods from kiosk”. Zongiloi, a boy from MPS passionately explained, “Peers who share their sweet cakes are loved by other pupils...they become popular...make new friends and even other pupils share food with them when one has no money”. On further probing, Zongiloi went to say:

Those who shared foods with other peers are famed and praised and referred to as Good, smart, nice, rich, cool, generous, wise, intelligent, ...while those who eat alone are labelled as bad, mean, miser, poor, selfish and not clean...and isolated and shunned by other pupils who refuse to play with them...(A Standard Seven Boy, MPS 002B, 2012).

These findings suggest that pupils share junk foods with peers; this leads to a culture of sharing making more and more pupils to consume different varieties of junk foods and drinks. Eating together is preferred as a sign of generosity which makes one to acquire fame and a good reputation; such habits of sharing and eating similar junk foods and drinks leads to acquisition of similar lifestyles and ultimately to similar lifestyle diseases.

These findings affirm those of a study done by Adamo, Sheel, Onywera, Waudo, Boit, and Tremblay (201:44) about Child obesity and fitness levels among Kenyan and Canadian children from urban and rural environments where they found that increased intake of foods that are high in fat, salt and sugars but low in vitamins, minerals and other micro nutrients are some of the contributing factors to obesity in children. The report found that “seven per cent of boys and 17 per cent of girls in urban areas are overweight or obese”.

In similar studies data from other African countries have also illustrated a significant rise in childhood obesity particularly in urban centres (Chiolero, Paradis, and Madeleine, 2009:92; Christensen, Eis and Hansen, 2006:88; Kelly, Yang, and Chen, 2008:124; Oulamara, Nacer, Laure, 2008:90). Urban environments appear particularly threatened (Abubakari, Lauder and Jone, 2009:42; Sobngwi, Mbanya and Unwin, 2004:52).

In all schools, pupils were not restricted where to buy food. Pupils either bought foods and drinks from school canteens and kiosks near the school. Some pupils came with any kind of food from their home. Pupils were not guided or even stopped from eating any other time they felt like eating. In several occasions, the researcher observed some pupils sharing and eating “cookies like cakes, biscuits and Njugu karanga (pea nuts) in the classroom”. In a FGD, Kanga, a girl from JPS said, “Small foods like sweets, groundnuts, chips and cakes and sausages are put in ones’ pocket and eaten as appetizers to reduce boredom and fatigue during class work”. One of the observations is presented in the Figure 4.25 in appendix XXVI.

The Figure 4.25 in appendix XXVI shows pupils sharing and eating junk foods and drinks together. The researcher observed the preceding behaviour was common among peers from all the schools. Learners also, acquire ideas and feelings that inform their behaviour by watching print and electronic media, family members, society members, teachers and classmates. They also learn and acquire habits, mannerisms and behaviour like drinking and eating habits by observing symbolic models that is real or fictional character portrayed in books, newspapers, films, television and other media (Bandura, 1977:72). It was noted that any time pupils were out of class they used to flock in numbers and many times, they made long queues in school canteens, food kiosks and other eateries in and around the school as seen in the Figure 4.25.

The researcher established that some types of junk foods and drinks that were so popular among pupils were given “sheng” names. “Sheng” names are coded language that peers use to communicate with each other. The pupil’s informants told the researcher that “Sheng names” were used to communicate and popularize junk foods and make them exclusive to peers, perhaps making them be identified as a form of lifestyle among peers. The researcher inquired about the common “Sheng names used for various junk foods and drinks by peers”. The findings are presented in the Table 4.9.

<p>| Table 4.9. Some of “Sheng names” of popular foods eaten by peers |</p>
<table>
<thead>
<tr>
<th>Name of the foods &amp; Sheng names used by pupils</th>
<th>Ingredients/ contents</th>
<th>Snacks &amp; their Sheng names</th>
<th>Ingredients/ contents</th>
<th>Drinks &amp; Sheng names</th>
<th>Ingredients / contents</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chips – [Njiva]</td>
<td>Fried potatoes, oil</td>
<td>Smokies</td>
<td>Wheat flour, oil,</td>
<td>Juice – [juo]</td>
<td>water, sugars, sweet,</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>mineral salts, colours</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>powder, sugar, oil...</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>powder, sugar, oil...</td>
<td></td>
<td>flavours’</td>
</tr>
<tr>
<td>Ground nuts-[njugu]</td>
<td>Fried groundnuts, oil</td>
<td>Cake – [Keki]</td>
<td>Wheat flour, sugar,</td>
<td>Soda</td>
<td>Carbonated water, sugar,</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>chocolate</td>
<td></td>
<td>sweeteners, flavours</td>
</tr>
<tr>
<td>Spagetti - [Minyororo]</td>
<td>Spaghetti, stew</td>
<td>Biscuits – [Bikwi] [Bika]</td>
<td>Wheat flour, oil,</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>sugar...</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>sugar, baking powder</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Source: Diaries from pupils**

The findings in the Table 4.9 show junk foods and drinks that are popular among pupils; peers have creatively blended “Sheng names” that are used to identify them. “Sheng names” are a popular way of communication among the youth who include pupils in primary schools. It was also notable that there were variations in use of “Sheng names” between peers from different schools but overall popular junk foods and drinks had particular “Sheng names” used by peers in each school. Use of “Sheng names” among pupils was a sign of modernity and exposure to urban lifestyle, which was famed among peers. Pupils who could not use “Sheng names” were looked down by peers and taken to be unexposed and not “smart” and “modern” or not in touch with reality; a sign of being isolated by other peers which many pupils feared it would lead to loss of self-esteem and identity among peers.

The researcher discovered that use of “Sheng names” was a popular way of glorifying certain standards of lifestyles among peers; hence, the more “Sheng names” one could use accurately was a sign of popularity and lifestyle identity in vogue among peers. In fact pupils told the researcher that pupils who could not communicate with fellow peers using “Sheng” were referred to in derogatory terms such as “Mshambaa” (one who is not exposed to modern lifestyle); such pupils...
were laughed at and sometimes shunned by peers. Pupils tried to learn “Sheng” to identify with peer values and have a sense of belonging. These habits routinely socialized pupils to learn and use “Sheng language as a form of communication glorifying peer values such as eating of junk foods and drinks”; hence creating a culture leading to more consumption of the popular junk foods since these tendencies were in vogue and other pupils preferred to identify with them not to be shunned by being negatively labelled by peers. Such habits led to a lifestyle of consuming junk foods and drinks which predisposed pupils to NCLSDs.

It was quite interesting to note that pupils did not mind being “fat or appearing bigger than their age mates as result of eating too much junk foods and drinks”. In fact during interviews and FGDs most pupils said that they felt that “being fat, rounded, big size, being well fed and in good shape was respected as an indicator of coming from a well-off family where one had enough of different varieties of foodstuffs” compared to one who was “slim”. One who was slim was labelled “mkonde” [slim] and their family labelled in derogatory terms and referred to as “wamesota” [wasote, msote among others [poor]; such pupils were not popular since they did not have “junk foods or drinks to share with others” or money to buy them; they were isolated and avoided by other pupils. In fact, such derogatory labels were regarded with strong feelings [akin to insults] that “led to quarrels, hatred and fighting among pupils”. These findings indicate the peers socialized each other to embrace and envy the culture of consumerism where junk foods are eaten to make one fat and plump as a sign that one came from a well-up background. Indeed, this may explain why junk foods and drinks are popular among many pupils regardless of their SES. These trends are a likely pointer to increase in body weight, which in absence of physical exercises increases susceptibility to NCLSDs.

These observations agree with Adamo et al (2011:52) that found that “strong socio-cultural beliefs do exist in many developing countries that perceive “obesity” or “roundness”, as something to be revered and a sign of wealth and prestige. Kenya like many other developing countries is experiencing these challenges and such beliefs may exacerbate the fight against the physical inactivity transition and commensurate rise in childhood obesity. Kenya, like many other African nations, is experiencing these challenges.

In JPS and MPSs pupils stated that “Junk foods were given coded names according to peers to make them exclusive” to the peers for identity and status. For instance, pupils from HSES, middle class peers from MSES and low class peers from LSES have “identity names for various junk foods” for instance “Bites, crisp, sausages, sodas, mandazi, smokies and bhanjias” were commonly eaten by pupils from HSES; while those from very LSES used “junk foodstuffs like “reject biscuits”
popularly known as “Vunjikas” and “cheap sweetened juices packaged in small polythene bags” [sweetened juices and broken biscuits collected freely from Mukuru Kenya airways dump sites]; it was reported by pupils that some “pupils collected and took them to their who parents repackaged them for sale in their estates”. In the same schools, Kakangu, a Standard Seven boy from JPS and Mwenzangu, Standard Seven prefects in MPS said that “peer groups are formed according to socio-economic status of the pupils”. Mwenzangu noted:

Pupils who have money on daily basis belong to high class peer groups; while those that have money once in a while belong to certain middle class peer groups and those that have no money belong to poor class peers...(A Standard Seven Boy, MPS 003B, 2012).

While, Meci, a girl from JPS was more categorical that pupils who hail from low socio-economic families are shunned and avoided by other pupils; she went further to say that “pupils from poor families do not have regular peer groups but would join those who may volunteer to give or donate the remains of foods and drinks”.

These findings suggest the socio-economic status of pupils determined one’s popularity among peers. Pupils from HSES have more influence among other pupils and largely enabled consumption of junk foods and drinks because they had more to offer to peer compared with pupils from LSES. Sharing of junk foods and drinks shows that they are consumed across pupils from all socio-economic background; which may make all pupils equally predisposed to lifestyle diseases regardless of their SES. This is critical due to health implications that are habitual; it may lead to lifestyle that increases susceptibility to NCLSDs.

In order to discover more about eating habits and patterns, the researcher delved more on exploring reasons that make pupils to buy foods from food kiosks. The researcher went further to probe reasons that make pupils to buy junk foods and drinks from kiosks. Zaki a Standard Seven girl from MPS reported that “foods from kiosks and eateries around the schools are sold cheaply and they are put in large amounts which make them enough to meet our needs and still leave some to be shared among groups/peers”.

While, Zongilo, a boy from MPS said:
Food kiosks and canteens that sell cheap cookies are always available around the school and one can buy foods and juices anytime when one has money...one can get a variety of foods and juices in one stop...parents tell us to buy hot and fresh foods from the kiosks...(A Standard Seven Boy, MPS 002B, 2012).

The findings show that junk foods and drinks from kiosks are likely to be more popular due to various reasons. This indicates that there is a likelihood that junk foods will be consumed more in future making pupils and society at large more susceptible to NCLSDs.

i. **Preparation of junk foods and drinks around the schools**
The researcher observed various food vendors preparing various Junk foods and drinks around the schools. Some of the observations are presented in the Figure 4.26 in appendix XXVI.

The findings in the Figure 4.26 in appendix XXVI show how and where junk foods like doughnuts, “kaimati”, “ngumu”, “mandazi”, “chapatis” and sausages were being prepared. The cooking is done in smoky, unhygienic, open air and dusty conditions using improvised utensils, containers [recycled plastics], sticks and rusty jua kali cooking spoons, knives and cooking karais; equally noteworthy, is the dressing code of the cooks where open slippers, gumboots, long and short coats were in common use.

The researcher observed that the same cooking fat was used and recycled for days for different junk foods like chips, mandazi, fish and sausages; as it was only cooled, solidified and stored to be used to cook more junk foods. This made the cooking fat to turn black in colour due to overuse. The vendors informed the researcher “their customers enjoyed deeply fried junk foods since no disease germs can survive in deeply fried foods”. They also said, “Using cooking fats was affordable in terms of cost and the convenience of cooling and reusing it for several days”. Cooking fat has been known to have varying levels of cholesterol, which has adverse effect on health. Cholesterol in the blood and tissues is derived from two sources: diet and endogenous synthesis. Dairy fat and red meat are major dietary sources. Egg yolk is particularly rich in cholesterol (Kris-Etherton, 2010:28).

Several large cohort studies have found that intake of fatty acids increases cholesterol and the risk of coronary heart disease. Industrially hardened oils (Kris-Etherton, 2010:48) contribute most fatty acids. Even though fatty acids have been reduced or eliminated from retail fats and spreads in many parts of the world, deep-fried fast foods and baked goods are a major and increasing source of cholesterol.
Some of the risk factors associated with lifestyle factors that put one at a greater risk of developing cardiovascular diseases are eating foods containing fats (Kris-Etherton, 2010:52); for example foods have myristic and palmitic acids, Fats rich in lauric acid, fatty acids and high sodium intakes; Carbohydrates, dietary cholesterol as well as unfiltered boiled coffee; Overweight and high alcohol intake (for stroke). Evidence shows that intake of saturated fatty acids is directly related to cardiovascular risk (Reddy, 2010:90). Consumption of junk foods and drinks lead to weight gain that may arise from unrestricted fat intake, which leads to NCLSDs. Nevertheless, the vendors and consumers may not be aware of other adverse effects of junk foods including NCLSDs. The researcher observed that kiosks and food vendors were a bit dirty, very dusty during dry weather, and very muddy during rainy seasons. All these may pose a grave health risk to those who may consume such foods and particularly to naive pupils who may innocently buy and eat such cheap foods.

The researcher established from some food vendors that many were not licensed by health agencies to handle human food. The researcher also established from food vendors that some of them colluded with city council health inspectors to avoid payments of health permits and other charges required to operate their small business. On inquiring from junk foods and junk drink vendors whether they were aware of effects of junk foods and drinks to the health of pupils, Mtezo was a bit passionate in saying:

> Our foods and drinks are very popular among many people of all ages...they are sweet and nutritious and no one becomes sick after eating them...infact pupils prefer them because they give them energy for reading...good physical appearance and health...and they are also cheap and majority of pupils can afford...some parents book and pay for chips and sausages in my kiosk on weekly basis for their children who come for them during break and lunchtime... (Junk food vendor, JPS 001JF, 2012).

In a separate interview, Zaki noted:

> food vendors always tell us since we are working hard by to pass examinations and lead a good life eating enough sweet foods and drinks is good for good health, good shape and for enough energy to read, play and grow... (A Standard Seven  Girl, JPS 006G, 2012).
The findings reveal that with positive encouragement and reinforcement then, pupils believe in eating more and more of junk foods and drinks which perhaps become habitual with time leading to a lifestyle that will be tolerant to junk culture since it is in vogue.

The researcher went further to probe about the attitude of parents towards junk foods and drinks that were eaten by their children. Zaki said:

My mother usually tells me eating plenty is good for a healthy looking and well shaped body...good bodies are not made of stones or timber but by eating enough to store and use for studies...good body appearance makes one to be respected and famed among other children in school and society outside school...


From observation, she was “too big for her age” but she was very proud of it, nevertheless she went on to reveal, “my mother’s encouragement has made me to develop a positive attitude towards eating since i used to eat very little”. These findings confirm that consumption of junk foods and drinks is likely to escalate since parents support it and pupils envy this habit as prestigious and desirable. This has led to consumption of junk foods and drinks which is a recipe for NCLSDs, which have increased exponentially in the recent past leading to untold consequences to society.

ii. Sources of information about junk foods and drinks
The researcher went further to explore how pupils got information about various types of junk foods and drinks that were popular.

All pupils mentioned similar sources of information like “electronic and print media” which includes “advertisement in radios, televisions, internet, wall posters in the streets and supermarkets”. Pupils also reported that they watched and modelled various television models in programmes and adverts. The informants also said, “The messages in adverts and pictures that accompany them are presented in a very persuading and tempting way that one feels s/he ought to be in fashion by consuming the product”. Other pupils said, “They got information from peers as well as advertisements and colourful displays of junk foods and drinks in the nearby supermarkets”.

The researcher visited and explored the various supermarkets near the schools locale. He noted, “Shelves were stocked with varieties of junk foods and drinks in a very colourful display accompanied with persuasive messages to market them”. Some of the observations are shown in the Figure 4.27 in appendix XXVI.
Figure 4.27 in appendix XXVI confirm that persuasive colourful displays in shops and supermarkets as well as mass media advertisement are powerful avenues of publicizing junk foods and drinks, which implies that through use of media creativity, there is likelihood of more and more consumption of such products. This implies then, since more and more people consume and adapt a lifestyle where they become habitual consumers of junk foods, then NCLSDs are likely to increase exponentially.

During interviews, a supermarket attendant informed the researcher that they refrigerate some foods using a freezer to preserve them for long since some stock take long to be bought. The researcher was also informed that many junk foods and drinks are treated and highly flavoured to last long. It is notable that flavourings, food additives and long storage of foods in deep freezers may have adverse health implications to consumers, which could make them more susceptible to NCLSDs since in today’s lifestyle most people buy from supermarkets.

iii. Perceptions of primary school pupils on the contributions of HE to health practices
The researcher explored the feeling and attitudes of pupils towards HE in an attempt to establish the feelings of pupils towards the contributions of HE to their health practices. In an interview, Kadzo observed:

We learn health education in science subject and our teachers tell us about diseases like HIV and AIDS...we are taught how to wash our bodies...and why we wash our hands, clothes and keep our body clean...blood circulation system...structure and functions of the heart... (A Standard Seven Girl, JPS 001G, 2012).

On probing whether what they learn about NCLSDs, she was explicit in revealing that, “we are not taught about non-communicable lifestyle diseases”. Similar views were reported by Meci, a girl from MPS who noted, “Our science teacher teaches importance of boiling water to prevent diseases...how to prevent drug abuse...care and support of people infected or affected by HIV and AIDS”, but, on probing on issues related to NCLSDs, she was assertive in stating, “We are not aware since we are not taught any type of non-communicable diseases by our teachers”. All pupil interviewees and FGD discussants in all schools sampled for the study shared the preceding observations. These observations suggested that attention is not given to emerging NCLSDs.
In all three schools, during FGDs, 92% of pupils shared similar feelings and experiences regarding HE saying that they learn about “body hygiene and physiology while non-communicable lifestyle diseases are not mentioned”. In a FGD, Zuku, and Kekimoja both who are girls from MPS revealed, “HE is taught in science subject...the teacher tells us what to do to prevent diseases...teachers ask questions...learning activities include listening, writing notes, doing assignments and homework”. However, on probing about NCLSDs lifestyle diseases, both girls said, “Non-communicable lifestyle diseases are not taught...teachers tells us to only focus on key points of what comes in examinations and avoid wasting time on issues outside the syllabus”. These findings suggest that the major focus of teaching is mainly aimed at imparting exam-oriented information to meet the objectives contained in the syllabus, which is used to set examinations. This is done in more theoretical than practical way because examinations are also theoretical.

The researcher explored the pupil’s experiences and feelings concerning science lessons. A staggering, 95% [103] of the pupils in all schools revealed, “Science teaching is boring and teacher-centred since the teacher dominated all activities and pupils only listened and copied notes” since the “teachers authoritatively emphasize that pupils who are obedient, attentive and good listeners are the ones who do well in examinations”. The findings show that teaching is teacher-centred and moralistic where the focus is to drill pupils to selected content guided by objectives in the syllabus to make pupils to pass examinations well. These findings complement the observations by a study by Mwanga (2004:202) who observed HE is characterized by strong moralistic tone. He noted that HE lessons were characterized by apparently objective and scientific definitions of the topics and content instead of being practical in manner and style. The morality of HE in Primary Schools in Tanzania was aimed at changing individual behaviour.

In the FGD forum, Kaki, a girl from BPS noted “science lessons [including HE] are tedious and boring because we have to write a lot of notes and even when it is time for experiment, it is only done by our teacher as we surround him watching”. On probing further about the content of HE, Zuena, another female pupil from BPS observed “lesson content has only facts and lacks details...at times not even drawings but only few points that are meant to enable one to pass examinations”. On further probing about how the content was presented during the lesson, Zaki, a boy from BPS reported, “many times our teacher does not discuss but we only watch what the teacher is doing...our teacher shout out loudly and threaten one that s/he will fail in examination”. 
The researcher had observed pupils were generally shy, very quiet and never asked questions in class. Later, during FGDs and interviews, the researcher inquired from the pupil’s discussants and interviewee why they exhibited such behaviour. On inquiring why the pupils appear shy and do not ask questions during the lesson, Jemo, a boy from BPS that “the teacher’s attitude is not friendly” and some teachers threaten pupils. On further probing, Jemo observed:

> Our science and mathematics teachers tell us we are not made of science or mathematics material when we get answers wrong and, we will end up being useless unless we pass examinations well because life is scientific and mathematical…(A Standard Seven Boy, BPS 003B, 2012).

The finding shows that teachers are very authoritative and have negative attitude towards pupils who may ask questions and impatient with pupils who may make mistakes or perhaps give wrong answers. This perhaps is due to the fact that teachers dwell only on important points and factual knowledge that is examination oriented and hence, impatient with pupils who may seem not to learn as fast as they are expected to improve MSS. Infact the MSS issue was a kind of syndrome or pandemic because in the three schools sampled KCPE MSS for successive years were written on the walls or in a poster using conspicuous colours that captured the attention of observers. In two schools, the MSS were even presented graphically and one school had projections showing the targets set for that year.

The findings seem also to strongly suggest that teaching is examination-oriented and too theoretical. This was exemplified by the harsh and negative attitude displayed by teachers when pupils seemed not to give correct responses as expected. This raises critical issues of concern since skills and abilities that are important to learn are not practiced via practical experiments and interactive learning process due to the anxiety and pressure to do well in examinations. This implies that pupils may acquire prowess in theoretical knowledge but be deficient in practical skills and experiences.

Ato and Zeki, who are pupils in BPS said that “in spite of the school having some science apparatus”, their teachers rarely used them and “HE topics were characterized by narrations and note taking” and, “teachers usually assured them that practical content was time-consuming and is not relevant because it is not included in the examinations” which are “theory-based”. The findings seem to suggest that much of what is learnt by pupils is theoretical and not practiced which implies then it has little if any implications to their health practices and habits. This ultimately makes education to lack its
transformative effect in term of prowess and efficacy in acquisition and use of new skills, values and changing the character of the pupils.

The researcher explored whether teachers and parents encouraged pupils to read widely from other sources of information to enrich what they learn during science lesson. In a pupils FGD session in JPS the discussants passionately said that “their teachers advised parents to discourage pupils from reading other materials, books and newspaper that contain other knowledge apart from those that contain what will be examined”. Kanga, a Standard Seven girl in JPS reported that teachers give a veiled threat that “such reading would be a waste of time and will fill their head with useless information instead of useful points that will make them pass examinations well and lead a better life after getting a good job.”

The preceding findings suggest that pupils are not given opportunities to learn and practice skills and other knowledge in HE since the teachers supported by parents tend to emphasize more on passing examinations. This is makes NCLSDs which are posing a real threat to society not to be given prominence.

4.6.3 Perceptions of parents about the contributions of school health policy on healthy practices

The researcher went further to explore the perceptions of parents regarding MoE school health policy. The parents sampled in all the three schools said, “they were not aware of the Government Health Policy in Schools” but alleged that teachers and members of management committees had on various occasions emphasized on “importance of good health and cleanliness among children”. Majority of parents (92%) seemed to appreciate importance of good health practices but insisted that “teachers and by extension the school were best placed” to address such issues since “pupils were in school and under the care of teachers most of the day”, hence teachers should “teach and supervise them more effectively” using their “expertise and knowledge than parents.” Mamazuki noted:

The school can do much to improve the health of the pupils since they are young and have limited knowledge about their health...and they are also in school most of the time; hence, the school can utilize their time effectively since they are in school most of the time than us parents... (Lady Parent, BPS 002LP, 2012).

In a separate session, Baba Sadaka observed expressed similar views. He noted:
Teachers are the government and whatever is good for the health of children including medicating them should be done to enable children to do well in education to become good citizens...the teachers should teach them knowledge on good health and make sure they grow up well because children respect teachers as their parents... (Male Parent, MPS 003MP, 2012).

While, Mzalendo noted:

The school can do much to improve the health of the pupils since they are young and have limited knowledge about their health...children are easily agreeable and obedient to teachers and this can enable them to be taught easily... they are also in school most of the time; hence the school can utilize their time... (Lady Parent, JPS 003LP, 2012).

The findings indicate that parents view teachers and school as key implementers of curriculum, which includes HE. Perhaps, this explains why many parents blame the schools for many shortcomings and inadequacies manifested in character and behaviour of pupils. The researcher went further to explore their perceptions on NCLSDs, a part from one lady parent of BPS, all other parents were not aware of NCLSDs. Parents from JPS and MPS wondered: “what are NCLSDs?” and “what lifestyles can predispose one to them?” It was notable that some parents suggested, “NCLSDs were a preserve of the rich and the wealthy” and “did not affect them or their children since they lived in utter scarcity of all resources including food”. They could not believe that some “types of cancer were caused by our lifestyles”. These finding amplify the fact that there is a serious need for knowledge and information about NCLSDs. They also show that there is need to clearly demonstrate to parents and pupils how lifestyle habits can predispose one to a certain type of a disease. This can be done by empowering and equipping pupils with prior preventive knowledge and skills.

i. Perceptions of primary school parents on the contributions of HE to healthy practices
The researcher explored the feelings, attitudes and beliefs of parents in the three respective schools sampled for the study in order to capture their experiences and views about contributions of HE to healthy practices. It was quite amazing that, apart from Parents of BPS, other parents had no idea of what HE is. Infact, Breda, a female parent informant from MPS, asked, “Is heath education included in KCPE? I
have never heard my children mention it any time and I help them to
do their homework.

This finding perhaps confirms the view that HE issues are not given
much prominence, which makes teachers not include them in
“homework that teachers give pupils”. On further probing, all the
parents revealed that they “discouraged their children to read other
content and materials” that they thought may not give them
advantage to do well in examinations, which perhaps may include HE
since it was not familiar to many. Parents went further to reveal that
they encouraged their children to “finish assignments and take them
for marking by teachers.” This was done to enable their children to do
well in examinations.

The researcher went further to explore issues that parents shared with
their children. All parents interviewed reported that they guide and
mentor their children about studies and social relationships but with
particular emphasis on studies. Mzeekwetu, a male parent informant
from MPS said, “we discuss various issues like school performance,
assignments, homework, future aspirations, dreams, careers and good
morals to avoid bad company that may lead to HIV infection.”

Mama Breda, female parent informant from MPS revealed, “I help my
daughter to do assignments and encourage her to listen, work hard
and obey teachers so that she can pass examinations and achieve her
dream of becoming a nurse”. Matha zidi noted:

My children pass through my kiosk and help in
serving customers but when they reach
examination class, I make sure they stay in the
house to read and, I also pay tuition for them
so that they can pass examinations to get a
good job to help our family... (Lady Parent, JPS
002LP, 2012).

Babazoko, who reported that he is a single parent noted:

We discuss many issues with my daughters so
that I can inspire them to focused to be
successful in life...we talk on issues relating to
academic work and good character that can
enable them prevent diseases like HIV and
AIDS and bad habits like drug abuse...my
advice has really helped them to do well in
school and they emerge top their class... (Male
These findings indicate that most parents were aware of the need to work hard in order to pass examinations. It is also notable that some parents discuss communicable diseases like HIV and AIDS, which they consider a critical issue in the lives of their children. The findings also reveal that parents may not be cognizant of NCLSDs. Lack of information in NCLSD may predispose pupils to lifestyle diseases.

The researcher went further to find out how parents supported their children in school in schoolwork. Incidentally, all parents said, “they encouraged their children to listen to teacher’s advice and concentrate on studies to do well in examinations.” Martha and Breda, female parents from MPS and JPSs felt that teachers need to mark pupils work regularly. Martha insisted:

I prevail on my children to have their books marked by their teachers though some teachers do not always mark pupil’s work regularly…but other teachers just read through answers as they make pupils to exchange exercise books and mark for themselves...this is not fair since pupils may mark wrong answers and do not understand how the teacher got answers since they are not shown... (Lady Parent, MPS 001LP, 2012).

While, Obo, who revealed that he and his wife work in a busy bank in town said:

We are good role models...in fact we are at home every evening with our two twin daughters to help them to do assignments and encourage them to work hard and to be serious in their work to improve their academic performance in examinations so that they can get better jobs for better future... (Male Parent, BPS 003MP, 2012).

These findings confirm that some parents take active interest and support their children in schoolwork. It can also be noted that parents guide and mentor their children though much emphasis is on passing examination. There is need to demonstrate to children the value and importance of education beyond passing examinations. On probing whether pupils were given assignments in all subjects, parent reported that children were mainly given assignments in “mathematics, English and Kiswahili compositions” and rarely on “social studies and science”. These findings suggest that parents take an active role in helping their children to do well in academic work, which they consider a core issue in enabling them to succeed in life. Additionally, these finding also
show that parents are keen to support and complement teachers’ efforts to ensure their children do well in their studies. It also shows that teachers need to be careful and do their work professionally.

The researcher explored the feeling of parents towards teaching of PE, which is a core subject that potentially can promote physical exercises that can compliment good health practices and physical fitness. Indeed, it was quite interesting that apart from parents of BPS, generally all other parents passionately asserted, “PE is not a serious subject particularly to candidates and, it is meant to waste valuable study time and resources for examinable subjects”. It was amazing to note, “Parents from JPS and MPS supported teachers for being reasonable to use PE time for teaching to improve pupil’s academic performance”. They claimed, “It was the core business of a school to use all available time and resource to teach, coach and drill pupils to pass examinations.” Asked whether children can be given assignments in PE, their responses were “vehemently NO” and even wondered “how and for what since it is not examinable?” They said, “games, sports and PE wasted valuable time for children in examination classes” because “they wanted their children to improve their work and stop wasting time outside which made them to do poorly”. These observations perhaps show that parents in their zeal for good performance may ignore or may not be aware of health benefits of physical activities, which are meant to complement academic work. The findings may also confirm that teachers are under pressure to teach pupils to excel in academic work, which is only determined by how well they do in examinations; hence, time for subjects that are not examined formally is used to teach examinable subjects to improve performance.

On further probing about PE, games and sports activities in their schools, Babapili and Zuma, male parents from JPS and MPS as well as Martha and Breda, female parents from MPS and JPSs insisted that Parents in JPS and MPS strongly opposed the idea of outdoor activities such as PE, games and sports for examination classes. Zuma noted:

> Parents resolved in PTA guided by teachers and education Officers in ours school realized that our school was terribly poor academically... they resolved that among other issues we contribute and pay a motivation fee to teachers to keep them busy in class to improve the academic performance... (Male Parent, MPS 002MP, 2012).

Similarly, Babapili observed:

> Parents agreed that pupils should be given more work in class, assignments and
homework; we contribute money to buy latest test examinations from top performing schools to improve performance and not to waste time in play outside the class…( Male Parent, JPS 002MP, 2012).

While Martha observed:

Our parents resolved that examination classes in upper primary should report to school an hour and half earlier and leave late after late evening classes...we also resolved to pay for transport so that our children and teachers can have more time and energy devoted to class work and not in the fields... (Lady Parent, MPS 001LP, 2012).

These observations suggest that parents take passing examinations more seriously and a top priority for their children compared to physical exercises. The findings also show that parents are prepared to use their resources to ensure their children succeed in studies even “if it involves making sacrifices.” The researcher explored more about the feeling of parents towards teaching. All parents interviewed in the three schools revealed that they appealed to “teachers to be very strict in teaching and supervising pupils to improve performance particularly in “upper primary and examination classes”.

These observations underscore the perceptions and views of parents and schools on how good academic performance is valued; and, the extent to which they are prepared to go to achieve good results including sacrificing health benefits of their children by denying them play activities. The findings also show that health issues such as regular exercises and play are not a priority to many parents as compared to academic performance. This trend creates a culture of sedentary lifestyle, a recipe for NCLSDs.

Pressure to do well in studies starts quite early as parents urge pupils and teacher to put extra effort to compete with others in the competitive society. A study by Wawire (2006:112) found that pressure from parents and competition lead teachers to use advanced content in teaching which was way beyond content recommended and contained in MoE syllabus published by KIE for the teaching and learning level of the pupils; the study further observed teachers used inappropriate assessment methods and issued cards indicating the position of each pupil based only on academic performance which were not appropriate to the level of development of the young children. This implied that the young children were kept in class most of the time to improve their academic performance.
In an effort to find out whether knowledge gained from HE is utilized at home, the researcher investigated from parents whether they involved their children in buying foodstuff for the family. Interestingly all parents reported that they involved their children in shopping and doing household chores like cooking but not play activities since according to them “studies were more important than play”. Obo observed:

After a busy day at work, we drive and pick our children from school...then we go through the supermarket and do shopping together where our daughter picks whatever can give them enough energy for study since they need a lot of energy...we drive home and prepare and eat meals together and then we pack her lunch in her lunch box...then we relax as we mentor and help her to do her homework... (Male Parent, BPS 003MP, 2012).

On probing what kind of foods that that her daughter picks from the supermarket, he said, “Our daughter prefers cakes, smokies, mango juice, soda and tropical sweets”. In the same discussion, Babazoko said:

Sometimes when we do not get all items from the supermarket, and we give our children money to buy foodstuffs such as soft drinks, biscuits, sweet cakes, chips and sausages in school canteens to supplement packed lunch... (Male Parent, BPS 001MP, 2012).

These findings may affirm two issues, that parents may be aware of health benefits of physical exercises to their children but ignore encouraging and allowing their children to participate in physical activities due to pressure to do well in academics; or, either they may be not aware of importance of play to good health and development. In both scenarios, these trends and habits through observation, imitation, regular practice and acculturation may lead to inactive and sedentary lifestyles. This may through primary socialization, make children who take after their parents to adapt sedentary lifestyles that predispose them to NCLSDs.

4.7 Factors that Limit the Implementation of the KNSHP Programmes to Prevent NCLSDs
The fifth objective of the study was to establish factors that limit the implementation of the KNSHP programme in the selected case schools. In a diligent effort to explore various issues that affect the implementation of KNSHP programme, the researcher collated views and experiences from various study informants who included pupils, teachers, head teachers, parents and educational officers. In the same
breath, the researcher involved study informants on what strategies could be put in place to overcome the challenges that schools face in implementation of KNSHP. The findings have been triangulated under various subthemes in accordance with thematic presentation that is guided by the research objectives.

4.7.1 Lack of awareness about KNSHP
Effective implementation of any policy requires sensitization and awareness of the policy implementers and recipients. This is necessary to ensure teamwork and team spirit in interpretation and ultimate operationalization of the policy. The teachers, parents and pupils who were the target group as well as the beneficiaries ought to be aware of the policy and its benefits to themselves and the society. This will enable effective implementation and sustainability of the policy. The researcher went further to explore teacher’s preparedness in teaching HE since it is a critical factor in enhancing teaching efficacy in content delivery. The researcher-explored issues related to efficacy and capacity of the teachers to effectively interpret and operationalize HE content from KNSHP. The issues explored were general awareness of the policy contents with particular emphasize on knowledge regarding NCLSDs.

4.7.2 Teachers lack of knowledge on NCLSDs
The teachers in all schools reported that they were not aware of KNSHP. Nevertheless, the researcher went further to explore the teacher’s knowledge regarding HE in KPSC and NCLSDs. It was quite revealing that in all the three schools teachers had no idea about NCLSDs; and, even after being told what they are some teachers seemed unconvinced that some types of cancer are NCLSDs. Infact Museveni, a female teacher from BPS was so “puzzled” and commented that “I really wonder whether lifestyle can predispose one to cancer and, if it can...then, we are all facing a grave danger due to what we eat and drink”. This may confirm that if teachers have accurate knowledge they could perhaps use it to positively teach and inform pupils effectively to promote healthy lifestyles to prevent NCLSDs.

Surprisingly, all teachers seem to blame MoE for their ignorance. They claimed that MoE does not offer “more training nor in-service programmes or refresher courses to trained teachers to beef up their capacity”. Mfariji, a female teacher from MPS observed, “Even getting a paid study leave or opportunities to improve one’s knowledge is quite a big problem nowadays due to understaffing”. The preceding observations tend to show that teachers are not adequately prepared knowledge-wise and skill-wise to handle new areas of knowledge in school syllabi, which has negative implications on their capacity to teach. Perhaps, this confirms the observations by the pupils who reported that their teachers were reluctant to answer questions on
issues like NCLSDSs and told them not to bother them since they were not in the syllabus.

The teachers in all the schools reported that they are not effective in teaching the content in HE since the “resource books do not provide adequate content” and “learning resources are not available to enable them to be effective in teaching.” All the informants in the three schools sampled reported that they experience particular challenges when teaching HE. Sadaka noted:

> teaching HE as a topic in science is quite problematic because of the content since recommended course books have shallow content; teaching resources are not readily available...(Lady Teacher, BPS 001L, 2012).

The finding suggests that textbooks available to teachers do not have adequate and perhaps up-to-date content that can boost their teaching efficacy. The findings resonate well with those in a study by Ruto, Chege and Wawire (2009:52) that covered Nairobi, Bondo and Garissa districts of Kenya, where it was noted no teacher reported having undergone pre-service training on HIV/AIDS education and teaching. Further, the study informants who happened to be trained teachers revealed that though knowledge on HIV/AIDS was availed in public advocacy awareness seminars, methodology for teaching was not provided; hence, teachers were left on their own to experiment on appropriate pedagogy in this challenging area of knowledge; moreover, teachers also tended to concentrate and over-engage vocal pupils at the expense of the rest of the class, it was also notable that teachers did not clarify details nor expounded the meanings of various responses to enable pupils to understand the relevant content; a sign that teachers were not confident or knowledgeable in specific details due to lack of preparedness.

### 4.7.3 Heavy workload undermines efficacy in teaching HE

Teachers in all the three schools reported that they was heavy working load due to understaffing of teaching personnel since those who retired had not been replaced and also FPE had increased the number of pupils. Teachers’ said they had heavy teaching load, which left them with no time for effective preparation and extensive reading. The subjects, which were not examinable in national examinations, bore the brunt of the excess workload since they were given less attention or none at all. On teaching workload, Sadaka noted:

> time to make learning aids is limited due to heavy workload...we have a lot of pressure to raise MSS and since most of HE content is not
included in the examinations compared to the other topics in science, we pay more attention to other topics because they have more questions in examinations...(Lady Teacher, BPS 001L, 2012).

This finding shows that teachers focus more on what is examinable because their performance and effectiveness is mainly judged by improvement in MSS in the subjects they teach. This implies that subjects that are not examinable and those that do not feature more in written examinations are not given prominence.

4.7.4 Lack of refresher courses to enhance efficacy in teaching
Teachers reported that since they left training college, they have never had refresher courses to enable them to be proficient in teaching specific content in HE in view of syllabus changes. In fact in an interview, Zedi noted:

the MoE is famed for introducing new subjects and additional content regularly with new areas of knowledge but does not induct, refresh nor motivate class room teachers on how to go about them...(Lady Teacher, JPS 005L, 2012).

While Baraka observed:

Our knowledge is quite limited in some areas since we left college a decade or so...we rely on our college education and notes since we have no other resources to supplement our knowledge...yet we are blamed even when we do our best when things go wrong... (Male Teacher, JPS 005M, 2012).

The findings affirm the need for teachers’ preparedness to handle new content that is introduced in the syllabi. This is important to not only sensitize teachers with new content but also to equip them with necessary capacity and wherewithal to enhance their proficiency in delivery of quality learning outcomes. In the absence of refresher courses, it implied that teachers lacked capacity and efficacy in effective teaching of new content in HE.

In her study, on gender and HIV/AIDS education in the multicultural context of schools in Kakuma refugee camp Mandela (2010:218) observed that head-teachers and teachers reported that government-facilitated, regular and comprehensive in-service training programmes for teacher in HIV/AIDS education was lacking. The study recognized that the MoE through KIE had put in place an HIV/AIDS education curriculum for pre-service training. It also noted many TTC graduates
had not received such training and therefore were not aware of the curriculum. Lifestyles diseases are a new area of knowledge where new discoveries are the order of the day due to change in lifestyles; hence, it is important to organize regular training for teachers to keep them at the cutting edge of knowledge. HE syllabus needs to be revised regularly given the dynamic nature of lifestyle diseases, and in particular NCLSDs, which are more than just “emerging issue”.

4.7.5 Lack of school-based seminars for capacity building in teaching
In order to be a bit exhaustive on factors that may influence efficacy of teaching HE at school level, the researcher explored the experiences of HE teachers about ways by which schools enhanced their capacity and efficiency in teaching. In all the three schools teacher informants indicated that schools do not provide opportunities nor sponsor teachers for any seminar or workshop to enhance their teaching capacity. In a FGD, Zeddie was quite assertive. She observed:

Our school is always cash-starved...we have never had a seminar nor attended a workshop dealing with teaching...we are not provided with simple learning aids...science apparatus or a variety adequate and up-to-date text books for teachers and pupils...in fact our school had very old books which are not so relevant in terms of latest content in emerging issues in education...the content in many books is not even in tandem with new style and approach in current examinations... (Lady Teacher, JPS 005L, 2012).

The finding confirms that perhaps many schools do not do much on their own to enhance teaching capacity of their teachers in terms of instructional methods, equipping them with new knowledge and even learning resources. This perhaps could be due to limited financial resources from the exchequer since many schools wholly rely of FPE funds that may not be enough as reported by head teachers. The researcher explored teachers’ experience with education officers and whether they enabled teachers to acquire teaching capacity in terms of teaching new content due to frequent changes in the syllabus. Mutete observed:

MoE Quality assurance officers just call us for meetings to announce new changes in syllabus content and reign on us to teach and improve mean standard scores regardless of the
problems we face in schools... (Lady Teacher, MPS 005L, 2012).

The sentiments imply that teachers feel that they are not adequately prepared to handle new content in the new syllabi. This is especially challenging in view of emerging issues and socio-dynamics in the ever-changing society. Refresher and in-service courses that can induct teachers to interact and relate favourably with new content prior to teaching are critical since they motivate and give teachers impetus and confidence to face pupils.

4.7.6 Lack of up-to-date reference books and learning resources for teachers

In MPS and JPSs, teachers observed, “They faced particular challenges regarding poor performance since their pupils are mainly from LSES” and “learning resources such as textbooks and writing materials are a big problem”. Commenting on educational resources, Keta observed:

We do not have enough text books nor a variety of reference books and learning resources that are required to HE teach effectively...the few books have basic knowledge which cannot enable the teacher to have broad and detailed information regarding particular issues that one is expected to teach...yet with these shortcomings one is warned, reprimanded any time pupils do poorly...how else can one be better than the pupils when we share the same text?...yet our Quality Assurance Officers accuse us not being effective? (Male Teacher, MPS 004M, 2012).

These observations reveal that schools may not have a variety of resources that can enable the “teachers to read more and prepare effectively to enable their efficacy in teaching” which, may have negative implication on their work and perhaps lead to poor performance of their pupils. Perhaps this could be attributable to the fact that good books dealing with teacher education and teaching efficacy are quite expensive and ordinary schools pay more attention to pupils’ needs to improve MSS. In interviews with head teachers, it was reported that FPE money was not enough to purchase all the necessary textbooks as well as other learning resources required, and the schools had no other source of funds.

During the interactive data collection process, the researcher and his assistants discovered there were particular factors that determined how particular pupils translated HE knowledge to regular practices and actions in their daily lives in and out of school. Effective application
and consumption of HE knowledge was affected by various factors within the school, home environment and the society.

4.8 Factors that Determine How Primary School Pupils Translate HE Knowledge into Practice

In an attempt to capture issues and factors that may affect ability of pupils to translate HE knowledge into good practices to enable pupils to use preventive education to acquire action-competence to prevent NCLSDs. The researcher explored experiences of pupils and teachers in the schools sampled for the study. This enabled the study to establish factors that determined action-competence from the perspectives of socializers and socializees.

i. **Lack of knowledge on NCLSDs**

About 98% (106) of all pupils in all the three schools had similar responses. They reported that they are not taught about NCLSDs. In fact, Kaki, a girl from BPS noted, “We are not taught about non-communicable lifestyles diseases...we are not aware what practices that we can use to prevent those diseases”. On probing more about what they are taught in HE lessons, Gachoki, a girl from JPS observed “our teachers encourage us to use our knowledge to warm water and use toilets as well as wash our hands to prevent diseases but most of the time our school does not have water for washing hands”. On NCLSDs, she revealed, “we are not taught about non-communicable lifestyle diseases and our teachers do not tell us what to do to prevent them.” The preceding findings confirm that pupils are not taught about NCLSDs. This is perhaps because teachers teach what is specified in school syllabuses in an effort to improve the MSS.

ii. **Teacher-centred and examination oriented theoretical teaching approaches**

The researcher went further to explore what issues could affect translation of theoretical knowledge taught in HE in regular practices by pupils. All the teachers from the three schools shared similar experiences about factors that prevent pupils from translating theoretical knowledge to practice. They reported, “Examinations test theoretical knowledge instead of practical knowledge” which makes “Pupils to develop an obsession with theory instead of practice”. They also said, “Schools do not have time or the resources for practical work.” In fact, Keta, a male teacher from MPS was a bit forthright in stating that “Since schools only prepare pupils to pass theory-based examinations so they study theory to enable them to pass well.”

iii. **Lack of capacity for effective content delivery**

While, Eva, a female teacher informant from JPS “wondered how teachers can be expected to teach effectively and practice what they were not professionally prepared to teach”; she noted “many teachers lack the capacity to effectively teach the new content after frequent
syllabus changes since they are ill equipped in terms of teaching methods and the new content.” Teacher Eva went on to say that, this has a negative effect to quality and ability to teach and practice what is taught through practical implementation by pupils and the schools. Probed further, Eva noted:

Since the introduction of the new syllabus in year 2002 with new content on HE that include communicable lifestyle diseases like HIV and AIDS...teachers were not and have not been inducted on effective teacher methods on sensitive and emotive issues...since some emerging issues and diseases affect teachers emotionally and psychologically due to lifestyle...(Lady Teacher, JPS 001L, 2012).

But Kim, who is PE teacher, was a bit passionate in stating:

MoE is famed for their notoriety in curriculum changes where teachers are hardly prepared apart from a day or so open-air meeting in the Sub-County Education Office where one or two KIE officials provide just a few hours brief to teachers gathered in a hall and direct teachers to be serious in teaching for better results... (Male Teacher, MPS 003M, 2012).

These findings seem to suggest that teachers are not adequately prepared and equipped to teach new content whenever it is introduced due to regular curriculum changes. This is quite serious since teachers said that the new content affects them “emotionally and psychologically due to lifestyle practices”. This has adverse effects to their efficiency, proficiency and efficacy in content delivery with concomitant negative effects to learning outcomes and action-competence of the pupils.

iv. Effects of language used during teaching process
Teachers in JPSs also noted, “The language used by teacher in HE has great effect upon pupils’ attitudes that determine how they relate and use that knowledge”. Infact, Zuri, another female teacher informant from JPS noted “pupils who have parent/guardian/siblings who are affected or infected by HIV and AIDS look down and never answer questions during the lesson.” The teacher went further to disclose that “being serious, strict and use of polite and non-offensive language for those affected and infected and having content that has enough and latest information on lifestyle disease had good effect on learning process.” The findings may suggest that the kind of language used and
examples used in the teaching process are critical in encouraging pupils to embrace and put into practice knowledge and skills learned.

**v. The type of teaching methods used**

Majority of teachers (98% [35]) in BPS, which has a catchment from HSES, observed factors that may determine the ability of pupils to use HE were mainly related to teaching styles and approaches used by subject teachers; Sadaka stated:

> Ability of pupils to apply knowledge in passing exams is determined by use of good teaching methods that make teaching effective ... Effective teaching by use of good learning resources, support by fellow teachers, pupils and parents can enable pupils to use their knowledge to pass well... (Lady Teacher, BPS 001L, 2012).

The finding confirms that use of effective teaching methods accompanied with appropriate examples that respect the dignity of the learner are important to enable learners to enjoy what is taught. Moreover support by parents and other pupils enable pupils to attach high value to knowledge which motivates them to apply it in their daily lifestyles.

**vi. Peer influence**

In all schools 98% (35) of teachers reported that peer influence was a serious determinant on the ability of the pupils to use their knowledge. Kazini observed:

> Peers play important role on how our pupils embrace HE knowledge... when they are positive, caring and encouraging they will revise together...share good ideas...support each other in assignments...mentor and advice each other to see value of knowledge and use it in their life’s; encourage each other to be disciplined and avoid absenteeism and have positive attitude towards schooling... (Male Teacher, JPS 006M, 2012).

In all schools, 96% (104) of the pupils reported that peers were a crucial determinant on how they use the knowledge that they learn. Generally they said that “as friends they shared ideas and feelings as they talked, shared stories/jokes and played together”, which enabled
them to use and practice what they learned in class. Mwenzangu noted:

> If your friends are good, you are also good because they will give you good advice and ideas to improve your discipline, behaviour and performance in class work...good friends cannot give bad advice to each other because they are happy when one does well... (A Standard Seven Boy, MPS 003B, 2012).

The findings confirm that good peers/friends support each other through good advice that enable them to acquire good habits and practices of using new knowledge to improve their character, lifestyles and general welfare of their lives. In addition, it demonstrates that good peer influence determines how pupils consume and apply knowledge in their daily life.

**vii. Influence by mass media**

In all schools 98% (35) of teachers and 96% (104) of the pupils shared similar experiences where they reported that “mass media played the greatest role in influencing the behaviour of young people and by and large determines how they use the knowledge they acquire in the learning process”. This shows that the content in electronic and print media potentially can support as well as undermine knowledge that pupils acquire in school. Teacher Mutete observed:

> Mass media adverts through electronic and print such as FM radios, TVs, magazines and posters tend to use models to advertise new fashions, dressing codes, new varieties of foods and drinks, shoes, hair styles and the notorious internet with face book and twitter where pupils are exposed to pornographic content and ghetto culture early in life that poison thought, lifestyles and beliefs making them more rebellious and indisciplined...(Lady Teacher, MPS 005L, 2012).

The findings suggest that the mass media may either support or undermine what schools teach. This largely may determine how effective school knowledge can transform habits, beliefs and behaviour of pupils. Similar, views were shared by parents in all schools; for example, Baba Pili of JPS noted, “mass media that publishes content that adds value to education and cultural factors to support teachers work enables learners to value what they learn and practice.” while, Teacher Matu observed:
Most of the pupils today listen to FM Radio stations...watch TV soaps and browse the internet where they learn many of the bad habits and mannerism which they show through rude talk...indiscipline...poor dressing codes... sexual indulgence... drug and substance abuse... juvenile delinquency...(Male Teacher, JPS 003M, 2012).

The findings suggest that the mass media has a big role to play in influencing pupils and largely determines their lifestyles. This confirms that mass media has a pivotal influence in lifestyles that are in vogue.

viii. Attitudes
In MPS, which is located in a catchment of MSES amidst pockets of LSES teachers reported that issues that determine how pupils consumed and used HE knowledge were largely attitudinal. Keta noted:

Overemphasis on improving mean scores... negative attitudes from parents and pupils who only value performance and knowledge in only examinable subjects that are valued as real knowledge are key factors that determine the use and application of knowledge taught in school...(Male Teacher, MPS 004M, 2012).

While, Charu was more emphatic in saying:

Non-examinable subjects like PE are not taken as knowledge or as learning since they do not enable one to pass examination which open doors for opportunities, careers, jobs, good life and prosperity...parents encourage children to pay attention to only those subjects that contain examinable content...(Male Teacher, MPS 002M, 2012).

The preceding observation suggest that perceived benefits like “passing examinations” are critical issues that determine how pupils use the knowledge learnt in class”; and, also emphasis that “mass media, parents and greater society put on education determines how pupils consume that knowledge”. Perhaps, then if the pupils have the opportunity to be taught about NCLSDs and benefits of curbing them; then it can make them initiate practical measures to prevent them. These findings show that teaching of HE faces particular challenges, which may have negative effects on implementation of the good practices by pupils and schools. These problems have a negative effect on translation of theoretical knowledge into good practices that potentially could enhance prevention of lifestyle diseases.
ix. Support by parents
The researcher went further to explore the feelings of head-teachers about translation of theoretical knowledge into good practices by pupils. In all the three schools all the head-teachers shared similar experiences; since, they all said, “support from parents was erratic due to the fact that most parents were busybodies” in the formal employment or own jobs to earn a living. In MPS, which is located in a MSES, Soki observed:

Pupils lack support in doing assignment, guidance and being provided with relevant supplementary books/resources since many parents are poor and are busy in their daily life activities like small business and casual work to make a living...(Head-mistress, MPS 001HM, 2012).

On whether parents support pupils in doing homework, Soki said, “many parents grossly lack knowledge/information and cannot garner confidence to help their children in upper classes in assignments since many have little education.” She also noted this made many pupils in her school to laugh whenever she told them they needed to show their parents their schoolwork and seek their advice to improve performance. She also noted, “Some pupils have negative attitudes towards parental advice due to negative peer influence.” While in BPS, where many parents” belong to HSES, Jemini, observed:

Some of our parents are so busy to spare their time to guide their children in studies since most of their time is shared between employment and business...parents provide children with school requirements and even some hire private tutors to provide home tuition to improve academic performance... (Head-mistress, BPS 001HM, 2012).

While in JPS where parents are mainly from LSES, Godei observed:

Our parents are extremely poor and so busy in their daily struggle to eke a living...they have no time to find out what children do in school... many parents involve children in family chores, hawking and doing all manner of manual jobs to supplement family earnings...many parents have humble education and do not have the interest nor ability to guide their children in
These findings suggest that parents, due to either their humble education or intense engagement in their struggle to improve their socio-economic status do not have time to assist their children in schoolwork. This may lead to lack of parental support that is important to enable pupils practice whatever knowledge and skills are learned in school. This implies that what is taught in school remains in books and may fade out of mind faster due to lack of reinforcement since parents do not identify with it. Pupils may also develop a tendency to think that what is taught in school is only for examinations and has no practical consequences outside school since it not practiced nor supported by parents and community at large.

Another challenge that affects how pupils practice what is learned in HE is lack of knowledge about NCLSDs. All the head-teachers said, “KPSC does not cover knowledge related to NCLSDs which makes it a bit difficult to practice what they are not taught.” They also reported, “Even teachers cannot evaluate what they have not taught since the theory exams are set using the syllabus.” These observations show that knowledge on NCLSDs and skills on how to prevent them are not practiced since they are not part of primary school syllabus.

The researcher went further to explore the views of parents in the three schools sampled about factors that determined how pupils applied the knowledge in HE. The parents in the three schools had similar experiences. Majority of parents (95%) observed use of HE by pupils is affected by “poor teaching and lack of knowledge, ignorance, negative attitudes towards advice due to peer pressure”. The researcher probed more about what factors affect utilization of HE knowledge at home. Mama Karo, a female parent from JPS observed, “Pupils may not be aware how that knowledge can be applied at home.” While Baba Njaki, a male parent from MPS added that “lack of follow-up by teachers and young parents who are not experienced in childcare and rearing”. While father Charon, a male parent from BPS said, “many parents and children believe that school knowledge is meant for examinations only.”

These observations suggest that many parents may not be aware on how they can support pupils to utilize knowledge and skills acquired in school apart from using it to pass examinations. These are some of the critical issues that prevent acquisition of action-competence. The researcher went out to explore the feelings of Quality Assurance and Standards Education Officers (QASOs) on the challenges that teachers face in HE that could affect learning outcomes. Quality Assurance Officers revealed that there are many issues that affect the efficacy of teaching HE in Science subject. Ogopwa, a senior QASO in MoE noted:
Teachers usually complain that most learning resources and science equipments are quite costly and funds allocated for purchase of material are not enough...they also complain of lack of time due to big workload due to understaffing...(Lady QASO, MoE 002L, 2012).

While, Mkali, a QASO in charge in Kwao Sub-County observed:

Many teachers are not willing to improvise and use locally available resources to make learning aids instead of commercial learning aids which are expensive...they say there is no time due to over enrolment due to FPE and a big teaching load due to understaffing...(Lady QASO, MoE 001L, 2012).

Further Ogopwa noted:

Many schools have poor storage facilities and even the few learning resources available cannot stay for a term before they disappear due to poor management...classes are not locked nor do they have cupboards which makes learning aids to be vandalized and disappear faster...(Lady QASO, MoE 002L, 2012).

The preceding observations show that use of relevant learning resources and effective teaching and motivation of the teachers and pupils are some of the issues that affect learning outcomes in pupils. The study went further to inquire from the informants about measures that could be used to enhance the pupils’ ability to acquire and apply preventive HE to prevent NCLSDs.

4.9 Ways of enabling Pupils to acquire and use Preventive HE Knowledge

The researcher investigated feelings of the informants on what can be done to enhance pupil’s capacity to acquire action competence and acquire good practices to prevent NCLSDs, which continue to cause untold suffering to society. Informants gave various suggestions, which are included in the findings discussed in the subsequent sections.

i. Teaching creatively

The researcher sought the feeling of various informants on what can be done to ensure creativity in the teaching and learning process is more vibrant and more effective. This can enable pupils to achieve better learning outcomes by acquiring preventive education to curb NCLSDs.
On issues regarding enhancing of teaching efficacy, Godei, the head teacher of JPS felt that the government should “provide learning resources, refresh and retrain teachers, employ more teachers and offer better remuneration packages to head teachers.” On what they can do as teachers to be effective in teaching, Syungi, a female teacher from BPS observed that “teachers should read widely and ensure good preparation for effective teaching...they should listen, guide, motivate and encourage pupils.”

Mfariji, a female teacher from MPS observed “teachers should minimize absenteeism...ensure more use of learning resources...ensure frequent use learner-centred methods of teaching.” While Mbote observed:

Teachers should monitor, supervise and evaluate learning more objectively and that the government should discourage unhealthy competition manifested through mean score syndrome...

The findings suggest that teachers are quite aware what can be done to enhance their efficacy in content delivery; yet, apparently, they practice different things during actual teaching and learning process. It may be safe to suggest that refresher courses, motivation and effective supervision and monitoring are important to synergize teachers.

Teachers further suggested, “Parents and community should support school policies and provide funding for school activities and facilities”. They suggested, “Parents should support teachers work by encouraging and supporting children in doing assignments and reinforcing teachers’ efforts to ensure good discipline among pupils”. Perhaps, teachers can raise such concerns during PTA and sensitize parents on how to actively work with teachers to complement each other and support children in education. Support can be extended by educating parents on how to provide a supportive family environment to enable pupils practice what is learned in schools to transform their lifestyle.

In a FGD, Azeka, Lady Teacher in JPS expressed interesting views that “MoE cannot be trusted” because even “FPE funds are misappropriated, very little and erratic...they give too many promises but they have not honoured/kept them.” She also noted, “Many parents are poor and uncooperative.” She went on to say that “unless the new county governments help and organize awareness campaigns for publicity and general knowledge, performance is likely to deteriorate.” Perhaps the preceding views suggest the feelings of desperation that some teachers aver when they experience challenges in teaching and learning process that take a while before appropriate
responses and visible actions are seen; but, all in all it is critical that the government can take quick action to ensure educational issues are given good attention.

On the what teachers can do to enable pupils to be effective in ensuring good practices on what they are taught, generally, all parents were of the view that teachers “need to be more serious in teaching and supervising pupils” as well as “guiding pupils in their studies”; During a discussion with parents from BPS which is located in upper market part of the city, Mamakashujaa, a female parent suggested that “teachers as professionals need to prepare and teach all subjects effectively.” She went on to emphasize that since teachers are always with pupils most of the time everyday they should “Listen to the pupils keenly and support them appreciating their weakness as young children to convert them into good and responsible people.” On teaching resources, which are a critical aspect in enhancing better learning outcomes, Mamakashujaa suggested:

Teachers as professionals should provide all necessary resources required for effective teaching and learning...they, should mark all assignments...guide and advice pupils to overcome their weaknesses...supervise and monitor pupils strictly and avoid threatening weak pupils and making them to repeat classes... (Lady Parent, BPS 001LP, 2012).

The findings reveal that enlightened parents are quite aware of what can be done to enhance good effective and sustainable learning outcomes, which can foster good practices. If teachers can ensure effective monitoring of good practices, then pupils will gradually acquire action-competence.

The researcher also explored the feeling of pupils on what can be done to enable them acquire and practice good practices to make them apply knowledge and skills in their daily living activities. Generally, pupils in all the three schools expressed similar opinions during both interviews and FGDs on what can be done to enable them acquire preventive knowledge on NCLSDs. Zuena suggested:

Teachers should teach us about non-communicable diseases effectively using good learning aids...explain the points well...mark all pupils work...answer questions asked by pupils and not punish those who get answers wrong... (A Standard Seven Girl, BPS 001G, 2012).
On what school management can do to enable pupils acquire HE, she said that “schools administrators should provide all facilities, books and make sure all subjects are taught including PE lessons which are not taken seriously.” Kekimoja, a girl from MPS suggested, “the government should employ more teachers and ensure good supervision of teaching.” She suggested, “Non-communicable diseases should be taught and tested like other subjects so that teachers and pupils can be serious.” These observations illustrate that pupils are knowledgeable on what can be done to enable them to be effective in the learning process and improve learning outcomes to achieve action-competence. These views are important starting points that can enable policy makers to come up with sustainable strategies to enable pupils to be good consumers of HE knowledge and in particular NCLSDs to avert looming crisis.

The preceding suggestions reverberate well with observations by Mufunda (2006:82) and WHO (2011:48) who suggested that integration of non-communicable prevention programs into the school curriculum to ensure reduction of risk behaviours among school going adults; strengthening action to promote healthy diet and physical activity in schools; strengthening the initiation of home-based programs on healthy diet and indoor and outdoor physical exercises with the female and the elderly as specific targets; routine public education on awareness through educational campaigns for promoting healthy life styles; formation of keep-fit clubs should be encouraged within the communities and integration of non-communicable disease surveillance into the implementation of national health information system, and e-health programme.

ii. Parental involvement
One of the key contributors in holistic education of a child is the parent. The researcher explored feeling and views of various study informants on how parents can be actively involved in enabling pupils to acquire preventive health education to curb NCLSDs. If well utilized parents have the wherewithal as primary socializers to make their children good consumers of preventive health knowledge for healthy living. Parents can inculcate good practices, which become habitual as children mature. Generally, head-teachers felt that “parents should be more active in monitoring and supporting their children by giving them proper parental guidance; supporting the school and teachers in their effort to improve academic performance by buying books and uniforms” and other “basic school requirements like school feeding programmes”.

Parents in all the three schools had similar suggestions. They suggested that as parents there was need to create “more time each day to interact with their children in and out of school to find out what they learn in school and support them in doing school work”; they also
felt that “there was need to provide pupils with more reading materials” to supplement what can be “provided by school” since “FPE could not cater for all types of books required”.

Pupils felt that parents needed to do more to help them in education. Anto, a boy from JPS suggested, “Parents should support children by providing all basic needs like good care, food, books, uniforms and good advice.” The findings suggest that parents have a critical role to ensure pupils acquire preventive education to enable them to acquire and practice healthy lifestyles to tame NCLSDs. Parents have a noble responsibility to support schools for effective teaching and implementation of primary school curriculum to improve learning outcomes and enable pupils to acquire action competence if emerging social vices are to be tamed.

### iii. Consistency in motivation

The researcher diligently sought views of various informants on what can be done to ensure better learning outcomes. The teachers in BPS felt also that “the government can offer paid scholarships to teachers who excelled in particular subjects to pursue studies in the same field” with a view of using them as “key resource teachers” since they have “excelled in their subject areas”; while, teachers in MPS and JPSs felt that “it was unfair to award only best schools who happen to be endowed with better facilities” and “rich parents” while “discriminating hard working teachers who by accident were posted to schools located in poor neighbourhoods.” They felt that “they do their best” as well “as their pupils who should at least be appreciated and encouraged” by a reward for “good effort.” Syungi, a female teacher from BPS observed, “there is need to broaden criteria for awarding performance to include other areas of education instead of theory exams only which are narrow and discriminative.” The preceding observations reveal that sustainable and creative ways on motivating teachers to sustain their teaching tempo are potent tools that if well utilized can enable better learning outcomes. This can be more effective by first enhancing HE capacity of teachers.

The parents in JPS also suggested that the government can find a way of remunerating teachers for “extra work or tuition” because they alleged that due to low salaries and pervasive poverty parents who were unable to pay their children were “discriminated by being put in separate rooms during tuition” and “were given few assignments were rarely marked by a teacher.” They also alleged teachers “operated kiosks and other business”; which according to them had influenced “academic performance negatively”. Parents also reported that many teachers termed their salary as “low pay and lack of appreciation by their employer”.
Parents in JPS suggested that the government should persuade donors to help their schools in terms of provision of “feeding programme, essential facilities and educational resources” and, sponsor their “children through high school education”. They claimed that due to “persistent and pervasive abject poverty children are their only hope in life”. The findings suggest that many parents appreciate the role of teachers in enabling pupils acquire valuable practical skills and good practices that improve their life. The findings also reveal that parents are aware of the challenges facing education and what can be done to enable their children to be better through learning.

iv. Refresher courses for teachers
The researcher incisively sought views and feelings of study informants on what can be done to enable teachers to be more effective in teaching HE. The head-teachers in MPS and JPS felt “the government should train head-teachers upon promotion”; they also suggested that the government can “offer in-service courses to teachers emerging issues like non-communicable diseases to enable them to be effective in managing the implementation of curriculum and school in general”.

In all schools, teachers gave a variety of similar suggestions and views on the way forward. Majority of the teachers (98%) [35] Said, “the government should employ more, retrain, refresh, motivate and improve remuneration of teachers.” Similarly, Obo, a male parent from MPS suggested that “the government needs to retrain and refresh teachers since some are very young...new and young head teachers” needs to be trained more on management of education and supervision to be more effective.”

The findings suggest that refresher courses are the bedrock upon which effective teaching is built to enable teacher to be in tandem with emerging issues in a dynamic society. Periodic refresher programmes are incentive that enhance professional efficacy in teaching and learning process for better learning outcomes to ensure social vaccine to make pupils more adaptive in a transformative and modern society.

v. Effective monitoring and supervision of curriculum implementation
The researcher sought feelings and views of study informants regarding actions that can be taken to ensure pupils are taught knowledge about NCLSDSs. Dad moja, a male parent from JPS was emphatic that the government should inspect the teaching process and advice teachers on new ways of effective teaching.”

Mamakashujaa, a female parent from BPS noted, “The government should hire more effective educational officers and audit finance records regularly and deal with corrupt officers severely.” The findings show that there is need to enable QASO to be more effective in school monitoring and supervision of the teaching and learning process. This
will not only ensure quality and standards but also reduce impunity and massive corruption in educational sector by ensuring good use of resources available.

vi. Use of subject specialists

The researcher sought from various study informants on what measures can taken to ensure PE and HE are taught effectively to enable learners acquire preventive knowledge on NCLSDSs. Mfariji, a female teacher from MPS observed “educational officers should organize educational seminars, workshops and visits accompanied by subject specialists to give valuable inputs to subject teachers.” Baraka noted:

> The government should organize regular school visits to advice, monitor and supervise curriculum implementation process using properly trained and experienced subject specialists for various subjects to offer quality advice to teachers to enhance their efficiency...

(Male Teacher, BPS 001M, 2012).

The findings suggest that teacher felt that educational officers need to be people who have specialized knowledge in subjects that they inspect. This perhaps can benefit teachers as they interact with them during school visits and teachers meetings. This could perhaps enable content delivery in their subjects. The findings seem also to suggest that subject specialists need to be used to monitor and supervise teaching and learning process to ensure better quality of learning outcomes. Use of subject specialist will inject professionalism, an impetus that seems to be rare among primary school educational inspectors.

vii. Avail more financial resources

One of the key issues that affect quality of teaching and learning is adequate availability of a variety of teaching and learning resources. On FPE, informants felt that there is need for adequate financial resources for acquisition of a variety of learning resource. Soma, a female teacher from JPS vehemently said, “the government should allocate more funding to FPE to cater for facilities and equipments and learning resources.”

Anto, a boy from JPS suggested, “the government should provide enough money for buying equipment, facilities and other materials.” On the same, Dad Moja, a male parent from JPS was emphatic in saying that “the government should provide enough funds for buying books and learning resources.” The findings suggest that the government should allocate more funds for provision of learning resources to enable better learning outcomes in education. This is critical because...
quality preventive education is a potent cost effective tool that can enable pupils prevent NCLSDSs and eventually reduce health burden to the government. This will also ensure a healthy and productive working population.

viii. Regular and comprehensive school-based inspections
The researcher sought views and feelings of study informants on ways of ensuring effective oversight roles in curriculum implementation and school administration to enable pupils acquire quality preventive education. On measures that head-teachers can take to ensure good learning outcomes in HE, Madam Jemini, the headmistress of BPS suggested that “head-teachers should ensure effective guidance, monitoring and supervision of teachers for effective lesson preparation and teaching.” While, Godei, the head teacher JPS noted, “head-teachers being the chief executive officer in a school should harmonize relationships between teachers and Parents to win support by parent.” He went further to explain that parents need to “complement teachers work by guiding pupils...checking and monitoring pupils learn in school.”

On what parents can do to enable pupils to practice preventive HE acquired from school, he noted “parents should support pupils to practice what they learn in school while at by giving them good examples, listening to their problems and solving them.” On the role of QASO, Godei, the head teacher JPS notes, “quality assurance officers should avoid over-emphasis on examinable subjects, mean standard scores, and also ensure seriousness on non-examinable subjects.” These findings suggest that educational officers should ensure fairness by giving examinable and non-examinable subjects equal attention since they are important areas of knowledge that are equally valuable to pupils life. Further, schools are not set to provide knowledge for examinations only, but rather schools should provide holistic knowledge for life.

Majority of teachers (90% [33]) felt that Quality Assurance Officers need to be courteous and understand teachers during school visits to avoid anxiety and tensions. They felt that some educational officers are harsh and hostile to teachers. Mtupeni observed:

School inspectors need to be a bit considerate, friendly and visit the schools regularly to mentor, advice and guide teachers on how to improve performance without harassing them with issues related to mean scores and dates in teaching records...(Lady Teacher, MPS 002L, 2012).
Teachers told the researcher that QASO were previously called school inspectors [infact elderly teachers used that term]. Mbote noted:

Quality assurance officers need to appreciate individual differences between pupils performance and appreciate efforts done by teachers to improve learning since performance does not necessarily show how one failed but rather inherent individual differences between pupils as human beings, which are also manifested in other sectors of greater society since schools like society include pupils of various abilities... (Male Teacher, JPS 001M, 2012).

The findings seem to suggest that educational officers can adapt a friendly and fair way of approaching the issue of school inspection to clear the negative attitudes and perceptions that teachers may aver towards them. Change of tact can bring better outcomes. One can also infer from the findings that head-teachers and education officers should be assertive and firm in management of teaching and learning programmes on daily basis to ensure better educational outcomes that can enable pupils to acquire pertinent knowledge and skills to prevent NCLSDs.

ix. Practical examinations
The researcher explored various issues regarding teaching and learning process that can enable better learning outcomes among pupils. Fair examinations are potent tools in gauging the level of achievement of the pupils and perhaps their ability to use of knowledge and skills learned. On examinations, Babazoko suggested:

The government can use a more structured practical exam that will evaluate other skills including practical subjects that were not evaluated by convectional theoretical examinations so that those others who may not be good in theory exams cannot miss out entirely...(Male Parent, BPS 001MP, 2012).

These observations seem to suggest that the parents felt that the government needs to do more to improve learning so that pupils and largely the society can benefit more. This could be done by including a practical tool to gauge the efficacy of pupils in practical subjects. Moreover, use of practical examinations will make teachers and pupils give more attention to good practices hence enable action-competence in use of knowledge and skills. Additionally, a theory and practical examination combined together will be a good tool in determining the
ability and efficacy of the quality of products from our schools and other learning institutions, which will make them more adaptable in a turbulent society.

x. School health policy
A comprehensive school health policy is a tool that can be used to consolidate gains in health education by ensuring regular and good practice in a school to reinforce skills and knowledge acquired by pupils. All study informants suggested that school health policies are important and especially when they are implemented in organized, systematic and uniform manner. This is important because pupils come from society that has similar social and health problems and enabling them to acquire and be consumers of preventive health education will enable the government to have a fairly healthy and productive citizenry. Jemini, the head mistress of BPS recommended that the government should provide a comprehensive school health policy to all primary schools and allocate funds to schools to implement the school health policy.

The findings suggest that a comprehensive school health policy in view of emerging socio-dynamics in society that lead to social vices, which include NCLSDs, require a new approach; perhaps, such a policy can enable pupils to acquire good health practices to prevent lifestyle diseases. Preventive health education is not only potent but, a proactive tool that if introduced in formative years in primary education can enable pupils to get acculturated to good health practices to prevent lifestyle diseases in later life. Ultimately, through regular practice, then the overall health and standards of living of people in the society will be improved.

xi. Teaching of PE
The researcher went out to seek views and feelings of various study informants on measures that can be taken to enable pupils acquire knowledge and skills to prevent NCLSDs. The researcher sought experiences of QASOs about the teaching of PE which is a subject that has good health implications on healthy growth and development of the pupils; this, is due to the potency of its content that is “practical and exercise-based activities” that involve movements of body muscles/organs to ward-off NCLSDs. The officers had similar feelings and experiences in all the schools visited. All QASOs had similar experiences, they observed “PE is a compulsory subject in all schools... teachers have records like schemes of work where PE is included and up-to-date.”

On probing further to find out whether teachers had regular and up-to-date lesson plans, Ogopwa observed, “many have no lesson plans for teaching PE yet they claim to teach it on daily basis.” On probing from the officers whether teachers were aware of the importance of
teaching PE, Ogopwa explained that “It’s funny that many teachers are aware of health benefits of PE yet many do not lesson plan for it nor teach it regularly...in fact many teachers have no PE uniforms.”

The preceding observations show that PE is not taught as ought to be done which may have adverse health implications to pupils due to physical inactivity. Physical inactivity (lack of physical activity) has been identified as the fourth leading risk factor for global mortality (6% of deaths globally). Moreover, physical inactivity is estimated to be the main cause for approximately 21–25% of breast and colon cancers, 27% of diabetes and approximately 30% of ischaemic heart disease burden (WHO, 2011:122).

What is challenging in the findings is the revelation that QASO officers were aware that teachers do not teach PE as ought to be done, yet it is the same QASO who should ensure teachers teach PE as ought to be done; or may be like teachers, their work is also judged by improvement in MSS? Perhaps, there is need to redefine their approach or introduce a tool to ensure that schools take PE as ought to be.

In an effort to be exhaustive and comprehensive about PE, the researcher sought views of PE curriculum specialists in KIE. The KIE curriculum specialists involved in development of PE syllabus felt that teachers need to change their negative attitude towards teaching of PE. Mseto, the KIE specialist in charge of developing PE syllabus in primary schools noted:

> Teachers hold negative attitudes toward the subject due the fact they went through the school system where PE activities were not given any attention hence, a tendency to ignore PE... (Lady CD, KIE 001L, 2012).

On further probing about what causes the negative attitudes, Mseto went to say:

> Teacher’s negative attitude could be due to lack of practice and exposure to physical exercise since their school; which is now reinforced by the school system that lays exceptional emphasis to bookish knowledge to pass examinations... (Lady CD, KIE 001L, 2012).

On why PE time is not used as required by MoE guidelines, Mseto suggested:
The directorate of quality assurance in the Ministry of Education is best placed to respond to issues why PE is not taught as planned in the timetable in KPSC since monitoring and evaluation of teaching is within their docket... (Lady CD, KIE 001L, 2012).

However when asked what can be done to invigorate teaching of PE subject in Primary schools she felt:
Inclusion of content bearing on indoor activities that do not require much in terms of space and resources is important; and, also including theory content that can enable pupils to appreciate the importance of exercises to their health...it may change the current tread of physical inactivity and negative attitudes among pupils...(Lady CD, KIE 001L, 2012).

She insisted that teachers are failing in their duty by not teaching PE while they are aware of its implications to the health of young children. She also blamed the MoE for taking one PE lesson to be used to teach Lifeskills Education.

She went on to explain that when they develop PE syllabus; the orientation division of KIE takes over to do orientation to teachers nationwide on the implementation of the new syllables. The officers in charge of orientation then plan countrywide visits to do orientation to teacher. Orientation session is aimed at inducting teachers on how to teach the new subject. It is notable that the orientation is done by other officers and not the PE syllabus specialists, which perhaps may have issues with implementations.

The researcher visited the syllabus orientation staff to learn more on how orientation is done nationwide. The researcher set out to interview the officer in charge of orientation of a new subject. Mpole, the officer in charge of orientation said:

We carry orientation in all parts of the country in two ways...first we organize teacher orientations in educational centres where we invite heads of subject panels from schools... this may take 1-2 days or 1week depending on the nature and scope of syllabuses involved... later, we send heads of subject panels to orient subject teachers in their respective schools... (Male CD, KIE 002M, 2012).
Mpole also reported that they could use a second approach. He explained:

We also use cascade method where we orient Field Educations Officers such as Teachers Advisory Centre Tutors (TAC) and Area Educational Officers (AEO) as Trainers of Trainers (ToT)... we later send them to organize orientation for heads of subject panels in their respective educational zones...then, heads of subject panels in turn orient subject teachers in their respective schools who are expected to teach the new content... (Male CD, KIE 002M, 2012).

The findings show that different KIE officers other than the syllabus specialists do orientation of new syllabus content. However, it is notable that various officers and personnel are involved in orientation of officers from one level to another, which may raise issues regarding consistency, quality and efficacy of the entire orientation process since officers involved are not subject specialists. It is also critical that supervision, monitoring and evaluation of teaching and final examinations is done by different bodies (QASO), which might raise questions on issues of quality and efficacy particularly due to the fact that subject syllabus specialist are not directly involved and PE subjects is not examinable. It is also quite instructive that no one is held accountable or answerable for the quality and outcomes of the entire orientation process. Perhaps these are some of the issues that make teachers lose touch in interpreting, operationalization and implementation of co-curricular activities in schools. Since the trend is likely to persist, one may safely say that pupils are likely to practice sedentary lifestyles in school.

xii. Review of HE content to include NCLSDs
The researcher went further to explore issues related to the content of the HE in KPSC by interviewing QASO; interestingly, though interviewed separately after a number of days, they shared similar responses; Ogopwa, a Senior Quality Assurance and Standards Officer in MoE noted “HE does not have content on non-communicable lifestyle diseases…but teachers can treat them as emerging issue and teach them.”

They said, “Teachers can make efforts to include it on their own as part of emerging issues in education”. Ogopwa suggested, “This gap of knowledge in the syllabus and content need to be filled in view of rampant cases of non-communicable lifestyle diseases that are taking a heavy toll in society.”
Infact, she went further to explain, “we encourage head-teachers to tell their teachers, parents and pupils to participate in heart walk and diabetes day to enable pupils and teachers understand what these diseases are...” Asked what schools can do regularly to ensure PE is taught, Ogopwa, felt that “if head-teachers assisted by other senior administrators in the school were strict and strong since they were in charge of quality teaching in their schools...there would be good academic performance.”

Another QASO, Mambo, was more assertive in saying that “most head-teachers and senior administrators are not keen to ensure effective and quality teaching in spite of good support and advice from quality assurance officers who visit schools on regular basis.” The findings suggest that QASOs feel that head-teachers should do a better and more effective job to ensure good learning outcomes in the schools. The officers noted “private primary schools had good resources and equipments for teaching science compared to public schools.”

The researcher diligently inquired the views and feelings of head-teachers in all the three schools sampled for the study on what measures can be instituted to improve learning outcomes among learners. The informants shared similar views among themselves and their teachers. It is notable that all the head-teachers suggested that MoE should review syllabus to incorporate content with NCLSDs. Soki, the headmistress of MPS suggested, “MoE can review syllabus and include content of non-communicable lifestyle diseases.” Further, Godei suggested:

The government should ensure Kenya Institute of Education reviews Primary School Syllabus to include in issues on non-communicable lifestyle diseases and the Kenya National Examinations Council to use standardized tools to evaluate the implementation of syllabuses at various levels of education...(Head master, JPS 001HDM, 2012). 

While, Zedeki, a male teacher from MPS suggested that “the government should use curriculum specialists to review KPSC to include NCLSDs.” Mamakashujaa, a female parent from BPS noted “there is need to review curriculum to include all types of lifestyle diseases.”

The findings show that all informants felt that there is need to review the content of primary school HE syllables to include knowledge about NCLSDs, which are negatively affecting healthy lifestyles in contemporary society. Good and accurate preventive knowledge is a potent tool that can overcome that which threatens society giving a
new lease of life where untold suffering ravaged by NCLSDs will gradually be reduced and suffering eliminated altogether.

CHAPTER FIVE
SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction
The chapter encompasses the thematic summary of the findings of the study, conclusions, recommendations and suggestions for policy action. Areas for further research have also been recommended.

5.2 Summary of the Study Findings
5.2.1 School Health Policy
The first objective of the study was to examine the operationalization of the KNSHP and its influence in socializing pupils to acquire HLs to prevent NCLSDs. Under this objective, various findings were established.

The study established that KNSHP was not being implemented and that head-teachers’ and teachers were not aware of it though it contained some good information about lifestyle diseases. There were no structures in place to support and enhance the implementation of the policy. The members of the school fraternity were not aware of the
policy and QASO did not make any follow up regarding the policy. The findings show that in the absence of implementation of the health policy, which could have major contributions to change of lifestyle; pupils may continue to be predisposed to NCLSDs due to UHLs.

The study also found that schools had school-based policies that dealt with communicable diseases but NCLSDs were not included. The policies were school initiatives, which were supported by some companies, and donors who manufactured soap, jelly and washing detergents. The study found that school HE policies had major focus on hygiene, dubbed as clean hand policy, which were sponsored by companies that deal with soap which was a strategy to market their product. Whereas this is a good practice, it did not cover issues related to NCLSDs.

The researcher found that schools had no food policy guidelines that could guide and regulate the types of food and eating time. There was no hygienic storage of cooked foods brought by pupils from home and schools had no guidelines to ensure such foods were handled hygienically to safeguard pupils' health and well being. Schools neither checked the kind of foods that pupils carried from home nor provided a clean and hygienic place for pupils to keep food to be eaten during lunch breaks. Instead, pupils kept foods under their desks or just on dusty and sometimes wet class floor in the congested classrooms. Schools did not have a policy to guide or even monitor what kind of foodstuffs pupils ate; further, the schools did not provide pupils with information on eating habits and likely effects to their health and lifestyle. This indicated HE was not utilized to ensure good practices among pupils. Further, the study findings have abundantly confirmed that schools did not bother to check and monitor what kind of foods were sold in school canteens, kiosks and other structures in schools which were managed by foods vendors and, also those near the schools to ensure safe and good health practices were observed.

School records did not have evidence of involving parents or PTA to guide pupils on eating and feeding habits and the implications to their health. The findings show that schools did not have any regular practices that could enable pupils to be good consumers of HE to prevent UHLs. Schools had no strategies to enable pupils to monitor their body weight. Gadgets such as BMI, which are important to enable pupils', maintain optimum body weight to prevent NCLSDs were not used. Indeed, pupils and teachers had no knowledge about them and how they are used.

The researcher found out that drugs such as cigarettes are packaged in similar packages like those of junk foods and displayed intertwined with packets of junk foods. This may suggest that pupils are exposed to drugs at a very early age. This perhaps explains why habits of drug and
substance abuse commence early in life since curiosity may make pupils to try taking them.

The researcher found out that pupils have unlimited access to junk foods both at school and at home. The researcher established that different varieties of junk foods were sold to pupils in school canteens and even food vendors inside school and shops/kiosks surrounding schools. The researcher established that junk foods are prepared in roadside kiosks, open-air “jikos” and other makeshift structures in unhygienic and unhealthy environment, which could be a potential health risk to the consumers who were mainly pupils. Further, junk foods prepared in roadside kiosks were not hygienically cooked and packaged; moreover, neither the people selling them nor the premises were certified medically to handle human foods and beverages. The foodstuffs did not have expiry dates, which indicated that they could be sold after expiry dates had elapsed. It was established that consumers who were mainly pupils’ were not aware or they did not care about dates as long as the foods were edible.

The researcher also found out that junk foods were packaged in various amounts to enable ease in selling to pupils who may have any amount of money, which was a deliberate move, by vendors to capture more consumers and make more profits regardless of the health implications to the consumers. Food vendors packaged junk foods in various quantities and decorated coverings with colourful labels so that they were affordable and appealing to pupils from various socio-economic statuses and social cultural backgrounds. It was also notable that consumption of junk foods did not depend on social economic background because they were readily available and cheap and pupils from humble backgrounds embraced them to envy those from higher social economic statuses. Pupils from higher socio-economic background embraced junk foods as fashionable and a status symbol, which formed part of their lifestyles.

Moreover, it has been established that junk foods are highly flavoured and packaged in flashy and conspicuous colour packages; which was a strategy of advertising products to lure more pupils to consume them. The researcher established that junk food vendors located their wares in strategic locations to capture the attention of their clients and they used persuasive language and colourful graphics and photographs often depicting role models consuming them. The colourful graphics displaying models consuming junk foods were meant to popularize enviable lifestyles of consuming such foods among young generation since many children envy models in TV shows, FM radio stations, sports, motor sports ace, athletics and ball games etc. In fact, many young people envy lifestyles and values from models and, using adverts showing models has great potential to popularize junk foods to children. Further, the strategy of targeting young children could ensure
sustainability of the market for junk foods in future generations once such lifestyles are habitually entrenched in society as a way of life.

The researcher noted that junk foods were so popular among peers who had developed unique coded “sheng” terminologies for them. Language has a symbolic meaning and identity that young people can use to identify with these foods as fashionable, which may increase consumption of junk foods and drinks. This may create a culture among the youth who are quite impressionable which may promote more eating of junk foods that ultimately, may make them more vulnerable to NCLSDs. The researcher established that parents and teachers bought and consumed junk foods with their children and did not discuss about NCLSDs with them; this tendency is habit forming because through socialization both in the family and later in school, pupils will eventually acquire the culture of consuming junk foods, which may be detrimental to their health.

5.2.2 HE in KPSC
The second objective was to analyse the Primary School HE content in relation to promoting good health habits to prevent NCLSDs. Under this objective, the following findings were established. The researcher found out that only two subjects contained objectives and general contents related to HE. There is no content in HE that addresses information on NCLSDs. The objectives and content used for teaching Science and PE subjects do not capture any issue in NCLSDs. Further, it was established from all other subjects, school records, examination test papers, learning resources available, pupils notebooks and posters in schools as well as school-level health policies and daily practices that issues related to NCLSDs did not feature but communicable diseases like HIV and AIDS and hygiene were addressed.

It is also notable that PE books used in primary schools did not contain essential theoretical knowledge and notes that can be used to teach and inform pupils on the importance and direct relationship between various physical exercises and activities on their body health and physical wellbeing. This apparent gap of knowledge made pupils and perhaps teachers not to see or notice any health benefits of physical activities/exercises. Perhaps, with emphasis on likely implications of PE to their body systems as they grow up and consequences if ignored; this could possibly enable pupils to see the direct benefits of PE to their health, lifestyle and wellbeing and develop good health practices of exercising and eating well to keep fit and healthy.

Similarly, in PE textbooks and syllabuses, component of indoor PE activities was missing which could have been potent in enabling primary school teachers who happened to be in charge of PE but had limited exposure to guide pupils in various indoor physical activities. This could enable them to conduct indoor physical activities and body
movement exercises during rainy seasons; further, where the school compound had limited space due to high enrolment of pupils occasioned by FPE and high birth-rates, knowledge of indoor physical activities and body exercises could be a potent interlude to curb continuous sedentary lifestyles not only in schools but also in later life.

On the teachers’ knowledge content, the researcher established that teachers had no knowledge about NCLSDs since it was not in college curriculum during their time of training. It was also established that textbooks (MoE-KIE) used in teaching science and PE did not contain any content in NCLSDs. The researcher found out that KCPE examination papers did not have questions to test knowledge of NCLSDs but only tested general issues about HE; further, analyses of other school records like school inspection reports from head teachers, teachers in charge of subjects, subject panel records which contained critical views by subject teachers on how to improve learning outcomes; pupils note books where they record notes and assignments on daily basis for revision and further practice when preparing for examinations showed that NCLSDs were neither captured nor mentioned. It was notable that none of them had any information or a question on NCLSDs.

5.2.3 Teaching methods in HE
The third objective was to examine the teaching approaches in HE in primary schools in relation to enabling learners to realize good HLs. Under this objective various study findings were established. The researcher found out that teachers mostly used didactic, teacher-centred approaches, talk and chalk and even at times dictated notes. Teachers’ also used teacher-centred experiments, lecture method, rote learning and memorization/cramming of facts due to alleged shortage of time, over enrolment of pupils and understaffing. Use of teacher-centred approaches is informed by the fact that MoE has put a requirement that improvement of academic performance is one of the key requirement of promotion of teachers and a benchmark of educational prosperity hence teachers over-teach, drill and coach pupils to ensure good scores to get promotions and career advancement. The study established that teachers believe that primary teaching was about equipping young pupils with factual information to enable them to pass examinations since the primary syllabus is mainly theoretical and there are no practical examinations at primary level. Other teachers alleged that they use teacher-centred methods because that was how they were trained which perhaps show that negative attitudes and bad practices begin quite early and they are perfected as one continues to teach. The researcher found out that PE lesson is mainly used to teach examinable subjects in order to improve MSS. The tendency to ignore exercises and movement creates a culture and attitude of sedentarization, which is a fertile ground for NCLSDs.
The researcher established that teachers had limited PE and HE knowledge and largely limited capacity in the same subjects. Indeed, many teachers in the schools sampled could not state accurately any of the objectives of teaching PE or HE. Moreover the researcher found out that even in marking records, head teachers, heads of subject panels and even education inspectors did not bother to check factual accuracy of content, whether objectives were achievable, type of learning activities, and use of learning resources concerning PE and games teaching records but they only stamped and signed the records.

The researcher found out that neither games facilities nor equipment including the fields were adequate to cater for large enrolment of pupils due to FPE. The study also established that apart from perhaps few balls for football, volley and netball, schools do not have other simple but effective PE material like skipping ropes and bean bags that could be even improvised and used to enable more pupils to be active during games time instead of just sitting in the field as they watched those in school teams during games time. The study also found in one school term, only a meagre number of pupils (paltry 2.11%) in the entire school were actively involved in physical activities during games and sports, which were meant for competition and not for health benefit. Only one or two teachers were active during games while other teachers watched or just sat down chatting while they left prefects to supervise and ensure all other pupils were quietly seated or cheered the teams. Further, it was found the playing fields were very dusty during dry season and muddy during rainy season and sections of the field were waterlogged. This made it difficult for pupils to use them as they risked being infected by respiratory diseases due to dust during the dry season or waterborne, vector-borne diseases during the wet season.

The researcher noted PE and games facilities are in very desolate condition of disrepair; they are also neglected and covered with tall grass due to lack of use. In fact, the only small portions that were often used by pupils had short grass due to effect of pupils’ feet that tramped on grass as they walked about during break time. These findings show that physical facilities were grossly underutilized, which implies that physical activities and body exercises were not done since the major emphasis, was on academic performance, which was done indoors.

The researcher noted that national examinations determined the attitude of teachers towards what was taught. If the content was examinable, the teacher’s attitude was positive and they were willing to teach it; but where the content was not examinable, the teachers were unwilling to teach it since it did not contribute to the quality of learning by improving MSS and no one would notice their efforts and
reward them accordingly. The researcher noted MSS was used as a sole benchmark to gauge quality of teaching as well as learning outcomes and academic performance in schools. Infact, the mean score syndrome was such a serious issue that even if teachers spent so much time with practical work, using learning resources and experiments without general improvement of the mean score, school administrators, parents and education officers would be too harsh or too hard on them.

The researcher found that classrooms had no learning aids nor did they have soft boards and other places where learning aids could be displayed if available. Displaying learning aids in classrooms could enable pupils to have the opportunity to refer to them as they update and revise their notes during or after the lesson. It is a good classroom practice to hang used learning resources in classrooms to reinforce learning since learners have more time to refer to them as they do assignments and make notes. Infact learning aids not only reinforce learning, but also improve quality of scores in assignments as well as improve internalization of concepts learned and ultimately, improve learning outcomes and MSS. Regular use of learning aids and displaying them in classes enable pupils to form a habit of referring to them individually and at times in a group after the lesson which enable them to form good practices in learning as pupils share, discuss and mentor each other as they compare notes. Such good practices have multiple benefits as they reduce individual differences to enable acquisition and internalization of new skills and knowledge as well as promote their proficiency in class exercises, assignments and homework leading to better results of term tests and examinations. Moreover, when pupils acquire accurate theoretical knowledge it may lead to good practices when using that knowledge to solve problems in real life situations.

5.2.4 Perceptions on Contributions of HE to HLs
The fourth objective of the study was to explore the perceptions of Primary School teachers and Pupils on the contributions of HE to enabling pupils to practice HLs. Under this objective various study findings were established. The study found out that majority of teachers [94%] had negative attitude towards subjects like PE that were not examinable and indeed no attention was given to them in terms of teaching as they were deemed not to improve MSS. This made teachers to keep pupils in class during PE time to teach them to improve MSS and pass well in KCPE.

The researcher found out the current content of HE in KPSC was inadequate to enable learners realize and achieve perceived health benefits both for communicable and NCLSDs. The few elements of HE content which are devoid of NCLSDs in KPSC are scattered in various subjects like in Science and PE. The content comprises of bits of
information which are not related which makes it very difficult to coordinate and teach effectively to young children; and since PE is not examinable in school-based and national examinations, no attention is given as teachers mainly deal with examinable subjects which were called priority subjects.

The findings strongly suggest that teaching was examination-oriented and too theoretical. It was also established that examinable subjects were given more focus at the expense of non-examinable subjects. This implies that pupils may acquire prowess in specific theoretical knowledge in examinable subjects only, but are deficient in knowledge contained in non-examinable subjects as well as practical skills and experiences of issues since learning was not wholly interactive. Nevertheless, the researcher established that schools made efforts to encourage good practices on pupils to wash their hands with support of some companies. The habit of washing hands after visiting the toilet was the only practical aspect of HE put into practice though water shortages in the schools were a daily occurrence, which had adverse effects to clean-hands policy.

The researcher noted that school policies also laid emphasis on issues related to communicable diseases like HIV and AIDS as evident in good graphics on the walls in each school but nothing is said about NCLSDs, which are not in the syllabus. This studious silence about lifestyles that potentially predispose pupils to NCLSDs is self-reinforcing since pupils unconsciously acquire practices that predispose them to NCLSDs which become habitual thus becoming part of their lifestyle. This puts them at a greater risk of developing such diseases without their knowledge that such lifestyles are risky. It is important to note that absence of correct information does not preclude pupils from NCLSDs since they are predisposed to such lifestyles with no knowledge of the diseases. In absence of accurate knowledge, then, there is a risk of veering ignorantly to practices that could predispose pupils to NCLSDs due to sedentary lifestyles and knowledge deficit.

5.2.5 Factors that limit implementation and efficacy of HE

The fifth objective of the study was to establish factors that limit the implementation of the KNSHP and school HE programmes in the selected case schools to prevent NCLSDs. Under this objective, various study findings were established that limit and adversely affect the learning outcomes in HE and by and large prevent action-competence of the pupils in application of HE knowledge.

The researcher established that KNSHP was not being implemented and there were no structures in all schools to support implementation of this policy. In absence of implementation of KNSHP teachers, parents and pupils were not aware of the policy content, which was a serious drawback in instituting good practices to support its content since they
were not aware of it. The study also established that most of HE teaching is too abstract as well as theoretical and teachers did not offer opportunities for any practical work or project. This was due to the fact that teaching was aimed towards improving MSS to pass theoretical examinations. This is because examinations at primary level test theory of knowledge and not practical skills. This made teachers to avoid interactive teaching/learning to instil practical skills but instead concentrated on teaching factual knowledge and drilling pupils to pass examinations. These teaching approaches had negative learning outcomes because pupils were not given opportunities to acquire practical skills and customize those skills to daily living activities for healthy lifestyles.

The study established that teachers lacked up-to-date knowledge as well as accurate and reliable knowledge on NCLSDs and what factors cause or lead to them. They said that they did not learn anything about them in college. Teachers also said that educational seminars and meetings did not include any updates that could prepare and enhance their capacity in HE and NCLSDs. The study also found out that teachers were not properly inducted and in-serviced on teaching of HE by KIE and QASO. Indeed, they said this undermined their efficacy, creativity and confidence in content delivery and instructional methods that could enhance effective teaching/learning outcomes in HE. This is imperative since, one cannot effectively teach what s/he does not know. Lack of knowledge has a negative effect on the teaching of NCLSDs.

The researcher established that teachers are too moralistic and over socialized in teaching style and threatened pupils who asked questions on other issues outside what was directly examined in examinations, which they supposedly deemed to be outside primary school syllabi. Pupils reported that those who asked any question outside what the teacher taught in class was shouted at and told that it was outside the examinable syllabus and, warned not to read or waste time on issues outside the syllabus, as it would make him/her fail in forthcoming KCPE. This practice discouraged creativity and demoralized pupils and had a negative effect on learning outcomes since it sent a signal to pupils that what ought to be practiced was what was examinable.

The researcher also noted that at primary school level, a teacher occupied a prominent and authoritative position in the lives of the pupils at a critical formative stage; hence, as the custodian of knowledge and source of authority the teacher had immense influence on pupils’ lifestyles. Pupils innocently have faith in what their teacher glorifies and edifies during the teaching and learning process. Hence, if teachers can put the same effort they put in examinable subjects to teach PE and HE with content showing direct benefits to overcome NCLSDs, this could have great influence in enabling pupils to acquire
vital preventive education and practice healthy lifestyles to prevent NCLSDS.

The researcher established that quality assurance and standards officers at primary school level were not necessarily subject specialists but those who were merely promoted and inducted. This implies that such officers may not be competent to offer specialized and technical advice to teachers over and above ordinary inspection of basic teaching records and related professional documents since they are not subject specialists. This may have adverse effects on teachers’ efficacy in teaching new areas of knowledge and emerging issues in education since many teachers are unlikely to attend post-college training or further studies during their teaching period. This is possible since the cost of higher education is reasonably high and a bit costly to ordinary teachers.

The researcher established that schools had few textbooks that were shared by pupils. The class teachers’ used strong lockable cupboards to keep textbooks to prevent them from damage or being lost or stolen by pupils. The habit of locking textbooks limited their use by pupils, hence limited access and exposure to HE knowledge.

The researcher found out the key determinants on whether theoretical HE knowledge can be translated into practice are whether the pupils are taught effectively to acquire the content, capacity and practical skills to overcome negative attitudes and beliefs. Another factor that determines learning outcomes in HE was too much use of theory without practice due to lack of opportunity to use and practice new knowledge, skills and lack of supportive or conducive environment.

The researcher established that schools kept pupils in class for long hours without opportunity for practical physical activity. Classroom environment confined and limited pupils’ physical activity and repressed their activities and creative ability to consume and practice knowledge. This prevents pupils from actual practicing of whatever theoretical knowledge they had been taught or learnt on their own since the presence of the teacher is dominant. In particular, coaching and drilling to pass exams creates a domineering teacher who denies pupils freedom to analyze and creatively and innovatively use that knowledge and skills to solve problems. This tendency creates pupils who perfect passive consumption of knowledge with no creative and practical products in terms of new knowledge and skills, a recipe for sedentary lifestyles, which might lead to more susceptibility to NCLSDs now and in the future.

The researcher established that companies that deal with fast foods use persuasive and conspicuous advertisements, posters and graphics to capture the attention of pupils and society in an effort to promote
consumption of junk foods and drinks. The researcher also found that such advertisements whether in print as well as electronic media did not contain any information that can inform consumers on the side effects of consuming junk foods and drinks. This perhaps made pupils to continue consuming junk foods and drinks innocently.

The researcher found out that persistent practices that potentially predispose pupils to NCLSDs include sedentary lifestyle exercised in classes and at home where pupils are kept indoors the entire day reading and being coached to pass examinations. The researcher found out that pupils are not engaged in any physical exercises at home since there is no open space for play; lack of security and parents’ overemphasis on the importance of reading to enable their children to pass KCPE so that they become important in society. Some parents hired private tutors to provide private tuition to enable their children to do well in examinations. Parents also bought junk foods for their children to motivate them to improve academic performance. These habits lead to regular consumption of junk foods at home and school. It was found that most pupils used motorized transport to and from school which limited energy use due to lack of exercise. All these practices conserve energy use and may lead to overweight and make one more prone to NCLSDs.

The researcher found that schools did not have good regular practices that can enable pupils to acquire healthy feeding habits and control and management of personal weight to avoid becoming overweight and obese. A critical finding was that schools have no simple weight monitoring gadgets like BMI devices, which pupils can easily use one way of monitoring their body weight to prevent overweight and obesity.

The researcher found out that many pupils were overweight. Moreover, the researcher also established that socio-cultural beliefs created favourable attitude towards overweight and being fat was admired and respected as an indicator of wealth and a sign of good care as well as good health that accompanies those who come from well-off backgrounds or HSES. These socio-cultural beliefs and attitudes that over glorify plumpness as a sign of wealth encourage consumption of junk foods and drinks. These habits were not only common among pupils of higher socio-economic background or HSE but also, envied and practised by pupils from humble socio-economic backgrounds, which potentially may lead to escalation of NCLSDs in the entire society.

The researcher also established that pupils spent too much time when at home watching television and listening to radio. TV and FM radios have adverts of celebs and models which have content that glorifies consumption of junk foods/drugs use and carefree lifestyle. This content is likely to be habit forming to pupils leading to a persistent
culture of consuming junk foods because mass media is popular among young people. This is a bit serious today since many parents belong to the working class and pupils may learn a lot from mass media without relevant parental guidance, which might lead to more cases of NCLSDs. Finally, all the findings confirm the need for effective proactive interventions starting as early as infancy to reverse anticipated trends in NCLSDs.

5.3 Conclusions of the Study

Overall, the study findings seem to point out that there is sufficient evidence pointing towards increase of NCLSDs as a significant public health concern in the study locale though members of society are oblivious of the silent killers as evident from their lifestyle.

First, based on the findings of the study the researcher can safely conclude that KNSHP was not operational in schools and there are no structures in place to enhance its implementation. It can also be safely concluded that KPSC, school level health policies and related school activities in did not have any content dealing with NCLSDs that can be used to socialize pupils to acquire HLs to prevent NCLSDs. The researcher can safely conclude that NCLSDs are not included in primary school examinations. This therefore shows that pupils were innocently and ignorantly predisposed to NCLSDs since there were no socializational structures or any content in place. Further, food vendors sold junk foods and drinks socialized pupils to consume junk foods and drinks through colourful and persuasive display of foodstuffs in school and surrounding environment. Moreover, conspicuous advertisements in electronic and print media using various models exercise great influence in making pupils consume junk foods and drinks. None of the adverts included any message to inform pupils of the side effects of junk foods and drinks through NCLSDs. It can be concluded that, without government intervention to prevail on food dealers to take social responsibility over adverse health effects of sale and consumption of junk foods and drinks on individuals and society, NCLSDs are likely to increase. The trends show that there is a high likelihood of escalation of NCLSDs in future society.

Secondly, based on the study findings, due to lack of implementation of KNSHP as well as absence of content in NCLSDs in the syllabuses, it can be concluded that learners are unlikely to realize positive HLs to prevent NCLSDs. Further, it can also be concluded that, teaching approaches are too theoretical, abstract, didactic and moralistic where pupils are passively involved since teaching is teacher-centred and examination oriented. The theoretical approach is meant to make them pass well in theoretical examinations. This leads to the conclusion that teaching in primary schools is mainly theoretical. The syllabi are also evaluated theoretically and teachers teach basic facts to enable pupils to pass examinations and improve MSS since it is the only yardstick to
measure learning outcomes and standards. This leads to the conclusion that schools have strong policies for teaching examinable subjects to improve mean standard scores of the pupils while no attention is given to non-examinable subjects. The factual teaching that is theoretical and examination oriented creates apparent disconnect between theory and practice since pupils are socialized to understand that education in schools is meant for examinations and not for transforming lifestyles. One may safely conclude that in the absence of operational structures and content in schools that could socialize pupils to acquire knowledge and practical skills to adapt to good practices to prevent NCLSDs, cases of pupils suffering from NCLSDs are likely to escalate in future.

Thirdly, it can be concluded that teachers, parents and pupils have positive attitude towards HE and its attendant benefits in healthy lifestyles; but since content on NCLSDs is grossly lacking in the formal syllabi, these perceived benefits would remain a mirage. This is reinforced by the fact that schools lay priority in teaching examinable subjects. PE, which contains bits of HE, is not given attention since it is not examinable and subjects like Home Science which had essential and comprehensive knowledge in nutrition were hurriedly removed from the curriculum without even ferrying some their essential content in the remaining subjects.

Fourthly, it can be concluded that teachers, parents and pupils are not aware of KNSHP and as such, there is no implementation of that policy in schools. Based on the study findings, it can be concluded that schools have no food policy guidelines to inform pupils on their feeding habits and implications to their health. There is no information or guidelines for pupils, teachers and food vendors in schools even on hygienic handling of various types of foods consumed by pupils when in schools let alone health implications. In absence of any food policies, learners will continue to consume junk foods and drinks and in absence of regular physical exercises, one can safely conclude that pupils will practice unhealthy or sedentary practices. These sedentary practices are likely to make pupils to develop a culture of tolerance to such habits that could make them more vulnerable to NCLSDs since with time it may be very difficult to change them. Indeed, this may lead to a scenario where through socialization such attitudes, values, beliefs and practices in consumption of junk foods and drinks may be very difficult to change in future society since they will be part of socially desirable lifestyle.

Fifthly, it can be concluded that teachers’ preparedness in teaching HE in light of emerging concerns over UHLs in primary school pupils that predispose them to NCLSDs is grossly lacking. Based on the findings of the study, teachers have limited knowledge on NCLSDs and hence they do not have the capacity, content and methodological approach to
teach the subject. One may conclude that unless, teachers capacity on NCLSDs is enhanced, NCLSDs may pose a greater challenge in future society.

The study concludes that teachers use teacher-centred methods of teaching in an effort to cover the syllabus on time to revise it severely to improve MSS in ensuing examinations. The study also notes with concern that the issue of the mean score syndrome is such a serious issue that even if teachers spent so much time with practical work, use of learning resources and experiment without general improvement of the mean score, school administrators, parents and education officers would be too harsh. This denies pupils the opportunities to interact with knowledge and practice any new skills taught.

The study concludes that teachers teach only what is included in Kenya Primary School Syllabus and what is examinable in an effort to enable pupils to pass examinations. It can also be concluded that where knowledge on emerging issue is not included in the syllabus and in examinations, such content is not taught nor given any attention even when it has direct implication to pupils’ lives.

The study concludes that possession of theoretical knowledge in HE and in particular NCLSDs does not necessarily translate into action-competence. The supportive opportunities and friendly environment both inside and outside the school determines whether learners will translate theory knowledge into good practices that will prevent NCLSDs. This implies that schools, families and communities should mobilize resources to prevent the epidemic that is likely to come from NCLSDs.

Further, the implication is that school curriculum needs to be supported by the wider community so that pupils might not face cognitive dissonance between theoretical knowledge and practical experiences observed in the society. This will reduce the apparent disconnect and mismatch between what pupils learn in class and what goes on in the community. This calls for the communities to be educated on NCLSDs. All available communication channels can be used for advocacy and publicity to create an ultimate environment where theoretical knowledge can be translated in good practices to prevent NCLSDs.

Generally, based on study observations childhood overweight and obesity is a reality a result of the over-nutrition and physical inactivity through sedentarized lifestyles. There is need for society to be proactive to prevent these lifestyles, which are being embraced widely. Research and awareness campaigns are therefore recommended. These will require a comprehensive and all-inclusive approach that brings together all players in the field, which can be approached
nationwide, and globally; such a task will require the national
governments that have the capacity and wherewithal to mobilise entire
citizenry to prevent imminent pandemic of NCLSDs which may
ultimately affect modern development in many ways.

Finally, it can be concluded that there are various factors that
determine how Primary School Pupils translate and sustain skill based
HE knowledge through action-oriented practices for healthy living to
prevent NCLSDs. These include use of democratic teaching methods
that are learner-centred and empower pupils through a supportive and
conducive learning environment (peers, teachers, parents and
community) and provision of educational support services like
mentoring, guidance on career opportunities. There is need to enhance
the quality of health in the school community by creating a healthy and
child friendly environment for teaching and learning and create health
promoting schools and communities to usher in new HLs that can
gradually outsmart NCLSDs.

5.4 Recommendations
It seems that society needs to instil in young people healthy and
orderly eating habits based on sound nutritional science and to provide
sports fields and the opportunities, education, encouragement and the
motivation to use them on a regular basis. The key to keeping a
healthy body weight is largely dependent on one’s lifestyle in order to
avert NCLSDs. Kenyan children and the youth need to be supported in
making physical activity choices that are convenient, sustainable and
compatible with their needs and interests. There is need to enhance
the development of social and physical environments that support the
integration of physical activity into daily life. Increasing knowledge and
understanding of the relationships between physical environments,
healthy eating and a range of other health determinants that
contribute to or inhibit optimal health is recommended. Increasing
knowledge and understanding of interventions which are effective in
changing physical activity knowledge, attitudes and behaviours is
required. Preserving the health of children and the youth through
health active living needs to be as high a priority as treating sick
children. Collaborative efforts among relevant Kenyan government
ministries as well as non-governmental organizations are necessary to
combating emerging NCLSDs. Nonetheless concerted broad based
strategies should be initiated through various social institutions and
societal settings in society such as families, schools and communities.
These can be done through good health practices which are suggested
in the subsequent sections.

i. Schools
On the basis of the findings and conclusions of the study there is need
to enhance the way HE is taught in schools to enhance the quality of
health in the school community by creating a healthy and child friendly
environment for teaching and learning. Accordingly, the following
specific recommendations are suggested. Perhaps teachers in primary
schools should be allowed a measure of specialization around a cluster
of related subjects to enhance their capacity and prowess in teaching
and learning process through specific experience gained over time.
Perhaps a bit of specialization can enhance their capacity to be fairly
resources in HE in light of emerging technical challenges in the ever
fast evolving education industry to produce knowledge-based society.
Teachers can co-ordinate health professional and pupils under their
custody to implement HE programmes at school level. Specialist
teachers working in conjunction with public health workers to institute
health measures to ensure healthy practices such use of BMIs to
enable pupils and in particular school community to monitor and
manage their weight. Schools can then provide regular measurement
of body weight and height of pupils with a feedback system to parents.
Schools that initiate BMI measurement programmes should adhere to
safeguards to reduce the risk of harming students, have in place a safe
and supportive environment for students of all body sizes as well as
implement strategies to promote physical activity and healthy eating.
Teachers working together with nutritionists can advice pupils on
required dietary ingredients for healthy eating practices to ensure
healthy lifestyle.

Teachers should be regularly in-serviced at school level to enhance
their efficacy in operational efficiency due to variations in challenges
facing various schools. These fora will enhance teamwork and team
spirit to collectively address lifestyle problems posed to HE by
modernity in ever evolving society. Schools can organize seminars and
workshops involving subject specialists to invigorate and refresh
teachers to acquire fast, economical and innovative methods of
improvising on teaching and learning resources/aids. Such forums can
be used to train teachers to take advantage and use digital technology
in research, teaching and dissemination of knowledge in e-education
and society. Perhaps this will avail unending benefits in terms of
enhancing skilful prowess and efficacies that are the lifeblood in
knowledge-based society.

Schools can involve pupils in various activities to enable them acquire
more knowledge about NCLSDs. These activities include writing
competitions, public speaking and walks with themes touching on
lifestyle diseases. The school setting offers multiple opportunities for
students to enjoy physical activity outside of physical education class,
including recess periods for unstructured play in elementary schools,
after-school programmes, intramural sports programmes, and
health/physical activity clubs. These opportunities are particularly
important because they are accessible to all students, including those
who are not athletically gifted and those with special health care
needs. Moreover, improving and intensifying efforts to promote physical activity and healthy eating is entirely consistent with the fundamental mission of schools, that is, educating young people to become healthy, productive citizens who can make meaningful contributions to society. School-based healthy eating and physical activity programmes provide a great opportunity to enhance the future health and well-being of children because they can reach almost all children and may enhance learning and provide social benefits; moreover, such policies enhance health during critical periods of growth and maturation and lower the risk for chronic diseases in adulthood, and help to establish healthy behaviours at an early age that will lead to lifelong healthy habits. The effectiveness of school-based healthy eating and physical activity programmes is critical to evidence-based health policy and to justify broader implementation of successful programmes.

Schools can play a critical role in reshaping social and physical environments and providing information, tools, and practical strategies to help students adopt healthy lifestyles since majority young people are enrolled in schools and in the natural many go through some form of formal early in life. In schools, pupils have the opportunity to eat a large portion of their daily food intake and to be physically active at school before going home. In addition schools being centres of learning, it makes school environment an ideal setting for teaching young people how to adopt and maintain a healthy, active lifestyle since a school by its nature is well-designed with various programmes that can effectively promote physical activity and healthy eating. After all, physical activity, good nutrition, physical education and nutrition have a complementary role to academic performance.

Schools can build a strong foundation that will enable them to effectively promote physical activity and healthy eating as well as other health-enhancing behaviours. Schools can develop a tailored approach that meets their specific, local needs and interests; earn the support and commitment of the school community; use the insights gained from scientific research; and emphasize teamwork and collaboration to maximize effectiveness and efficiency by providing health education, physical education, health services, nutrition services, to create a healthy school environment by promoting health schools through involvement of parents, community and government ministries; Active coordination is needed to engage school staff, implement school priority actions; assess programmes and monitor policies. A well-coordinated school health programme results in an organized set of courses, services, policies, and interventions that meet the health and safety needs of all pupils.

Schools need to institute healthy eating strategies via school-food policy where school management should ensure that only foods and
beverages that contribute to nutritional well-being of children are served. Schools should ensure school food is be prepared in a safe, hygienic and healthy way and where pupils bring foods from home, schools should prepare guidelines to ensure such foods and drinks are kept in a clean and hygienic environment only to be eaten at specific time. Schools should adopt a healthy eating policy to be observed at school and at home. Schools should discourage consumption of foods rich in sugar and fat and encourage consumption of fruits and vegetables regularly for the health and wellness of children. School-based healthy eating and physical activity programmes provide a great opportunity to enhance the future health and well-being of children because they can reach almost all children and may enhance learning and provide social benefits; moreover, such policies enhance health during critical periods of growth and maturation and lower the risk for chronic diseases in adulthood, and help to establish healthy behaviours at an early age that will lead to lifelong healthy habits. The effectiveness of school-based healthy eating and physical activity programmes is critical to evidence-based health policy and to justify broader implementation of successful programmes.

Schools as centres of community learning can initiate awareness campaigns to encompass the entire school fraternity and immediate community to support health-feeding habits among pupils. Schools can also create lasting changes in school environments, such as the adoption of nutrition standards, establishment of pupils and staff health programmes, the provision of adequate class time for physical education and health education, and the opening of school facilities for after-school physical activity programmes. A school can initiate staff wellness programmes to provide opportunities for school staff members to participate in health assessments, nutrition classes, physical activity programmes and other health promotion activities like opening a gym facility in a school. These opportunities can contribute to improvements in physical and mental health outcomes; increases in morale, productivity, and positive role modelling for pupils. There is need for awareness campaigns to enlighten populations on role of physical activities and healthy eating and its benefits. Effective awareness will empower community to support children in sustaining health-eating habits.

Schools can formulate sustainable strategies to actively promote physical activities among pupils and staff. This can be done in various ways. One way can be through promoting physical activity in schools, where a school can encourage PE by ensuring facilities and equipments are accessible to and safe for all. Schools can introduce transport policies that promote active and safe methods of travelling to and from schools such as walking or cycling. Further, schools can improve sports, recreation and leisure facilities as well diversify activities to introduce indoor sports, games and recreations. Schools should make
efforts to increase the size of space and number of facilities for PE to match increase in enrolment so that all pupils can be actively involved in physical activities regular basis and in sufficient dosages. Schools may achieve this by developing and implementing institutional or school-based programmes that spell clear guidelines on physical activity for good health. Schools can also provide physical environments that support safe active commuting and create space for recreational activity. This may require diversified strategies that use small spaces in between buildings and creating more space for indoor PE and other physical activities in raised buildings. This may work best where school first design and implement policies that influence and change negative attitude towards PE and physical exercises among teachers and pupils.

ii. Head-teachers
Head teachers should involve teachers to demystify attitudes towards sports and athletics for competition to be seen an opportunities for good personal health, leisure and entertainment but not for only school competition. Non-competitive physical activities that are health-oriented should be used involving all pupils. A variety of inclusive and comprehensive non-competitive sport/athletics programme offering personal and group/team physical activity opportunities, active recess, morning, lunch or after-lunch exercises and traditional dances can be practices for health benefits and not competition. Further, additional benefits of extracurricular activities such as the participation of pupils in a wider variety of activities may lead to increased opportunities for cooperation and unity between schools, teachers, pupils, parents and the community that can benefit other projects in the school and the community. Through that close relationship schools can be able to give back and share the benefits of HE and other knowledge with society. These and many other opportunities within the school locale can enable teachers, pupils and school communities create a health promoting schools that synergistically enable pupils and by society to be good consumers of HE to promote HLs prevent NCLSDs.

Head teachers as school-based policy makers can involve their teachers to create an extra lesson or two where pupils can be involved in physical activities and extracurricular in addition to PE for the sake of their health since MoE directive reduced PE time. Head teachers can involve teachers to set extra time/lesson for physical activities to complement the 1 lesson per day as per KIE syllabus. Head teachers should ensure extracurricular activities should not substitute PE lesson. Increasing the number of PE lesson/time and/or sports classes is one of the most direct policies to increase students' physical activity. As policy-makers head teachers can encourage teachers to include physical activities in their lessons to provide indoor PE that are not captured in KIE PE syllabus. Perhaps, this will bring multiple benefits where pupils will learn better and achieve physical exercises that have valuable health benefits. Classroom lessons can incorporate physical
activities in teaching and learning process. These opportunities help pupils not only to enjoy health benefits but also to learn how to weave physical activity into their daily routines and future lives, enabling pupils to develop active lifestyles. Furthermore, availing more time and opportunities for PE and other physical activities will ultimately contribute to the overall daily physical activity of the pupils throughout the school years and socialize pupils to acquire active HLs to prevent NCLSDs. A good physical activity programme is more likely to be effective in improving pupils health behaviours when they teach skills needed to adopt healthy behaviours, provide opportunity to practice those skills, and focus on helping pupils overcome barriers to adopting behaviours in various settings like schools, homes and in society. To enable continuity and sustainability of physical activities among pupils, schools can provide high-quality PE programmes that emphasize knowledge and skills for a lifetime of physical activity as well as meets the needs of all students keeping pupils active for most of PE class time with a bias on self-management as well as movement skills that are enjoyable. Physical activities should provide opportunities for personal development and career.

Head teachers can prevail on to teachers to cater for absence of information in PE syllabus by teaching health benefits of physical exercises prior to actual activity; for instance teaching pupils’ health benefits such as aerobic/endurance, strength, flexibility, and coordination that not only improve physical health but also refresh mental health thus promoting cognition prowess for better concentration leading to better academic performance. Teachers need to demystify to pupils the notorious misperception that time and attention given to physical activity will negatively influence academic standards/scores. Teachers can carefully select, systematically organize, and involve pupils in developmentally appropriate and enjoyable physical activities to promote fair play while encouraging maximum participation of all pupils. This can be done creatively through a variety and choice of physical education classes that are offered so that pupils’ age, gender and special needs/challenges and interests are taken into consideration. To ensure sustainability and continuity in active lifestyle after formal schooling, teachers’ can teach pupils to learn the value of physical activity and health to develop confidence and skills for lifelong participation in physical activity for good personal health and perhaps a career in the lucrative sports industry. This will provide alternative blue-collar career opportunities that can reduce pervasive unemployment in contemporary society. Head teachers’ can take advantage of variety of talents and gifts in school fraternity and greater society and invite sports/athletic experts and models to interact with teachers and pupils. Further, sports experts from the society can be used to refresh teachers and provide school-based training to upgrade teachers’ capacity. This will provide physical education teachers who are well qualified and properly trained
to provide quality services to pupils in physical activities. Infact, such proactive approaches taken by head teachers will demystify teachers negative attitude towards PE and physical activity will no longer be used as a reward or worse be seen as punishment.

Head-teachers should ensure effective guidance, supervision, monitoring of teachers for effective preparations and teaching/learning process for quality learning outcomes in HE. Head-teachers can mobilize teachers, parents and entire school fraternity to provide a supportive environment that will enable pupils to practice what they learn in school. Such support will minimize dissonance between theoretical knowledge acquired in school learning processes and realities in society that present lifestyle challenges to pupils.

Head-teachers being the chief executive officers in schools should harmonize relationships between teachers and parents to garner parental support with resources required for teaching. Head teachers can organize school-based seminars where parents and teachers can synergistically work together to support pupils to customize HE knowledge and skills to prevent NCLSD. Parents can compliment teachers work by proving resources as well as guiding pupils by checking and monitoring what they learn in school. Parents will be able then to involve and support pupils to practice what they in school when not only at home but also in greater community that is made up by families uniting together. Communal unity can avail more resources and create a continuous pool of support to prevent NCLSDs.

Head teachers can invite health and nutrition experts from community to providing in-service training on nutrition and healthy lifestyles to teachers. Later, Head teachers’ together and nutritional health professionals [social workers, nurses, nutritionists, doctors, counsellors] can develop school-level food policy to guide nutritional needs for pupils’ health development. Such policies can be lobbied in the PTA to be adopted and then used to outsource a willing investor [from private sector, NGO, civil society] to manage a cheap hot-lunch that is affordable to teachers and pupils but providing healthy nutrition.

Head teachers as knowledgeable leaders and opinion shapers of their local community in school and immediate community can creatively and actively involve community in and out of school to provide a supportive environment for pupils on healthy habits. This is because pupils’ immediate environment is a critical issue that determines the extent to which HE knowledge and skills are translated into good practices for healthy living. The implication to educationists is that HE knowledge needs to be supported by wider community action so that pupils might not face cognitive dissonance between what they learn in schools and actual world around them. This will not only reduce
apparent disconnect between theoretical knowledge and practical reality in real life but, mutually, enable pupils’ to synchronize their theory knowledge with practical actions to solve health challenges. This may also improve creativity and problem solving skills and provide more benefits to society. This calls for the communities to be educated and head teachers as custodians of values in education can be used to socialize the communities and mobilise the resources required to address emerging health issues.

iii. Teachers
Teachers as professionals and technocrats have core and monumental task in educating and informing pupils and school communities to make a school a nerve centre of educational excellence. This is critical to create a supportive school and community that adapts to HLs to obviate NCLSDs and other emerging challenges in society. Teachers can be instrumental in creating a health promoting school environment where good health practices become a norm and not an exception. This can be done when teachers prevail on pupils to appreciate that knowledge is not only for ‘export’ where one just aims at getting a good job to work for others but, one can be a good consumer of that knowledge to transform self and lead a healthy and productive life. Teachers can demystify the notion that knowledge is only good when one passes an exam to enable pupils see value and use of HE beyond examinations to change self and become a change agent as well as be the change itself.

Teachers as professionals need to prepare and teach all subjects effectively; listen to the pupils keenly and support them appreciating their weakness as young children; provide all necessary resources required for effective teaching and learning; mark assignments; guide and advise pupils to overcome their weaknesses; supervise and monitor them strictly and avoid threatening weak pupils and making them repeat classes. Teachers should monitor, supervise and evaluate learning more objectively and discourage unhealthy competition manifested through mean score syndrome. Teachers need to teach and guide pupils to realize the role of education beyond formal examination to enable pupils to be consumers of their own knowledge to be self-reliant and lead an independent and healthy live. Teachers are authority Figures, custodians of accumulated societal knowledge, wisdom and experience and as role models, mentors and surrogate as well as foster parents, they can use simple albeit effective messages to promote good health practices among pupils. For instance, advising pupils to cycle, walk and get involved in more physically demanding tasks on daily basis since it has become difficult to set aside time for exercise can make a lot of difference in pupil physical activities to ensure active lifestyle. Many of such examples can be given synchronized and presented with content in various subjects like mathematics, English, Kiswahili, geography, history and religious
studies instead of HE alone. History and geography have the potential of exposing pupils to historical causes, geographical distribution and prevalence of NCLSDS; while, languages will enable pupils to fairly express themselves and pass preventive knowledge to peers to curb NCLSDs. Quantitative subjects will enable them to conceptualize costs incurred through indulgence in UHLs that lead to NCLSDs. Perhaps through formal socialization using accurate Knowledge can transform various attitudes, socio-cultural beliefs, values, eating patterns and perceptions of pupils associated with body shape and physical appearances and instead adapt to HLs to keep NCLSDs in check. In addition, availing knowledge through inter-disciplinary approach broadens, complements and reinforces learning to enable pupils adapt to comprehensive preventive strategies since NCLSDs are caused by different lifestyles in modern and dynamic society.

Teachers as professionals need to work with fellow health professional and parents to provide a supportive environment that can encourage good practices in school and in the communities to enable pupils acquire good preventive practices to counter NCLSDs. Teachers can be instrumental in crafting realistic school-based HE policies and school feeding programmes that focus on diet and physical activity to provide knowledge and skills, and help to develop attitudes about the relationship between a good diet, physical activity, and health. Where a school has hot-lunch feeding programme, school-based feeding programmes can address the safe preparation of food and its consumption as an essential positive and enjoyable aspect of life. Teachers and parents can allow pupils to have the opportunities to practice important skills, such as decision-making about food and physical activity. In particular, teachers can allow pupils to identify not only barriers to being physically active and making healthy food choices, but also solutions to overcome the identified barriers. Teachers in conjunction with food processing industries and media houses can provide media and marketing literacy to pupils, especially those that are related to healthy foods and non-alcoholic beverages. Schools can involve teachers who have received the best possible training and are equipped with the knowledge and skills necessary to effectively impart health messages to conduct advocacy and public awareness campaign to school fraternity and the rest of society. For instance, during PTAs, teachers can educate and inform parents and members of community to demystify a misperception that time and attention given to PE, sports, athletics and other physical activities may withdraw attention from more important subjects or may negatively impact academic standards/scores. Realistic, persuasive and convincing knowledge will persuade parents so as to garner their support to enable pupils acquire HLs and practices to prevent NCLSDs.

iv. Families
Parents can provide a conducive environment in the family to create health promoting families which are important in primary socialization of children as socializees to acquire healthy habits. This can be done through eating healthy foods where children are involved and socialized in preparation and eating of healthy diet. This will promote good practices early in life. It seems that the family as a primary socializer needs to instil in young people healthy and orderly eating habits based on sound nutritional science and to provide sports fields and the opportunities, education, encouragement and the motivation to use them on a regular basis. The key to keeping a healthy body weight is largely dependent on one’s lifestyle that are formed early in life. There is need to educate parents and guardians about the positive effects of participating in physical activity and maintaining a healthy body weight, so that they can encourage and support their children to live healthy active lifestyles.

There is need for the parents to support the efforts by teachers and the entire school fraternity to enable pupils to acquire action-competence in their lifestyles. Parents should provide supportive environment by guiding their children to eat healthy diet and do regular exercise to ensure healthy living. They should be good role models and provide a supportive environment at home and in the greater community to reduce dissonance between knowledge acquired in school and regular practices in the community.

Parents and guardians should initiate and support a healthy eating plan for their children. Children need to be actively involved during the entire food preparation process to socialize them in healthy eating habits at family level by involving them in identification and preparation of types of foods for good health. Through primary socialization process in the family, they will acquire healthy lifestyles. Regular involvement of children in food preparation process will enable them not only to model but stabilize habits and good practices that are necessary for healthy eating and living.

Parents need to champion physical activity in the family. Families should be good role models in doing physical exercises and body exercises. In particular, Fathers should play with children to demonstrate the role and importance of body exercise and physical activities in their health and growth. This can be effective positive reinforcement than support through praise. Physical activity has been shown to be important for healthy body growth and development. Children who are highly active reduce incidences of cardiovascular problems, develop strong bones as well as enhanced psychological and psychosocial well-being; similarly, they have less chance of childhood overweight and obesity due to leaner body mass. Opportunities for children’s physical activity include structured and unstructured activities at homes. Structured activities include participation in organized sport, physical education at school or sports classes at
v. Pupils
Pupils need to be made to take responsibility for their health by their teachers and parents to make them realize the need to be good consumers of HE knowledge through good health practices. Pupils need to guard against peer influence to indulge in junk foods and drinks at the expense of their health. Pupils should search for HE on emerging lifestyle diseases and take charge of their health needs. In the process, the pupils will learn to take personal and collective responsibility for good health practices in selves and community. Pupils can be supported and encouraged to apply their knowledge in use of good practices and habits to demonstrate action-competence by adapting healthy feeding lifestyles where one can limit energy intake of total fats, sugars and, increase consumption of fruit and vegetables, as well as legumes, whole grains and nuts. In addition, pupils need to engage themselves in regular physical activity and achieve energy balance and a healthy weight for healthy living to prevent NCLSDs. Ultimately, healthy lifestyles will become a norm and NCLSDs will eventually be reduced and/or eliminated all together.

The study has evidently demonstrated that HE influences pupil’s lifestyles. HE enhances pupils’ awareness and skills of how to lead healthy lives. Pupils need to be enabled to be good consumers of HE so as to adopt good practices from healthy living. For example; the value of education as presently judged based on examination grades only needs to be re-examined; learning resources needs not only to be availed but also, effectively used in teaching and learning processes. Teachers need to demonstrate to pupils the value and importance of good knowledge beyond passing examinations. Perhaps this link can close the gap and apparent disconnect between school knowledge/education and lifestyle/practices in daily live in society.

vi. Community
Active involvement of entire community in prevention and control of lifestyle diseases is a noble strategy because the society is the custodian as well as the embodiment of cultural values that enable spread of lifestyle diseases. In fact values, norms, practices, attitudes and socio-cultural beliefs about foods, feeding and physical exercises/activity patterns that are used to socialize youngsters to embrace lifestyles emanate from the community and by and large the greater society; for example, four of the most prominent NCLSDs such as cardiovascular disease, cancer, chronic obstructive pulmonary disease and diabetes among others are linked by common preventable risk factors related to lifestyle. These factors are tobacco use, unhealthy diet and physical inactivity. Action to prevent these diseases should therefore focus on controlling the risk factors in an integrated
manner like smoking, unhealthy feeding and sedentary lifestyle due to modernity. Intervention at the level of the family and community is essential for prevention because the causal risk factors are deeply entrenched in the social and cultural framework of the society. Preventive education is a potent tool that can address the major risk factors, which should be given the highest priority in the global strategy for the prevention and control of NCLSDs. Furthermore, continuing monitoring and surveillance of levels and patterns of risk factors due to socio-dynamic changes in society is of fundamental importance to planning and sustainability any preventive strategy. Inclusive and participatory measures are needed to ensure efforts by individuals and schools produce any fruits. HE should be a communitywide affair with the school as focal point to facilitate a conducive and supportive environment for pupils to apply knowledge and skills. There is need for the community to support efforts by the schools to transform pupils lifestyles to ensure health living.

Pupils need support and opportunity to practice individual responsibility, which can only have its full effect where they have access to healthy lifestyles. Therefore, at the community level it is important to support pupils through sustained political commitment and the collaboration of public and private stakeholders. Further, communities can make regular physical activity and healthier dietary patterns affordable and easily accessible to all especially the poor. The school can be instrumental in starting school-initiated projects that are able to facilitate health-promoting changes in the local community, which can enable pupils to learn in a qualitatively different and better way from school/community projects. Human mind is fundamentally social in nature and sustainable solutions to social problems like NCLSD are best provided through social vaccine within community structures that incorporate habits, lifestyles and cultures and attitudes that support them. Human action and thought are built on social construction through joint activity, intersubjectivity and acculturation. Intersubjectivity creates a common ground for communication as each participant adjusts to the perspective of the other. Adults will translate their insights on NCLSDs in ways that are not only actionable but also within pupil’s grasps. As children stretch to understand the interpretation they will be drawn into a mature approach to situation that enables them to adjust to and embrace HLs, ultimately, they may scale down incidences of NCLSDs. Further, the concept of intersubjectivity can be applicable to many contexts; that is, parents-children, teacher-children and children-to-children interactions during family discussions, school situations and in peer relations. Suffice to say that intersubjectivity can enable children and adults to jointly manage shared endeavours, which will not only enable children to learn but to sustain new healthy lifestyles. This will enable classrooms to be transformed into “communities of learners” where the
distinctions and roles between adults and children are dramatically changed. “Classrooms” can be broadened to include surrounding community in concept of “schools without walls”, all stakeholders (pupils, teachers and community people) socialize each other for effective participation. The school-community-of-learner model is based on the assumption that different people have areas of expertise that can be helpful to other members of the community, depending on the task. This can happen if people from the local community are mobilized to assume roles in school HE.

5.4.1 Policy Recommendations
Based on the findings of the study that established that schools were not aware of the KNSHP and the fact that school-based health policies were devoid of guidelines on healthy eating habits, it can be strongly suggested that the government should expeditiously come up with a comprehensive health policy touching on all NCLSDs to enable society and schools support pupils to prevent emerging NCLSDs. A comprehensive health policy needs to involve key government ministries in planning and implementation of the policy. The key ministries include those dealing with agriculture, environment, finance, transport, industry, planning, sports, local government, health and education just to mention a few. For example, ministry of agriculture can provide agricultural specialists to schools to guide schools on crop and animal husbandry [for instance, fruit farming, poultry, rabbit keeping among other small animals] to ensure good use of school gardens[and classroom gardens] to supplement pupils diet; in addition, through research the ministry can come up with types of food crops that farmers can be guided to plant for healthy diets while ministries of transport can design road with pedestrian walk and avenues for cyclists [For instance, providing traffic crossing guards at road crossings to ensure pupils and teachers can safely get to and from school and take part in community sports and recreation; secure bike racks in school for students who choose to cycle; traffic-free zones in peak hours; safe walking and cycling trails connected neighbourhood pathways and play areas; adequate lighting during hours of darkness can improve security and safety in our superhighways to be used as avenue to practice HLs for healthy living in the city.] In a similar fashion, MoE and MoH can jointly come up with comprehensive HE content and training manual to involve the entire society and school system to adapt good health practices by being good consumers of health knowledge; ministries of environment and that of information and broadcasting can educate and inform society using various forms of media creativity in awareness and advocacy campaign on HLs among others. Ministry of sports can provide community sporting facilities and recreation programmes that are beneficial to schools since they are part of community while that of local government can provide space for schools as well as ensure good planning and physical environment of schools in urban setups and city metropolis. Increasing
physical activity is a societal, not just an individual problem, therefore it demands a population-based, multi-sectoral, multi-disciplinary, and culturally relevant approach which government ministries can do better given the expansive public wherewithal under their control. A broad-based multi-sectoral approach will not only avail enough resources but also mobilise and marshal collective will to synergistically support and transform society to acquire HLs to prevent NCLSDs. In fact, the government should domesticate WHO framework and action plan on global strategy for prevention and control of NCLSDs.

Based on the findings of the study where it was found that fast food shops, food kiosks, supermarkets and other eateries sell junk foods and drinks to pupils and by and large the entire society, it can be suggested that the government via the ministry of health and in particular the department of non-communicable diseases needs to expedite and come up with a policy to guide food industry to exercise a societal responsibility to inform consumers of likely adverse effects of such foods on their health and/or come up with a policy to cushion those who suffer adverse effects after consuming their products. Further, the food industry can play a significant role in promoting healthy diets by reducing the fat, sugar and salt content of processed foods to the level that can promote healthy living. Food industries can produce and ensure that healthy and nutritious foods and drinks are available and affordable to all consumers. They can practice responsible marketing where labels with expiry dates and other important information on health effects to consumers can be put in all manufactured foods and drinks. Food manufactures can support regular physical activity in the society, schools and workplace by providing equipments and facilities required.

Based on the findings of the study, the researcher recommends that the government through KIE should come up with a comprehensive curriculum that includes not only content but methods of teaching about NCLSDs. The content can include pre-service and in-service courses that would not only address NCLSDs, but also equip teachers with knowledge and skills to enhance their efficacy in practical teaching and learning process in contemporary education. The content can also be digitalised to capture advantages of popularity of this media to reach many young people in a more appealing and effective style. KIE can prepare durable and long lasting HE teaching and learning resources to aid in teaching. They organize refresher courses to enable teachers learn new ways of improvising, care and use of learning resources. Based on the findings of the study, it can be safely suggested that information and knowledge about NCLSDs needs to be included in education in all levels of education in schools and institutions. Similarly public awareness advocacy campaigns need to start expeditiously to provide valuable information about NCLSDs. This
is critical so that dangerous effects of junk foods that are habit-forming can be countered. Indeed both electronic and print media can be used to publicize valuable and informative messages through songs, drama and music. Perhaps this will neutralize whatever messages they get through rogue mass media, poster advertisements and social media.

There is a dire need to formulate a creative curriculum where instead of adding an examinable subject, theory content of PE and HE that touches on NCLSDs is captured and reflected in carrier subject content and examinations. Thus, health issues would be incorporated into every subject at the primary level in addition to either its being a separate subject or a topic within carrier subjects. This will not only increase the academic prowess in HE but enable acquisition of valuable knowledge to prevention of NCLSDs early in life.

The government needs to hire more and highly qualified teachers and motivate them to ensure good quality teaching in schools. MoE should use rigorous criteria for assessing and promoting only teachers who have the necessary qualifications that merit them to manage education to ensure effective management of curriculum, human resource and other resources in schools. Similarly, refresher course and upgrading of knowledge and skills for teachers should be facilitated and supported to improve operational efficiency in teaching and learning process to bring out better learning outputs. Perhaps, this strategy could be a bit potent than just making HE examinable, since this could potentially make HE vulnerable to the very pitfall of the exam-oriented approach, that is, teaching/learning for exams and knowledge focused teaching methods which do not necessarily bring transformative behaviour change in pupils attitudes, beliefs and behaviour necessary for disease control and prevention of NCLSDs.

The government should organize refresher courses for teachers to beef their capacity in HE content and methodology for practising teachers. Practising teachers can be inducted to use new pedagogies that are democratic and more inclusive to empower pupils to be more assertive, self reliant and responsible in coming with practical solutions to challenges emerging from a dynamic society. In this case, in-service training programmes need to emphasize pedagogical practices such as those that are most effective in employing continuous efforts to explore various options available to come up with home-grown and customized solutions to problems rather than providing “one-shot” courses. They should concentrate for instance on topics such as practical methods of teaching HE, ways to adapt the curriculum to the social and physical environment of the pupils in a dynamic society, understanding how children are socialized by various socializing agents in society and the effect it has on their behaviour, methods of evaluating teaching and learning in digital era, management of classrooms, and parent-teacher and community relations a dynamic
socio-cultural environment. In-service training can be especially important in order to improve incumbent teacher’s mastery of new repertoire of pedagogic skills that focus on more participatory teaching behaviours in HE topics and a high degree of competence in utilizing more effective teaching strategies for HE. This training could be carried-out in a number of ways; for example, there already exist localized centres in Nairobi County in form of teacher’s resource centres at cluster level. These centres could provide valuable avenues through which in-service training could be carried-out and MoE should therefore invest in improving these centres provide resources to enable tutors to arrange seminar and workshops for teachers and training the trainers in new HE knowledge and teaching methods appropriate for the various subjects in primary school curriculum. These centres could be an effective way for MoE to raise awareness end sensitize teachers on the importance of community-integrated and action-oriented HE and encourage teachers to prioritize the subject to lay proactive inclusive strategies to pre-empt NCLSD pandemic. Another strategy with MoE could utilize to improve in-service training for teachers, is through the use of distance education. This form of training has proved to be cost-effective and particularly useful for improving teachers’ capacity in content and content delivery using new technology.

The government should hire more effective educational officers to ensure effective curriculum audit, through regular inspections, supervision, monitoring as well as evaluation of teaching and learning in schools and advise to ensure quality and standards. Practical steps need to be taken to expeditiously refresh, retrain and upgrade the skills of practicing quality assurance officers to enable them cope with contemporary challenges regarding curriculum interpretation and implementation in schools. This will enable them to be in tandem with modernity and post-modernity in e-learning and e-society in the digital era.

The MoH and MoE should collaborate in enhancing HE. The MoH can use schools as avenues for HE, while, MoE can have teachers in-service by ministry of health on technical aspect of NCLSDs. MoE can prevail on all schools to form of health clubs in school as a way of offering immediate avenues for pupils to apply and practice HE. MoH can ensure proper guidelines are used to regulate foods sold by vendors to ensure good hygienic practices are strictly observed. In view of adverse effects of junk foods and drinks in terms of negative implications to health of citizens, there is need to introduce a regulation to reduce their consumption owing to adverse effects. This can be done through a special tax levy or severe measures to curtail their consumption.

The government should use curriculum specialists to review KPSC to include content dealing with NCLSDs. This can be done in various areas
for instance; Vocabulary on NCLSDs, junk foods, importance of exercises in health living; essays and comprehension on NCLSDs, junk drinks; writing competition on NCLSDs and many others. Since NCLSDs and in general HE permeates and affects all aspects of human life, it’s imperative all subjects should include this content to enable pupils gain vocabulary or “msamiati” to express themselves as well as comprehend all issues related to diseases to gain comprehensive preventive knowledge and skills for healthy living. Critical issues like causes, spread, prevalence, distribution and implications of NCLSDs to self and society are important to enable effective prevention.

The government can use more structured practical assessment tools that will evaluate other skills including other practical subjects that were not evaluated by conventional theoretical examinations so that pupils who may not be good in theoretical exams do not miss out entirely but a practical skill-oriented examination can measure their efficacy. Kenya National Examinations Council needs to use standardized tools to evaluate the implementation of syllabi at various levels of education. This can be done formatively and summatively using both theoretical and practical tools to assess syllabus coverage. Scope and variety of test tools can be used creatively to capture different types of abilities using both theory and practical examinations that comprise a variety of short essay, long essay and objective test items. This will ensure broad areas of knowledge as well as fine details are covered to equip learners with valuable preventive knowledge and skills.

The government should train school managers and head-teachers on management of resources including financial management and then allocate more funding to FPE to cater for facilities, equipment and learning resources. Effective, regular and thorough financial auditing should be done to prevent misappropriation of finances allocated to schools. Inept and corrupt officers should be dealt with accordingly. Quality assurance education officers cum school inspectors need to be a bit professional in their work and visit the schools regularly to mentor, advice and guide teachers on how to improve performance without harassing them with issues related to mean scores. Quality assurance officers need to appreciate individual differences in pupils’ performance and appreciate efforts done by teachers to improve learning since performance does not necessarily show how one failed but rather inherent individual differences between pupils as human beings. These differences are also manifested in other sectors of greater society since schools like society include persons of various abilities. There is need to de-emphasize examination oriented education and also broaden criteria for awarding performance to include other areas of education instead of theoretical exams only which are narrow and discriminative. Examination grades should be de-
emphasized as the only purpose for the pupils to be in school so that learners can be made to appreciate the value of what they learn in relation to healthy and productive living where one can live longer to enjoy the benefit of knowledge.

Involving the entire society in prevention and control of NCSLDs pandemic is critical. The government can start a countrywide advocacy and awareness campaign as an intervention measure. Experience shows that NCLSDs are largely preventable through interventions against the major risk factors and their environmental, economic, social and behavioural determinants in the population. Our country can reverse the advance of these diseases if appropriate action is taken through a comprehensive prevention strategy that blends synergistically an approach aimed at reducing risk factor levels in the population as a whole with one directed at high-risk individuals like children and the youth who offer a window of opportunity owing to their adaptability. The government has the wherewithal to initiate and implement a comprehensive health policy to strengthen health care and in particular, for people with NCLSDs developing norms and guidelines for cost-effective interventions, with priority given to cardiovascular diseases, cancer, diabetes and chronic respiratory diseases which are likely to be a pandemic if drastic intervention measures are not taken. Perhaps, one way is through cost-effective sustainable strategies to reduce the level of exposure of individuals and risk populations to the common risk factors for NCLSDs such as unhealthy diet and physical inactivity, smoking and their determinants in modern society.

The government can proactively exercise its authority over companies which deal with foods and beverages to take societal responsibility towards consumers. This can be done through responsible advertisements that educate, inform and warn consumers on likely effects and side effects of consuming junk foods and drinks. Companies can also take responsibility over those who suffer harmful effects of NCLSDs as result of their products. Another strategy is that the government can prevail through a legislative proviso to companies dealing with foods and drinks to produce products that promote healthy diet. This can be done through developing a national policy and action plan on food and nutrition, with an emphasis on national nutrition priorities including the control of diet-related NCLSDs; establish and implement food-based dietary guidelines and support and the healthier composition of food by reducing salt levels (only a little iodized salt should be used), eliminating industrially produced trans-fatty acids, decreasing saturated fats and cholesterol and by limiting free sugars. Food processing companies should be forced to provide accurate and balanced information for consumers in order to enable them to make well-informed, healthy choices. Government should prepare and put in place, as appropriate and with all relevant
stakeholders, a framework and/or mechanisms for promoting the responsible marketing of foods and non-alcoholic beverages to children, in order to reduce the impact of foods high in saturated fats, trans-fatty acids, free sugars or salt. This needs to be done expeditiously to avert NCLSDs pandemic.

5.4.2 Recommendations for Further Research

Educational research is the lifeblood of acquiring and sustaining valuable knowledge that ultimately helps in the development and sustainability of any aspect of education; be it theoretical, conceptual or practical. It is on this persuasion that the researcher suggests a few lines of action as follows:

i. A study can be conducted to find out how to institutionalize HE in schools and society so that good health practices become a routine. A comprehensive assessment of the characteristics of non-communicable diseases and the scale of the problems they pose, including an analysis of the impact on such diseases on the policies of the different government sectors can be conducted to inform strategic policies to counter adverse effects of the diseases to society and government. A study on the assessment of national capacity for the prevention and control of non-communicable diseases and, the evaluation of approaches to fill existing gaps in capacity can be conducted to inform strategic planning and realistic policies to curb NCLSDs.

ii. Further research is needed to obtain national data on the physical activity patterns of Kenyan children to monitor this threat to public health and to assess future interventions to reduce sedentary behaviour and preserve habitual physical activity and body exercises. A study can be carried out to explore the role and influence of culture on eating habits and lifestyles so as to establish attitudes that inform feeding patterns in society in light of NCLSDs. The findings of such a study can enable the government to develop a mechanism to provide evidence-based information for policy-making, advocacy, programme monitoring and evaluation in various sectors to jumpstart a multi-sectoral approach to prevent NCLSD pandemic.

iii. Further research is needed to obtain national data on the feeding patterns of Kenyan children to monitor threat to public health due junk foods and drinks and to assess future interventions to reduce NCLSD preserve habitual heath eating patterns and physical exercise. Further research is required to understand the relative contribution of changes in adult role-model behaviours in comparison with, or in combination with, technological changes in digital era allowing for, or even promoting, physical inactivity and sedentary lifestyle.
iv. A study can be carried out to find out why knowledge of good health practices may not always lead to good health routines and practices. The concern is why some people practice UHLs in spite of their knowledge of the consequences of such actions. This is critical if factors that lead to increase in popularity in consumption of some products that are of no health benefits is increasing exponentially in spite of the fact that such product have glaring labels warning consumers of dire consequences.

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Appendix I

A Map of the Nairobi County Showing Study Locale
Appendix II

A Map of Kenya Showing Nairobi City - The Study Locale
Appendix III

Pupils School Enrolment Observation Schedule/Datasheet
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<th>Class</th>
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Boys =  
Girls =

Appendix IV
## A List of Key Informants in Pseudo Names in the Study

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### Appendix V

**Content analysis schedule for Kenya National School Health Policy**

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<td>Good practices to prevent non-communicable lifestyle diseases like healthy feeding programmes</td>
<td></td>
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<tr>
<td></td>
<td>Involvement in physical exercises/activities</td>
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<tr>
<td></td>
<td>Content in the school records used by teachers and pupils</td>
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<tr>
<td></td>
<td>School policies</td>
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<td></td>
<td>Involvement of parents and community</td>
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</table>

**Appendix VI**

**Observational Schedule for Implementation of KNSHP/MoE School Health Policy**

School: ____________  Gender of the Head teacher/administrator ____________

<table>
<thead>
<tr>
<th>Indicators of active implementation of KNSHP in the schools</th>
<th>Available</th>
<th>Up-</th>
<th>Other</th>
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<tbody>
<tr>
<td>NCLSD</td>
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<td>Othe</td>
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</table>
1. School health committee minutes showing active implementation of policy.

Health Facility Committee minutes-responsible for the schools in its catchment area. The community health extension workers (CHEWs) will be the link between the health facility and schools.

The School Management committee minutes - comprised of the Head Teacher (HT) as the secretary, the chairperson and the treasurer who will be drawn from the Parents’ Association, representatives from the Sub-County Education Board (DEB), the sponsor, a special needs education specialist and the Ministry of Public Health and Sanitation.

4. Teachers health committee minutes-comprises of a panel of subject teachers to monitor teaching to ensure quality teaching of health education

5. Pupil’s health club minutes - comprised of pupils from various classes to ensure good health practices in school.

Use of individual approaches like counselling, patient education, health risk assessment and dietary assessments to promote good healthy practices in schools.

Use of group approaches like lectures, seminars, skills training, peer education, role play and simulation to promote good healthy practices in schools during PTA’s, education day, open days or other important days in the school.

7. Use of setting approaches like schools, islands, markets, workplaces and offer unique opportunities for health promotions such issue approaches are aimed at lifestyle diseases such as overweight, obesity, diabetes and risk factors such as Physical inactivity, require specific sets of activities, eating habits.

Use of the population approach such media writing campaigns on topical lifestyle issues like smoking/eating habits; other setting are social marketing, advertising and community health development forums.

9. Use of advocacy to shift public opinion and mobilize the necessary resources and forces to support an issue and policy for healthy lifestyles free of lifestyle diseases for instance diabetes walks.

11. Use of advocacy where a combination of individual and social actions designed to gain political commitment, policy support, social acceptance and systems support for a particular health programme or goal.

12. Lobbying for health policy legislation/adoption policy in the County government.

14. Developed policy and guidelines for implementation of KNSHP in school.

Active implementation of comprehensive school health programme.

16. Active coordination of school health interventions by relevant Ministries, communities and other stakeholders.

17. KNSHP Programme Coordination at school level.


19. Facilitate effective monitoring and evaluation of school health programmes.

20. Active health clubs for members of the school community.


22. Equipments and facilities to check on BMI and other healthy gadgets.

23. Any other observable and practical strategies to implement KNSHP.
Appendix VII

A Guide on Content Analysis of HE Content in Primary School Education Curriculum

A critical analysis of Primary school syllabus subjects topic by topic to identify whether they have specific HE content that can enable learners to prevent non-communicable Lifestyle Diseases

<table>
<thead>
<tr>
<th>Class</th>
<th>Subject</th>
<th>Topics with HE content</th>
<th>Specific content on lifestyle diseases</th>
<th>Indicators</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Science</td>
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</table>
Appendix VIII

Content analysis schedule of teachers and pupils documents

<table>
<thead>
<tr>
<th>Type of document</th>
<th>Indicator</th>
<th>Frequenc y</th>
<th>Percentag e</th>
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<tr>
<td>Teachers text books</td>
<td>Science</td>
<td>Written content</td>
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<tr>
<td></td>
<td>Pictures</td>
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<tr>
<td></td>
<td>Drawings</td>
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<tr>
<td></td>
<td>PE</td>
<td>Written content</td>
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<tr>
<td></td>
<td>Pictures</td>
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<td>Drawings</td>
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<td></td>
<td>Other subjects</td>
<td>Written content</td>
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<td>Pictures</td>
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<tr>
<td>Teachers schemes of work</td>
<td>Science</td>
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<td>Life skills</td>
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<td>Drawings</td>
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<td></td>
<td>Social studies</td>
<td>Written content</td>
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<td>Pictures</td>
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<td>Lesson plans</td>
<td>Science</td>
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<td>Other subjects</td>
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<td><strong>Other subjects</strong></td>
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<td></td>
<td></td>
<td><strong>Pupils exercise/notebooks</strong></td>
<td>Written content</td>
</tr>
</tbody>
</table>
NB: in all cases content refers to specific issues on non-communicable diseases through written work, drawings and pictures

_Thanks a lot for your good mutual cooperation_

**Appendix IX**

**Semi-Structured Interview Schedule for Pupils**

**Guidelines**

_The interview schedule is anonymous due to ethical considerations. Your responses will be treated with utmost confidentiality and shall not be revealed to anybody. The purpose of this study is to find the contributions of Health Education in Promoting Healthy Lifestyles among Primary School Pupils in Nairobi County, Kenya...to enable them to prevent non-communicable lifestyle diseases like cancer, obesity, diabetes and other similar problems. Kindly, you are assured that in this study all responses are good and valuable...Do not leave any question[s] unanswered. Please you are kindly asked to cooperate and ask/inquire from the researcher about any issue[s] that may not be clear..._

**WELCOME**

1. Please tell us about yourself...class... [probe about teaching, learning, peer groups, social issues]
2. What kinds of foods are available in food kiosks near your schools? [Probe about availability of junk/fast foods in/around the school environment, types of foods sold to pupils, knowledge of effects of eating habits on one’s health, beliefs, attitudes, feelings, experiences, peer influence in eating habits/patterns, types of foods preferred by peers etc]
3. Please tell us how Health Education is taught in your class? [Probe about knowledge of the aims of teaching the subject, learning activities, assignments, tests, marking and doing corrections, teaching approaches,
sharing of knowledge through class discussions, relevance to health and non-communicable lifestyle diseases etc
4. Please tell us how Physical Education is taught in your class? [Probe about knowledge of the aims of teaching the subject, learning activities, active participation, teaching approaches, skills taught and their relevance/adequacy to one’s health and non-communicable lifestyle diseases etc]
5. What are your views about lifestyle diseases like overweight, obesity and diabetes? [Probe about knowledge of lifestyle diseases, name them and explain how they are acquired, relationship between HE knowledge and NCLSDs]
6. Please comment about the school health policy in relation to adequacy to enable the pupils and school fraternity to overcome lifestyle diseases. [Probe about KNSHP, school level health policies in terms of content, NCLSDs, translation into practices...Probe about its appropriateness to inform good practices, feeding programmes etc]
7. In your view, what school practices that can enable pupils to prevent non-communicable lifestyle diseases? [Probe about good school practices in the school]
8. What do you suggest can be done to improve Health Education to enable pupils avoid lifestyle diseases among pupils [Probe about support needed to acquire action competence through support by teachers, parents, community and government; support through enriching HE content, learning resources and teaching approaches etc]
9. Suggest what intervention measures can be put in place to overcome challenges in Health Education? [Probe about practical and objective strategies that can be taken to enable teachers efficacy in teaching, delivery and improving learning outcomes by various stakeholders such as MoE, parents, teachers, community and the greater society]

Thanks a lot for your good mutual cooperation

Appendix X

Semi-Structured Interview Schedule for Parents

Guidelines
The interview schedule is anonymous due to ethical considerations. Your responses will be treated with utmost confidentiality and shall not be revealed to anybody. The purpose of this study is to find the contributions of Health Education in Promoting Healthy Lifestyles among Primary School Pupils in Nairobi County, Kenya...to enable them to prevent non-communicable lifestyle diseases like cancer, obesity, diabetes and other similar problems. Kindly, you are assured that in this study all responses are good and valuable...Do not leave any question[s] unanswered. Please you are kindly asked to cooperate and ask/inquire from the researcher about any issue[s] that may not be clear...

WELCOME
1. Please tell us about yourself...family... [Probe about type, how you relate with you, interaction, sharing of ideas, beliefs, meals preparations, eating habits etc]

2. What are some of the issues that you discuss with your child about what they learn in school? [Probe about knowledge of types of subjects taught, support given with emphasizes to Health Education and physical Education, type of support, frequency, challenges faced etc]

3. What are your thoughts about lifestyle diseases? [Probe about sharing of knowledge with her/his children on non-communicable lifestyle diseases, causes, types, characteristics, prevention etc]

4. What are your thoughts about Health Education? [Probe about knowledge of the aims of teaching the subject, importance of Health Education, physical exercises, relationship between HE knowledge and NCLSDs etc]

5. Name some factors that affect the ability of primary school pupils to use Health Education knowledge effectively to avoid non-communicable lifestyle diseases? [Probe about challenges mentioned]

6. What issues determine application of Health Education knowledge among primary school pupils at home? [Probe about healthy practices at home]

7. What do you think can be done to enable pupils to use knowledge gained in school to avoid non-communicable lifestyle diseases? [Probe about various types of support mentioned, frequency, sustainability etc]

8. What are your views about the school health policy in relation to adequacy to enable the pupils and school fraternity to overcome non-communicable lifestyle diseases? [Probe about KNSHP, school level health policies, feeding programmes...in terms of content, NCLSDs, translation into practices...Probe about its appropriateness to inform good practices in school, home, community etc]

9. Suggest what intervention measures can be put in place to overcome challenges in Health Education in light of emerging non-communicable lifestyle diseases? [Probe about practical and objective strategies that can be taken to enable teachers efficacy in teaching, delivery and improving learning outcomes by various stakeholders such as MoE, parents, teachers, community and the greater society]

Thanks a lot for your good mutual cooperation

Appendix XI

Semi-Structured Interview Schedule for Teachers

Guidelines
The interview schedule is anonymous due to ethical considerations. Your responses will be treated with utmost confidentiality and shall not be revealed to anybody. The purpose of this study is to find the contributions of Health Education in Promoting Healthy
Lifestyles among Primary School Pupils in Nairobi County, Kenya...so as to enable them prevent non-communicable lifestyle diseases like cancer, obesity, diabetes and other similar problems. Kindly, you are assured that in this study all responses are good and valuable...Do not leave any question[s] unanswered.

Please you are kindly asked to cooperate and ask/inquire from the researcher about any issue[s] which may not be clear...

**WELCOME**

1. Please tell us about yourself/class? [Probe about social interactions, relationships, types of foods eaten in school, eating habits, peer influence, access to eateries new/in the school environment]
2. What are your views about Health Education in your class/school? [Probe about preparations, learning activities, learner participation, learning resources, teaching approaches, skills taught and their relevance/adequacy to one’s health and non-communicable lifestyle diseases, challenges faced etc]
3. Please tell us how Physical Education is taught in your class/school? [Probe about knowledge of the aims of teaching the subject, preparations, learning activities, learner/teacher participation, teaching approaches, skills taught and their relationship to/relevance/adequacy to one’s health and non-communicable lifestyle diseases, challenges faced etc]
4. What factors determine the ability of primary school pupils to use Health Education knowledge effectively to avoid non-communicable lifestyle diseases? [Probe about issues such as knowledge of the aims of teaching the subject, peer influence, parental support, media, school environment, cultural factors etc]
5. Please comment about the school health policy in relation to adequacy to enable the pupils and school fraternity to overcome lifestyle diseases. [Probe about KNSHP, school level health policies, feeding programmes...in terms of content, NCLSDs, translation into good practices etc]
6. Please tell us about some school practices that can used to enable pupils to prevent lifestyle diseases? [Probe about good school practices in the school]
7. Suggest what intervention measures can be put in place to overcome challenges faced when teaching Health Education. [Probe about practical and objective strategies that can be taken to enable teachers efficacy in teaching, delivery and improving learning outcomes by various stakeholders such as MoE, parents, teachers, community and the greater society]
8. Suggest any other intervention measure that can be used to enable pupils cope with challenges posed by non-communicable lifestyle diseases?
Thanks a lot for your good mutual cooperation

Appendix XII

Semi-Structured Interview Schedule for School Administrators

Guidelines
The interview schedule is anonymous due to ethical considerations. Your responses will be treated with utmost confidentiality and shall not be revealed to anybody. The purpose of this study is to find the contributions of Health Education in Promoting Healthy Lifestyles among Primary School Pupils in Nairobi County, Kenya...to enable them to prevent non-communicable lifestyle diseases like cancer, obesity, diabetes and other similar problems. Kindly, you are assured that in this study all responses are good and valuable...Do not leave any question[s] unanswered. Please you are kindly asked to cooperate and ask/inquire from the researcher about any issue[s] that may not be clear...

WELCOME

1. Please comment about yourself...school... [Probe about issues related to relations with staff, pupils, parents, environment in and around like canteens/food kiosks around the school neighbourhoods etc]
2. What are your views about teaching Health Education in your school? [Probe about knowledge of the aims of teaching the subject, how Health Education is taught in terms of time allocation, whether it is taught in all classes, availability of learning/teaching resources, activities, assignments, teaching approaches, adequacy of the content in relation to non-communicable lifestyle disease, challenges]
3. Please tell us how Physical Education is taught in your school? [Probe about knowledge of the aims of teaching the subject, preparations, learning activities, learner/teacher participation, teaching approaches, skills taught and their relevance/adequacy to one’s health and non-communicable lifestyle diseases, relationship between HE knowledge and NCLSDs etc]
4. What are your views about the teaching methods used by teachers in terms of enabling pupils to acquire action-competence and apply Health Education knowledge? [Probe about teaching methods used in teaching Health Education; teachers preparedness and experiences from internal inspection/monitoring and evaluations of curriculum, challenges faced etc]
5. What factors affect the ability of primary school pupils to use Health Education knowledge effectively to avoid lifestyle diseases? [Probe about experiences during internal school inspections to monitor teaching of Health Education; challenges faced in enabling learners to achieve action-competence]
6. Please comment about the school health policy in relation to its adequacy to enable the pupils and school fraternity to overcome non-communicable lifestyle diseases? [Probe about KNSHP, school level health policies, feeding programmes...in terms of content, NCLSDs, translation into practices]
7. Suggest what intervention measures can be put in place to overcome challenges in Health Education? [Probe about practical and objective strategies that can be taken to enable teachers efficacy in teaching, delivery and improving learning outcomes by various stakeholders such as MoE, parents, teachers, community and the greater society]
8. Suggest any other intervention measure that can be used to enable pupils cope with challenges posed by non-communicable lifestyle diseases?

Thanks a lot for your good mutual cooperation

Appendix XIII

Semi-Structured Interview Schedule for Field Educational Officers

Guidelines
The interview schedule is anonymous due to ethical considerations. Your responses will be treated with utmost confidentiality and shall not be revealed to anybody. The purpose of this study is to find the contributions of Health Education in Promoting Healthy Lifestyles among Primary School Pupils in Nairobi County, Kenya...to enable them to prevent non-communicable lifestyle diseases like cancer, obesity, diabetes and other similar problems. Kindly, you are assured that in this study all responses are good and valuable...Do not leave any question[s] unanswered. Please you are kindly asked to cooperate and ask/inquire from the researcher about any issue[s] that may not be clear...

WELCOME

1. Please tell us about yourself and your job? [Probe about views about school visits, teaching inspection reports, environments in and near schools and types of activities/businesses and their effects to the schools etc]
2. What are your views about teaching Health Education in primary schools? [Probe about knowledge of the aims of teaching the subject, how Health Education is taught in terms of time allocation, whether it is taught in all classes, availability of learning/teaching resources, activities, assignments, teaching approaches, adequacy of the content in relation to non-communicable lifestyle disease, challenges]
3. Please share with us your experiences about teaching of Physical Education in primary schools? [Probe about knowledge of the aims of teaching the subject, teacher preparations, learning activities, learner/teacher participation, teaching approaches, skills taught and their relationship to/relevance/adequacy to one’s health and non-communicable lifestyle diseases etc]
4. What are your views about the teaching methods used by teachers in terms of enabling pupils to acquire action-competence and apply their knowledge to prevent non-communicable lifestyle diseases? [Probe about teaching methods used in teaching Health Education; teachers preparedness and experiences from internal inspection/monitoring and evaluations of curriculum, challenges faced etc]
5. What challenges do teachers face in teaching Health Education? [Probe about teachers preparedness, availability of textbooks/teaching resources, teacher made assignments and activities during teaching etc]

6. What factors affect the ability of primary school pupils to use Health Education knowledge effectively to avoid lifestyle diseases? [Probe about experiences during visit to school for inspections/monitoring, challenges faced in enabling learners to achieve action-competence among others to prevent]

7. Please comment about the KNSHP in relation to its adequacy to enable the pupils and school fraternity to overcome non-communicable lifestyle diseases? [Probe about its appropriateness to inform good practices, feeding programmes in schools etc]

8. Suggest what intervention measures can be put in place to overcome challenges in Health Education? [Probe about practical and objective strategies that can be taken to enable teachers efficacy in teaching, delivery and improving learning outcomes by various stakeholders such as MoE, parents, teachers, community and the greater society]

9. Suggest any other intervention measure that can be used to enable pupils cope with challenges posed by non-communicable lifestyle diseases?

Thanks a lot for your good mutual cooperation

Appendix XIV

Semi-Structured Interview Schedule for KIE Curriculum Developer

Guidelines
The interview schedule is anonymous due to ethical considerations. Your responses will be treated with utmost confidentiality and shall not be revealed to anybody. The purpose of this study is to find the contributions of Health Education in Promoting Healthy Lifestyles among Primary School Pupils in Nairobi County, Kenya...to enable them to prevent non-communicable lifestyle diseases like cancer, obesity, diabetes and other similar problems. Kindly, you are assured that in this study all responses are good and valuable...Do not leave any question[s] unanswered. Please you are kindly asked to cooperate and ask/inquire from the researcher about any issue[s] which may not be clear...

WELCOME

1. Please tell us about yourself...institution... [Probe about issues related to curriculum preparation, development, processes and stages and people involved etc]

2. What are your views about teaching Health Education in primary schools? [Probe about knowledge of the aims of teaching the subject, how Health Education is taught in terms of time allocation, whether it is taught in all classes, availability of learning/teaching resources, activities, assignments, teaching approaches, adequacy of the content in relation to non-communicable lifestyle disease, challenges]

3. Please share with us some of your experiences about teaching of Physical Education in primary schools? [Probe about knowledge of the
aims of teaching the subject, teacher preparations, learning activities, learner/teacher participation, teaching approaches, skills taught and their relationships to/relevance/adequacy to one’s health and non-communicable lifestyle diseases etc.

4. What are your views about the teaching methods used by teachers in terms of enabling pupils to acquire action-competence and apply their knowledge to prevent non-communicable lifestyle diseases? [Probe about teaching methods used in teaching Health Education; teachers preparedness and experiences from internal inspection/monitoring and evaluations of curriculum, challenges faced etc.]

5. What factors affect the ability of primary school pupils to use Health Education knowledge effectively to avoid lifestyle diseases? [Probe about experiences during visit to school for inspections/monitoring, challenges faced in enabling learners to achieve action-competence among others to prevent]

6. Please comment about the school health policy in relation to its adequacy to enable the pupils and school fraternity to overcome non-communicable lifestyle diseases? [Probe about KNSHP, school level health policies, feeding programmes...in terms of content, NCLSDs, translation into practices]

7. Suggest what intervention measures can be put in place to overcome challenges in Health Education? [Probe about practical and objective strategies that can be taken to enable teachers efficacy in teaching, delivery and improving learning outcomes by various stakeholders such as MoE, parents, teachers, community and the greater society]

8. Suggest any other intervention measure that can be used to enable pupils cope with challenges posed by non-communicable lifestyle diseases?

Thanks a lot for your good mutual cooperation

Appendix XV

Classroom Teaching Observational Schedule for HE Lesson

Class: _______ Gender of the teacher__________ Teaching subject _________

<table>
<thead>
<tr>
<th>Item/activity observed</th>
<th>Indicator</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Teaching Approaches</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Use of Teacher-centred teaching methods/approaches</td>
<td>Talk and chalk</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Lecture method</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Didactic methods</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Note taking/giving</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Learner-centred teaching methods/approaches

- Discussion
- Question and answer
- Project
- Drama
- Role-play
- Songs
- Dance
- Pupil-demonstration
- Class experiments
- Educational trips
- Use of resource persons

Other observations

- Active use of teaching resources
- Display of pupils work
- Marking of pupils work
- Learners involvement
- Individual work/attention
- Answering pupils’ questions
- Display of used learning resources/aids

Appendix XVI

PE Facilities Observation Schedule

<table>
<thead>
<tr>
<th>School</th>
<th>Types of facilities for teaching of physical exercises</th>
<th>Adequacy against school enrolment</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Playing fields for physical education teaching, games</td>
<td>Size   Number   Condition</td>
<td>Football</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Netball</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Volleyball</td>
</tr>
<tr>
<td>Sports</td>
<td>Sports/games</td>
<td></td>
<td></td>
</tr>
<tr>
<td>-----------------------------------</td>
<td>----------------------------</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other activities</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Physical equipments and facilities for teaching physical education</th>
<th>Footballs</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Volleyball</td>
</tr>
<tr>
<td></td>
<td>Netballs</td>
</tr>
<tr>
<td></td>
<td>Games equipments</td>
</tr>
<tr>
<td></td>
<td>Equipments for general use</td>
</tr>
<tr>
<td></td>
<td>Attire for physical education for pupils</td>
</tr>
<tr>
<td></td>
<td>Attire for physical education for teachers</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Indoor games equipments</th>
<th>Table tennis</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Other physical education teaching facilities</th>
<th>Swimming pools</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Badminton courts</td>
</tr>
</tbody>
</table>

| Any other equipments for teaching physical education |                          |

Appendix XVII

**FGD Schedule for Pupils**

*Guidelines*

The interview schedule is anonymous due to ethical considerations. Your responses will be treated with utmost confidentiality and shall not be revealed to anybody. The purpose of this study is to **find the**
contributions of Health Education in Promoting Healthy Lifestyles among Primary School Pupils in Nairobi County, Kenya...so as to enable them prevent non-communicable lifestyle diseases like cancer, obesity, diabetes and other similar problems. Kindly, you are assured that in this study all responses are good and valuable...Do not leave any question[s] unanswered.

Please you are kindly asked to cooperate and ask/inquire from the researcher about any issue[s] which may not be clear...

WELCOME

1. Please tell us about your school. Probe about pupils social interaction, eating habits, peer relationships, general lifestyle in the school, general school environment etc
2. What are your views about food kiosks in/and around your school? [Probe about types of foods sold to pupils, peer influence/knowledge of effects of eating habits on one’s health, beliefs, attitudes, feelings, experiences etc]
3. What kinds of foods are available in food kiosks near your schools? [Probe about availability of junk/fast foods in/around the school environment etc]
4. Please tell us how pupils share their food with other pupils [Probe about peer influence in eating habits/patterns, types of foods preferred by peers etc]
5. Please tell us how Health Education is taught in your class? [Probe about knowledge of the aims of teaching the subject, learning activities, assignments, tests, marking and doing corrections, teaching approaches, adequacy of the content, relevance to health and non-communicable lifestyle diseases etc]
6. Please tell us how PE is taught in your class? [Probe about knowledge of the aims of teaching the subject, learning activities, active participation, teaching approaches, skills taught and their relevance/adequacy to one’s health and non-communicable lifestyle diseases etc]
7. Please tell me about some school practices that can used to enable pupils to prevent lifestyle diseases? [Probe about good school practices in the school, relationship between HE knowledge and NCLSDs]
8. Please tell me the school health policy in relation to adequacy to enable the pupils and school fraternity to overcome lifestyle diseases. [Probe about KNSHP, school level health policies, feeding programmes...in terms of content, NCLSDs, translation into practices]
9. What do you suggest can be done to improve HE to enable pupils prevent NCLSDs? [Probe about support needed to acquire action competence through support by teachers, parents, community and government; support through enriching Health Education content, learning resources, and teaching approaches/strategies that can be
taken to enable teachers efficacy in teaching, delivery and improving learning outcomes by various stakeholders such as MoE, parents, teachers, community and the greater society]

\textit{Thanks a lot for your good mutual cooperation}

Appendix XVIII

“Sheng” Names for Popular Foods and Drinks eaten by Pupils

\textbf{Guidelines}

The diary record is anonymous due to ethical considerations. Your responses will be treated with utmost confidentiality and shall not be revealed to anybody. The purpose of this study is to \textit{find the contributions of Health Education in Promoting Healthy Lifestyles among Primary School Pupils in Nairobi County, Kenya...to enable them to prevent non-communicable lifestyle diseases and other similar problems}. Kindly, you are assured that in this study all responses are good and valuable...Do not leave any question[s] unanswered. Please you are kindly asked to cooperate and ask/inquire from the researcher about any issue[s] which may not be clear...

\textbf{WELCOME}

Kindly fill the record with other names that your peers use for popular foods and drinks/snacks eaten in course of the day when you are with your friends at on the way home or when at school...

\begin{tabular}{ |c|c|c|c|c|c|c|c|c|c|c|}
\hline
Day and date & Type of food eaten & Name used by peers & Contents or ingredients & Number of times eaten in a day & Taken alone or with peers & Day and date & Type of drink taken & Name used by peers & Contents or ingredients & Number of times taken & Taken alone or with peers \\
\hline
\end{tabular}
Thanks a lot for your good mutual cooperation

Appendix XIX

“Sheng” Names for Popular Games Played By Pupils

Guidelines

The record is anonymous due to ethical considerations. Your responses will be treated with utmost confidentiality and shall not be revealed to anybody. The purpose of this study is to find the contributions of Health Education in Promoting Healthy Lifestyles among Primary School Pupils in Nairobi County, Kenya...to enable them to prevent non-communicable lifestyle diseases and other similar problems. Kindly, you are assured that in this study all responses are good and valuable...Do not leave any question[s] unanswered. Please you are kindly asked to cooperate and ask/inquire from the researcher about any issue[s] which may not be clear...

WELCOME

Kindly fill the record with names that are used by peers to refer to their popular games, physical activities, exercises in course of the day when you are with your friends at home or at school...

<table>
<thead>
<tr>
<th>Day and date</th>
<th>Type of Physical activity or exercise</th>
<th>Name used by peers</th>
<th>Things used</th>
<th>Number of times played in a day</th>
<th>Day and date</th>
<th>Type of Physical activity or exercise</th>
<th>Name used by peers</th>
<th>Things used</th>
<th>Number of time played in a day</th>
</tr>
</thead>
<tbody>
<tr>
<td>School: _____________________</td>
<td>Gender of the informant</td>
<td>___________</td>
<td>Week</td>
<td></td>
<td></td>
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<td></td>
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<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Day and date</th>
<th>Type of Physical activity or exercise</th>
<th>Name used by peers</th>
<th>Things used</th>
<th>Number of times played in a day</th>
<th>Day and date</th>
<th>Type of Physical activity or exercise</th>
<th>Name used by peers</th>
<th>Things used</th>
<th>Number of time played in a day</th>
</tr>
</thead>
<tbody>
<tr>
<td>School: _____________________</td>
<td>Gender of the informant</td>
<td>___________</td>
<td>Week</td>
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</tr>
</tbody>
</table>
Thanks a lot for your good mutual cooperation

Appendix XX

BMI Data Sheet

<table>
<thead>
<tr>
<th>S/N</th>
<th>Class</th>
<th>Sex</th>
<th>Age in years</th>
<th>Body height in M</th>
<th>Body weight in Kg</th>
<th>BMI in Kg/M²</th>
<th>BMI category</th>
</tr>
</thead>
</table>

Thanks a lot for your good mutual cooperation

Appendix XXI

A Diary of Types of Foods eaten by Pupils

Guidelines
The diary record is anonymous due to ethical considerations. Your responses will be treated with utmost confidentiality and shall not be revealed to anybody. The purpose of this study is to find the contributions of Health Education in Promoting Healthy Lifestyles among Primary School Pupils in Nairobi County, Kenya...to enable them to prevent non-communicable lifestyle diseases and other similar problems. Kindly, you are assured that in this study all responses are good and valuable...Do not leave any question[s] unanswered. Please you are kindly asked to cooperate and ask/inquire from the researcher about any issue[s] which may not be clear...

WELCOME

Kindly fill the diary with names of all the foods, drinks, snacks and any other item(s) eaten in course of the day when you are alone or with your friends at home or at school...

School: ______________________ Gender of the informant ________________________________

<table>
<thead>
<tr>
<th>DAY/TIME</th>
<th>Breakfast</th>
<th>Midmorning</th>
<th>Lunch</th>
<th>Mid-afternoon</th>
<th>Late afternoon</th>
<th>Supper</th>
<th>Any other time/types of foods</th>
</tr>
</thead>
<tbody>
<tr>
<td>Monday</td>
<td></td>
<td></td>
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<td>Tuesday</td>
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<tr>
<td>Wednesday</td>
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<tr>
<td>Day</td>
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<td>Thursday</td>
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<tr>
<td>Friday</td>
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<tr>
<td>Saturday</td>
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<td></td>
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<tr>
<td>Sunday</td>
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<td></td>
<td></td>
</tr>
</tbody>
</table>

Please indicate any other times when you eat food within the week and the types of foods eaten.

---

**Thanks a lot for your good mutual cooperation**

**Appendix XXII**

A Diary of Weekly Physical Exercises/Activities by Pupils

**Guidelines**

The diary record is anonymous due to ethical considerations. Your responses will be treated with utmost confidentiality and shall not be revealed to anybody. The purpose of this study is to **find the contributions of Health Education in Promoting Healthy Lifestyles among Primary School Pupils in Nairobi County, Kenya...to enable them to prevent non-communicable lifestyle diseases and other similar problems.** Kindly, you are assured that in this study all responses are good and valuable...Do not leave any question[s] unanswered. Please you are kindly asked to cooperate and ask/inquire from the researcher about any issue[s] which may not be clear...

**WELCOME**

Kindly fill the diary with types of physical activities/exercises in course of the day when you are alone or with your friends at home or at school...

| School: ___________ Gender of the informant ___________ |
| Week_________ |
Please indicate any other times when you are involved in physical exercises within the day/week and the types of activities.

Thanks a lot for your good mutual cooperation

Appendix XXIII

Research Authorization by the City Education Department of Nairobi County
GL/NC/141 VOL IV/159

6th October, 2011

Kiara Francis Kirimi
DFinally Primary School
P.o. Box 65525 -00607
NAIROBI

RE: RESEARCH AUTHORIZATION

We are in receipt of your letter dated 6th October, 2011 requesting for authority to collect data in public primary schools in Kasarani, Westlands and Kamukunji districts for the purposes of educational research on “The role of health Education in Promoting Healthy Lifestyles Among Primary School Pupils in Nairobi County.”

Please be informed that the survey should not interfere with teaching & learning in schools.

Liaise closely with respective Head teachers for the success of your research. On completion, this office expects a copy of the research findings.

CITY EDUCATION DEPARTMENT

CITY COUNCIL OF NAIROBI

TELEGRAM “SCHOOLING”
TELEPHONE: 221166/224281
EXT: 2426 /2590

CITY HALL ANNEXE
P. O. BOX 30298 GPO
NAIROBI

300

Appendix XXIV

Research Authorization by the Government of Kenya
RESEARCH AUTHORIZATION

Following your application for authority to carry out research on; "The role of health education in promoting healthy lifestyles in selected primary school pupils in Nairobi County, Kenya" I am pleased to inform you that you have been authorized to undertake your research in Nairobi for a period ending 30th August 2012.

You are advised to report to The Provincial Commissioner and The Provincial Director of Education Nairobi before embarking on the research project.

On completion of your research project you are expected to submit one hard copy and one soft copy of your report/thesis to our office.

DR.M.K RUGUTT,PhD,HSC
DEPUTY COUNCIL SSECRETARY

Copy to:

The Provincial Commissioner
Nairobi Province

The Provincial Director of Education
Nairobi Province

Appendix XXV
Research Permit from the Gok with Guidelines and Conditions

APPENDIX XXVI
FIGURES
Figure 3.3. The researcher and his assistants during FGD in one of the schools.

Figure 4.1. Pupils washing hands in water tap in one of the schools sampled.

Figure 4.2. Classroom walls with no learning aids in one of the schools.
Figure 4.3. Teachers and pupils idling during PE time in one of the schools

Figure 4.4. Football field in one of the schools

Figure 4.5. An ordinary games time in one of the schools sampled for the study
Figure 4.6. A dusty playing field in a dry season in the sampled schools

Figure 4.7. Flooded playing fields in the sampled schools during rainy season

Figure 4.8. A playing field with goal posts overgrown with grass in the sampled schools
Figure 4.9. Some of swimming pool in the schools sampled

Figure 4.10. Some of school buses and personal vehicles used to transport pupils

Figure 4.11. Children play in between parked cars during break time in a car park
Figure 4.13. Some of the faintly painted and faded chalkboards used in classes

Figure 4.14. Classroom walls with bare of learning aids were found in all schools

Figure 4.15. A water tank showing steps of washing hands in one of the schools
Figure 4.16. A wall graphic with information on communicable diseases

Figure 4.17. A wall graphic with linking prevention of communicable diseases with academic performance in one of the schools

Figure 4.18. A congested class in one of the schools sampled for the study
Figure 4.21. Pupils buy and share various junk foods and drinks from an open air food vendor in the school.

Figure 4.22. Some of junk foods found in canteens adjacent to the school.

Figure 4.23. Junk drinks found in one of the canteens in one of the schools.
Figure 4.24. Junk foods, drinks and even cigarettes found in road side open air vendor next to a school gate

Figure 4.25. Pupils sharing popular junk foods and drinks in the schools as others queue to buy

Figure 4.26. Junk foods being prepared in very unhygienic open air/dusty conditions
Figure 4.27. Colourful and persuasive display of junk foods and drinks