

**SCHOOL PREPAREDNESS AND ITS INFLUENCE ON THE  
IMPLEMENTATION OF NATIONAL HEALTH STRATEGIC PLAN IN  
PUBLIC SECONDARY SCHOOLS IN MACHAKOS COUNTY, KENYA**

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## **DECLARATION**

I declare that this research report is my original work and has not been presented in any other university/institution for consideration of any certification. The research report has been complemented by referenced sources duly acknowledged. Where text , data (including spoken words), graphics, pictures or tables have been borrowed from other sources, including the internet, these are specifically accredited and references cited using current APA system and in accordance with anti-plagiarism regulations.

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## **DEDICATION**

This research work is dedicated to my husband Joseph Makau and my daughter

Yvonne Mwangeli

## **ACKNOWLEDGEMENT**

I wish to thank the almighty God for giving me good health and resources to carry out this research work. Further, I take this opportunity to thank my supervisor, Dr. Ogeta of Kenyatta University for his unwavering guidance and commitment he accorded me during the time of my study.

I further thank my dear family, especially my husband Joseph Makau and my daughter Yvonne Mwongeli for their encouragement, support and tolerating exceedingly long hours of my absence in order to make this study a success. May God bless you all.

## **ABBREVIATIONS AND ACRONYMS**

<b>ASHA</b>	American School Health Association
<b>CDF</b>	Constituency Development Fund
<b>CEO</b>	County Education Officer
<b>CFS</b>	Child Friendly Schools
<b>FRESH</b>	Focusing Resources on Effective School Health
<b>MDGs</b>	Millennium Development Goals
<b>NACOSTI</b>	National Commission for Science, Technology and Innovation
<b>NHES</b>	National Health Education Standards
<b>SHP</b>	School Health Programme
<b>SPSS</b>	Statistical Package for Social Sciences
<b>WASH</b>	Water, Sanitation and Health
<b>WHO</b>	World Health Organization

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## ABSTRACT

While health has been established as a fundamental human right, it is alarming to establish that, its efficacy at secondary school level within Machakos County falls way below expectations. As a result and aware that it is enforced by the use of national health strategic plan (NHSP), this study investigated the school preparedness and its influence on the implementation of national health strategic plan within Public secondary schools in Machakos, Kenya. In particular, the first objective was to establish the level of training on the health matters and execution of the strategic plan. The second objective was to determine the adequacy of health facilities and accomplishment of national health strategic plan. Thirdly, it identified the availability of funds and its influence on the realisation of national health strategic plan and lastly, it determined the level of awareness of teachers on the existence of the said strategic plan and its influence on the implementation of the national health strategic plan in secondary schools within Machakos County, Kenya. The study adopted descriptive survey design. Both the principals and teachers were the target population. Stratified sampling was employed by obtaining 15% of the respondents from mixed day, single gender and mixed boarding categories within the said county, totalling to 633 teachers and 47 principals. Then simple random sampling was used to select teachers from each sampled school. Principals from the sampled schools were sampled purposively. The instruments of data collection comprised of Semi-structured questionnaires and interview guide which collected both quantitative and qualitative data. Content validity was determined through expert's judgment. Reliability was determined by split half technique. The data was presented in tables. By the use of SPSS version 21, Quantitative data was analysed using both descriptive method (mean and standard deviation) and inferential technique (Regression analysis). Qualitative was analysed thematically. The study revealed that, there was limited in servicing of teachers regarding handling of students' health matters which influenced the implementation of NHSP. Secondly, it emerged that, there was limited students health facilities like waste disposal system and fire-extinguishers, which it also affected the execution of the NHSP. The funding for students' health issues was inadequate, an aspect which also impacted the implementation of NHSP. Lastly, teachers and principals were much aware of the national health strategic plan. Additionally, the said awareness affected significantly the implementation of the NHSP. Generally, the study established that, school preparedness influenced in a significant way the implementation of NHSP. Following the mentioned findings, this study recommended the government to constantly capacity build teachers on handling students' health matters, increase more funding in schools in order to secure more health related facilities. Lastly, schools through the help of Board of managers should lobby Non-governmental organization to support in terms of finances the implementation of NHSP.

## **CHAPTER ONE**

### **INTRODUCTION AND BACKGROUND TO THE STUDY**

#### **1.1 Introduction**

This chapter presented the background of the study, statement to the problem and study objectives. Additionally, research questions, limitations, de limitations, study assumptions, significance, conceptual and theoretical frame works were too presented. Lastly, operational definition of key words was indicated at the tail end of the chapter.

#### **1.2 Background to the Study**

In tandem with international protocols, which acknowledge access to quality health care as not only a fundamental right to all people, but also a critical component for accelerating economic development globally (UNESCO, 2015 and World Bank, 2018), institutions are at the fore front actualising health standards for their learners. It is therefore not a surprise that, learning institutions at elementary, secondary and tertiary levels have strategized on the realisation of health plans (Jonathan, 2014 and Geregei, 2017). If the claim by Jonathan (2014) that, strategic planning empowers an organization to be proactive rather than reactive, is an assertion to go by, then, schools are justified to institute health strategic plans. Subsequently therefore, Kenya was not left behind since it crafted the national health strategic plan to all learning institutions (Republic of Kenya, the national strategic national health, 2018).

But then, what is health? Fusch (2015) considers health to be a condition, where one is complete in terms of his/her physical or psychological wellbeing. Importantly, such definition is significant as it tries to confine health on the effectiveness of body functioning. On the other hand, Jonathan (2014) opines that, absence of a disease to

be his ideal conceptualisation of health. While both definitions may have value, this study will align itself to Fusch (2015) view about health. Indeed, the mere fact that it highlights completeness of both physical and psychological wellbeing demonstrates holistic perspective of healthy person. Further, in view of the overarching need to ensure learners at secondary schools access emotional, mental and physical health, such aforementioned definition would be appropriate since learners in secondary schools have been undergoing immense health problems without necessarily going through physical pain (Kahiga, 2018 and Michelle, 2018)

Alive to the realisation that, a healthy learner has potential to post good academic performance (Kahiga, 2019), it is troubling to establish that, knowledge on implementation of national health strategic plan in Machakos remain largely speculative. Further, if actualisation of sustainable goals number four on access to quality education (UNESCO, 2015) is to be achieved, policy formulators In the ministry of education deserves evidence on the implementation of the said strategic plan, in order to accurately address areas of inadequacies in the realisation of the said policy.

According to UNICEF in the global summit held in 2018, efforts were evident stressing the need to implementing sustainable health measures in learning institutions. Furthermore, of concern to such summit was establishing sufficient girls' and boys' toilets in each school globally. Tragically, as estimated by UNICEF, half of the world's academic institutions still do not have safe sanitation facilities and water supply. These unhealthy conditions vary from lack of toilets to inadequate and inappropriate sanitary facilities. What such findings mean is that, in an error where there is 100% transition from primary school to secondary school like

in Kenya, many students may contract both communicable and non-communicable diseases while in those sanitation facilities (Jonathan, 2014) and in extension derail the goal to acquisition of quality health care (UNESCO 2015) as a fundamental sustainable goal number three.

Further, it's critical to reveal that, a significant correlation between workers' output and extent of expertise is apparent at work place (Gathecha, Makokha & Wanzala, 2012). As a consequence, a requirement that training and experience levels of professionals mandated to oversee the actualisation of the strategic plans in educational institutions should be pursued. Indeed, what such assertion means is that, health implementers ought to have requisite skills related to the execution of health matters. Nonetheless, it is remarkably distressing to realise that, in Spain, some of the school nurses at secondary institutions did not meet the minimum threshold to practice in their health profession (Michelle, 2019). The pertinent question which arises is, if expertise is a factor which influences performance ((Kahiga, 2019), then was the students getting the best mental health care as envisioned? such a question remains largely unclear. Arguably, the findings by Michelle (2019) study could potentially be generalised within Spain. It was therefore critical that, a Kenyan context, in particular in Machakos, a study be conducted, to act as a plat form where insights on teachers' competencies regarding execution of the said strategic plan would be revealed.

Shockingly, 64% of students in India could not access sanitary pads. Worse even is the fact that, their toilets did not have doors (Fusch, 2015). It is possible that, the issue of inability of students to access quality abolition services is insignificant,

however, worryingly, the critical basic right to privacy was likely to be violated, a case which would as well lower self-esteem of such students (Butchler, 2014).

In West Africa, it's fulfilling to note that, there has been notable efforts, particularly in Nigeria and Cameroon on their desire to implement health standards in schools. Indeed, fencing of the schools and provision of clean water had partially been done. Nonetheless, a significant work on the said programmes has not been implemented due to limited funds (Jonathan, 2014). Incontestably, this study acknowledges that, funds are scarce resources hence they can't be sufficient. However, considering that, fencing schools ensures right to secure environment is actualised (health policy for national schools, Nigeria, 2018), the necessity for this study will become clearer in order to establish availability of funds in schools for implementing this strategic plan. Special emphasis was focused on the possible sources of funding, schools get for implementation of the said programme.

The study by Jonathan (2014) was extremely timely and ground breaking in nature, considering the call to realise accessible health care (UNESCO, 2015 and World Bank, 2018). On the other hand, it adopted a sample of 84 respondents to collect data. Such a sample was relatively small. Relative small sample size may at times limit generalisability of study findings (Orodho, Ndambayangye & Nzambalirya 2016). In return, this study adopted 511 respondents, comprising of teachers and principals. Interestingly, relatively large sample sized studies boost external validity just as guided by Mugenda and Mugenda (2013).

As an urgent matter, the ministry of education promptly developed national health strategic plan to oversee the actualisation of health standards indicated thereof. In particular, sensitisation of right procedures were deemed appropriate for teachers in

secondary schools (Machakos government, survey for school needs, 2015). However, it was disheartening to find out that, in Kenya, tutors in secondary schools were ignorant of the siad policy (Kahiga, 2019 and Otieno, 2014). With limited sensitisation, the question of effectiveness was undeniably real since one may not accomplish unfamiliar strategic plan. Since the findings by Kahiga (2019) and Otieno (2014) were confined on mental health for learners at primary schools, the adequacy of implementation of the said strategic plan at secondary school remained largely unclear and unexplored. As such, this study not only established the awareness of teachers but also awareness levels of the principals with intention of revealing its influence on the implementation of the strategic plan.

The study takes cognisance of the fact that, there could be other factors affecting the implementation of the national health strategic plan at secondary schools in Kenya. Such factors include the social economic status of the parents (Ayer, 2016), the goodwill from the political class, besides willing donors for school (Otieno, 2014). Nonetheless, the aforementioned variables were held constant during the time of this study in order to investigate the school preparedness level on the implementation level of the said strategic plan.

### **1.3 Statement of the Problem**

As health is inevitably a basic human right, particularly in schools, efforts in learning institutions are evident to ensure learners within Machakos get the best possible health care. Subsequently, schools are expected to implement health strategic plan by creating awareness on health matters among school community, capacity build its members with respect to health care procedures and secure sufficient resources to address health related affairs. Nonetheless, according to

Machakos county education office report of inspection (2020), the implementation rate between 2016 and 2020 has been rated at only 45% compared to the national rate of 52%.

The issue of implementing this national health strategic plan within Machakos may seem insignificant, but if left unattended, it may derail efforts meant to ensure access to quality education as sustainable goal number four (UNESCO, 2015), besides realisation of access to quality health care as envisioned in the Kenyan constitution (Republic of Kenya, the constitution, 2010). Studies on implementation of various strategic plans especially in higher learning and primary schools have been established (Ayier, 2016; Jonathan, 2014 and Geregei, 2017). However, research on execution of the NHSP in the secondary schools particularly in Machakos County are scarce. The study investigating implementation level of this strategic plan is critical for evidence based policies in the state department of early learning for sufficient and prudent resource allocation. Therefore, this descriptive study investigated school preparedness level and its influence with regard to implementation level of national health strategic plan in public secondary schools within Machakos County.

#### **1.4 Purpose of the Study**

By virtue of scarce studies addressing effectiveness of execution of national health strategic plan particularly in Machakos, the intention of this descriptive survey inquiry was to investigate the school preparedness level on the implementation of national health strategic plan in Public secondary schools in Machakos. The findings obtained herein may be a valuable tool for the ministry of health, and education, with regard to resources allocation for students in schools.

## **1.5 Objectives of the Study**

In order to achieve the above stated purpose, the study was guided by the following objectives.

- i. To establish teacher training level and its influence on the implementation of national health strategic plan in public secondary schools within Machakos county, Kenya.
- ii. To assess the availability of facilities related to national health strategic plan and its influence on the execution of the said strategic plan in public secondary schools within Machakos County.
- iii. To determine the adequacy of funds and its influence on the implementation of national health strategic plan in public secondary schools within Machakos county, Kenya.
- iv. To determine the awareness level of the presence of national health strategic plan and its influence on implementation of national health strategic plan in public secondary schools within Machakos county, Kenya.

## **1.6 Research Questions**

In an attempt to actualise the study intention, the following research questions were used:

- (i) What is the influence of teacher training level with regard to execution of NHSP on the implementation of national health strategic policy in public secondary schools in Machakos Sub County, Kenya?
- (ii) What is the influence of the adequacy level of facilities for national strategic plan on implementation of NHSP in public secondary schools in Machakos sub county, Kenya?

- (iii) What is the influence of the level of adequacy of funds for health matters on implementation of NHSP in public secondary schools within Machakos Sub County, Kenya?
- (iv) What is the influence of the awareness level among teachers regarding presence of the NHSP on implementation of national health strategic plan in public secondary school in Machakos sub county, Kenya?

### **1.7 Significance of the Study**

This inquiry may avail insightful findings to various stakeholders involved in the implementation the said strategic plan. To begin, in the light of the fact that, the state department of early learning (SDEE) is mandated to ensure that, all learners regardless of gender, race and creed are assured of healthy learning environment, this study may be timely for policy formulation in the said ministry. In particular, the evaluation of its efficacy in the implementation of the aforesaid strategic plan may not only shed light on funds required for schools but also its human capacity building level for implementers of this vital programme. If then good health is positively associated to learners' performance is something to go by, then findings of this study may accelerate better health and help in the attainment of basic education as enshrined in the Kenyan constitution.

Secondly, following insufficient funds which are normally occasioned to high number of students in our institutions, the Non-governmental organizations and donors may equally get evidence based findings on the resource deficits which they may provide. Indeed, since the government recognizes partnership with non-state organizations in educational matters, they may avail particularly sanitary pads and

water harvesting resources, thus enabling realisation of clean sanitation as a critical sustainable goal number six.

Thirdly, appreciating that, principals as managers in secondary schools are mandated to provide healthy learning environment using innovative and available resources, this study was pertinent because it not only provided disclosure on the performance of principals on that regard, but also provided unbiased assessment on areas of inadequacies in resources provision. Undeniably, owing to a close connection between appraisal of a policy execution and its success, this critical study may go along way accelerating implementation of the said strategic plan and enable learners get quality education as one sustainable goal four.

Lastly, it's discomfoting to establish that, theories in the implementation of policies have limited robustness because they are rarely tested in various studies. Thankfully, its fulfilling to appreciate that, this study in particular tested the theory of first and second generation theories on their efficacy on the Kenyan based study. As a consequence, such a move may provide platform on policy researchers who seek to extend knowledge on the said matter by engaging on a well-supported conceptual frame works for their future studies.

### **1.8 Limitations of the Study**

Mugenda and Mugenda (2013) indicates limitations to be potential challenges beyond the ability of the researcher which may negatively affect the generalizability of the study findings. It should therefore be born in mind that, the findings of this study were interpreted in light of the following limitations.

Firstly, In view of the subject which involved the implementation of national health strategic plan, it's likely that, respondents might have had fear of victimisation as it

seemed that they were evaluating their seniors on their performance. However, the researcher ensured that, the information collected was treated with utmost confidentiality and explained to informants, the key purpose of the study.

Secondly, conscious of the fact that, questionnaire was one of the tools in the data collection process, undeniably, one of inherent bias within it, is its inability to establish whether the respondents were indicating the truth. The aforesaid bias might have greatly impacted negatively the validity of the study findings (Kothari, 2004). But on the other hand, the researcher explained to the respondents the benefits of the study in order to persuade them to give honest responses to the data collection tools.

Thirdly, the findings of this scientific inquiry can only be generalised within Machakos county and not any other county in the republic of Kenya. Additionally, the teachers and principals were busy during data collection process especially during working hours. The only time for them to be accessed was in the evenings when they are tired. If then fatigued respondents may lower the reliability of study finding (Mugenda & Mugenda 2013), such realisation might have compromised the truthfulness of study findings. Nonetheless, the researcher left questionnaires in the schools for respondents to indicate their responses when they are not fatigued and then collected three days after distributing them.

### **1.9 Delimitations of the Study**

Firstly, while there could be many factors influencing the execution of the national school health strategic plan, this scientific inquiry confined itself to only institution based factors. Admittedly, other factors like social economic factors and government policies may as well influence the above said subject, nonetheless, due to limited

time and resources, school based factors were examined in public secondary school in Machakos Sub county.

Considering that, the implementation of national health strategic plan is also implemented in other counties, this scientific inquiry confined itself within Machakos Sub County. The aforesaid decision was arrived at following limited studies addressing it in Machakos Sub County.

Further, the study categorically engaged teachers and principals who were present during data collection process. Alive to the fact that, other members who were absent during data collection process might be having insightful input to the study, they were not included owing to the limited time allocated for the data collection process.

#### **1.10 Assumptions of the Study**

As Kombo and Tromp (2006) reveal, assumptions provide a level playing field for the research. Similarly, this study had the following assumptions. Firstly, the respondents were honest and truthful when responding to data collection tools. Such assumption was deemed appropriate since the researcher ensured the identity of respondents was upheld. Such confidentiality was realised by coding their names during data collection instead of their actual names.

Secondly, the implementation of national health strategic plan is being implemented in Machakos County. Thirdly, awareness of principals and teachers and principals on strategic plan of national health programme is a factor which influences its implementation in secondary schools within Machakos County. In the same line of thought, all other factors which influenced the implementation of national health strategic plan in public schools remained unchanged during the time of study. Such

assumption was ideal following a view by Kothari (2004) which indicates the need to avoid spurious effect of any other extraneous variable which wasn't within the scope of the study and eventually affect validity and reliability of study findings.

### **1.11 Theoretical Framework**

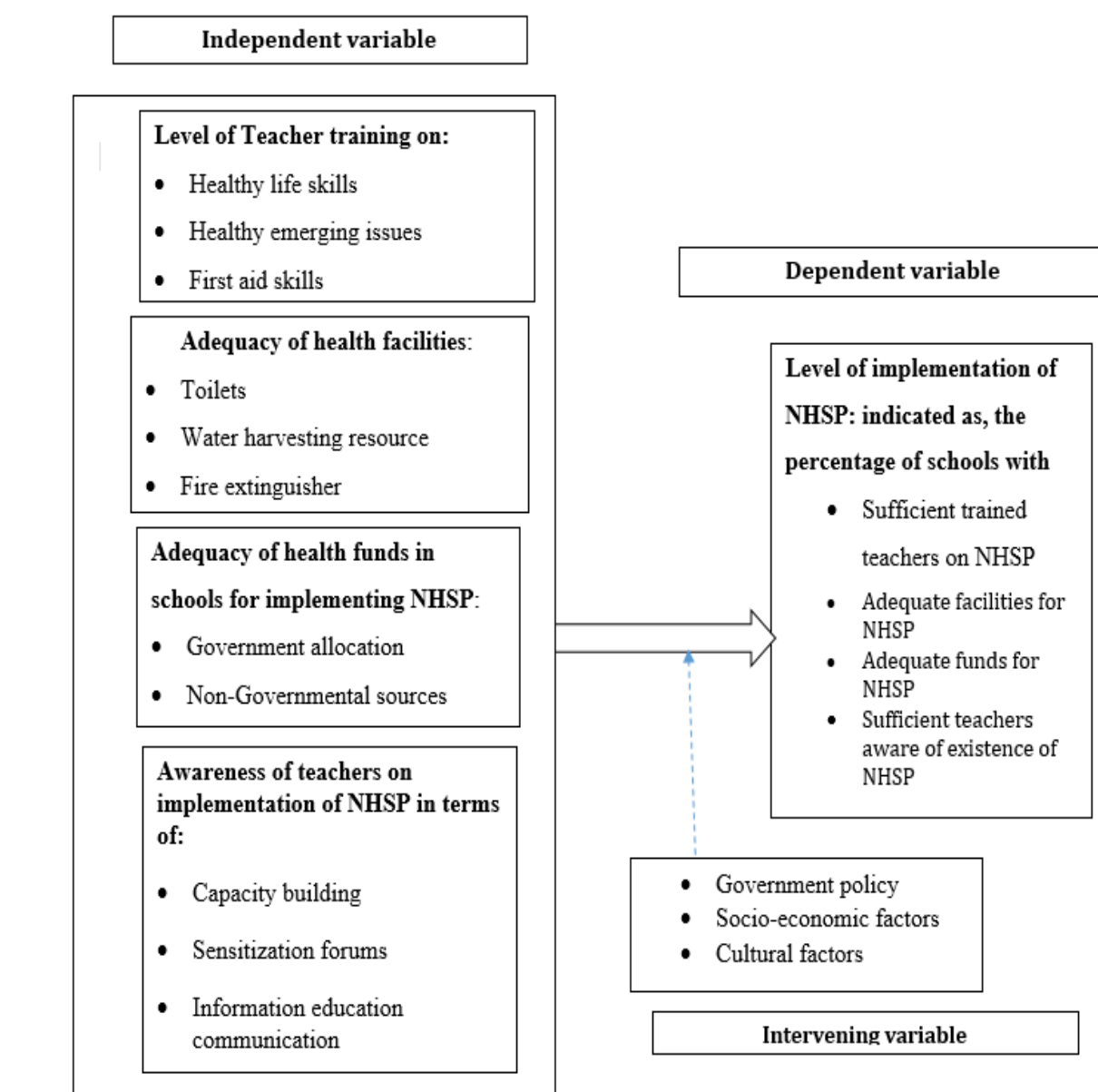
In order to understand the implementation of national school health strategic plan, first and second generation theories by Ostrom and Ahn (2009) were employed. Indeed, as Orodho et al., (2016) guides, use of two theories was extremely appropriate since they complemented one another and enhanced robustness in understanding the phenomena being studied. The first generation implementation theory was adopted for this study owing to its robustness in revealing inadequacies and strengths for any policy (Jonathan, 2014). Indeed, Dunson carried out his study in Europe and validated this theory, making it reliable for this vital study.

To begin with, as Ostrom and Ahn (2009) reiterate, the first generation theory provides that, achievement of any policy in an institution requires trained human resource, besides capacity building of the human resource. As such, this inquiry sought to investigate the pre requisite training which teachers and principals might have been offered and whether it has influenced on the implementation of the said strategic plan hence helping in the achievement of objective one. Further, just as Iatridis et al., (2016) reveal, the aforementioned theory provides that, actualisation of any policy requires adequate resources. Alive to the fact that, limited evident is overwhelming on the sufficiency of resources allocated to this strategic plan within Machakos County, the theory was critical in trying to guide on the interpretation of resources available for the execution of the aforementioned plan. Additionally, their

effect on the execution of the said policy was too determined. Objective two and three would be interpreted in the light of that tenet.

In the same line of thought, Iatridis and Kesidou (2016) makes it clear that, deliberate conscious of implementers of any policy is critical to its success as revealed by second generation theory. As such, it remains unclear on the level of awareness of the principals as executors of the said strategic plan, at a time when evidence based finding was essential for policy formulation in the ministry of health. As such, the fourth objective was interpreted in light of that theory principle.

## 1.12 The Conceptual Framework



**Figure 1.1: The Conceptual Frame Work**

### **Learning based factors and its influence on the execution of National health strategic plan**

There exists significant correlation between the adequacy of training among policy implementers and degree of implementation (Ayier, 2016).As a result the study sought to determine the training offered to principals and teachers in order to

implement this policy. The said study was conceptualised in that, the more implementers of the policy were trained, the higher the degree of implementation of the said policy.

Considering that, the more resources for implementing a policy are provided, the higher the rate of execution (Duncan, 2015), the scientific inquiry determined the facilities like the number of first aid kits, number of tanks for harvesting water besides the availability of sanitary pads bins in girls toilets. In the event there was limited facilities as indicated thereof, implementation of this strategic plan was conceptualised as being below expectation.

Further, the establishment by Geriege (2017) that, adequacy of resources like funds determines the rate of execution of any policy, the study endeavoured to determine the amount of funds allocated to this strategic plan. Allocation for both government funds and non-governmental organisations were sought. The study was conceptualised that, insufficient funds from both government and private partnerships indicated limited execution of national health strategic plan.

Aware of the close association between familiarity of strategic plan and implementation of plan (Dunn, 2015), the study sought to determine the level of awareness of the said policy plan and the level of implementation. In fact, the more familiar the respondents were, the higher the rate of implementation of strategic plan. As a result, independent variable was represented by four components, namely, adequacy of teachers training on the strategic plan, adequacy of facilities related to health care, sufficiency of funds for the strategic plan and lastly, the level of awareness on strategic plan.

The dependent variable was represented by the level of implementation of the national strategic plan in public secondary schools. Figure 1 summarised the above conceptualisation.

### **1.13 Operational definition of Terms**

**Awareness:** The level of familiarity teachers and principals have towards the existence of National health strategic plan in Machakos County. Measured in form of the Number of teachers and principals in a schools who can adequately demonstrate Knowledge on the said strategic plan.

**Facilities:** Equipment required by learners for the purposes of their health while in schools. Measured in terms, number water harvesting tanks, number of first aid kits in each School and also the number of sanitary pads bins for girls.

**Implementation:** Process of promoting NHSP in secondary schools. Measured in terms of, the number of the percentage of teachers trained on NHSP, percentage of funds Allocated on health matters in schools and ratio of students to water harvesting resources.

**Teacher training:** Process of inducting teachers in secondary school on execution of national Health strategic plan for school. It will me measures as the number of teachers who have undergone such formal training within a year.

**Funds:** Money specifically allocated for the implementation of national strategic national plan in Schools within Machakos County. Measured in form of Kenyan shillings in each Calendar year.

**Funds:** Money specifically allocated for the implementation of national strategic national plan in Schools within Machakos County. Measured in form of Kenyan shillings in each Calendar year.

## **CHAPTER TWO**

### **REVIEW OF THE RELATED LITERATURE**

#### **2.1 Introduction**

The aforementioned chapter presented firstly, the concept of health and its significance in learning institutions. Secondly, a critical review of teacher training and its impact on execution of various policies. Further, adequacies of both funds and other resources and their effect on the implementation of strategic plans were reviewed. Thirdly, the level of awareness exhibited by various stakeholders while implementing the said policies were critically reviewed. Lastly, a summary of knowledge gaps established in the review was indicated.

#### **2.2 The concept of Health as a Policy in Schools**

Importantly, a healthy environment in schools is a critical component for the development of learner's safety as revealed by the Kenya schooling sector-support program as well as the National Health sector strategic plan (2018). At a time when students globally have been struggling to achieve minimum health requirements like access to clean water, sufficient facilities related to health (Michelle, 2019), the health strategic plan targets at finding important health interventions to advance education and school health. The approach encompasses eight subject parts. These are Gender issues, skills related to life survival, rights awareness for children, disability and rehabilitation, nutrition and lastly, infrastructure development of health related facilities.

Schools contribute significantly towards the improvement of learners' physical and their nutritional activities. By the application of good practices and policies, school can make an effective setting that promotes healthy physical activities and eating

practices. A conducive environment that promotes regular physical activity and healthy eating is moreover vital for the learners to learn and exercise these behaviours (Gereige & Zenni, 2017).

With prominence of starvation being projected to unprecedented levels in the near future (UNESCO, 2015), the CDC carried out an analysis on best practices and research that support physical activity and healthy eating in schools. It therefore emerged that, many schools at global level presented themselves with limited sensitisation among the teachers besides limited facilities in schools. It is therefore troubling that, considering awareness of a policy is important to its effectiveness in terms of implementation, then, the child's health may be at stake. Worse off, it is the realisation of health as being a fundamental human right yet limited knowledge was apparent especially in Machakos. Such made the necessity of this study being extremely timely.

### **2.3 School factors and strategic Health Policies within learning institutions**

Factors associated with schools and the execution of health strategic policies were presented herein.

#### **2.3.1 Capacity building of teachers and Policy implementations in schools**

Globally, enormous number of students are schooling in secondary school. In fact, by 2019, over 601 million students were enrolled in secondary learning institutions (Michelle, 2019). If then access to quality health care is a right (UNESCO, 2015), such aforementioned number of students need to be guaranteed access to compulsory health care. On the other hand, there is an overwhelming evidence, connecting expertise of work force to effective implementation of policies (Jonathan, 2014 and

Geregei, 2017). As such, it was important to establish the frequency of training and quality of training teachers have been receiving, regarding this strategic plan.

It emerged that, a pair of dissimilar categories regarding teaching are proposed, including both teaching and non teaching staff. The education of school staff on Child Protection should indeed be treated with seriousness it deserves since it is largely connected to students academic outcome (Odom,Duda,Kucharczyk & Stabel, 2014). As a consequence, addressing health standards in schools may improve educational outcome and later accelerate achievement of sustainable development goals number four on access to quality health care (World bank, 2018). Conversely, the study by Odom et al., ( 2014) was significant for establishing effect of good health care of the learner on academic outcome. Nonetheless, arguably, it confined itself on health issues at higher education level in Asia. Consequently, the knowledge at secondary school level particularly in Machakos, Kenya was scarce hence creating the dire need of this study.

An ideal health policy guides that, in order to promote effective realisation of health goals in an institution, well-resourced people besides being competent should be present. Further such professionals should not only address education on life skills, but also issues related to gender (National health strategic policy, 2018). The mentioned need to competent human resources is amplified by an arching need to be in line with realisation of sustainable goal three on access to quality health care (UNESCO, 2015).Further, with a reality of complex life problems exhibited by digital literacy, drug menace and increase in premarital sex (Kahiga, 2018), education associated to life skills becomes undeniable inevitable. But then, are the

teachers fully trained on handling learners with regard to life related challenges? Such a question remained highly speculative.

In view of values being a critical component to people especially for developing character among learners, just as Odon et al.,(2014) reveals, they guide the practice of learners' daily activities in their future days. Although health values may be acquired from political, religious or school environments, it is inescapable that, most of the values are attained while learners are at school (Butchler, 2015). In that regard, health education is perceived to ensuring that, learners are helped to acquire better values on exercising good health, which they practice after school on health matters. Adequate capacity building is therefore extremely critical among facilitators. Educating facilitators gives them an opportunity to improve the awareness on effectiveness of policy execution. Nevertheless, many principals in schools raise concerns that, the implementation of the said strategic plan has turned out to be an expensive agenda. When the staff members are in for their learning sessions, they use time that they should be working. These may cause delays in completing their work since their time will be consumed while in the training. Nevertheless, the benefit of this exercise outweighs the issue of cost and time wasted.

Its however noteworthy to indicate that, the benefits of investing in development and training of workers cannot be overemphasized. Undeniably, it improves their efficiency by reducing health hazards which may negatively impact learners' welfare while at school. Most uniquely, the modal students' age at secondary school which ranges between 14 to 19 years was found to be the formative age for the learners (Geregei, 2017). Students in learning institutions during the mentioned age face

wide-ranging difficulties that are caused by differing developmental experiences. Such problems range from exposure to internet, limited supply of knowledge on how to address challenges of self-esteem and peer pressure Education in the 19<sup>th</sup> century employed informal education style in dealing with the holistic notion of people's character. Nonetheless, because of historic explanations, the unity in families has deteriorated largely. This has minimised the informal education leaving children exposed to a range of good and bad information from their environment. Thus, children should be assisted to grow positive attitudes, healthy behaviour, skills, and values to enable them handle life challenges effectively (WHO, 2003 and UNICEF, 2015).

Due to different conceptualisation regarding gender, UNICEF views it as activities that a group of people agree to be right for female and male members of the group and the communally built behavior, roles, attributes. The different behaviour and roles can result to inequalities between the two genders, that is, it may cause disparities between women and men favouring one of the genders. For instance, it can result to disparities exhibited on both gender especially with respect to acquisition of care related to health. It is sad to establish that, learners who are likely to drop out of primary school in the world are one hundred and fifty million, of which one hundred million are girls (UNESCO, 2018). In Kenya, primary and secondary schools there are at least one million menstruating female learners. Tragically, at least 3/5 or 872,000 do not report in school for 4-5 days in a month because they lack sanitary pads. In addition, some schools lack sanitary amenities. Actually, the issues of gender access in secondary school threatens to discourage the achievement of gender parity as envisioned by sustainable goal number five.

Ways of behaviour, informal and formal rules structure the daily procedure in a school. Being male or female is established routinely as a component. In fact, the interaction between the two genders are a component of this gender regime. This is important in normalising particular behaviours. In this gender regime, therefore, girls and boys interact in ‘neutralized’ way in academic institutions such that the society does not see it necessary to intervene. However, this kind of interaction can have adverse effects such as the physical space available to girls and boys, for example, roles that the boys and girls take, who will speak, the way in which they will contribute while in school, which washes the learning room, etc. These gender roles result to a gender hierarchy that in most time, lead to a situation where the male tend to dominate. In this situation, the Male students tend to have larger physical space than the female ones in activities like sports. Vices like intimidation largely on the side of boys is prevalent among boys in schools (Kahiga, 2018). Both girls and boys reinforce these gender roles in the academic institutions. Students tend to continuously protect their space. However, they do this in a very gender stereotype manner. There are hardly any alternatives given to change these gender roles.

Teachers are not active in ending gender inequality. This is because they lack good training on gender issues. As a result, they do not think it is a big issue. In its place, they have taken on local norms and they hardly critic them. Due to this, teachers may not intervene when there is a gender-related abuse or harassment in school (Michelle, 2018). Boys are seen as the main cause of indiscipline issues in schools. Due to this, boys have been subjected to corporal punishment that has led to their absence and violence. As reported in some reports and the media here in Kenya, transactional sex for better grades in exams is widespread. Sometimes, this leads to pregnancies. Mostly, in these cases girls are the ones who are blamed. Some are

expelled completely from schools. This contributes to high dropout for the girls while their sex partners are not punished. There is no clear mechanism of tackling sex exploitation, which is also rampant for both boys and girls. In many cases, community members do not question the behaviour of teachers or challenge them. For example, when a teacher impregnates a school child, or harasses a student sexually.

The community and the school in developing countries are full of power issues that surpass the gender issue. Nevertheless, we have avenues like the constitution 2010, Sexual Offence Act (2006), and Children's Act (2001), that can be used to address this issue here in Kenya.

A study conducted in Uganda discovered that child-friendly academic schools (CFS) encounter issues. For example, shortage of trained Early Childhood Development caretakers in the application of strategies (UNICEF's CFS Case Study: Uganda, 2010). On reviewing strategy, municipal case research based on Southern Uganda, indicated that, inadequate tutors on handling elementary health issues was real. Such an assertion raises key questions as to whether quality access health care is guaranteed in Uganda. Although Kenya and Uganda are within Eastern Africa, generalising these findings to a Kenyan context may be unrealistic. As a result, it became important to investigate the preparedness of teachers in terms of training and implementation of the health policy in secondary schools within Machakos County.

### **2.3.2 Adequacy of Resources and Strategic Plan Implementation**

Research has shown that resources available in a school have a great influence on both students and teachers performance. On the side of teachers, school resources influence their employment, retention, dedication, and industriousness. On the side

of students, these resources influence their health, engagement, behaviour, learning, and their ability to achieve goals (Buckley, Schneider & Shang, 2014). Therefore, research has shown that, inadequate school resources and facilities make it difficult to serve many students who have multifaceted needs.

As reported by the United Nations States General Accountancy Office (2018), over 75% of the schools in the country in 1996 were built earlier than 1970. Out of this, 1/3 of the institutions needed major fixes and/or substitution. There was at least one insufficient thing like faulty electrical system, poor plumbing, or damaged roofing in all the other 2/3 of the schools. In addition, there was at least a single unhealthy environmental condition such as physical insecurity, acoustics, or poor ventilation in fifty eight percent of the schools. In addition to the overall upkeep and building matters, scholars have discovered that many schools do not have the 21st-century amenities such as research laboratories, infrastructure, and even classrooms. Most of schools lack well fixed classrooms for teaching and learning to take place effectively. This explains why availability or unavailability of quality school resources and facilities influence students' learning as well as teachers' retention and ability to teach well. The physical location influences the emotional and physical wellbeing of both teachers and learners. This makes it vital to have healthy and safe buildings in the school.

In the past natural lighting was the main source of light in schools before the introduction of cheap electricity. After the introduction of cheap electric power, the use of artificial light increased. It has been found that artificial lighting affects learners negatively though natural lighting affects them positively. In fact, study has shown that proper natural lighting in the classroom improve the drive of both

teachers and learners, lower off-task behaviour and increase the performance of students. According to Buckley, Schneider and Shang, (2014), learners with greatest exposure to light during the day advance 21% quicker with respect to mathematics and reading compared to their colleagues studying in environment with limited light from nature. What that means is that, if classrooms are not well lit and ventilated, learning in such environment may be hindered. The study therefore investigated sufficiency of facilities related to health matters in schools, particularly water harvesting resources to inform policy makers in ministry of education, in order to ensure sufficiency of the same is actualised.

Presently, instructors have come to the realisation that, acquisition of 21<sup>st</sup> skills by the learners has acquired currency. In particular, team work and communication in an effective manner have been suggested to help learners interact and share knowledge effectively. But then deplorable buildings which are poorly ventilated for learning have been found to hinder effective teaching and learning (Otieno, 2014). For instance, aged structures just are not favourable to the teaching and learning of 21<sup>st</sup> century skills. In particular, older buildings may not allow the use of technology and/or reconfiguration of learners' seating arrangement which could enable the application of different teaching methods.

The study by Otieno (2014) employed stratified sampling for its sample selection. Admittedly, such sampling enabled the researcher to provide finer details especially for non-homogenous data (Oso & Onen, 2009). On the other end, stratified sampling failed to give each respondent a fair chance of inclusion in the sample thus limiting representativeness of the study findings (Kothari, 2004). This study included also

simple random sampling to have each respondent equal chance of being included in the study thus boosting robustness of study findings (Mugenda & Mugenda, 2013).

The school substructure has been established to be of much help in terms of status of health, for those working there and also learners. Taking a case where there is sufficient water in the school, sanitation and hygiene will be assured. Due to the government's promise for the Education for All (EFA) school population has increased leading to overstretching of sanitary facilities and water resources. It therefore remains unclear as to whether there has been adequate supply of water in schools. As a consequence, this study investigated the adequacy of water harvesting resources in schools and whether it influences the implementation of health strategic plan.

Students contribute more in the change of any community, therefore, one of the most efficient ways to change bad practices in the community is by ensuring learners acquire good behaviour early. If students learn the good habits associated with hygiene, they will be instrumental in changing the whole community. The influence will result to decrease in ignorance and ill health. It will also ensure that members of the society are updated on the emerging trends in health matters. Funding for repeated costs, improved practice and infrastructure for sanitation has received concern from the development partners and the government with the aim of supporting the education sector. Since it is important to harmonize and coordinate the support from different providers.

As indicated by Otieno (2014), the significant increase in terms of the learners' population at primary schools' level, beginning from 5.9 Million learners as at 2002 to 7.2 Million learners as at 2015 has led to overstretching of sanitation and hygiene

facilities in schools. Worse to note is the fact that, if resources related to health boost students' performance, then it remains speculative on the efficacy of learning especially for the schools presented with inadequate health facilities. In extension therefore, the retention of learners in the schools may not be achieved hence limiting employability of these learners in the future. Such an argument have been arrived because highly educated person is two to three times more likely to secure gainful employment compare to a less educated person (World Bank, 2018).

Sufficient sanitation, hygiene services and water is the foundation in maintaining safe school environment free from hygiene, sanitation and water related diseases. The benefits that result from adequate and clean water, better hygiene and sanitation include the decrease in diarrhoea, ectoparasites, trachoma, infections, and intestinal worms. In addition, this leads to improved psychosocial well-being that results from factors like the dignity associated with the use of clean toilet/latrine.

According to WHO (2018), from 25% to 33% of diseases in the world can be associated to the environmental conditions. Internationally, the sources of morbidity, disability and mortality for children between 5 and 18 years old agrees with this since it has been found that they result due to cancer, cardiovascular disease and HIV/AIDS/STIs. The aforementioned diseases can be hindered by implimenting health strategic plans in schools since learners are at their formative age (Jonathan, 2014). It is sad that, Buckleyet al. (2014) reveal that, Intestinal worms have infected two billion individuals. In many places of the world, most of the school children have been infected. This has led to the calling for mass deworming in schools by the World Health Organization (WHO). It has been found that this mass deworming in schools is relatively expensive. Such cost has taken a toll order

to government as they provide drugs to students, instead of spending such funds for economic development. This study argues that, if evidence data can be obtained on the level of facilities available on health care for learners, the ministry of education may be better placed to provide the requisite facilities which may accelerate attainment of health nation and economically productive citizens in later years.

For the Kenyan context, it was established that, the cause of outpatient morbidity is mainly environmental factors (Health facility service statistics-HMIS). These include malaria, dental disorders, intestinal worms, eye infections, urinary tract infections, pneumonia, rheumatism, accidents, diarrhoea, respiration system infections, and skin diseases. Nevertheless, WHO (2018) suggested a probability of infestation of worms among children to be the critical cause of mortality. In addition they affect the cognitive growth, something that lead to continuation of poverty, dismal academic performance for learners besides reducing the ability to work and the output of the working age people. Therefore, this affects the negatively economic development.

Vision 2030 clearly reiterates the need to provide to all Kenyans, affordable and equitable quality health amenities. In addition, this vision aims at reforming the health system to tailor its effort towards preventive health care instead of curative health care. Moreover, to reduce diseases in the country, the risky environmental conditions are being controlled. This is in the process of application guided by the existing health legislation and policies.

Considering the foregoing, it seems apparent that, numerous studies demonstrates limited access of basic sanitation facilities like wash rooms, toilets and also clean water. If then health facilities are critical for learning (Buckley et al., 2016), it

becomes necessary to establish fact on adequacy of the said facilities within Machakos county. This study was therefore important at a time when the ministry of education is limited on evidence based findings in order to prudently allocate available resources for optimum realisation of quality health care.

### **2.3.3 Adequacy of Funds and Policy Implementation of National Health Strategic Plan**

There is a general agreement that, deliberate actions are inevitable if the said strategic plan will be actualised (Jonathan, 2014). From research, most schools that have strategic plans do not implement them. Troubling is the fact that, 90% of the schools' strategic plans fail to fully realise the stipulated guidelines owing to limited funds (Geregei, 2017). It is also unclear whether the allocated funds are fully put to the strategic plan. Aware of ever limited resources, one of the critical questions which keep showing up is, if quality health leads to productive nation economically (Michelle, 2019), it probably remains largely unclear why school budget doesn't allocate the said policies for them to be implemented. Sufficient monies allocated to these strategic plans Adequate funds in a school makes it to be fruitful, be able to deliver client value, to set performance goals, and hence boost the performance of classroom (Dougherty, Natow, Pheatt & Reddy, 2016).

Adequate funds are needed to make implementation possible. Most of the time, the real costs are not identified or underestimated. True costs may comprise of an unexpected cost invades by a supplier, a well defined identification of expenses linked with a tactic, or commitment for a realistic period for staff to attain a goal. In addition, there should be sufficient time for workers to implement something that they may not be doing currently. The technology systems and the management help

in tracking the advancement of the strategy and make it quick to acclimatize to changes. Indicators should be established, and linked to the strategy, that must be attained within a particular period. As indicated by Bachtler, Mendez, and Oraže (2014), many organizations use a scorecard that includes milestones and progress for tracking the progress for the said implementation level. The study endeavoured to consider the possible source of funds for implementing the said plan, with the sole aim of recommending more private organisations basing on the deficits in Machakos County.

Interestingly, a commonness too prevails in many schools especially on the mode of allocation of resources to child health care. There is a similarity, however, in the ways schools allocate funds in the healthcare in different schools. To direct the delivery and development of health services in local settings. Majority of these consultants have disseminated procedure manuals and sample policy from their country's sector of education or on health (Proctor et al. 2013).The study therefore investigated whether there are defined guidelines on the manner with which sufficient funds can be ascertained for accurate measurement of the degree of execution of the national health strategic plan.

In view of the limited funds available for schools, and taking cognisance of the close connection between sufficiency of funds and effectiveness of implementation of various programmes (Kahiga, 2019), the stud focused specifically in Machakos county. Of interest to this study was to establish possible sources of funds apart from the government which may compliment resources for boosting health strategic plans.

#### **2.3.4 Awareness level among teachers and execution of national health policy**

As Lozano et al. (2015) indicate, learning institutions are in dire need of various qualified professionals to run smoothly. On the other end, this study may not ignore the impact of knowledge of a policy and its execution in any organisation (Mulkey et al. 2016). Alive to the realisation that, awareness of a programme promote confidence on execution of a programme, it becomes critical to reveal the level of awareness teachers have towards implementation of the said strategic plan.

Moses (2007) opines that, awareness provides power to influence decision on the implementation of a policy. Indeed, it emerges that, understanding this critical health policy not only boost the implementers' effective decision making, but also frees them from any underlying assumption (Schult, 2014), which once addressed, effective actualisation of the said policy may be realised. In return, with limited information of the degree of familiarity teachers have on this matter in Machakos, this study becomes critical and timely. Such findings and recommendations may be of much help to principal so as to organise in servicing programmes for the said teachers.

A study conducted in Tanzania established a significant limited familiarity of the causes of diseases spread by water (Moses, 2017). It is therefore dis heartening to realise that, the ability for these children to convince their parent for provision of protective clothing to control the same may be hindered (Ayer, 2016). Such omission may lead to uncontrollable spread of such diseases and derail students the right to access of quality health care. The study by Moses (2017) was contextualised in Tanzania, hence there was a need to carry out a study within Kenya, which investigated the appreciation level especially for teachers. Such a choice was realised

because teachers in Kenya are mandated to ensure their security of the learner (Republic of Kenya, Basic education act, 2013).

Cognisance of the limited resources exhibited by many studies thereof, Aveyard (2016) recommends that, recognition of the implementation of a given strategic plan enables the development of alliances, which may negotiate for more funding from many organisations (Batchler, 2014). As a result, establishing acknowledgement of teachers on this particular strategic plan provided a fundamental platform, where encouragement of various stakeholders may be achieved (Ayer, 2016). It is therefore critical that, such encouragement may be directed towards students, who may be persuaded to willingly practice good health habits without duress hence achieve the right implementation of the said strategic plan.

More noticeably, in Kenya, the right of children are particularly emphasized. In particular, the right to equality health care despite their colour, creed or gender (Republic of Kenya, the constitution, 2010). Considering that, recognising with clarity of children rights promotes a convincing attitude to policy makers for sustaining such rights (Bachtler, 2014), it was critical for this study to reveal the level of appreciation of the execution of the said strategic plan, so as to persuade principals to willingly allocate more funds to the programme. Such argument is based on the findings by Kahiga (2018) which established that, school managers did not see such plans as a priority for budgeting. Especially at a time when there is an overwhelming evidence of cognitive development boosted by good health among learners (Aveyard, 2016), persuasion by the mentioned awareness to prioritise such

strategic plans may accelerate the attainment of universal education as one of the millennium development goals.

As established by Kahiga (2018), children in Kenya between zero and eighteen years old make up in excess of half of the total population of 38 million whereas 20% of the populace is below 5 years of age. Primary school admission has improved from 77% to 92% between 2007 and 2016 with near equality between girls and boy nationally. Such a significant increase of learner indicated a need to increase resources to correspond with many healthy demands presented by those students. Nonetheless, such overwhelming demands come along with the need to create understanding of the health frame works in the primary schools. The question which follows is, if Geregei (2017) found out that, no effect of awareness of policies and their execution, a case which was too found to be having a significant influence of the mentioned variable (Schultz, 2014), it remains largely unclear of the clear connection. It will therefore become imperative to determine the connection between appreciating of strategic plans and its influence on the execution levels. Such findings may be deemed appropriate especially at a time when urgent need to create sensitisation programmes are at a higher gear for the key purpose of attaining quality health care.

It also emerged out that, the disability rate within Kenya had significantly reached 5.8% as revealed by disability survey of 2017. The Kenya National disability survey 2007 People with disabilities tend to be marginalized and encounter challenges due to their disability. Most are not able to get employment, health care, education, or rehabilitation. Many of them face difficulties owing to widespread cultural and economic biases. Such biases leads later to discrimination among other members of

the society. For children in the age groups between 0 and 14 years old and 15 to 25 years old, only 55 % of them have access to health facilities (KNSPWDs, 2007). Sadly, on average 41% of all disabled students fail to complete schooling because of various diseases. Such results should concern every one since, it remains unclear whether such stigmatization is caused by ignorance or lack of appreciation of health strategic plan. Indeed, this study probably came in good time, to recognize specific causes of the said ignorance among teaching fraternity.

In the wake of an increasing needs of students with special needs, it remains largely speculative as to whether their needs are adequately met as indicated by Lozano (2015). One of the barriers to the integration and education of these children is that, the community and students lack of awareness. To help improve the situation the following need to be put in place, skills and vocational training, social integration and interventions, educational interventions and referrals, provision of appropriate supportive and assistive devices/appliances, rehabilitation and therapy, medical care, identification and Screening for special needs and disabilities. The just mentioned list of referrals may sound overwhelming, but at least it hints that, awareness of such service should be well understood by the relevant stakeholders for effective formulation of the said strategic plan of national health.

#### **2.4 Research Gap**

Several knowledge gaps. Firstly, is on research design. While the study by Jonathan (2014) and Ayer (2016) employed correlational design, this study adopted descriptive design for it revealed the state of affairs as they are. Further, the second knowledge gap was the study locale. The studies by Batchler (2014) and Aveyard (2016) carried out their studies in European countries. It was practically hard to

generalise such findings in a Kenyan context. This study was based within Machakos, Kenya for representative findings. Thirdly it was the sample size. The study by Kahiga (2018) sampled 84 respondents. This current study will sample relatively large sample size of 511 respondents. The reason behind this choice was owing to the fact that, relatively large sample sizes boosts the generalizability of research findings (Orodho et al. 2016). Fourthly, data analysis was another identified knowledge gap. For instance, Geregei (2017) used descriptive data (mean and standard deviation) to analyse data. This study used both descriptive analysis and inferential (regression analysis) for its data analysis. The selection of inferential analysis enabled generalizability of findings from sample to the population (Oso & Onen, 2009).

## **CHAPTER THREE**

### **RESEARCH METHODOLOGY**

#### **3.1 Introduction**

The aforesaid chapter addressed the research design of the study, then location of study, sample size obtained and sampling method adopted, variables of the study, the population, research tools and lastly the data analysis methods.

#### **3.2 Research Design**

The necessity to accurately describe the state of implementing the national health strategic plan in Machakos Sub County made it plausible to choose descriptive survey design. Interestingly, the design not only described the state of implementing the said strategic plan (Kombo & Tromp, 2006), but also enabled the researcher to potentially analyse real personnel training and level of awareness of respondents of the said strategic plan (Kothari, 2004). As a consequence, the study correctly described the training level of teachers, adequacy of funds allocated to implementing strategic plan, besides measuring the awareness levels of teachers on existence of national health strategic plan. If Oso and Onen (2009) view that, descriptive design specifically enables researcher to explain phenomena as it is without manipulating dependent variable, then this study ensured the findings of this study were accurate and evidence based in nature.

##### **3.2.1 Variables**

Kombo and Tromp (2006) consider a variable to be a measurable attribute within subject of study, which may have different values attached to it. The independent variable which predicts the dependent variable was represented by the extent of school preparedness on the implementation of the aforementioned strategic plan. In

particular, the level of training teachers on this plan, measured in terms of the percentage of teachers in serviced on this plan represented the first independent variable. Secondly, the adequacy of facilities which was measured in terms of the number of water harvesting resources, number of toilets, and number of sanitary bins comprised of the second independent variable.

Thirdly, the sufficiency of funds for this plan, measured on the percentage of funds in the budgeting allocated to this plan indicated the third independent variable. Lastly, the awareness of the existence of the strategic plan which was measured as the percentage of teachers who acknowledges the existence of this plan comprised of the fourth independent variable. On the other hand, the dependent variable demonstrated its outcome as a result of manipulation within the independent variable (Orodho, et al. 2016). Importantly, the dependent variable was represented by the level of the implementation of national health strategic plan in Machakos Sub County.

### **3.3 Location of the Study**

Alive to the realisation of limited research addressing the efficacy executing strategic plan in Machakos, a clear prompt of this study in the said study locale became inevitable. Indeed, implementation of strategic plans at primary schools and higher education levels were well established (Jonathan, 2014 and Geregei, 2017). Furthermore, it also emerged that, if national rating for implementing this strategic plan was at 52% compared to only 45% within Machakos sub county (Machakos Sub County, ministry of education, 2015), the necessity of this study in this study locale became extremely timely.

Additionally, Machakos County is situated In Kenya at  $37.27^{\circ}$  E as longitude and  $1.52^{\circ}$  South as the latitude. The aforesaid study locale is 1750 metres above the sea level established by Monetized (2021). It is boarded by Kitui County on the east, Makueni County on the south and Muranga County on North West side. Further, Embu County is found on the northern part while Kiambu County is situated on the North eastern part of this study locale. Nairobi cosmopolitan is eventually situated on the south west direction (Republic of Kenya, counties map, 2011).

### **3.4 Target Population**

A group of objects, items and persons where the sample is drawn is regarded as target population (Kombo & Tromp, 2006). As a result, considering that principals are mandated to oversee the execution of this strategic plan (Republic of Kenya, national strategic plan, 2018), it was therefore appropriate to include principals in the collection of data so as to get their views. This particular county has 315 public secondary schools (Machakos County, education guide, 2021). Such revelation guided the county had also 315 principals. Importantly, aware that two schools three schools were included in the piloting of research tools, the ideal target population for the schools was 313. Additionally, the basic education act (2013) empowers the teachers to facilitate realisation of healthy learning environment. As a consequence, teachers were also included as a part of the target population. Basing on the report from Machakos sub county education office, there are three hundred and fifteen (315) public secondary schools and a total of 4,221 teachers instructing in the mentioned schools.

### **3.5 Sampling Techniques and Sample Size**

#### **3.5.1 Sampling Techniques**

The process of selecting a subset within a population of a study is referred by Kothari (2004) as sampling. However, Kombo and Tromp (2006) caution that, sampling can only be appropriate if it yields representative of the target population. Consequently, alive to the aforesaid fact, this study adopted stratified sampling. Schools were stratified into three strata, namely, mixed day, mixed boarding and Single gender boarding. Stratified sampling was inevitable to this study since it reduced sample selection bias (Oso & Onen, 2009). Subsequently, 15% of respondents in each strata which is indicated to be adequate (Kothari, 2004) was selected using simple random sampling. As Mugenda and Mugenda (2013) reiterates, simple random to be favoured since it gives an equal chance to all subjects to be included in the sample hence increasing typicality of research findings.

It's however worth to note that, Machakos County is comprised of eight sub counties. If the assertion by Orodho et al., (2016) that heterogeneity of respondents should be considered is something to go by, then this study sampled teachers and principals from each sub county. Indeed, aware of the fact that, each sub county implements the NSHP differently, including each sub county not only increased representative of the findings, but also boosted robustness and validity of the recommendations (Kothari, 2004).

Again, for a relatively large sampling frame exceeding 5,000 respondents, then a 10% is deemed appropriate (Mugenda & Mugenda, 2013), this study found it reasonable to take a relatively higher percentage of 15% of all mentioned strata as

the sample size. The table 3.1 provide the target population and respective sample which was arrived at.

**Table 3.1: The sampling frame**

<b>School type</b>	<b>Number of schools (N)</b>	<b>Sample Size (n)</b>	<b>Number of teachers (N)</b>	<b>Number of teachers (n)</b>
<b>Mixed Day</b>	160	24	1607	241
<b>Mixed Boarding</b>	107	16	947	142
<b>Single gender boarding</b>	48	7	1667	250
<b>Total</b>	315	47	4221	633

It therefore emerged that, forty seven principals were included in the study while six hundred and thirty three teachers were part of the study sample.

Further, in order to ensure findings were generalizable to each of the sub counties, the sampling procedure considered each sub county with respect to teachers and principals. The researcher wrote the names of all teachers in each school within the sub county, then put them in a container. Shuffled and picked them randomly at a rate of 10%. The resulting names comprised of the study sample in each schools. Table 3.2 provide a summary of the sample size each from all the eight sub counties.

**Table 3.2: Sub counties' sample size**

<b>Sub Counties</b>	<b>Teachers (N)</b>	<b>Selected sample (n)</b>	<b>Principals (N)</b>	<b>Selected sample (n)</b>
Kathiani	738	74	32	4
Masinga	724	72	36	5
Mavoko	913	91	37	7
Yatta	647	65	38	5
Mwala	757	76	45	8
Machakos central	1,047	104	46	8
Kangundo	756	76	40	6
Matungulu	748	75	41	6
<b>Totals</b>	<b>6,330</b>	<b>633</b>	<b>315</b>	<b>47</b>

### **3.6 Data Collection Instruments**

#### **3.6.1 Questionnaire for teachers**

Because questionnaire ensures flexibility of respondents on when and how to respond to them (Kothari, 2004), this scientific inquiry preferred questionnaires for teachers. Interestingly, aware of the tight schedule teachers have during the day, it would be of much help since the researcher may issue them to respondents and collect them later after filling them appropriately. Further, the researcher was biased towards utilising questionnaires for teachers because, alive to the fact that, questionnaires ensure both qualitative and quantitative data were easily collected, such a move not only improved completeness of data but also enhanced triangulation of the collected data (Orodho et al., 2016). The said questionnaires consisted of five sections. Firstly, section A comprised of demographic information. Secondly, section B involved questions related to the extent of training of teachers in relation to implementing the strategic plan. As such, the attainment of objective one was therefore made easily achievable.

Additionally, section C involved questions related to the sufficiency of facilities with regard to the aforementioned strategic plan. Water harvesting resources, bins for sanitary pads and number of toilets were featured. Further, questions related to awareness of the existence of strategic plan among teachers were indicated in section D. Lastly, section E contained question pertinent to the amount of funds availed by various stake holder for the implementation of this strategic plan. Alive to the fact that, closed ended questions are more likely to be responded easily by respondents (Mugenda & Mugenda, 2103) besides being in a position to get better measurable data (Orodho et al, 2016), the study ensured closed ended questions were indicated in each section of the questionnaire.

### **3.6.2 Interview Schedule for principals**

Aware of the fact that, interview guide accelerate the rate of getting detailed assessment (Kothari, 2004), the researcher opted for the interview guide. It is likely that, questionnaire for the teachers may not capture some of the exact details, it was therefore seen as a worth deal since it allowed the capturing of some non verbal cues needed in data interpretation (Orodho et. al, 2016). The interview schedule had four major questions related to the study objectives. Firstly, level of teacher training, then adequacy of facilities, sufficiency of resources and awareness of the existence of strategic policy among teachers.

### **3.7 Piloting of the Research Instruments**

In view of the worth role of establishing suitability and feasibility of data collection tools (Kothari, 2004), this study too piloted both tools in this research. Two schools which were not included in the main study were selected for the purpose of establishing reliability. Indeed, considering accurate reliability is critical to accurate

study findings (Kombo & Tromp, 2006) the two schools were representative of schools in Machakos County, a boarding and a day secondary school. Piloting emerged as a critical component because it helped the researcher to identify some of misspelt words in the data collection tools. Further, there was in adequate space for respondents to fill some of the open ended question respondents. All those anomalies were checked and corrected.

### **3.7.1 Validity of the Study**

Validity in a study is viewed as the extent to which, data collection tools like questionnaire measures what they are supposed to measure (Kombo & Tromp, 2006). This study adopted content validity in its research instruments. As Kothari (2004) reveals, content validity is the extent to which, data collection instruments accurately measure the construct under study, without including unnecessary concepts. In fact, two Kenyatta University supervisors (subject matter experts) from the department of educational management, policy and curriculum studies ascertained that, the questions exhibited in the data collection tools accurately addresses all research questions. Put differently, questions were checked whether they accurately measured the awareness of teachers, adequacy of funds and facilities for implementing the said strategic plan. Kothari (2004) describes an explicit formula of measuring content validity. The content validity ratio (CVR), was obtained using the formula,  $(n_e - N/2)/(N/2)$ , where  $n_e$  represented the total number of panellists indicating items were essential and relevant, while  $N$  indicated the total number of subject matter experts. Such a coefficient of content validity resulted to be 1.0 which was deemed appropriate as guided by Mugenda and Mugenda (2013). Further, the mere fact that the study adopted both questionnaires and interview guide suggested that, each tool

complemented and confirmed each other (Kothari, 2004).The aforesaid step enhanced content validity.

### **3.7.2 Reliability of the Study**

The ability of a tool to provide similar data over repeated trials is viewed as reliability (Kothari, 2004). Split half method for determining reliability for questionnaires was preferred for this study. Incontestably, split half method helps to avoid repeated error which may be obtained when testing is done twice, an error which is more prominent in test and re test method. Just as Mugenda and Mugenda (2013) indicates, internal consistency will be highly guaranteed. The researcher split items in the tool in to two groups, namely even and odd numbered items. Subsequently, Pearson moment correlation coefficient was established using Brown Prophecy formula reliability coefficient was obtained.

$$R_{SB} = \frac{2r}{1+r}$$

Where  $R_{SB}$  was the reliability coefficient. Further,  $r$  was the Pearson moment correlation coefficient. The coefficient of reliability was obtained as 0.89.If the coefficient of correlation was between 1 to 0.7, the reliability was deemed good, between 0.4 to 0.6 it was deemed fair (Kothari, 2004). As a result, the obtained coefficient of reliability was deemed as sufficient for this particular study.

On the other side, the reliability for interview schedule was ascertained by ensuring that, the respondents were not tired during the administration of the same. Indeed, the researcher administered them during morning hours. Such a premise emanated from Mugenda and Mugenda (2013) view that, fatigue on the side of respondents can negatively affect reliability of study findings.

### **3.8 Data Collection Procedure**

In order to ensure seamless data collection process, a letter of authorisation was obtained from the ministry of education office within Machakos County. The said letter was then embedded to data collection tools (questionnaires for teachers and interview guide for principals). Delivery of questionnaires to various sampled schools was then actualised. Due to limited time for respondents when the researcher was present, the questionnaires were picked later after three days. Such a move ensured that, respondents filled them without duress, (Hawthorne effect), an effect which can lower reliability of study findings (Mugenda & Mugenda, 2013). One hundred and eight (457) questionnaires were administered as demonstrated in the sampling frame. Similarly appointment with the principals for the interviews was arranged and subsequent date for interviews.

### **3.9 Data Analysis**

Kothari (2004) views the analysis of data as a process of establishing meanings and inferences for the collected data, in strict conformity the stated research objectives. Indeed, alive to the fact that, both quantitative data and qualitative data were obtained, there was both quantitative and qualitative analysis process. Firstly, quantitative data was checked for completeness, coded and be imported into SPSS version 21 for organisation. SPSS version 21 was chosen for the process because it's fast and produces presentable output (Orodho et al. 2016)

Consequently, descriptive statistics (mean and standard deviation) were used to confirm the level of agreements of respondents on their agreement of awareness of teachers on the strategic plan, agreement on the adequacy of facilities, funds and other resources. Such was based on the likert scale of 5 (Strongly agree) to 1

(strongly disagree). Descriptive statistics was deemed appropriate for this analysis because it has potential of providing basic information and summary of data (Kombo & Tromp, 2006).

It is worth to mention that, quantitative data was analysed by use of regression analysis in the determination of any existence of influence between independent variable (school preparedness) and dependent variable (level of implementation of strategic plan). Regression analysis was largely appropriate since it allowed the researcher to determine influence of data in clear and measurable terms, which is the goal of this study (Mugenda & Mugenda, 2013).

Finally, qualitative was analysed thematically through narration. Indeed, it was used to complement quantitative data. One critical reason why the researcher chose to include qualitative data was the acknowledgement of the fact that, in depth and openness of data was guaranteed (Kothari, 2004). In fact, specifying the level of awareness of this policy would be narrated clearly by respondents with regard to implementation level of the said policy.

Table 3.3 provides a brief summary regarding both quantitative and qualitative data for each respective objectives.

**Table 3.3: Analysis summary of study findings**

	<b>Objectives</b>	<b>Type of Instruments data</b>	<b>of Instruments</b>	<b>Analysis technique</b>
1	Determine training level among teachers on implementation of NHSP	Quantitative Qualitative	Questionnaire Interview guide, questionnaire.	Multiple linear Regression analysis, descriptive statistics (mean, standard deviation and frequencies ) Thematic analysis
2	Establish availability of facilities on implementation of NHSP	Quantitative Qualitative	Questionnaire Questionnaire, Interview guide	Multiple Linear Regression analysis, averages, standard deviation and frequencies Thematic analysis
3	Establish adequacy of funds on implementation of NHSP	Quantitative Qualitative	Questionnaire Questionnaire, interview guide	Multiple linear Regression analysis, descriptive statistics (mean, standard deviation) and frequencies Thematic analysis
4	Identify Awareness level among teachers on the implementation of NHSP	Quantitative Qualitative	Questionnaire Questionnaire, Interview guide	Multiple linear Regression analysis, averages, standard deviation and frequencies Thematic analysis

### 3.10 Logistical and Ethical Considerations

Alive to the fact that, appropriate logistical considerations promotes objective attainment of research goal (Mugenda & Mugenda, 2013), this study was not left behind in ensuring that considerations of logistics were well upheld. Firstly, the researcher secured certificate authorising access to respondents from NACOSTI. Such a move was deemed critical for this study since, free access to respondents not

only maximised high response rate for responds, but also guaranteed the phenomena being studied to be highly representative and valid (Kombo & Tromp, 2006).

Similarly, the researcher visited the office of education in Machakos County to seek authority to visit schools sampled for the study. Just as Kothari (2004) guides, such visit created a rapport between researcher and prospective informants, which consequently boosts willingness of participants hence truthfulness of study findings. Correspondingly, Kenyatta University also provided introduction letter to researcher to enable her secure informants with ease during data collection

Additionally, on the side of ethical issues, considering the critical role of ethics in ensuring collaboration between researcher and respondent (Orodho et al. 2016), the study considered the following ethics. Firstly, the teachers and principals within Machakos participated in the study voluntarily. Such a move ensured openness and attainment of truthfulness on the execution level of national health strategic plan. Moreover, confidentiality of the respondents was highly safeguarded by coding their names instead of using their names. Indeed, as revealed in the questionnaires, respondents did not reveal their identity in order to ensure the responses were free of bias and credible (Kothari 2004)

The researcher did not duplicate other peoples' work but instead, acknowledged duly published and unpublished work. Interestingly, the aforementioned move enhanced respect for intellectual property, a critical approach to extension of knowledge (Mugenda & Mugenda, 2013). Finally, respondents were given the right to withdraw from either the interview or during filling of questionnaire. Indeed, the aforesaid step ensured the researcher avoided psychological harm in case the matter being addressed was sensitive, thus ensuring right of protection from pain was actualised as envisioned in the Kenyan constitution (Republic of Kenya, the constitution, 2010).

## **CHAPTER FOUR**

### **PRESENTATION OF FINDINGS, INTERPRETATION AND DISCUSSION**

#### **4.1 Introduction**

This chapter presented research design and methodology. Further, the findings of this scientific inquiry were indicated, whose intention was investigate the influence of school preparedness level on the implementation of national health strategic plan in public secondary school situated in Machakos County. As a consequence, the study sought to answer, the following research questions.

- i. How does the teacher training level on attending students' health matters influence the implementation of national health strategic policy in public secondary schools in Machakos County, Kenya?
- ii. How does the adequacy of facilities relating to students' health influence the implementation of NHSP in public secondary schools in Machakos County, Kenya?
- iii. How does the adequacy of funds for health matters influence the implementation of NHSP in public secondary schools within Machakos County, Kenya?
- iv. How does the awareness level among teachers regarding presence of the NHSP influence the implementation of national health strategic plan in public secondary school in Machakos County, Kenya?

#### **4.2 Demographic and General Information**

##### **4.2.1 Response Rate**

This study aimed at having 748 respondents as the sample size. The aforementioned respondents comprised of 633 teachers and 48 principals. Nonetheless, only 511 teachers and 47 principals were available for the study. Since data collection process

was carried out during third term, yet, majority of teachers were preparing students for national exams, 122 teachers were fully engaged in the said activity while one principals had attended an official function outside the school. Therefore, the said respondents could not respond to the research questions. As a matter of course, the response rate emerged to be 84%. According to Mugenda and Mugenda (2013), a response rate ranging from 75% and above is regarded as adequate for representative sample. This study therefore considered the above mentioned response rate as sufficient and that it had met the required threshold for the study. As a result, it was deemed to represent valid and credible findings for the study.

#### **4.2.2 Informants' Demographic Details**

Both principals and teachers indicated their level of educational qualifications besides their gender. Table 4.1 comprised the above mentioned details regarding respondents

#### **4.2.3 Information regarding informants' gender**

**Table 4.1: Gender of respondents**

<b>Gender</b>	<b>Principals</b>	<b>%</b>	<b>Teachers</b>	<b>%</b>
Male	27	57	287	56
Female	20	43	224	44
Total	47	100	511	100

Alive to the fact that, there is an overarching need to realise that, at least a third of each gender is in the leadership positions (UNESCO, 2018), as a consequence, this study established the proportion of principals regarding their gender in this particular study locale. Interestingly, it emerged that, slightly over half 27 (57%) of the principals were males compared to their counterparts female (20, 43%). Such

findings revealed that, males dominated the said leadership position. Nonetheless, critical requirement that a third of each gender to be in the leadership position had been complied with in Machakos county with regard to principal positions in public secondary schools. Such findings ties well with a study by Jonathan (2014), that in Nigeria, any gender in the schools’ administrative positions has been arrived at.

Finally, teachers were also investigated regarding their gender. Interestingly, the findings seemed to suggest that, slightly above half (287, 56%) of teachers were males, compared to only (224, 44%) of their female counterparts. From the foregoing, it seemed to be clear that, Machakos County has majority of teachers being males. Several studies conducted in other study locale established that teaching profession is largely dominated by males (Kahiga 2019 and Michelle, 2018).

Further, the respondents pointed out their educational qualification as demonstrated by table 4.2

**Table 4.2: Academic performance of respondents**

Respondents	PhD		Masters		Undergraduate		Diploma	
	F	%	F	%	F	%	F	%
<b>Principals</b>	4	4	12	12	31	84	0	0
<b>Teachers</b>	2	0	24	5	416	81	69	14
<b>Total</b>	<b>6</b>		<b>40</b>		<b>504</b>		<b>69</b>	

Interestingly, considering that, educational qualification is a requisite requirements for one to engage in teaching and administering position (UNESCO, 2018), this study too investigated the competency level of various respondents. As revealed by table 4.2, the findings demonstrated that, 4 (4%) principals had attained PhD degree

compared to (12, 12%) of them who had achieved Master’s Degree. Such findings may be taken to indicate a relative high competent level of principals in terms of educational qualifications as compared to teachers. Same pattern of results were also obtained by Gicheru et al., (2018). Appealingly, majority of the teachers 416 (84%) had attained undergraduate degree while less than a fifth of the teachers (69, 14%) had Diplomas in education. The findings from teachers’ qualification indicate that all teachers had attained minimum qualifications to teach at secondary level. As such, their capability to respond appropriately on the implementation of national health policy was deemed to be sufficient. This is because validity of information was closely associated with knowledge level of respondents (Jonathan, 2014).

#### **4.2.4 Period spent by the Informants in the Teaching Career**

Alive to the fact that, the more time an instructor teaches, the more information he/she has regarding the manner of policy implementation (Wanzare, 2013), this scientific inquiry sought out to establish the number of years respondents took in their current stations. Indeed, the study specifically targeted to ascertain the validity of study finding regarding awareness level of national health policy execution. Table 4.3 presented a breakdown of time spent in learning institutions by both teachers and principals.

**Table 4.3: Length of stay of respondents in schools**

<b>Length of teaching time in the current station</b>	<b>Principals</b>		<b>Teachers</b>	
	<b>F</b>	<b>%</b>	<b>F</b>	<b>%</b>
0 -2 Years	21	21	122	24
3 – 10 years	62	61	343	67
Over 10 years	18	18	46	9
<b>Total</b>	<b>101</b>	<b>100</b>	<b>511</b>	<b>100</b>

Table 4.3 reveals that, exceedingly, over half of the principals (62, 61%) had stayed between three to ten years compared to only less than a quarter (21, 21%) who had been in their current teaching station for a duration of zero to two years. Such a finding is extremely critical for this vital study because, as Dangara (2016) views, the longer a respondent is present in a particular study locale, the more reliable study findings are likely to be. As such the findings of this study were likely to be reliable basing on this fact. Further, only less than a quarter of the principals (18, 18%) were present in their present station over 10 years. Speculatively, this number of principals could be the one nearing retirement age, thus finding it unreasonable to transfer them to a new school.

Interestingly, almost three quarters of all teachers (343, 67%) had stayed in their teaching stations for a period between three to ten years compared to a quarter of these teachers (122, 24%) who had served in those stations for only two years or less. Arguably, owing to the policy guideline that, any teacher should seek a transfer upon serving for at least five years and above (Republic of Kenya, TSC, 2012), it's likely that, the higher number of teachers in the said category could have been attributed to that policy guideline. Nonetheless, the study was able to get extremely rich content on the implementation of the said strategic plan since majority of the teachers had stayed in their station relatively longer, making them to observe the execution of the said policy execution accurately.

### 4.3 Influence of training level among teachers on skills regarding students' health and the extent of implementation of NHSP

The first objective required teachers to indicate their agreement level regarding their training level presented to them on students' health affairs. A likert scale ranging from strongly disagreeing (SD)-1 to strongly agreeing (SA)-5 was created.

**Table 4.4: Responses from informants regarding teachers' training level on students' health matters and execution level of NHSP**

<b>I as a teacher, constantly gets sufficient training on:</b>	<b>N</b>	<b>Mean rating</b>	<b>Standard Deviation</b>
Students' security affairs	511	2.1	0.77
Students' life skills	511	1.8	0.15
Healthy relationships with school community	511	1.5	1.14
Students' first aid	511	1.6	0.41

To start with, according to table 4.4, respondents were asked to indicate whether they frequently got sufficient trainings on students, security affairs. Surprisingly, the study seems to indicate that, respondents strongly disagrees with that fact, rating it at 2.1 and a standard deviation of 0.77. Indeed such a finding indicates training among teachers on the mentioned subject matter to be extremely minimal. Further, in an interview respondent 7 indicated that:

*“Training among teachers on students' security matters has never been given critical attention. In fact, matters relating to academic performance seems to be regarded more on in servicing teachers. Such emphases remains unclear to me even after realizing that, health plays a critical role in learners' classroom achievement”*

The above reports on regular training among teachers points to negligence among teachers with regard to capacity building them on students' health matters. This finding aligns well with findings by Dangara (2016) that in servicing among teachers of capacity building programmes is largely ignored. Additionally, this study sought to determine any existence of any influence of training of teachers on students' health matters on the execution of NHSP. As a result, a regression analysis in the determination of the effect of training of teachers as the independent variable on the implementation level of NHSP as the dependent level. Table 4.5 demonstrated the study findings

**Table 4.5: Values of Regression analysis of teachers' training regarding students' health on the implementation level of NHSP.**

Model	Unstandardized		Standardized	t	Sig.
	Coefficients		Coefficients		
	B	Std. Error	Beta		
(Constant)	-.269	.700		-.384	.008
security	.217	.182	.081	-.257	.001
Life skills	.235	.174	.275	1.350	.002
community	.114	.155	.201	-.738	.005
First aid	.370	.232	.587	1.590	.008

As depicted on table 4.5, these findings signal that, training of teachers on health matters relating to students impacted significantly on the execution of the NHSP,  $F(5, 506) = 0.081$ ,  $P < 0.001$ . In fact, this finding reveals that, 21.7% of teachers' training regarding learners' health accounted for the implementation of NHSP. Dangara (2016) findings corresponded well with the above mentioned finding.

Additionally, teachers were also requested to indicate whether they were trained on how to enhance students' life skills lessons. Surprisingly, respondents strongly

disagreed with this assertion (Mean=1.8, Standard deviation=0.15). Such a finding undoubtedly seems to suggest training on execution of life skills was rarely done.

Furthermore, respondent 14 in the interview indicated in the questionnaire that:

*“Teachers are unable to teach life skills because even the text books are not available in schools. In fact, the syllabus is not even clear to students and teachers. Considering many lessons teachers are teaching currently, life skills will not be addressed to”*

The above findings undeniably seem to indicate a gross limitation on training of teachers on life skills training among teachers. A further regression analysis of whether training of teachers on life skill implementation impacted on NHSP indicated indeed, it significantly predicted the said execution of NHSP,  $F(5, 506) = 0.27$ ,  $P < 0.001$  as established in table 4.5. From the foregoing, it emerges that, life skills is not being focused by teachers, probably because of huge workload among teachers in their timetables.

Further, this scientific inquiry sought to determine the training level of teachers regarding their relationship with community members. Table 4.4 demonstrated extremely low level of training among teachers on modalities of relating with community on students' health matters ( $M=1.5$ ,  $S=1.14$ ). Moreover, respondent 25 who was a principal stated that, even most of the teachers in their school did not know majority of community members. He further cited extremely busy school calendar that inhibited close interaction between teachers and schools community. Several studies established limited relationship between teachers and the community (Moses, 2017 and Jonatan, 2014). On regression model based on table 4.5, there exist a significant influence of training of teachers on community relationship on

students' health matters with respect to implementation  $F(5, 506) = 0.20, P < 0.001$ . Moreover, 11.4% of teachers' training on collaboration with concerning students' health predicted the implementation of NHSP.

In her study, Kahiga (2019) established conflicting findings that, the said training of teachers on community health relationship did not impact the implementation of NHSP. These conflicting findings may be explained by the fact that, Kahiga (2019) used a relatively a small sample size of 427 respondents compared to a relatively larger sample size of 511. Larger sample size are suggested to provide more reliable and valid study findings (Kothari, 2004).

The respondents were asked to indicate their agreement level as to whether they trained on students' first aid matters. Interestingly, teachers disagreed that they were trained on this essential skill ( $M=1.6, SD=0.41$ ). This finding indicates that, educating of teachers on how to address health challenges for students before they are taken to the health facilities was largely limited. One of the teacher from Kathiani Sub County indicated that she has never received formal induction on how to attend to a student who has fainted, an often occurring phenomena in schools. Moreover, a regression analysis of the influence of training of teachers on first aid on the implementation of NHSP indicated a significant influence on the said training of first aid on the execution of NHSP  $F(5, 506) = 0.587, P < 0.001$ . In fact, it also emerged out that, 37% of the implementation of the execution of NHSP could be determined by teacher training. Aver yard (2014) obtained similar results In his study that, effective in servicing of tutor on how to handle first aid could largely influence the execution of the educational policy.

#### 4.4 Influence of sufficiency of facilities relating to health on the extent of implementation of NHSP

The second research question required informants (teachers) to indicate their agreement levels on the adequacy levels of the available resources which support health of students in schools. A likert scale ranging from strongly disagreeing (SD)-1 to strongly agreeing (SA)-5 was created.

**Table 4.6: Adequacy of resources supporting health in schools**

<b>The institution I work has adequate:</b>	<b>N</b>	<b>Mean rating</b>	<b>Standard Deviation</b>
Water harvesting facilities	511	2.7	0.64
Students' washrooms	511	3.2	0.78
Disposal of waste systems	511	2.9	1.47
Fire extinguishers	511	1.8	0.58

As demonstrated on table 4.6, the respondents agreed schools had adequate water harvesting facilities like tanks (M=2.7, SD=0.64). Such finding may be taken to indicate that, majority of the school had fairly secure way of obtaining water for consumption among the learners. Further, respondent 19 in the interview indicated that:

*“The County government has been of help to our schools, nearly, all schools obtained a 10,000 litre tanks, a case which made it easy to constantly keep harvesting water during rainy seasons.”*

It therefore can be inferred from this county that, the county government leadership had done sufficiently well in providing water facilities in all schools. In addition, the study determined any existence of impact of the adequacy of resources relating to health on the implementation of NHSP.

**Table 4.7: Values of Regression analysis on the influence of adequacy of resources relating to students' health on the implementation level of NHSP.**

<b>Model</b>	<b>Unstandardized</b>		<b>Standardized</b>	<b>t</b>	<b>Sig.</b>
<b>Resources related to health in schools</b>	<b>Coefficients</b>		<b>Coefficients</b>		
	<b>B</b>	<b>Std. Error</b>	<b>Beta</b>		
(Constant)	.154	.500		-.384	.008
Water harvesting	.157	.214	.071	-.257	.001
Toilets	.285	.145	.265	1.350	.002
Disposal system	.144	.145	.261	-.738	.005
Fire extinguisher	.150	.242	.507	1.590	.008

As demonstrated on table 4.7, the findings seems to suggest that, a significant impact of the sufficiency of water harvesting facilities on execution of NHSP existed with  $F(5, 506) = 0.214, P < 0.001$ . In fact, 16% of the above mentioned resource contributed to the execution of NHSP. Kahiga (2019) obtained similar pattern of results that, adequate water as a resource is important for health related matters, since students can easily keep hygiene measures like washing of hands.

Moreover, the respondents were also requested to indicate their agreement levels on the adequacy of toilets for learners in schools. Consequently, teachers indicated that, schools had fairly adequate washroom, rated at a mean of 3.2 and a standard deviation of 0.78. In addition, this scientific inquiry established a significant impact of availability of washrooms on the execution of NHSP with  $F(5, 506) = 0.265, P < 0.001$ . Of interest to this scientific inquiry is that, 28% of the execution of NHSP was accounted by the availability of washrooms in schools. Such a finding seems to indicate that, schools administrators had managed to ensure, fairly adequate

washrooms. One may therefore infer that, principals in this study locale used relatively well, funds allocated to construction of washrooms. Gicheru et al., (2013) found conflicting findings that, number of washrooms in their study did not determine policy implementation of health matters. This could be attributed to the fact that, this current study was conducted in Machakos County while the aforementioned study was conducted in the entire republic of Kenya. Probably change of context of the study might have led to such differences in the findings.

The respondents were too required to indicate the level of agreement as to whether schools in this particular locale had adequate disposal systems of wastes. Inevitably, respondents revealed a moderate level of agreement that the aforementioned system of disposing waste existed ( $M=2.9$ ,  $SD=1.47$ ). Moreover, informant 28 revealed that:

*“Disposing waste is a big challenge in my school, I have to constantly engage exhauster services from private companies which charges highly, yet school fees payment is low. Facilities for disposing sanitary pads for girls are relatively few thus endangering students’ health”*

From the above narration, it becomes relatively clear that, numerous schools are struggling with disposing of waste, an issue if left unattended, diseases like cholera and dysentery may spread fast and risk the attainment of access to universal health as basic human right.

Further, the regression analysis revealed that, 14% of the ability of institutions to supply efficient waste disposal facilities had a potential to determine the implementation of NHSP with  $F(5, 506) = 0.261$ ,  $P < 0.001$ . These finding signal that, management of waste in schools cannot be ignored if realization of NHSP is to be achieved. Interestingly, similar pattern of results were obtained by Gathecha et

al., (2012) and Hallfors et al., (2017) that waste management is key for a healthy organisation in the current times.

The last component in the second objective of the study was to establish the level of agreement on the adequacy of fire extinguishers in the schools. It is therefore alarming that, respondents disagreed strongly on the availability of the mentioned safety facility. In fact the mean rating was 1.6 while the standard deviation was 0.58. Respondent 33 who was a principal indicated that, his current station did not have even one fire extinguisher despite it being a key component in the safety policy strategic plan. This finding is extremely critical because, particularly with incidents of fires caused by electricity error and students burning of schools, a significant amount of property may be lost in the absence of fire extinguishers. In the unlikely events, students may even lose life, cases which are highly regrettable once they happen. In addition, a regression analysis established that, availability of fire extinguishers in schools as not having a significant impact on the execution of NHSP, with  $F(5, 506) = 0.507, P > 0.001$ . This finding disagrees with a finding by Iadris et al., (2016). the differing findings may be attributed to the fact that, the aforementioned study utilized descriptive data in analysis (mean and standard deviation) only, which limited the generalizability (Kothari, 2004). This particular study not only utilized descriptive statistics (mean and standard deviation), it also utilized inferential statistics (regression analysis) since it enhances potential inference from a sample to the general population (Orodho et al., 2016), thus enhancing typicality of the study findings.

#### 4.5 Influence of adequacy of funds relating to health matters on the extent of implementation of NHSP

The third research question required the study to establish the impact of adequacy of funds relating to health matters in schools on implementation of NHSP. A likert scale ranging from strongly disagreeing (SD)-1 to strongly agreeing (SA)-5 was created.

**Table 4.8: Sufficiency of funds supporting health in schools**

<b>For the purpose of funding on NHSP, the following stake holders provides timely and adequate monies to enhance NHSP</b>	<b>N</b>	<b>Mean rating</b>	<b>Standard Deviation</b>
School administration	511	3.5	0.24
Government capitation	511	2.2	0.58
Non-governmental organisations	511	1.4	1.07
International bodies like world bank, IMF	511	1.2	0.48

The third objective of this study required teachers to indicate their agreement levels as to whether various stakeholders provided funding to the implementation of NHSP. Firstly, informants agreed the school administration to have been providing fairly enough funding in the implementation of NHSP. Indeed, the mean agreement rating stood at 3.5 and a standard deviation of 0.24. Respondent 2 indicated that:

*“The school administrators are the major stakeholders who fund the expenditure of Health affair in schools. In fact, every Board of Management Meeting, I ensure safety budget for students takes centre stage, thus demonstrating the urgency of students’ health”*

The above narration seem to imply that, principals as the administrators are critical components in the provision of funds for boosting health matters in the schools. Further, the study sought to determine as to whether administration funding on

students' health matters impacted on the implementation of NHSP. A regression analysis was carried out and the table 4.9 demonstrates the findings.

**Table 4.9: Values of Regression analysis on the influence of adequacy of resources relating to students' health on the implementation level of NHSP.**

<b>Model</b>	<b>Unstandardized</b>		<b>Standardized</b>	<b>t</b>	<b>Sig.</b>
	<b>Coefficients</b>		<b>Coefficients</b>		
<b>The following stakeholders provide funding to schools for NHSP adequately</b>	<b>B</b>	<b>Std. Error</b>	<b>Beta</b>		
(Constant)	.174	.120		-.284	.004
Administration	.337	.234	.321	-.557	.001
Government	.275	.175	.275	1.550	.000
N G Os	.024	.115	.161	-.538	.000
International bodies	.120	.262	.107	1.090	.005

The finding demonstrated that, funding by the school administration impacted the execution of NHSP. In deed, 33% of the implementation of NHSP depended entirely on the funding by school administrators, with  $F(5, 506) = 0.321$ ,  $P < 0.001$ . This finding probably indicates that, schools internal sources like fees collection to be the major sources of funding the execution of NHSP. Kahiga (2019) too established funding as an essential component in the execution of the National Health strategic plan.

The second item in this third research question required respondents to indicate their level of agreement as to whether, government of Kenya provided adequate funding for implementing the NHSP. Its concerning because the sampled respondents disagreed to the said question. In fact, the mean rating went down to 2.2 and a standard deviation of 0.58. Further, one of the teachers indicated in one of the open ended questions that, since members of the public have higher expectations from the

public that government should heavily fund all school programmes, probably, that can be used to interpret the low rating exhibited by the respondents. As a result, with limited funding, the respondents may perceive it to be a limitation of the government of the day. The findings regarding this item seem to indicate extremely insufficient funding by government compared to what respondents felt the government of the day ought to have provided.

A regression analysis revealed that, 27% of government funding of health matters of students in schools determined the execution of NHSP with  $F(5, 506) = 0.275$ ,  $P < 0.001$ . Such a revelation indicates that, government funding cannot be ignored if the NHSP has to be achieved. Several studies established that government funding of health matters in schools plays an undeniable role in the students' health (Kahiga, 2019 and Aveyard, 2014).

Additionally, this study sought to establish from the respondents as to whether Non-Governmental organisations adequately funded health matters in schools. Shockingly, respondents strongly disagreed to this fact with a mean rating of 1.4 and a standard deviation of 1.07. A teacher coded as 147 indicated in the open-ended question that,

*“Red Cross had never funded any health matter in their school. But USAID had done some washroom renovations in some schools”.*

Such a finding may be taken to signal immense ignorance on health matters in schools, an issue which needs to be relooked by the relevant NGOs like Red Cross, USAID and World Bank among others. This is because the sessional paper number 1 of 2019 recognizes a collective responsibility of health affairs in schools between the government and other private stakeholders.

Additionally, it emerged out that, the funding by NGOs did not impact the implementation of NHSP in the said study locale with  $F(5, 506) = 0.161, P > 0.001$ . With only 2% of NGOs funding as having impacted on the execution of NHSP. A study by Odom et al., (2014) established NGOs to a critical components in the realisation of NHSP, which therefore conflicted with the current study finding. This could be attributed by the fact that, the study by Odom et al., (2014) used questionnaire as the only data collection instrument, thus failing to capture the benefits of research tool triangulation which brings completeness of findings (Orodho et al, 2016). This study not only used questionnaires, but also interview guides. The use of multiple tools ensured that, weaknesses of one research tool was cancelled by the other thus promoting the completeness of research findings.

#### **4.6 Influence of awareness level regarding health matters on the extent of implementation of NHSP**

The last research question required teachers to indicate their opinion regarding agreement levels, on the extent of awareness of various stakeholders in the school regarding the existence of the national health strategic plan (NHSP). The research question was analysed in relation to the level of implementation of the said policy plan. A likert scale ranging from strongly disagreeing (SD)-1 to strongly agreeing (SA)-5 was created.

**Table 4.10: Awareness levels of various stakeholders regarding NHSP**

<b>The below mentioned school stakeholder are adequately aware of the NHSP</b>	<b>N</b>	<b>Mean rating</b>	<b>Standard Deviation</b>
The principal	511	4.5	0.64
The teachers	511	4.3	0.78
Board of management members	511	4.6	1.01
Non-teaching staff members	511	2.1	0.44

Basing on table 4.10, respondents were to indicate as to whether principals were aware of the said strategic plan, as the first item of fourth research question. Interestingly, the teachers as respondents agreed strongly that principals were quite familiar with this strategic plan. The mean rating was at 4.5 while the standard deviation was 0.64. Appealingly, a teacher respondent 225 indicated that:

*“How can the administrators fail to be conscious of the administrative policies yet they are the very people who are mandated to oversee safety of the learner in the basic education act of 2013?”*

The above findings signals that, majority of the principals are extremely conscious of the NHSP. Suggestively, this finding may be taken to mean that, since principals are normally capacity build often by various educational organisations like Kenya educational management institute (KEMI), they are likely to be aware of these policies hence higher rating on the said strategic policy. Further, the study established any influence that may exist between awareness level of various stakeholders in the school and the implementation of the NHSP. As such, regression analysis was conducted and table 4.11 presents such findings.

**Table 4.11: Values of Regression analysis on the influence of awareness levels relating to NHSP on the implementation of NHSP.**

<b>Model</b>	<b>Unstandardized</b>		<b>Standardized</b>	<b>t</b>	<b>Sig.</b>
<b>The below mentioned school stakeholder are adequately aware of the NHSP.</b>	<b>Coefficients</b>		<b>Coefficients</b>		
	<b>B</b>	<b>Std. Error</b>	<b>Beta</b>		
(Constant)	.184	.210		-.284	.003
Principals	.317	.324	.321	-.557	.001
Teachers	.195	.245	.325	1.550	.000
B O M	.234	.175	.201	-.538	.000
Non-teaching staff	.010	.212	.137	1.090	.004

As indicated on table 4.11, it emerged out that, 31% percent of the principals' awareness contributed to the implementation of NHSP. Interestingly, there existed a significant influence of awareness level of NHSP by principal and its respective implementation with  $F(5, 506) = 0.321, P < 0.001$ . Indeed, this finding inevitably signals that, failing to adequately inform principals the role and essence of NHSP, then the learners' health may be at stake.

Moreover, the second item of the fourth research question required teachers as respondents to indicate their agreement level as to whether they were aware of the existence of NHSP. Surprisingly, it also emerged that, teachers were extremely conscious of this particular NHSP. Interestingly, the mean rating became 4.3 while the standard deviation emerged to be 1.01. One of the possible explanation of the high rating by the teachers could be that, owing to the many teachers who are engaged by administrators regarding students' health, they may come to be aware of the NHSP. Other teachers are still pursuing higher education, an issue which might

keep them informed on those policies. A regression analysis still revealed a significant impact of teachers' awareness and the implementation of NHSP with  $F(5, 506) = 0.325, P < 0.001$ . Interestingly, 20% of the teachers' awareness level of this particular policy determined the implementation of NHSP. Kahiga (2019) established same findings in her study that, familiarity of teachers to policy plans may positively impact their execution.

Additionally, the third item of the fourth research question required the study informants to indicate as to whether the BOM members were aware of the existence of NHSP. Of interest to this study was that, respondents strongly agreed that, majority of these member were extremely conscious of this strategic plan with a mean rating of 4.6 and a standard deviation of 1.01. This finding is significant because, it indicates the BOM members were well informed of this strategic plan. It may therefore be attributed to the constant meetings held by these management boards, where such policies are deliberated. One of the principals indicated in the interview that:

“BOM members are critical members who largely oversee school management including Students' health. AS a result all members are fully aware of this strategic plan since they are the one to allocate funds during the annual school budgeting session”

A further regression analysis revealed a significant influence of BOM members' awareness and the execution level of the NHSP with  $F(5, 506) = 0.201, P < 0.001$ . Interestingly, 23% of the BOM awareness level was to predict implementation level. As such, BOM familiarity with NHSP seem to be very key in the determination of the execution level of the said strategic plan.

The last item of the fourth research question required respondents to indicate as to whether support staff were aware of this mention strategic plan. Interestingly, teachers as respondents disagreed that support staff were conscious of this statement. In fact the mean rating was 2.1 against a standard deviation of 0.44. Although the rating was low compared to the other stakeholders, it's likely that, considering these support staff include cooks, grounds men, watchmen, their interaction with policy documents may be minimal hence limited knowledge on the existence of those policy documents. There was no significant effect of awareness level of support staff on the implementation level of national strategic plan. In fact only 1% of their awareness levels could be used to predict the execution of NHSP with  $F(5, 506) = 0.137, P < 0.001$ .

## **CHAPTER FIVE**

### **SUMMARY, CONCLUSIONS AND RECOMMENDATIONS**

#### **5.1 Introduction**

The aforementioned chapter presented firstly, the summary of the key findings, then conclusions and lastly recommendations. The intention of this scientific inquiry was to determine the influence of the schools' preparedness on the implementation of national health strategic strategy in public secondary schools within Machakos County. In particular, the study had the following research questions which were answered: Firstly, What is the effect of teacher training regarding students' health matters on the implementation of NHSP? Secondly, what is the effect of adequacy of health facilities with regard to the execution of NHSP? Thirdly, what is the effect of the adequacy of funds related to students' health affairs on the implementation of NHSP? And lastly, what is the effect of the teachers' awareness level on the implementation of NHSP?

#### **5.2 The study findings summary as guided by each objective**

##### **5.2.1 Extent of teacher training regarding students' health matters and the implementation of NHSP**

The first study objective required the respondents to establish the agreement levels of teachers' training level regarding students' health matters and its influence on the implementation of NHSP. Interestingly, majority of the respondents strongly disagreed to this fact that teachers were trained on the said subject, with a mean rating of 2.01 for all training areas. Put differently, respondents indicated that teachers were not trained on students' life skills, students' security matters, healthy relationship with communities and lastly execution of first aid programmes. Furthermore, a regression analysis established that, training level of teachers on

students' health matters accounted 21% of implementation level of NHSP. As a result, it emerged out that, training of teachers on student' related health matters can significantly influence the implementation level of NHSP.

### **5.2.2 Adequacy of students' health facilities and the implementation of NHSP**

The second objective required respondents to indicate their agreement level on the level of adequacy of students' health facilities in schools. Particularly surprisingly, informants were neutral on their agreement levels on the adequacy of the mentioned facilities. Particularly, water harvesting facilities, adequacy of washrooms, sufficiency of disposal of waste systems and fire extinguishers were investigated. As a result, it became clear that, majority of school in the said study locale had fairly equipped themselves with those health facilities for the students. The mean rating was 2.7 out of 5.0 as the maximum rating scale. In addition, regression analysis was carried out to determine the influence of adequacy of health facilities for learners on implementation of NHSP. It became inevitably clear that, adequacy of students' health facilities in schools influenced significantly the implementation of NHSP. Indeed, 23% of the implementation of NHSP was determined by the sufficiency of students' health related facilities.

### **5.2.3 The adequacy of funds and the implementation of NHSP**

The third objective of this study required respondents to determine their agreement level as to how various stakeholders support schools in terms of finances, in securing funds for implementing NHSP. Interestingly, school administration was highly rated as having continuously supporting this programme. Indeed, a rating of 3.2 out of possible 5.0 likert scale was seemed to be higher. Government support was rated to be below average as a supporter of this strategic plan. Both Non-governmental

organisations and international bodies were rated extremely low with a likert rating of 1.4. Jointly, it therefore became clear that, funding for the implementation of NHSP was largely ignored by major stakeholders. Subsequently, the study established also that, a significant 33% of the implementation of NHSP was determined by adequacy of funds in schools.

#### **5.2.4 Influence of awareness level among school community members and the implementation of NHSP**

The fourth objective required respondents to indicate their agreement level on the level of agreement on the extent members are aware of the said NHSP. Interestingly, it came out that (Board of Managers) B O M members were rated as being aware of the said policy (mean of 4.5). Further, principals were also aware with a mean rating of 4.6. Put differently both the managers and administrators were quite cognisance of NHSP. Teachers were too familiar with the same policy, with a mean rating of 4.5. Non-teaching staff were rated with a mean of 2.1, Indicating low familiarity with such health strategic policy. From the foregoing, the familiarity among various stakeholders in the school was extremely high except the non-teaching staff who included watchmen, ground men, cooks and clerks. Further, it also emerged out that, 31% of strategic policy awareness contributed to the implementation of NHSP.

#### **5.3 Conclusion**

Basing on the summary thereof, it became evident that, firstly, training of teachers on students' health matters remains critical and a component which impacts the implementation of NHSP. It was however limited in the said study locale. Secondly, the findings seems to suggest that, schools have fairly few health facilities like water harvesting tanks, fires extinguishers, washrooms and waste disposal systems.

Nonetheless, such facilities are influencers in the implementation of the NHSP. Thirdly, health funds are grossly minimal in schools for implementing NHSP. Although school administrators are struggling to fund NHSP, a lot remains undone. Such funds were found to be key determinant in the implementation of NHSP. Lastly, familiarity of the national health strategic plan among the stakeholders was found to affect the execution of the said policy. Tied together, the above established findings signal that, the school preparedness in public secondary schools regarding the implementation of national strategic plan was largely minimal. Secondly, school preparedness influenced the implementation of national health strategic plan.

Importantly, among the four research objectives, and basing on regression analysis which was used to determine the influence of various independent variables (school preparedness) on dependent variable (Implementation of the NHSP), funding of health matters in schools emerged to have the greatest influence on implementation of NHSP. This is because 33% of implementing NHSP was determined by funding by different stakeholders. Secondly, adequacy of students' health facilities predicted the execution of NHSP with 27% which was rated as second determinant of the said subject. The third predictor of NHSP implementation was training of teachers on students' health matters, predicting 21% of the implementation of NHSP. Lastly, awareness of NHSP became the fourth determinant of NHSP rated to predict 13% of the execution of NHSP.

#### **5.4 Recommendations**

Following preceding conclusions, this report provides several recommendations which once put in place, effective implementation of NHSP may be realised.

#### **5.4.1 Recommendations for Policy**

Firstly, as confirmed by the first objective that, teachers had not been effectively trained on first aid skills and addressing emerging issues regarding students' health, this reports guides that, in servicing training of teachers to be provided thrice in a term. The aforementioned classes should focus all teachers in order to equip teachers with the said skills.

#### **5.4.2 Recommendations for Practice**

Aware of the limited funding for the implementation of NHSP, and upon realisation that funding impacts the execution of NHSP, this report recommends the school principals to constantly write proposals to the government, in order to provide funding for enhancing the implementation of national social strategic plan.

Secondly, considering the awareness level of teachers regarding NHSP was largely minimal, sensitization programmes by the principals to teachers should be carried out. Particularly, staff meeting should be formal forums where such sensitizations on the importance of such programs should be enhanced. This scientific inquiry guides that, two session of sensitizations should be conducted within a term.

Furthermore, cognisance of the fact that, adequacy of students health facilities like water harvesting resources influence the implementation of NHSP, and aware of the limited nature of the said resources, this report guide that, the government should increase more funds in schools, and ensure such funds have been used to secure tanks, address adequate washrooms besides increasing waste disposal systems in schools.

### **5.4.3 Recommendations for Further Research**

- i. The mentioned scientific inquiry addressed itself on the influence of school preparedness on the implementation of NHSP in secondary schools. These findings can only be generalised within secondary schools in the said study locale. As a result, with an overarching need to realise universal quality health care globally, a similar study based at primary schools is urgently required.
- ii. Considering that the study relied on teachers and principals as the key respondents, the findings may only be applicable to the above mentioned informants. To get representative findings, it would be critical to conduct a study which includes BOM members, parents and even students as respondents. Such a study may help in enhancing respondents' triangulation thus availing insightful revelations on NHSP execution. This is because informants like BOM members are mandated by basic education act (2013) to oversee students' health affairs. As such, they are likely to knowledgeable on the said subject.
- iii. Considering this study delimited itself within Machakos County, it would be convincing for a study whose scope covers the entire republic of Kenya. Such a study may not only paint a picture of NHSP at national level, but also provide insightful findings to both ministry of education and health at national levels for evidence based policy formulation.

## REFERENCES

- Aveyard, H. (2014). *Doing a literature review in health and social care: A practical guide*. McGraw-Hill Education (UK).
- Ayers, P.D. (2016). "Exploring the relationship between high school facilities and Achievement of high school students in Georgia." Unpublished doctoral Dissertation, University of Georgia, Athens, 111-119
- Babbie, E and Mouton, J. (2001). *The practice of Social Research*. Cape Town: Oxford University Press, Southern Africa.
- Bachtler, J., Mendez, C., & Oraže, H. (2014). From conditionality to Europeanization in Central and Eastern Europe: Administrative performance and capacity in Cohesion policy. *European Planning Studies*, 22(4), 735-757.
- Bell, J. (1993). *Doing a Research Project*, Buckingham: Pergamon Press.
- Borg, W. & Gall, M.D (1998). *Educational Research: An Introduction* 5th Edition, New York: Longman.
- Buckley, J., Schneider, M., & Shang, Y. (2014). The effects of school facility quality on Teacher retention in urban school districts. Posted by the National Clearinghouse for Educational Facilities, 234-257
- Dougherty, K. J., Natow, R. S., Pheatt, L., & Reddy, V. (2016). Performance funding for Higher education. JHU Press.
- Duncanson, E. (2013). Classroom space: right for adults but wrong for kids. *Educational Facility Planner*, 38(1): 24-8
- Dunn, W. N. (2015). *Public policy analysis*. Routledge.
- Elmore, R. & Milbrey, W. (1978). Organizational Models of social Program Implementation, *Public Policy* volume 26(2): 185-225.
- Erulkar, A. S., Onoka, C. J., & Phiri, A. (2015). Adolescents' preferences for reproductive Health services in Kenya. *African journal of reproductive health*, 51-58.

- Freeman *et al.* (2009). "Hand-washing among school children in Bogota, Colombia".  
*A.M.J.*
- Gathecha, G., Makokha, A., Wanzala, P., Omolo, J., & Smith, P. (2012). Dental caries and Oral health practices among students in Nairobi West and Mathira West Districts, Kenya, 112-117.
- Gereige, R. S., Zenni, E. A., & American Academy of Pediatrics Council on School Health. (2017). *School Health Policy & Practice*.
- Gicheru, H. Musa S. Susan N. Nthemba, (2013). Mobile Clinics and proper sanitation to all Kenyan Schools, *Kenya journal of Health*, 106-132.
- Goggin, E. (1990). *Studying the dynamics of public policy implementation: A third Approach in implementation and the policy process*. New York. Greenwood Press.
- Hallfors, D. D., Cho, H., Hartman, S., Mbai, I., Ouma, C. A., & Halpern, C. T. (2017). Process Evaluation of a Clinical Trial to Test School Support as HIV Prevention among Orphaned Adolescents in Western Kenya. *Prevention Science*, 18(8), 955-963.
- Iatridis, K., & Kesidou, E. (2016). What drives substantive versus symbolic implementation? Of ISO 14001 in a time of economic crisis? Insights from Greek manufacturing Companies. *Journal of Business Ethics*, 1-19.
- Jonathan, C. (2014) [http://wikipedia.org/wiki/chibok\\_schoolgirls\\_kidnapping](http://wikipedia.org/wiki/chibok_schoolgirls_kidnapping).
- Kombo D. and Tromp, D. (2006). *Proposal and Thesis writing: An introduction*: Nairobi,
- Kothari, C.R. (2004). *Research methodology and techniques*. New Delhi: New age international Limited.
- Kahiga, K. (2019). *Pre-school stakeholders' perceptions of pedagogy of physical education and Implementation of its programmes in Nairobi and Nyeri counties*. *International Journal of education and research*, 7 (8), 219-235.

- Louis C., Lawrence M., & Keith M., (2000), *Research methods in education*, 5<sup>th</sup> edition. RoutledgeFalmer Publisher, USA and Canada.
- Lozano, R., Ceulemans, K., Alonso-Almeida, M., Huisingh, D., Lozano, F. J., Waas, T. & Hugé, J. (2015). A review of commitment and implementation of sustainable Development in higher education: results from a worldwide survey. *Journal of Cleaner Production*, 108, 1-18.
- Mazmanian, D.A. & Sabatier, P.A (1983), *Implementation and Public Policy*. Glenview III,: Scott, Foresman
- McLaughlin, M. W. (1987), Learning From Experience: “Lessons from Policy Implementation”, *Educational Evaluation and Policy Analysis* Volume 9.
- Michelle, O. R. (2018). Review of mental health promotion interventions in schools, *Journal of Social psychiatry and psychiatric epidemiology*, 53 (5), 647- 662.
- Monetized. (2021). *Map of Machakos- road map, sate light view and street view*. Retrieved From maps street view.com on May 26<sup>th</sup> 2021.
- Mugenda, O.M. & Mugenda, A. G. (2013). *Research methods: Qualitative and quantitative Approach*. Nairobi: Acts press.
- Muhingi, W. N., Mutavi, T., Kokonya, D., Simiyu, V. N., Musungu, B., Obondo, A., & Kuria, M. W. (2015). Social Networks and Students' Performance in Secondary Schools: Lessons from an Open Learning Centre, Kenya. *Journal of Education And Practice*, 6(21), 171-177.
- Odom, S. L., Duda, M. A., Kucharczyk, S., Cox, A. W., & Stabel, A. (2014). Applying an Implementation science framework for adoption of a comprehensive program For high school students with autism spectrum disorder. *Remedial and Special Education*, 35(2), 123-132.
- Orodho, A.J. (2003). *Elements of Education and Social Research Methods*: Nairobi Mazola Pauline’s Publications, Africa *Public Health America Journal of Public Health*. 99(1), 94 – 101.

- Orodho, J.A., Khatete, I. & Mugiraneza, J.P. (2006a). *Concise statistics, an illustrative Approach to problem solving*. Nairobi, Kenya: KanezJa happy land enterprises.
- Orodho, J. A., Nzabwirwa, W., Odundo, P., Waweru, P.N. & Ndayambaje, I. (2016b). *Quantitative and qualitative research methods: A step by step Guide to scholarly excellence*. Nairobi, Kenya: Kanezja publishers and Enterprises.
- Oso, W.Y. & Onen, P. (2005). *A general guide to writing research proposal and report* (3<sup>rd</sup> Ed.). Nairobi, Kenya: Jomo Kenyatta foundation.
- Rasmussen, E., Mosey, S., & Wright, M. (2014). The influence of university departments on the evolution of entrepreneurial competencies in spin-off ventures. *Research Policy*, 43(1), 92-106.
- Republic of Kenya (2001). *Children`s Act*. Nairobi: Government printer.
- Republic of Kenya, Director of survey. (2011). *Kenya counties map*. Nairobi, survey of Kenya.
- Republic of Kenya (2005). *The Education Millennium Development Goals: What Water, Sanitation and Hygiene can do in Kenya*, Nairobi: Government Printer
- Republic of Kenya (2006). *Sexual Offence Act*. Nairobi: Government printer.
- Republic of Kenya (2007). *Gender Policy in Education*. Nairobi: Government printer.
- Republic of Kenya (2007). *The Kenya National Disability Survey Kenya*, Nairobi: Government printer.
- Republic of Kenya (2008). *Safety Standards Manual for Schools in Kenya (Schools as Safe Zones 2008)* Nairobi: Government Printer
- Republic of Kenya (2008). *Child Survival and Development Strategy*, Nairobi: Government Printer

- Republic of Kenya (2008-2012). *National Plan of Action for Children*. Nairobi: Government printer.
- Republic of Kenya (2009). *Health Facility Services Statistics-HMIS report*. Nairobi: Government printer.
- Republic of Kenya (2009). *Kenya Vision 2030 Goals for the Health Sector*. Nairobi: Government printer.
- Republic of Kenya (2009). *National School Health Policy Ministry of Public Health and Sanitation and Ministry of Education*. Nairobi: Government printer
- Republic of Kenya (2009). *The National Special Needs Education Policy Framework* Ministry of Education. Nairobi: Government printer.
- Republic of Kenya (2009). *The National Special Needs Education Policy Framework*, Nairobi: Government printer.
- Republic of Kenya (2018). *National School Health Strategy Implementation Plan*. Nairobi: Government Printer.
- Republic of Kenya (2010). *The Kenya Constitution*. Nairobi: Government printer.
- Republic of Kenya, Ministry of education, science and technology. (2013). *The basic education Act*. Nairobi: Government printer.
- Republic of Nigeria (2006). *Federal Ministry of Education: National School Health Policy*.
- Republic of Nigeria (2009). A Case Study of Causes, Consequences and Control of Students' Crisis in Public and Private Universities in Nigeria Guidelines of The School Health Programmes.
- Republic of South Africa (2010). *Health in South Africa, An Executive Summary for the Lancet Series*. South Africa.
- School Needs Survey. Machakos County. Machakos Sub County, (2015). DEO's Office Inspection report.

- Schultz, T. P. (2014). Health and schooling investments in Kenya. *The Journal of Economic Perspectives*, 13(3), 67-88.
- Sommer, M. (2011). *Integrating menstrual hygiene management into the school water, Sanitation*
- The standard newspaper 12<sup>th</sup> August 2016
- UNCRC (1990). United Nations Convention on Rights of the Child.
- UNICEF (2004). *The State of the World's Children*. New York
- UNICEF (2005). *The Voices and Identities of Botswana's School Children*, Botswana.
- UNICEF (2010). *Child Friendly Schools: Case Study of Uganda*.
- United States of America (2007). *School Wellness Policies: Legislator Policy Brief*.
- United States of America (2012). A case study: *The School Health Policies and Practices*.
- World Bank. (2018). *Understanding poverty*. Retrieved from [www.Worldbank.org.com](http://www.Worldbank.org.com) on 1<sup>st</sup> June, 2021.
- World Health Organization, (2005). *Physical school environment document II: School Health and safety*. WHO.
- Younis, T. & Davidson, I. (1990). *Implementation of public policy*, Hants Dartmouth Publishing Company ltd

## APPENDICES

### APPENDIX I: INTRODUCTION LETTER TO INFORMANTS

MUSYOKA MIRIAM

Email address: miriammusyoka87@gmail.com

Dear informant,

#### **RE: RESEARCH WORK ON EDUCATIONAL MATTERS**

With reference to the above mentioned matter, I am a student of Kenyatta University, doing a master of education program. I am collecting data on a study entitled 'institution based factors influencing the execution of national health strategic plan for secondary schools within Machakos Sub County. Having been sampled to provide data, you are kindly requested to indicate the information required with honest and trustworthiness. Further, the information provided therein will be used entirely for the purpose of this scientific inquiry. **DO NOT INDICATE YOUR NAME.**

Thanks

Yours truly

  
Musyoka Miriam

## APPENDIX II: TEACHER'S QUESTIONNAIRE

### Respondents' Instructions

The researcher wishes to reveal that, findings obtained herein will be used only for research purpose and no any other business. Kindly, you are required to tick on the provided box or write on the spaces availed.

### SECTION .A. RESPONDENT'S DEMOGRAPHIC DETAILS

1. Education level

Diploma                  Undergraduate degree              
Degree                  masters                                   

Indicate any other level.....

2. State the number of years in the teaching service in the current school.....

3. School category

Mixed boarding                                      
Girls boarding                                      
Boys boarding                                      
Day/ Boarding                                   

4. School size in terms of streams

One streamed                                      
Two streamed                                      
Three streamed                                      
Four streamed                                      
Above four streamed                                   

5. According to your opinion, indicate in the likert scale, the rating level on the implementation of strategic health plan in your current teaching institution. Tick appropriately.

Sufficiently implemented                                      
Fairly implemented                                      
Insufficiently implemented

**SECTION B: EXTENT OF TRAINING TEACHER PERSONNEL AND ITS INFLUENCE ON EXECUTION OF NATIONAL HEALTH STRATEGIC PLAN.** You are hereby required to tick appropriately, the extent to which training of teachers has been executed and also its effect on implementation of the said policy. A guide of likert scale will be provided where: 1=strongly disagree (SA), 2=disagree (D) 3=undecided (U), 4=agree 5=strongly agree (SA).

S/N	Institution based factors	4	3	2	1
1	Teachers are trained on security issues related to students				
2	Teachers are trained to teach skills on life matters to learners				
3	Teachers are adequately trained on how to relate healthy with community				
4	Teachers are trained on emerging issues related to learners health				

Indicate any other training related to students' health that you might have received

.....

**SECTION C: ADEQUACY OF FACILITIES AND THEIR EFFECT ON EXECUTION OF THE SAID STRATEGIC**

You are hereby required to tick appropriately, the extent to which training of adequacy of facilities has been executed and also its effect on implementation of the said policy. A guide of likert scale will be provided where: 1=strongly disagree (SA), 2=disagree (D) 3=undecided (U), 4=agree 5=strongly agree (SA).

S/N.	Facilities	5	4	3	2	1
1	School has adequate water harvesting facilities					
2	School has adequate toilets					
3	School has effective disposal system					
4	School has adequate fire extinguishers					

Kindly indicate any other student related facility which has been facilitated by the school.....

**SECTION D: ADEQUACY OF FUNDS AND ITS EFFECT ON EXECUTION OF THE SAID STRATEGIC PLAN IN THE SUDY LOCALE**

You are hereby required to tick appropriately, the extent to which adequacy of funds has been executed and also its effect on implementation of the said policy. A guide of likert scale will be provided where: 1=strongly disagree (SA), 2=disagree (D) 3=undecided (U), 4=agree5=strongly agree (SA).

S/N	Adequacy of funds	5	4	3	2	1
1	The school administration provides adequate finances to the execution of health strategic plan					
2.	Increasing students trends has limited budget allocation to execution of health strategic plan					
3.	The capitation from the ministry of education is adequate for implementation of national health plan.					
4.	Non-governmental organisations have supported sufficient funds for the implementation of national health strategic plan.					

Kindly state any other source of funds for the execution of national health strategic plan.....

**SECTION E: AWARENESS LEVEL OF THE EXISTENCE OF NATIONAL SCHOOL HEALTHY STRATEGIC PLAN HAS INFLUENCED THE LEVEL OF IMPLEMENTATION.**

You are hereby required to tick appropriately, the extent to which awareness level of teachers has been executed and also its effect on implementation of the said policy. A guide of likert scale will be provided where: 1=strongly disagree (SA), 2=disagree (D) 3=undecided (U), 4=agree 5=strongly agree (SA).

S/N	Degree of recognizing the strategic implementation	1	2	3	4	5
1	Principal recognizes execution of the strategic plan					
2	The non-teaching staff appreciates appropriate execution of strategic plan					
3	Board members are conscious of execution of the said strategic plan					
4	Teachers are familiar with child protection roles as envisioned in the strategic plan					

Indicate any other indication of the extent of awareness of this strategic plan in public school.....  
 .....

**You are much appreciated for choosing to take part in this study.**

**APPENDIX III: PRINCIPALS' INTERVIEW**

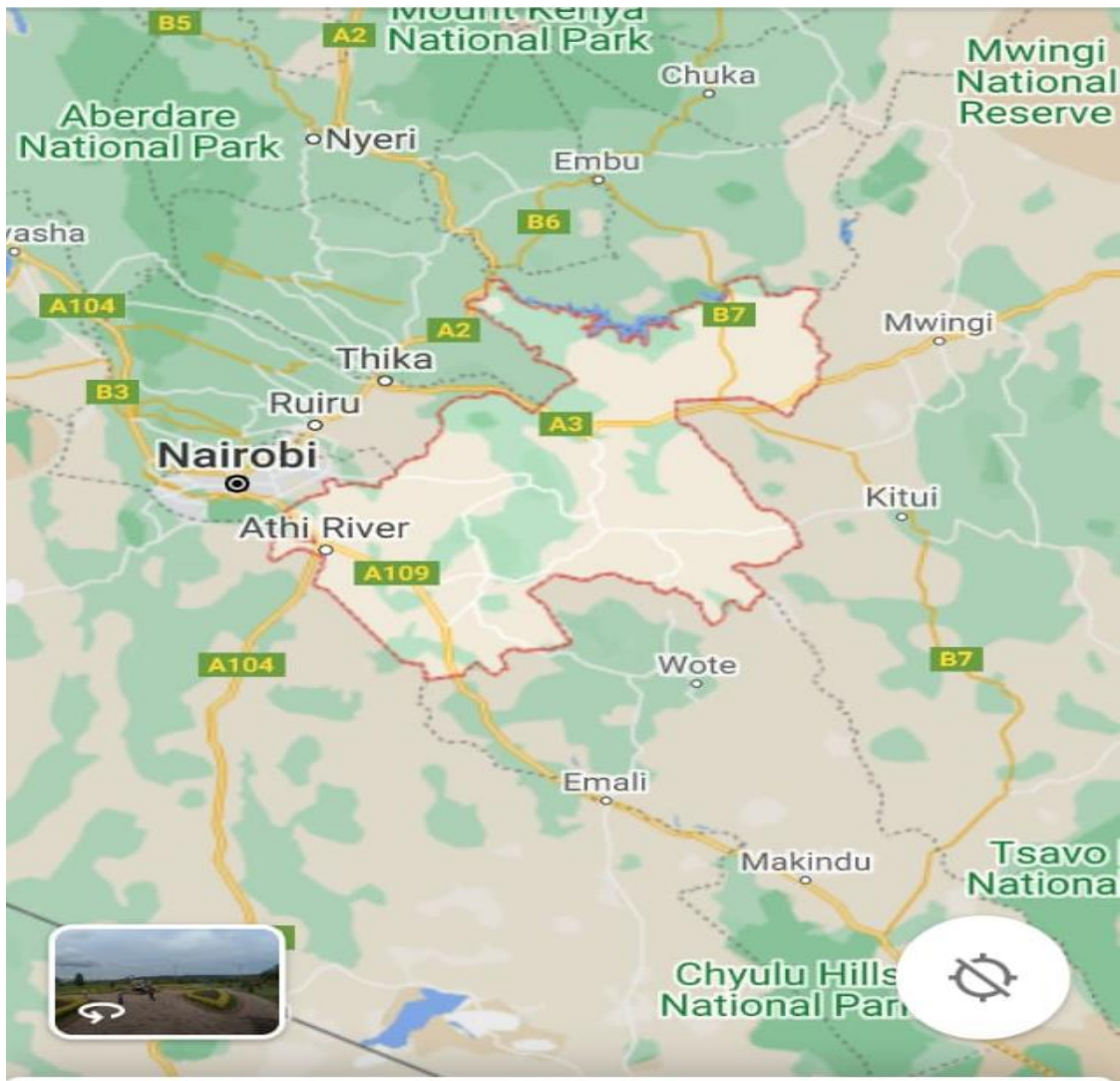
**SECTION A: PERSONAL INFORMATION**

School Based Factors Influencing Level of Implementation of National School Health Strategic Plan in Public Secondary Schools in Machakos Sub County, Machakos County,

1. Type of School. Mixed Day  Girls Boarding
2. Boys boarding  Mixed Boarding
3. Do you take cognisance of the execution of strategic plan  
No  Yes
4. In the event that you appreciate its existence, how can it be effectively be implemented?.....
5. In your view, are teachers and other staff in the school get effective training regarding this said strategic plan?, Yes  No
6. In your view, does the school get sufficient funds from the government and non-governmental organisations for implementing the said plan?  
Yes  No
7. If you have indicated no, what could be the reasons and challenges faced when funds are being secured for this strategic plan?.....  
.....
8. In your opinion, is there sufficient facilities concerning the implementation of this strategic plan which include fire extinguishers, bins for disposing sanitary pads, disposal pits, and waters harvesting resources? Yes  No
9. If no, what has contributed to the limitedness of the same?.....

**FEEL APPRECIATED FOR CHOOSING TO PARTICIPATE IN THIS STUDY**

APPENDIX IV: MACHAKOS COUNTY MAP



Machakos County



**APPENDIX VI: AUTHORISATION LETTER FROM COUNTY  
COMMISSIONER**



**OFFICE OF THE PRESIDENT  
MINISTRY OF INTERIOR AND CO-ORDINATION OF NATIONAL GOVERNMENT**

Telephone: 21009 and 21983 – 90100  
Email Address: cc.machakos@interior.go.ke  
Fax No. 044-21999  
When replying please quote

OFFICE OF THE COUNTY COMMISSIONER  
P.O. BOX 1 – 90100  
MACHAKOS

REF: CC/ST/ ADM 5/9 VOL. IV /110

7<sup>th</sup> November, 2022

All Deputy County Commissioners  
MACHAKOS COUNTY






**RE: RESEARCH AUTHORIZATION – MS. MIRRIAM MBINYA MUSYOKA**

The National Commission for Science, Technology and Innovation has authorized the above named student to carry out a research on ***“School Preparedness and Its Influence on the Implementation of National Health Strategic Plan in Public Secondary Schools”*** in Machakos County for the period ending **1<sup>st</sup> November, 2023.**

Please be notified and accord her the necessary assistance.

**A.N. WAFULA  
FOR: COUNTY COMMISSIONER  
MACHAKOS COUNTY**

**APPENDIX VII: RESEARCH CERTIFICATE FROM NACOSTI**

 <p>REPUBLIC OF KENYA</p>	 <p><b>NATIONAL COMMISSION FOR SCIENCE, TECHNOLOGY &amp; INNOVATION</b></p>
<p>Ref No: <b>648555</b></p>	<p>Date of Issue: <b>01/November/2022</b></p>
<p><b>RESEARCH LICENSE</b></p>	
	
<p><b>This is to Certify that Ms. MIRIAM MBINYA MUSYOKA of Kenyatta University, has been licensed to conduct research as per the provision of the Science, Technology and Innovation Act, 2013 (Rev.2014) in Machakos on the topic: SCHOOL PREPAREDNESS AND ITS INFLUENCE ON THE IMPLEMENTATION OF NATIONAL HEALTH STRATEGIC PLAN IN PUBLIC SECONDARY SCHOOLS IN MACHAKOS COUNTY, KENYA for the period ending : 01/November/2023.</b></p>	
<p>License No: <b>NACOSTI/P/22/21381</b></p>	
<p>Applicant Identification Number <b>648555</b></p>	
<p><b>NATIONAL COMMISSION FOR SCIENCE, TECHNOLOGY &amp; INNOVATION</b></p>	
<p>Verification QR Code</p>	
	
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<p><b>See overleaf for conditions</b></p>	