

**JOB SATISFACTION OF SCIENCE TEACHERS IN  
PUBLIC SECONDARY SCHOOLS IN MURANG'A EAST  
DISTRICT, MURANG'A COUNTY, KENYA**

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## DECLARATION

This project report is my original work and has not been presented for a degree in any other university.

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## **DEDICATION**

This work is dedicated to my dear wife and daughter for their unconditional love and inspiration through out this task. You have always been and always will be my heroes.

## **ACKNOWLEDGEMENT**

When we set goals for ourselves, there are always obstacles in the way that may deter us from accomplishing those goals, and encourage us and support us to continue regardless of the obstacles. It is now that I can formally thank those people for doing just that for me.

I must first thank God for being at my side during this challenging time, I needed God to continue as, often the desire was sometimes there to quit.

I would next like to thank my supervisors and mentors Dr. Njuguna and Dr. Njoka who imparted in me both research skill and research methods. Your constructive advice and consistent guidance highly contributed to the quality outcomes of this research project – thanks for your knowledge, expertise and encouragement during this process.

Special thanks go to my family, who directly or indirectly assisted me in compiling this research project.

## ABSTRACT

In Kenya there are concerns about teacher retention. Various research done have found out that school performance is directly linked to the quality and quantity of teacher remuneration. Teachers' job satisfaction and performance is dependent on incentives to teachers. Data recorded in various District Education Offices indicate that science teachers in Kenya are leaving the teaching profession to take up jobs in other careers. The teachers who are leaving teaching are usually the young and enthusiastic and hence affecting performance in science subjects at the national examinations and subsequently poor performance in Kenya's scientific, technological and innovation sectors. The study reviewed literature on teacher's job satisfaction, turnover and retention trends in Africa and Kenya. The main objective of this study was to determine the job satisfaction levels of science teachers in secondary schools of Murang'a East District. The research adopted descriptive survey design. The questionnaire was used for the study as the main research instrument. All public secondary schools in Murang'a East District were targeted in this study. Four teachers were to be selected from each school through stratified random sampling. A sample of 56 science teachers and 14 principals was used. Data collected during the study was analysed using both quantitative and qualitative methods and finally presented in tables, pie charts and graphs. The study revealed that majority of the science teachers would leave teaching given an opportunity. The amount of paid vacation/sick leave offered was rated by teachers as not being important. The respondents revealed that salary, opportunities for promotion and job security were extremely important in influencing their job satisfaction. However factors such as job location and lack of incentives played minimal role. The study also established that majority of teachers were teaching in boarding schools. Majority of the teachers who were teaching in boys and girls boarding schools indicated that they were dissatisfied with the teaching profession. Majority of the head teachers and science teachers indicated that science teachers left teaching profession for greener pastures and due to low pay. As for reasons for staying in the teaching profession, all the head teachers and majority of the teachers said that science teachers remained in teaching profession simply because it is seen as a form of earning. On the desired changes required by science teachers to help them be satisfied with their jobs, majority of teachers and all the head teachers affirmed that among other factors, salary increase, enhanced career development and opportunity to undertake study leaves would be of great help in enhancing job satisfaction among science teachers. The study recommends that the MOE should make teaching profession more attractive *i.e.* by improving on the pay package, so as to attract and retain science teachers. The MOE should also encourage the school managements to put up decent infrastructure in schools to create conducive working environment for teachers. Secondary school principals should also be taken through management training to help them resolve interpersonal conflicts in their institutions.

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## **ABBREVIATIONS**

DEO	District Education Officer
HOD	Head of Department
KNUT	Kenya National Union of Teachers
KSSHA	Kenya Secondary Schools Heads Association
MOE	Ministry of Education
SPSS	Statistical Program for Social Science
TSC	Teachers Service Commission

## CHAPTER ONE

### INTRODUCTION

#### 1.1 Background to the Study

There are growing concerns on teacher retention and recruitment in secondary schools in various countries in the world. According to a report by House of Commons Educational and Skills Committee [2004], too many teachers in Britain are resigning from their posts, a third had expressed a desire to leave the profession over the next five years and recruitment had declined dramatically. Further, the report notes that there are a number of specific problems which pose real difficulties for those schools. Teachers are said to leave service citing dissatisfaction on the pay and working conditions.

In China, teacher retention has been of great concern. Park, Rozelle, Wong and Ren, (1996) observe that with market transition and the opening-up of labour markets, alternate career paths are increasingly becoming open to current and potential teachers. This situation, the study notes, is further compounded by decentralization of school finance in China which disequalized the economic resources available to schools in different locales'. According to Sergent and Hannum (2003), teaching jobs in China have become increasingly varied in their compensation and at the same time good teachers have gained greater flexibility to move to better jobs in other sectors. These changes have increased the career choices of individuals, but they also mean that schools serving poor rural communities face new challenges in retaining qualified teachers.

The Government of Kenya recognises the important role science should play in the realisation of Vision 2030 to become a globally competitive and prosperous country by 2030. This has been reflected in the amount of resources both human and otherwise that are channelled towards enhancing the teaching and learning of science and mathematics at all levels of the education system. At secondary school level, there have been a number of intervention strategies that the Government has put in place to ensure effectiveness in the teaching/learning of these subjects. In addition to strategies such as provision of qualified science teachers to schools; improvement of teachers' remuneration and terms of service; and provision of science equipments and laboratories; the Government has also institutionalised In-service Education and Training (INSET) of serving science and mathematics teachers under Strengthening of Mathematics and Science in Secondary Education (SMASSE) project. Quite a substantial amount of the Ministry of Education's budget goes towards this course (MoE, 2005). Strengthening of Mathematics and Science in secondary (SMASSE) is a Technical Cooperation initiative between the Governments of Kenya and Japan signed in 1998 for the purpose of improving teaching of science and mathematic subjects.

Teachers' job satisfaction and performance is dependent on incentives given to teachers (Sergent & Hannum, 2003). In their study, the researchers note that in most cases, teachers' job satisfaction is due to the school's ability to provide adequate basic necessities to its staff. Thus, when teachers' pay is low there is higher number of teachers who are dissatisfied and consequently leave the teaching profession. Inadequate teachers pose one of the most severe constraints on the provision of a

quality education. In a Policy View Issue no.4 of 2008, the Institute of Policy Analysis and Research (IPAR) notes that normal teaching is sometimes disrupted by teachers' shortage and that students riots and violence in schools coincides with the time when teachers are agitating for actions on issues affecting them such as higher salaries. According to Sikiwu (2009), education has always been a weak point of any region's development equation when there are no fillers that attract teachers to love their profession. In 2006, United Nations Education Scientific and Cultural Organization (UNESCO) noted through a study that students' enrolment had increased in many Latin and African countries, but overall teaching quality remained very poor. According to UNESCO, this situation was mainly attributed to poor teacher pay and the lack of incentives structures to retain teachers. Teacher attrition disrupts schooling. This is especially so when teachers leave the profession during the academic year or whilst engaged in critical projects in school (Borsuk, 2001). Often there is no continuity when they leave, asserts Borsuk. This is further noted by Ingersoll (2002), who observes that turnover influences the performance and effectiveness of school since a school as an organization, has production processes requiring extensive interaction among educators, and is therefore prone to suffer when subjected to high rates of turnover.

Examining the link teacher turnover and job satisfaction, Sargent and Hannum (2003) identified several other factors that have been found to be associated with teachers' job satisfaction. These factors include: community factors; that is, teachers are more satisfied in communities with greater economic and social resources, and in

communities that are less remote; school environment; that is ,teachers are more satisfied in schools with better economic resources, in larger schools, in schools where there are more opportunities for professional advancement, and in schools where there is an organizational climate that supports teacher collaboration; teacher background; i.e. young teachers and male teachers are less satisfied, while teachers who are more socially similar to the local community are more satisfied. There are fewer turnovers among teachers where they are satisfied. There are other factors that affect teacher retention at the school level. Attrition (through long-term illness and death, resignation, retirement, dismissal) and transfers (lateral, promotion, and study leave) has been cited as a cause of the teachers' shortage (Bennel, 2004). However the study noted that the main issue in most countries is the high rate of transfers of teachers between schools rather than attrition per se. According to Mwangi and Mwai (2002) teacher retention depends on motivation of the teachers which in turn is affected by several factors. These factors include: compensation which refers to the teachers pay that is generally low resulting in dissatisfaction among teachers; poor career structure; lack of promotion opportunities; poor school facilities; inadequate school disciplinary policy; attitudes and behaviour of the co-workers; pupils' poor work attitudes; and lack of interest in school. Teacher retention is important in several ways (Institute of Management, 1991). Low level of teacher retention impact by way of increased costs to the organization broadly categorized as separation, replacement, recruitment, selection, as well as induction and training costs of the newly hired teacher (Carrel *et al.*, 1998). Thus, teachers' retention helps to avoid disruption of schooling especially when teachers leave the profession during the academic year or whilst engaged in

critical projects in school. It is evident that retention helps to ensure continuity and to avoid teachers' shortage in a given country (Borsuk, 2001). Ingersoll (2002) attributes the shortage of teachers directly to turnover and posits that about 90% of newly hired teachers are simply replacements for recent departures.

Teacher recruitment and retention is one of the most critical factors of ensuring that students have access to secondary education. Various publications and studies highlight various challenges facing teacher recruitment and retention in secondary education across developing countries (Lewin & Caillods, 2001; OECD, 2002; Mulkeen, Chapman, DeJaeghere, Leu, & Bryner 2005; World Bank, 2005; SEIA, 2007; World Bank, Africa Human Development Department, 2007). Some of these challenges include: bottlenecks in teacher preparation systems, i.e high rates of attrition throughout the education system which dramatically constrain the number of students successfully advancing through secondary education, thereby reducing the pool of potential teacher candidates for secondary education; high attrition due to low salary and poor teaching conditions which cause teachers to leave the field within 1–3 years of entering service. Those teachers posted to rural areas often seek immediate transfer back to urban areas or fail to show-up to teach on a consistent basis. Lewin et al (2001) observes that there are various difficulties in attracting teachers to the hard to reach areas. These difficulties arise because of a number of reasons among them: low compensation (other professions requiring similar educational qualification offer higher compensation); poor working conditions; lack of professional development opportunities; little mobility to better positions; inadequate professional support and

supervision; unprofessional treatment of teachers; and lack of incentive systems to stimulate and motivate teachers to remain in the teaching field. Their study further revealed that lack of teachers in specific subject areas such as mathematics and science is partly because few teachers choose to specialize in science and math, and those that do are in high demand in other employment sectors.

Several studies have been conducted in Kenya focusing on retention. Wafubwa (1991) explored the mobility of science teachers from Kenyan secondary schools to other employment. The study findings revealed that not only was there a shortage of qualified science teachers in Kenyan secondary schools, but many teachers were leaving the profession to take up non-teaching employment. These findings concurred with Wasonga (1997) who elucidate that there was a problem of high turnover in religious studies teachers in Kenya. The study revealed that in Migori District religious teachers had a short experience in the teaching profession. This implied that the turnover among teachers was high. However, these studies did not outline the factors that lead to the mobility of the science teachers to other professions.

Other studies have been conducted on job satisfaction in different parts of the country. Kimengi (1990) carried out a study on secondary school teachers' attitudes towards teaching and their job satisfaction in Kenya. The study noted that generally all secondary school teachers had a poor attitude towards their job, and that societal attitudes as well as remuneration had influenced teacher's view of their jobs. This study has addressed these factors. Karuga (2002) examined the level of job satisfaction

among Public Secondary School Science Teachers in Mathira Division. In his study Karuga emphasized on the factors related to remuneration and work conditions. He did not however show the influence of school environment factors as well as the background of the teachers on job satisfaction. Various studies done in other parts of the world have shown that school environmental factors influence teachers' satisfaction. It was from this background that this study endeavoured to analyse how the environmental and community factors alongside other factors have influenced science teachers' job satisfaction in Murang'a East District.

## **1.2 Problem Statement**

The Kenya National Union of Teachers (KNUT) and the Kenya Secondary Schools Heads Association (KSSHA), have expressed concern that Kenyan schools have a shortage of teachers which has recently grown to 79,295 (Daily nation, 2011, January 25). According to the Head teachers association (KSSHA) six hundred teachers have left classrooms for better paying jobs in the past six months. Most science teachers in Kenya are leaving the teaching profession to take up jobs in other careers.

Teacher turnover is also evident from the shortage of teachers in secondary schools as well as the high pupil- teacher ratios in public secondary schools. Past studies on job satisfaction have outlined some factors that lead to dissatisfaction and in most cases remuneration has been pointed out as the major factor (Wafubwa, 1991; Wasonga, 1997; Karuga, 2002; & Lukuyani, 2004).

Remuneration and other basic factors have been addressed in the past but the turnover still persists due to influences other than remuneration. There is also little information on the job satisfaction of teachers in specific subjects. This study was designed to look at the job satisfaction of science teachers in secondary schools in Murang'a East District. According to the District Education office, the current population of mathematics and science teachers in the District stands at 101 teachers against a required population of 150 science teachers (as per July 2011). According to the area District Education Officer (DEO) about 15 teachers have left the teaching service in the last two years. This study explored the teachers' job satisfaction levels in terms of the five job factors namely work content, remuneration, work environment, recognition and interpersonal relations.

### **1.3 Purpose**

The purpose of this study was to assess job satisfaction of science teachers in public secondary schools in Murang'a East District.

### **1.4 Specific Objectives**

- i) To find out the distinguishing factors on Job satisfaction among science teachers based on their demographic variables(gender, marital status and work experience)
- ii) To determine the level of job satisfaction of the science teachers in Murang'a East District based on factors related to work.
- iii) To identify factors that influence science teacher's job satisfaction in public schools of Murang'a East District.

- iv) To find out the effect of work environment /school factors on job satisfaction of science teachers in public schools of Murang'a East District
- v) To assess desired changes required by science teachers to help them be satisfied with their job.

### **1.5 Research Questions**

- i) What are the distinguishing factors on Job satisfaction among science teachers based on their demographic variables (gender, marital status and work experience) in public schools of Murang'a East District?
- ii) What is the level of job satisfaction of the science teachers in Murang'a East District based on factors related to work and working conditions?
- iii) What are the factors influencing science teacher's job satisfaction in public schools of Murang'a East District?
- iv) How do work environment /school factors affect level of job satisfaction of science teachers in public schools of Murang'a East District?
- v) What are the desired changes required by science teachers to help them be satisfied with their jobs in Murang'a East District?

### **1.6 Assumptions of the Study**

- i) The respondents provided truthful information about their background as well as their feelings about their job.
- ii) Teachers are leaving the teaching service in Murang'a East District because of job dissatisfaction and those who remain in the profession have their reasons why they choose to remain.

### **1.7 Limitation of the Study**

The study only explored the job satisfaction in science teachers in Murang'a East District due to constraints of time and finances.

### **1.8 Delimitations of the study**

The study was delimited to only public secondary school in the district. The research participants of the study were science teachers and respective principals of the schools. The study only covered Murang'a East District.

### **1.9 Justification of the Study**

A poorly developed system of science education will lead to poor manpower in such fields as engineering, medicine and other health sciences affecting the realization of vision 2030. It will also affect rural development because science provides basic skills that can help school leavers engage in small income generating projects (Borsuk, 2001). The researcher concurs with Mwiria's (2002) argument that it is important to have a proper science education at secondary school level. Hence teacher job satisfaction is paramount in developing an efficient education system. Ayondo (2008) noted that Kenya is an interesting case of a developing country in which enrolment at secondary level has been considerably expanding since the introduction of Free Primary Education (FPE) in 2003 and the Free Day Secondary Education (FDSE) since 2008. The right to free primary and secondary education has been enshrined in the new constitution (2010) defining an increased demand for more secondary school teachers including science teachers.

Teacher job satisfaction has been the focus of research agenda in various developing countries for a long time and thus, job satisfaction has been noted as an important indicator of how employees feel about their jobs and a predictor of work behaviors such as organizational citizenship, absenteeism, and turnover (Saari & Judge, 2004). No research on job satisfaction of science teachers has been carried out in Murang'a East District prior to this study, hence the need to establish the factors that contribute to job satisfaction of science teachers in public secondary schools in the District. Since the quality of science education depends on teachers who have high level of job satisfaction, the findings of the study would help in finding ways of motivating science teachers and consequently improve the quality of education in the District and the whole country in general. Information from this study will be important to various key stakeholders in the Education sector. To the Ministry of Education, the findings will help in trying to understand the plight of science teachers. The Ministry could use the information in trying to provide relevant incentives which could help retain the science teachers in class.

Data from the study will be important to the policy makers at the Teachers Service Commission (TSC) concerning promotion of teachers and other incentives, and the School practioners (administrators and managers). The information could be used to improve on and provide suitable working environment for teachers. Further the study findings provide administrators with better understanding on how to handle teachers and provide enabling environment which teachers desire to work in. Lastly, the research findings of this study could also provide useful literature that could be important to other scholars who may wish to study the area.

## 1.10 Theoretical Framework

Several factors are believed to influence a person's desire to perform work or behave in a certain way. The need-based theories explain these desires; they explain motivation primarily as a phenomenon that occurs intrinsically, or within an individual. This study was based on the Herzberg *et al.*'s two factor theories.

Herzberg, *et al* (1959) two factor theory is heavily based on need fulfillment because of their interest in how best to satisfy workers. They carried out several studies to explore those things that cause workers in white collar jobs to be satisfied and dissatisfied. The outcome of their study showed that the factors that lead to job satisfaction when present are not the same factors that lead to dissatisfaction when absent. Thus, they saw job satisfaction and dissatisfaction as independent. They referred to those environmental factors that cause workers to be dissatisfied as Hygiene factors. The presence of these factors according to Herzberg *et al.* (1959) does not cause satisfaction and consequently failed to increase performance of workers in white-collar jobs. The hygiene factors are company policy and administration, technical supervision, salary, interpersonal relationship with supervisors and work conditions; they are associated with job context. These factors are perceived as necessary but not sufficient conditions for the satisfaction of workers.

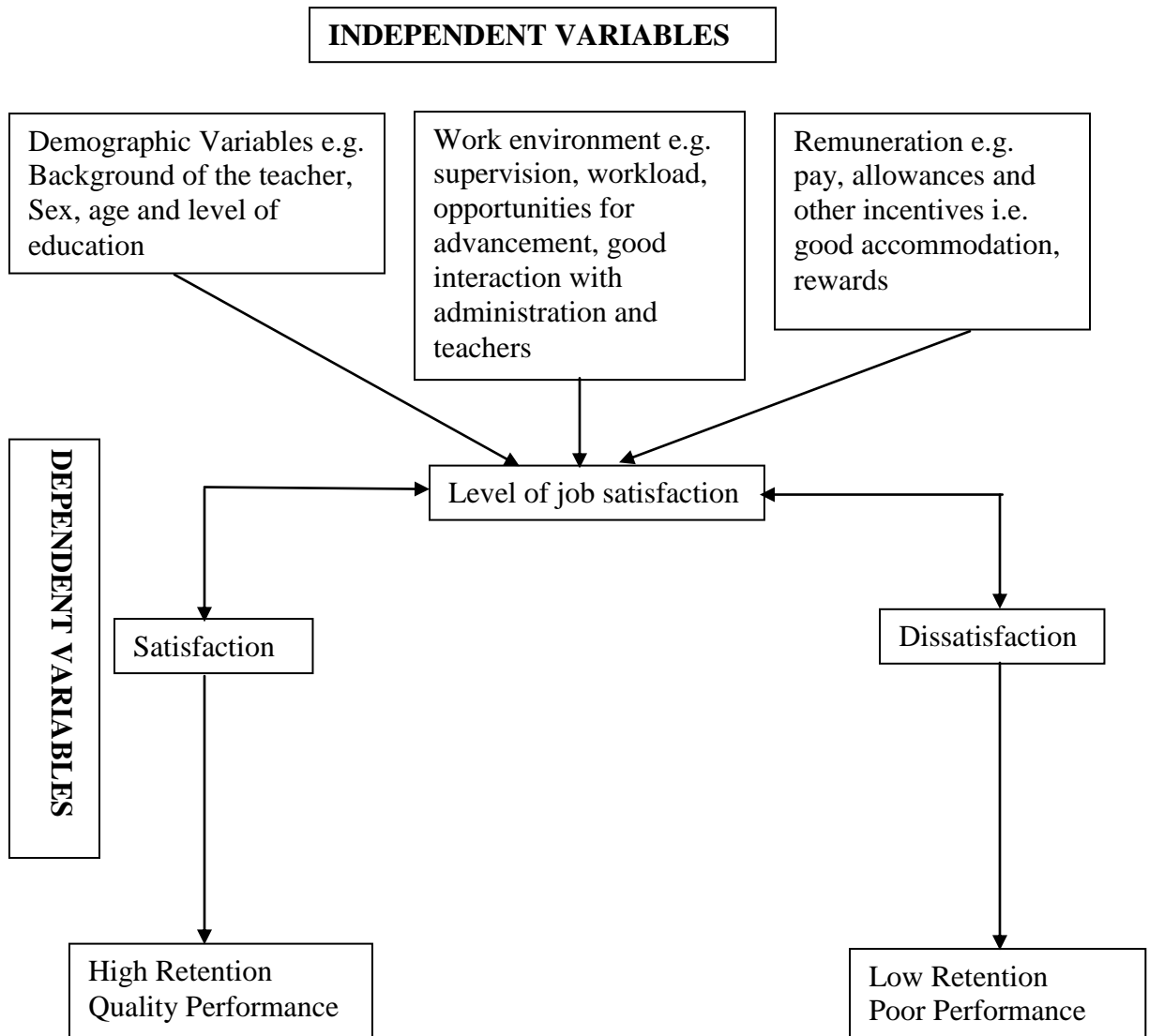
They further identified motivating factors as those factors that make workers work harder. They posited that these factors are associated with job content or what people actually do in their work and classified them as follows: achievement, recognition,

work itself, responsibility and advancement. Achievement is represented by the drive to excel, accomplish challenging tasks and achieve a standard of excellence. The individuals' need for advancement, growth, increased responsibility and work itself are said to be the motivating factors.

The factors outlined in this theory were used to counter check the predicament of the science teachers in public secondary schools in Murang'a East District. These factors formed an outline of the hindrances of job satisfaction and retention among the public secondary school science teachers which were used as a basis for collecting data.

### 1.11 Conceptual Framework

The conceptual framework of this study was used to illustrate the interplay of different factors leading to satisfaction or dissatisfaction of science teachers.



*Figure 1.12 Conceptual Frame Work on Factors That Affect Job Satisfaction*

Source: Researcher's 2013

Commitment to teaching and the work place have been found to be enhanced by psychic rewards (acknowledgement of teaching competence), meaning and varied work, task autonomy and participatory decision making, positive feedback, collaboration, administrative support, reasonable work load, adequate resources and pay, and learning opportunities providing challenge and accomplishments (Ostroff,1992). Factors such as merit pay or effective teaching have not been found to affect teacher job satisfaction and effectiveness. Demographic factors such as sex, age, level of education; work environment factors i.e workload, supervision, opportunities for advancement; and remuneration i.e pay, allowances, rewards, were the independent variables whose influence on level of job satisfaction of science teachers (dependent variable) was established in this study. Factors such as opportunities for advancement, good interaction with the supervisors and good accommodation were found to enhance job satisfaction and consequently lead to high retention and quality performance for science teachers. On the other hand inadequate pay, poor supervision, unreasonable workload and bad interaction with administration contribute to job dissatisfaction and hence low retention and poor performance by science teachers. Some factors have been found to highly contribute to job satisfaction or dissatisfaction than others. Others contribute slightly to satisfaction or dissatisfaction. The level of contribution of a factor to either satisfaction or dissatisfaction may however depend on the locality of the school. However some factors are thought to contribute more to job satisfaction. This study employed some of these factors as guideline on the factors that are leading to job satisfaction of science teachers in Murang'a East District.

## 1.12 Operational Definition of Key Terms

**Job satisfaction:** This is the degree to which people are happy with their careers. It is an emotional affective personal response, which is as a result of the estimation of the degree to which some facts of career reality is congruent or incongruent with values.

**Motivation:** Work motivation refers to the psychological processes that influence individual behavior with respect to the attainment of workplace goals and tasks.

**Teacher retention:** The term is used to refer to employees leaving an organization the teaching profession.

**Turnover:** also called attrition refers to employees leaving an organization

**Job dissatisfaction:** refers to the degree of unhappiness one has with their careers.

**Community Factors:** refers to the level of the economic and social resources of the immediate community served by a school, i.e. village per capita, and remoteness.

**Standard:** refers to the recommended size of a school science laboratory as per the MOE guidelines.

**Not Standard:** refers to size of a school science laboratory which is not as per the MOE guidelines.

## **CHAPTER TWO**

### **LITERATURE REVIEW**

#### **2.1 Introduction**

This chapter reviews literature which provided some relevant information required to address the research questions in the previous chapter. The literature was reviewed in areas of teacher turnover, job satisfaction, performance, and retention trends in Kenya and Africa in general.

#### **2.2 Job Satisfaction**

Job satisfaction is one of individuals' needs fulfillments (Evans, 1998). Evans argue that overall job satisfaction will vary directly with the extent to which the needs of an individual that can be satisfied in a job are actually satisfied, and that the stronger the need, the more closely will job satisfaction depend on its fulfillment. Rodes (2004) on the other hand observe that job satisfaction involves liking for the work and acceptance of the pressures and aspirations connected with that work. He contends that job satisfaction can be most adequately be conceptualized as a personality evaluation of conditions existing on the job or outcomes that arise as a result of having a job meaning, hence being taken as the perception of internal responses.

According to Rao and Sridhar (2003) all types of work are not inherently satisfying. People engaged in the work which is not satisfying in itself naturally look for satisfaction from sources external to it. Thus, job satisfaction does promote happiness, success and efficiency in one's professional activity. Every profession has got certain

aspects conducive for job satisfaction and at the same time other aspects that lead to dissatisfaction. As pointed out by Saari and Judge (2004), job satisfaction can be an important indicator of how employees feel about their jobs and a predictor of work behaviors' such as organizational citizenship, absenteeism, and turnover. Further, job satisfaction can partially mediate the relationship of personality variables and deviant work behaviors. This study sought to find out which aspects conducive for job satisfaction are present in teaching profession.

A study carried out by Rain *et al.*, (1991) revealed that job satisfaction is correlated with life satisfaction and that this correlation is reciprocal, meaning that people who are satisfied with life tend to be satisfied with their job and vice versa. However, some research has found out that job satisfaction is not significantly related to life satisfaction when other variables such as non-work satisfaction and core self-evaluations are taken into account (Rode, 2004).

An important finding for organizations to note is that job satisfaction has a rather tenuous correlation to productivity on the job (Krishnan & Singh, 2010). This is a vital piece of information to researchers and businesses, as the idea that job satisfaction and performance are directly related to one another is often cited in the media and in some non-academic management literature. It is thus clear that job satisfaction and turn over will depend on several factors which this study endeavored to establish and which are further discussed in the next section.

Research studies carried in America have explored factors that affect teacher satisfaction and retention. As Riehl and Sipple (1996) found out in their studies, eleven percent of the teachers who joined the profession chose to leave. According to their findings, there were several factors that contributed to the choice of the teachers to leave the profession. These factors include: emotional factors, school and community support, instructional support, preparation in teaching curriculum, managing students, collaboration, compensation and benefits, motivation to teach and culture shock. These findings concur with Karen and Myers (2005) who argue that one of the major reasons for teachers exit from the profession is lack of job satisfaction and poor remuneration.

Akiri and Ugborugbo (2009) contends that job satisfaction is an emotional affective personal response, which is a result of the estimation of the degree to which some facts of career reality is congruent or incongruent with values. Gosnell (2000), in a seminar paper on determinant of career satisfaction among federal employees on public policy in USA, identified three primary determinants of job satisfaction as: individual attributes or demographic variables; characteristics of the career itself; and organizational characteristics. According to Akiri and Ugborugbo (2000), the extent to which these factors are satisfied will determine the extent to which worker's career satisfaction is enhanced.

### **2.3 Job Satisfaction and Retention Trends in Africa and Kenya**

Several factors have been found to influence job satisfaction in teachers (Akiri & Ugborugbo, 2009). In their study the researchers noted that demographic characteristics such as gender, age, experience, marital status and educational attainment have been identified to influence teachers' career satisfaction. However, neither the extent of their influence nor the extent of their relationship is clear. This study undertook to find out the extent to which these demographic factors influence science teachers' job satisfaction in Murang'a East District.

Studies (Michaelowa, 2002; Spear *et al.*, 2000) have shown that female teachers have higher overall job satisfaction than male teachers. Consistent with these studies are Bishay's (1996) and Mwamwenda's (1997) which concluded that female teachers were satisfied than male teachers. Njoka (2002) investigating the relationship between the level of job satisfaction of HODs and some independent variables in Embu District found a significant difference between the level of job satisfaction of HODs and their gender. The study found that male HODs were more satisfied than female HODs. However, some other studies (Gosnell, 2000; Sargent and Hannum, 2003) found out that there is no relationship between gender and teachers' career satisfaction. This study sought to determine whether there is a relationship between gender and job satisfaction for science teachers in public secondary schools in Kenya.

According to Akiri and Ugborugbo (2009) in Nigeria female teachers are more satisfied than male teachers. This has been linked to financial commitments of males

as compared to females. The study also reports that teachers' years of experience are significantly negatively related to teacher's career satisfaction. This was attributed to the fact that the longer one works, the higher the financial responsibilities and expectations of friends and family members. This study finally records that the highly qualified teacher in Nigeria is the least satisfied. Attainments beyond Bachelors degree tend to lead to a mismatch between teachers expectations and professional realities. Teachers improve their knowledge through higher educational attainment; their efforts would be recognized by their employers through promotion and/or appointment to posts of responsibility like principalship. However, teachers are not recognized after their career attainment. Whether there is a relationship between teacher qualification and level of job satisfaction was a matter of interest in this study.

In Kenya, there has been a growing concern about teacher retention (Mwangi & Mwai, 2002). Teachers have increasingly expressed dissatisfaction especially with the pay they receive. Like in China, several changes in the government and private sector have opened up job markets for teachers (Wafubwa, 1991). These changes have increased the career choices of individual teachers especially those trained in science subjects. However this has made it hard for schools to retain qualified teachers.

To cope up with these challenges, the Kenya government has formulated several policies aimed at encouraging the retention of science teachers in the teaching profession. In 1989 the Government came up with a policy aimed at motivating science teachers in order to enhance retention. Through a Presidential decree, the

Ministry of Education introduced special allowance for secondary school teachers in a number of subjects considered special, which included Mathematics, Sciences and Languages (MoE, 2005). However, even with this special allowance, the shortage of science teachers persists. According to the then Minister of Education, Prof Samuel Ongeru, there was a shortage of 12,000 teachers in science subjects at secondary level in 2010 (Daily Nation, 2011, January 25). While promising the nation that the Government would address the problem, the Minister noted that shortage of science teachers is one of the major reasons behind poor performance in Maths and Science subjects in the Kenya Certificate of Secondary Education (KCSE) examination.

Kimengi (1990) indicated that generally all secondary school teachers had poor attitude towards their job. The study noted that societal attitudes as well as remuneration had influenced teacher's view of their jobs. Kimengi asserted that most teachers therefore would want to leave the teaching profession if an opportunity arises elsewhere. Njoka (2002) in her study on job satisfaction among HODs found out that salary level was ranked as one of the most important factors influencing motivation and job satisfaction among the HODs.

Olando (1999) investigated job satisfaction of public secondary school teachers in Nairobi province. The study assessed the level or degree of satisfaction based on factors of remuneration and job conditions. Most of the teachers in Nairobi province recorded a low degree of job satisfaction. The study did not underscore the specific cases of subjects to address the case of turnover in specific subjects. The study did not

also include the factors related to community where the teacher is working, school environment and the background of teachers. This study included these factors which are related to community and school environment.

Karuga (2002) examined the level of job satisfaction among public secondary school science teachers in Mathira Division, Kenya. He emphasized on the factors related to remuneration and work conditions. The study noted a high turnover in science teachers of Mathira division. Hence, most of the science teachers in the district were young teachers. The teachers were found to be highly dissatisfied with their job. In Okumbe's (1992) study, job security was ranked first among eight job factors indicating that it was the most important factor that contributed to job satisfaction among the secondary school graduate teachers in his study. There is however need, to look at other factors related to community, teacher background and school environment and how they influence the teacher satisfaction. These factors were also addressed in this study as per Herzberg *et al.*'s two factor theories.

Lukuyani (2004) reported the factors contributing to job satisfaction among secondary school teachers in Turkana district. Secondary school teachers were generally dissatisfied with their salaries but were satisfied with their interpersonal relations between their fellow teachers. Hardship allowances paid to teachers showed the highest level of dissatisfaction. The study recorded significant correlation between job satisfaction/dissatisfaction and sex, marital status, teaching experience, professional grade, number of schools taught and age. The study however does not show the

relationship of job satisfaction and the community factors. This study sought to determine whether there is a relationship between job satisfaction of science teachers in public secondary schools in Murang'a East District and the community factors.

## **2.4 Teacher Turnover**

Concerns about educator turnover and attrition are reported widely as a global phenomenon. In most African countries, the phenomenon of teacher turnover is associated mainly with the HIV/AIDS epidemic, especially in sub-Saharan countries like Zambia, Kenya, Nigeria, the Central African Republic and South Africa (Coombe, 2002). In some countries notably Gambia, massive exit of teachers from the profession is due to, amongst other reasons, a lack of adequate salaries, allowances, housing and promotion (Xaba, 2003).

In the US, since the early 1980s, educational theory has predicted that shortfalls of teachers resulting primarily from two converging demographic trends: increasing student enrollments and increasing teacher retirements- will lead to problems staffing schools with qualified teachers and, in turn, lower educational performance (e.g., National Commission on Excellence in Education, 1983; National Commission on Teaching, 1997). In the US, there are significant effects of school characteristics and organizational conditions on teacher turnover (Ingersoll, 2001). This study endeavoured to determine whether there is a relationship between school characteristics and science teacher turnover in public secondary schools in Kenya.

In China, the recent opening-up of labor markets, in general and within the school system, has raised concerns about retaining qualified teachers in schools serving poor communities (Sargent,2003).The researcher notes that indicators of economic status of communities such as village income per capita and presence of rural enterprises are associated with lower levels of teacher satisfaction. However the result from this study also suggests that economic development alone may not ameliorate the problem. The study underscores the challenge that faces rural, impoverished communities as they seek to retain teachers, and especially well educated teachers. Most public secondary schools in Murang'a East District and by extension Kenya are rural schools most of which are located in areas which are not well economically endowed. It was therefore of interest to find out how far the teachers' job satisfaction in the District is affected by these factors.

In South Africa concerns about teachers' shortages are beginning to be articulated strongly. In a speech before parliament to support World Teachers' Day, the then Minister of Education, passionately urged students to study to become teachers, assuring them not to fear retrenchments and further instability in respect of appointments following the termination of the agreement of rationalization and redeployment (Xaba, 2003). In Kenya, the Government continues to encourage construction of new secondary schools to cater for the rising number of pupils who complete primary education. More teachers are required to teach in these secondary schools. It is important therefore to address the challenge of science teachers' turnover in public secondary schools in Kenya in an effort to alleviate the shortage. This turnover could be due to lack of job satisfaction among science teachers in public secondary schools and was therefore the endeavor of this study. Wafubwa (1991) explored the mobility of science teachers from Kenyan secondary schools to other employment. The study emphasizes that not only was there shortage of qualified science

teachers in Kenyan secondary schools, but also teachers were leaving the profession to take up non-teaching employment.

A substantial number of qualified graduate teachers leave the profession soon after entering it. The study does not outline the reasons why the teachers leave the teaching profession. In Kenya, teachers' salaries have been relatively very low compared with financial rewards in the private sector. The high wastage rate of graduate teachers leaving the teaching profession especially the mathematics and science teachers has been of concern by the government (Republic of Kenya, 1984). According to the District Education Officer (DEO) Murang'a East District, about 15 science teachers have left teaching for other jobs in the last 2 years in the District (as per July, 2011). This study sought to find out the factors that influence job satisfaction of science teachers in public secondary schools in Murang'a East District.

## **2.5 Conclusion**

The literature reviewed showed no consensus on the influence of demographic characteristics such as gender, length of service and educational attainment on teachers' career satisfaction. This literature provided background guidelines which were used to develop research instruments and guidelines. This study was aimed at determining the influence of demographic variables (e.g. Gender, Age and level of education) on the career satisfaction of science teachers in public secondary schools. The study addressed such factors as community factors, work environment and the working conditions.

## **CHAPTER THREE**

### **RESEARCH METHODOLOGY**

#### **3.1 Introduction**

This chapter is organized under the following subsections: research design; variables; target population; sample size and sampling procedures; research instruments; data collection procedures; and data analysis.

#### **3.2 Research Design**

The research adopted a descriptive survey design. This design was used in collecting information by interviewing and administering questionnaires to a sample of the population which consisted of principals and science teachers. It utilized both the quantitative and qualitative approaches. The questionnaires were used to access both qualitative and quantitative data (Kerlinger & Lee, 2000).

#### **3.3 Variables**

The independent variables of the study included the various factors that influence job satisfaction. The factors included the school factors/work environment, socio-economic status of the community and socio-demographic characteristics of the teachers. Dependent variables of the study comprised of the decision to leave or stay and job satisfaction of the teachers.

### **3.4 Location of the study**

The study was carried out in Murang'a District in Murang'a County, Kenya. The District neighbors Mathioya District to the west, Kirinyaga District to the East, Mukurwe-ini and Murang'a south District to the north and south respectively. Murang'a East District is made up of three (3) divisions namely; Gatari, Township and Gikindu Division. There are 29 public secondary schools in the District of which one(1) is a provincial boys boarding, one(1) provincial girls boarding, one(1) district girls boarding, one (1)mixed boarding and the rest 25 are day mixed schools (DEO Murang'a East District, July, 2011).

### **3.5 Target population**

In this study the target population was all science teachers in public secondary schools in Murang'a East district. Public schools were chosen because they are the ones facing the problem of teacher turnover. There are 29 public secondary schools in the district with a total of 101 science teachers.

These schools contained varied number of science teachers. Teachers drawn from the four science subjects, that is, mathematics, chemistry, biology and physics, were considered. Target population also included the administrators (Head teachers) of the schools for they are charged with responsibilities of monitoring and evaluating teachers as principle agent of TSC.

### **3.6 Sampling Techniques and Sample Size**

#### **3.6.1 Sampling Techniques**

Probability and non probability procedures were used to select the sample size and sampling procedures. Data obtained indicated that, Murang'a East district has a total of 29 public secondary schools. These schools have a total of 101 science teachers. The District has three (3) Educational Divisions which are Gatari, Township and Gikindu. There are five (5) Educational zones. The research was conducted in all the divisions. The sample consisted of principals and science teachers who were drawn from the sampled public secondary schools in Murang'a East District. According to Gay (1976), a sample size of 10% and 20% of the population is adequate for survey study though the bigger the sample the more accurate are the findings. This is why the researcher chose to use 40% of the population which is bigger than the 10% or 20%. The sample was made up of 70 respondents which comprised 14 principals and 56 science teachers. The sample of 70 respondents was selected using a combination of sampling techniques as illustrated below.

##### **3.6.1.1 The Schools Sample**

Stratified random sampling was used to select the schools while ensuring that all the key groups in the population were involved. Stratification allowed the researcher to create a set of sample based on gender. The population (schools) was first divided into strata of girls boarding secondary schools, boys boarding secondary schools, and mixed day secondary schools. From each stratum, the researcher randomly selected the schools to represent all the other schools.

**Table 3.1: Distribution of Public Secondary Schools in Murang'a East District by****Gender**

<b>Schools</b>	<b>Number of schools</b>	<b>Sample size</b>	<b>Percentage</b>
Boys only	1	1	100%
Girls only	2	2	100%
Mixed schools	27	11	40%
<b>Total</b>	<b>30</b>	<b>14</b>	<b>46.7%</b>

**3.6.1.2 The Principals Sample**

All the fourteen principals from the sampled schools were purposively selected because they are informative and responsible for the leadership and administration of the schools and they regularly communicate with TSC on matters concerning their schools.

**3.6.1.3 Science Teachers Sample**

In schools with more than four science teachers, the respondents were selected using simple random sampling from a list that was provided by the principals. The teachers were given papers to pick which stated yes or no. Those who picked yes were recruited for the study. However, in schools with less than four science teachers all of them were recruited making a total of 56 science teachers. The science teachers sampled were taken for the study because they had the required information with respect to the objectives of the study.

**Table 3.2: Sample Size**

<b>Respondents</b>	<b>Sampling</b>	<b>Target population</b>	<b>Sample size</b>	<b>Percentage</b>
Schools	Stratified random	30	14	46.6%
Principal	Automatic inclusion	30	14	46.6%
Science teachers	Simple random	101	56	55.4%

### **3.7 Research Instruments**

The basic instruments used for this study were questionnaires and observation schedule as the main tools for collecting data.

#### **3.7.1 Questionnaires**

A questionnaire for teachers (Appendix I) will serve as the main research instrument. Bryman(2008) notes that questionnaires enable the researcher to gather data from many respondents simultaneously thereby saving time and cost of data gathering. Questionnaires also gave respondents freedom to express their views or opinion and also make suggestions. The questionnaires were designed to have simple closed ended items as well as open ended ones.

##### **3.7.1.1 Questionnaire for the Science Teachers**

The questionnaires had four Sections A, B, C and D .Section A dealt with biographic data of the respondent, Section B sought for information on school and work environment, Section C looked for information on satisfaction and retention, while Section D looked for information on challenges and ways to mitigate the problems.

### **3.7.1.2 Questionnaire for Principals**

The questionnaire had three Sections A, B and C. Section A looked for demographic information of the respondents. Section B sought information on attitudes of teachers towards teaching profession while Section C covered information on the challenges facing the science teachers and ways to enhance teacher satisfaction and retention.

### **3.7.2 Observation Guide**

In order to establish the capacity of the school to offer science subjects effectively, the researcher used a physical facilities/teaching/learning resources observation guide. The observation guide was used to collect data such as the number and condition of laboratories, number of classrooms, laboratories students' capacity, and adequacy of the laboratory equipments and the provision of safety gadgets. Orodho (2004) asserts that the status of phenomenon is determined not by interviewing respondents but observing what is there currently. The observation guide therefore allowed for more objectivity in the research study (see Appendix III).

### **3.7.3 Piloting**

The researcher conducted a pilot study in two schools from Murang'a East District, and which were excluded in the final study. Two principals and five science teachers filled questionnaires. The piloted questionnaire was assessed for clarity and those items found to be inadequate or vague were modified to improve the quality of the research instrument thus increasing its validity. The questionnaires were evaluated on the basis of the answers given. After a period of one week the same instrument was re-

administered to the same respondents. The two sets of data were computed by use of Person correlation statistics which yielded a coefficient of 0.851. The calculated coefficient was high enough to judge the instruments as reliable as suggested by Orodho (2005).

### **3.7.3.1 Validity and Reliability of Research Instruments**

#### **Validity**

According to Orodho (2009) validity shows, the accuracy and meaningfulness of inferences which are based on the research results. In other words, validity is the degree to which results obtained from the analysis of the data actually represents the phenomenon under study. The research instrument was piloted on a sample to find out if everything works well and detect any potential misunderstanding or biasing effects of different questions. It also helped test the feasibility of the study techniques and to perfect the questionnaires concept and wording. In addition, the pilot study helped the researcher to improve the face validity and content of the instruments. Convergent and discriminatory validity was estimated in order to test if the questionnaire measured what it is intended to measure. The Validity was determined using the multitrait-multimethod correlations (MTMM). MTMM involved the construction of a matrix or table correlations arranged to facilitate the interpretation of construct validity. This yielded the interval estimates of the coefficients which were used to establish the correlations. Any item that was found to be ambiguous in eliciting relevant information was modified and restructured.

### **3.7.3.2 Reliability**

To ensure reliability of research instruments, the researcher used the test-retest method which involves administering the same instrument twice to the same group of respondents with time lapse between the first and the second test. Pearson correlation was used to compute the correlation coefficient which was used to determine the extent to which the contents of the questionnaire are consistent in producing the same response every time the instrument is administered.

## **3.8 Data Collection Procedure**

The data were collected from the field using questionnaires and observation schedule. The researcher first obtained an introductory letter from the university detailing his intention to carry out the study in the District of his interest. A research permit was then sought from the Ministry of Higher Education, Science and Technology by the researcher which is a requirement in the research process. The researcher presented the research permit to all the relevant offices during the field study exercise. He obtained the list of the schools in the District from the District Education Office to enable him visit the schools under study. The secondary schools were then stratified according to the categories mentioned earlier. The researcher personally administered the instruments to all the selected respondents (school principals and science teachers). Where this was not possible, the researcher distributed the questionnaires to the respondents and collected them later on the agreed date. Confidentiality, anonymity and informants' consent was maintained as a requisite condition for the whole research process. In respect for the informants and in order to protect them from abuse

of data they gave for the research against the population, data were presented in such a way that it could not be linked to individuals who gave it except by the researcher who sought clarification during analysis of data.

### **3.9 Data Analysis**

Data analysis was based on the research questions. The study sampled 56 science teachers and 14 head teachers, but only 50 teachers and 12 head teachers responded to the instruments, comprising 89.3% and 85.7% response rate respectively. After collecting the filled questionnaires, the researcher analyzed the data using descriptive or inferential statistics, especially the measure of central tendency (mean and standard deviation). Quantitative data was summarized using frequencies and percentages. The findings were presented using tables, charts and graphs with explanations. The Statistic Package For Social Sciences (SPSS) software aided the analysis of data collected (Macmillan& Schumacher, 2001). The researcher used the sample statistics to draw conclusions about the population from which the sample was drawn.

## **CHAPTER FOUR**

### **DATA ANALYSIS, PRESENTATION AND DISCUSSION**

#### **4.1 Introduction**

Chapter four presents findings from this study. The findings were presented, interpreted and discussed in connection with job satisfaction of science teachers in public secondary schools in Murang'a East District, Murang'a County, Kenya. The findings have been presented in sub-sections as guided by the objectives of the study and that mainly answer the research questions. The study sought information from science teachers and head teachers using questionnaires. The sample was made up of 70 respondents which comprised 14 principals and 56 science teachers. Out of these 50 teachers and 12 principals responded to the instruments, comprising 89.3% and 85.7% response rate respectively. The response rate was considered high enough and the researcher felt justified proceeding with the data analysis.

Finally, the result of the findings was discussed in the light of the reviewed literature related with job satisfaction of science teachers in public secondary schools.

Data analysis, presentation of results and discussion of the findings were guided by the following research objectives:

#### **Specific Objectives**

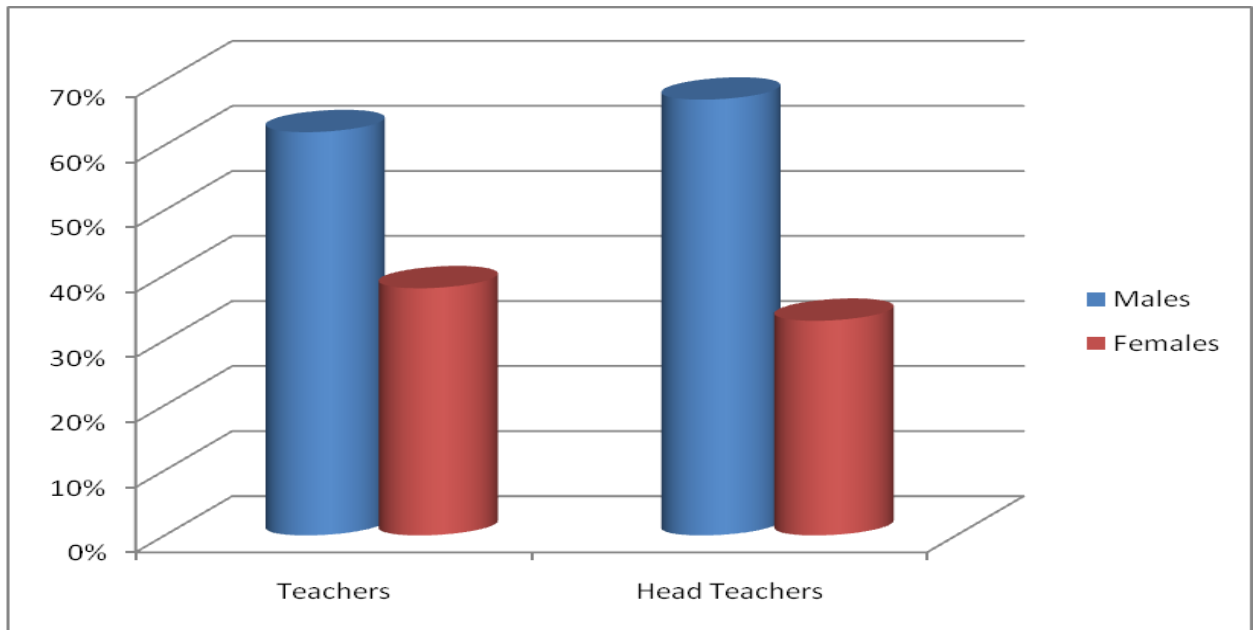
- (i) To find out the distinguishing factors on Job satisfaction among science teachers based on their demographic variables (gender, marital status and work experience)

- (ii) To determine the level of job satisfaction of the science teachers in Murang'a East District based on factors related to work.
- (iii) To identify factors that influence science teacher's job satisfaction in public schools of Murang'a East District.
- (iv) To find out the effect of work environment /school factors on job satisfaction of science teachers in public schools of Murang'a East District
- (v) To assess desired changes required by science teachers to help them be satisfied with their job.

#### **4.2 The Distinguishing Factors on Job Satisfaction among Science Teachers Based on Demographic Variables (Gender, Marital Status, Work Experience and Age)**

The influence of demographic variables on the level of job satisfaction of science teachers was captured using the gender, marital status, academic qualification, and teaching experience of teachers and head teachers.

Data regarding the gender of teachers and head teachers were collected, analyzed and presented in Figure4.1



**Figure 4.1 Genders of Head Teachers and Teachers**

The results presented in Figure 4.1 indicate that there was unequal representation of respondents from both gender of the teachers and head teachers sample populations. Figure 4.1 indicates that teachers' male and female had 31(62%) and 19(38%) representation respectively. From the head teachers' sample population, female were 4(33%) of the sample population while the male were 8 (67%). This information may not necessarily mean that female teachers are more dissatisfied than their male counterparts. Studies carried out by Michaelowa (2002) and Spear *et al.* (2000) have shown that female teachers have higher overall job satisfaction than male teachers. Consistent with these studies are Bishay's (1996) and Mwamwenda's (1997) who concluded that female teachers were more satisfied than male teachers. However, some other studies (Gosnell, 2000; Sargent and Hannum, 2003) found out that there is no relationship between gender and teachers' career satisfaction. A possible reason why male science teachers' representation is higher than that of female teachers could

be due to the fact that more male teachers choose to train in science subjects than female teachers who mostly opt for non science subjects. On head teachers, the unequal representation could be as a result of the fact that female teachers have been shying away from assuming responsibilities as head teachers in schools, hence majority of head teachers are males. Njoka (2002) study on HODs indicated that a greater percentage of males were interested in advancing to deputyship or headship if given a chance than the females.

The researcher also sought to gather information on marital status of teachers and head teachers. The findings of the study are presented in Table 4.1.

**Table 4.1 Marital Status of Teachers and Head Teachers**

<b>Marital Status</b>	<b>Teachers</b>		<b>Head Teachers</b>	
	<b>f</b>	<b>%</b>	<b>f</b>	<b>%</b>
Married	47	94	12	100
Single	2	4	-	-
Divorced	1	2	-	-
<b>Total</b>	<b>50</b>	<b>100</b>	<b>12</b>	<b>100</b>

It is evident from the information above that majority of teachers (94%) and all the head teachers were married. However, four (4%) of teachers were single two percent of teachers have been divorced. Study done by Lukuyani (2004) recorded a significant correlation between job satisfaction and/dissatisfaction and demographic factors such

as gender and marital status. The fact that majority of the respondents in this study both teachers and head teachers were married could be as a result of the fact that majority of them were of age 35 years and above.

Respondents were also requested to provide information on their academic qualification. Data on this were presented in table 4.2.

**Table 4.2 Academic Qualification of Teachers and Head Teachers**

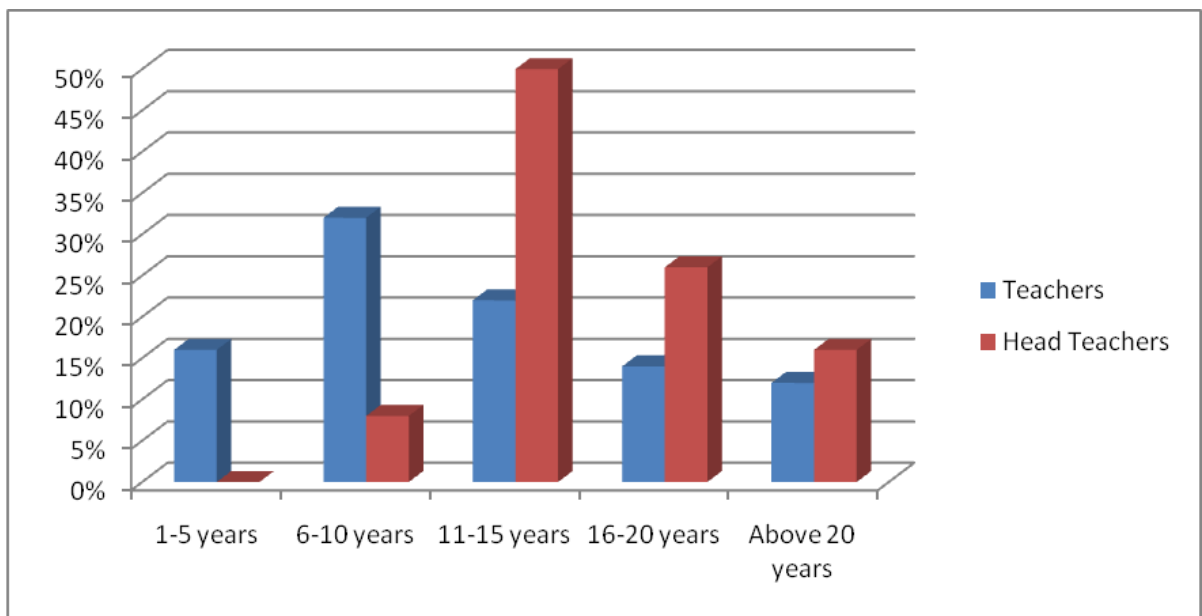
Academic qualification	Teachers		Head Teachers	
	f	%	f	%
Diploma	4	8	-	-
Graduate	37	74	10	84
Masters	9	18	2	16
Total	50	100	12	100

Table 4.2 shows the level of education for teachers and head teachers. According to the information presented, all the head teachers had attained degree and above level of education. As for the teachers, 8% were holders of diploma, 74 % were graduates and 18% had master degree.

Lukuyani (2004) on factors contributing to job satisfaction among secondary school teachers in Turkana district revealed a significant correlation between job satisfaction, teaching experience and professional qualifications. He noted that teachers with higher education such as those with masters' degree and above left teaching for better paying jobs. According to Akiri and Ugborugbo (2009), attainments beyond Bachelors degree

tend to lead to a mismatch between teachers expectations and professional realities. Teachers tend to improve their knowledge through higher educational attainment hoping that their efforts would be recognized by their employers through promotion and appointment to posts of responsibilities like principal ship. However, they are not recognized after their career attainment leading to dissatisfaction in the job. This dissatisfaction makes these teachers to move out of the teaching profession whenever chances occur.

The researcher sought to establish the teaching experience of the teachers and head teachers. The respondents were asked to indicate the number of years they have been in the teaching profession. The responses were tabulated as shown in Figure 4.2.



**Figure 4.2 Teaching Experiences of Teachers and Head Teachers**

Information regarding working experience of teachers and head teachers is shown in figure 4.2.

The majority of teachers (45%) indicated that they have worked for 6-10 years and below. Only (26 %) of teachers said they have worked for more than 16 years. On the other hand, majority of head teachers (50%) indicated that they have worked for 11-15 years. Six Head Teachers (16 %) comprised of those who have worked for over 20 years. This information shows that majority of the teachers and head teachers had worked for over 5 years and therefore were experienced. Akiri and Ugborugbo(2009) noted that teachers' years of experience are significantly negatively related to teacher's career satisfaction. This was attributed to the fact that the longer one works, the higher the financial responsibilities expectations of friends and family members. Their study also noted that the highly qualified teacher in Nigeria is the least satisfied. The researcher also sought to gather information concerning the age of teachers and head teachers. Information concerning the ages of Teachers and Head Teachers is shown in Table 4.3.

**Table 4.3 Ages of Teachers and Head Teachers**

Age	Teachers		Head Teachers	
	f	%	f	%
Below 30 years	1	2	-	-
30-35 years	6	12	-	-
36-40 years	13	26	1	9
41-45 years	21	42	4	33
46-50 years	9	18	7	58
<b>Total</b>	<b>50</b>	<b>100</b>	<b>12</b>	<b>100</b>

Table 4.3 shows that majority of teachers (42 %) were aged between 41 and 45 years of age. In addition, the table also shows that majority of head teachers (58 %) were aged between 46 and 50 years of age. The Kenyan government has been recruiting few teachers each year in the secondary school sector due to economic constrains. Hence few teachers join the profession immediately after finishing college. The implication of this is that majority of the respondents (60%) and (91%) of teachers and head teachers respectively in secondary schools were 41 years of age and above. However some studies done have established that though teachers' years of experience are significantly negatively related to teachers' career satisfaction (Akiri and Ugborugbo, 2009), majority of those teachers who are leaving the profession are usually the young (Oyaro, 2011).

#### **4.3 The Level of Job Satisfaction of the Science Teachers Based on Factors Related to Work and Working Conditions**

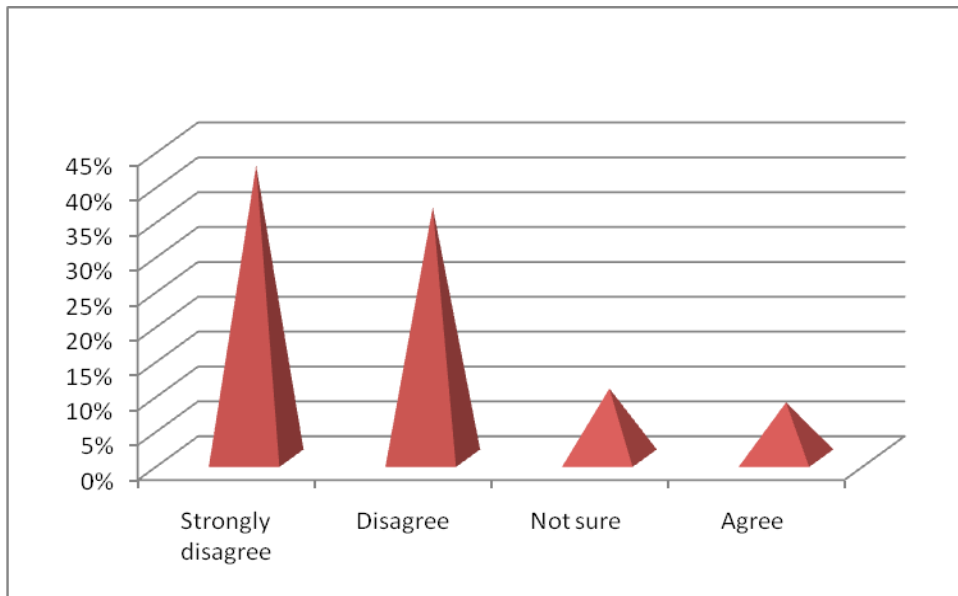
The researcher sought information on the level of job satisfaction of the science teachers based on factors related to work and working conditions. Data regarding this information was drawn from the sample population that comprised of teachers and head teachers. Even though the study sampled 56 teachers and 14 head teachers, only 50 teachers and 12 head teachers responded to the instruments, comprising 89.3% and 85.7% of the samples respectively. First the research question sought information from teachers whether they would leave teaching if they acquired another job. This data is presented in table 4.4.

**Table 4.4 Views of Teachers on Intention to Leave the Profession**

<b>Responses</b>	<b>f</b>	<b>%</b>
Yes	41	82
No	9	18
<b>Total</b>	<b>50</b>	<b>100</b>

According to Table 4.4, majority of teachers (82%) felt that they would leave teaching if given an opportunity to serve other departments within the formal sector. However, only 18% of teachers indicated that they would not leave teaching. This could imply that majority of teachers are dissatisfied with teaching profession. The issue of poor pay in the teaching profession as noted later in this study is one of the major factors which explain this. These findings concur with Karen and Myers (2005) who argued that one of the major reasons for teachers exit from the profession is lack of job satisfaction and poor remuneration. Njoka (2002) in her study on factors that caused dissatisfaction among HODs in Embu District ranked the issue of poor pay as being the most important job factor towards motivation and job satisfaction of HODs. While attrition could be described as leaving the workforce for any number of reasons (e.g., retirement, moving to a new location, contract not renewed), those in education often link attrition to teachers who are leaving the work force in their first five years for greener pastures (Ingersoll ,2001).

Further, when asked if they were satisfied with teaching, majority of teachers (78%) indicated that they were not. This information is presented in Figure 4.3.



**Figure 4.3 Teachers' Responses on Job Satisfaction**

Figure 4.3 reveals that only 12% of teachers were satisfied with teaching, further confirming that teaching is unpopular among science teachers. This may impact negatively on teacher's productivity. Umme (1999) concurs with this view and argues that a dissatisfied teacher can become irritable and may create tensions which can have negative influence on the students' learning process and it consequently affects their academic growth.

The study sought information from science teachers on the level of job importance using a Likert scale. Their views are presented in Table 4.5.

**Table 4.5. Mean Score on Job Factor Rating**

	<b>Job Factors</b>	<b>Sum</b>	<b>Mean</b>	<b>Std. Deviation</b>
1	Relation with your co-workers	193.00	3.8600	.53490
2	Salary	190.00	3.8000	.67006
3	Job security	189.00	3.7800	.67883
4	Relation with your supervisors	184.00	3.6800	.81916
5	Opportunity for promotion	184.00	3.6800	.76772
6	Relation with your subordinate	179.00	3.5800	.97080
7	Hours worked each week	168	3.36	.942
8	Location of work	164.00	3.2800	1.01096
9	Flexibility in scheduling	156.00	3.1200	1.02300
10	Amount of paid vacation	79.000	1.58000	1.051529
11	Recognition for work accomplishment	79.00	1.5800	1.03194
12	Fringe benefits	62.00	1.2400	.71600

The most important job factor in the mean rating was relation with co-workers (M=3.86, SD=.53), followed by salary (M=3.80, SD=.67), job security (M=3.78, SD=.679), relation with your supervisors (M=3.58, SD=0.81), opportunity for promotion (M=3.68, SD=0.76) and relations with your subordinates (M=3.58, SD=0.97) in that order. However, the least important factor was fringe benefits (M=1.24, SD=.71) followed by recognition for work accomplishment (M=1.05, SD=1.003), amount of paid vacation (M=3.58, SD=1.05) and flexibility in scheduling in that order. Njoka (2002) in her study on factors which caused dissatisfaction among HODs in Embu District ranked the issue of poor pay as one of the most important job factors towards motivation and job satisfaction of HODs. Kimengi (1990) also noted that low remunerations of secondary school teachers was one of the most important

factor which contributed to the poor attitudes towards their job, further noting that most teachers would want to leave the teaching profession if an opportunity arose elsewhere.

#### **4.4 The Factors Influencing Science Teachers Job Satisfaction in Public Schools**

Data were gathered from head teachers on the factors influencing science teachers' job satisfaction in public schools. The head teachers rating on the importance of job factors are summarized on table 4.6. The scale was scored by adding the circled numbers, the mean of which constituted the individual score. The higher the mean score, the more important is the job factor.

**Table 4.6. The Head Teachers Rating On the Importance of Job Factors**

<b>Ranking</b>	<b>Job Factors</b>	<b>Sum</b>	<b>Mean</b>	<b>Std. Deviation</b>
1	Job security	43.00	3.5833	.90034
2	Opportunity for promotion	42.00	3.5000	1.00000
3	Salary	37.00	3.0833	1.08362
4	Hours worked each week	36	3.00	1.206
5	Location of work	36.00	3.0000	1.12815
6	Relation with your supervisors	36.00	3.0000	.95346
7	Relation with your subordinate	35.00	2.9167	1.24011
8	Relation with your co-workers	35.00	2.9167	1.08362
9	Flexibility in scheduling	26.00	2.1667	1.26730
10	Recognition for work accomplishment	19.00	1.5833	.99620
11	Amount of paid vacation	18.000	1.50000	1.000000
12	Fringe benefits	12.00	1.0000	.00000

Job security (M=3.58, SD=.90), Opportunity for promotion (M=3.50, SD=1.00), and salary (M=3.08, SD=1.08), were rated as the most important factors affecting science teachers job satisfaction. Other factors ranked as important were hours worked each week (M=3.00, SD=1.20), location of work (M=3.0, SD=1.12), relation with your supervisors (M=3.0, SD=.95) and relation with subordinate (M=2.9, SD=1.24). Among the least important factors were recognition for work accomplishment (M=3.58,SD=0.99), the amount of paid vacation (M=1.50, SD=1.00), and fringe benefits (M=1.00, SD=.00).These findings agrees with Sergent and Hannum (2003) who noted that teachers' job satisfaction and performance is dependent on investives given to teachers. In their study, the researchers noted that in most cases, teachers' job satisfaction is due to the schools ability to provide basic necessities to its staff.

To solicit information on the factors influencing science teachers' job satisfaction, the respondents were required to rate various job factors.

The ratings on the factors influencing science teachers' job satisfaction are summarized on table 4.7. The scale was scored by adding the circled numbers, the mean of which constituted the individual score. The higher the mean score, the more important is the job factor.

**Table 4.7 Teachers Rating On the Factors Influencing Science Teachers' Job Satisfaction**

<b>Ranking</b>	<b>Job Factors</b>	<b>Sum</b>	<b>Mean</b>	<b>Std. Deviation</b>
1	Relation with your subordinate	186.00	3.7200	.60744
2	Opportunity for promotion	184.00	3.6800	.76772
3	Job security	183.00	3.6600	.79821
4	Support for additional training and education	183.00	3.6600	.68839
5	Salary	177.00	3.5400	.81341
6	Opportunity to learn new skills	177.00	3.5400	.99406
7	Location of work	166.00	3.3200	.84370
8	Relation with your co-workers	166.00	3.3200	.91339
9	Opportunity to utilize skills and talents	165.00	3.3000	1.07381
10	Degree of independence associated with work	165.00	3.3000	1.05463
11	Hours worked each week	161	3.22	.932
12	Relation with your supervisors	153.00	3.0600	.97750
13	Adequate opportunity for changes in duties	120.00	2.4000	1.03016
14	Fringe benefits	84.00	1.6800	1.11465
15	Flexibility in scheduling	81.00	1.6200	.87808
16	Variety of job responsibility	74.00	1.4800	.97395
17	Amount of paid vacation	72.000	1.4400 0	.786623
18	Recognition for work accomplishment	70.00	1.4000	.85714

On the mean ratings the most important factors contributing to science teachers' job satisfaction were; relation with your subordinate (M=3.72, SD=.60), opportunity for

promotion (M=3.58, SD=.78), and Job security (M=3.66, SD=.76) in that order of importance. Other factors that rated highly were support for additional training and education (M=3.66, SD=.688), salary (M=3.54, SD=.813), opportunity to learn new skills (M=3.54, SD=.994) and location of work place (M=3.32, SD=.843). Amount of paid vacation (M=1.44, SD=.786), and recognition for work accomplishment (M=1.40, SD=.85) were rated among the least important.

This study gathered information from head teachers on the factors that lead to job dissatisfaction among the science teachers. These findings are presented in table 4.8.

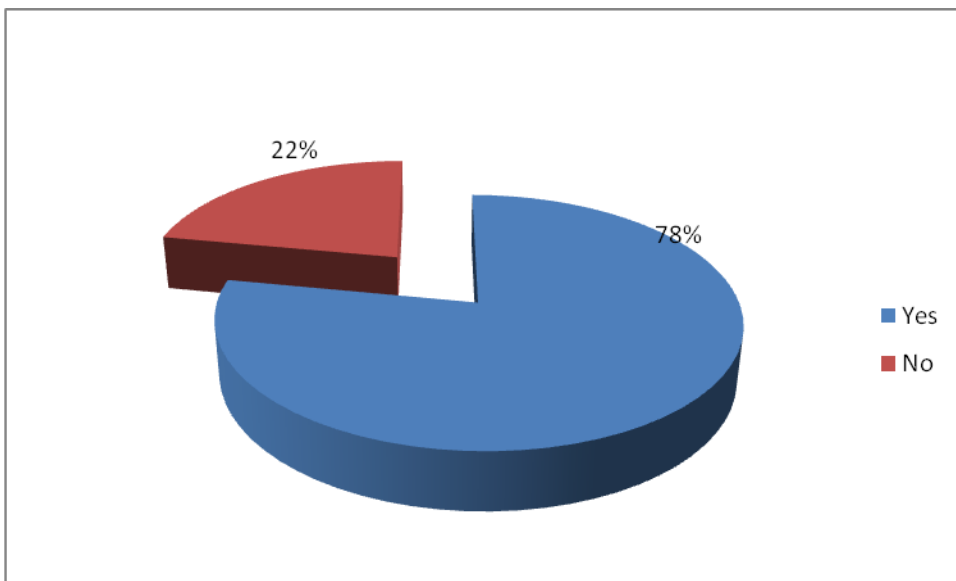
**Table 4.8 Opinion of Head Teachers on the Factors that Lead to Job Dissatisfaction**

<b>Job Factors</b>	<b>f</b>	<b>%</b>
Low pay	8	66
Government policy on scheme of service	6	50
Poor working conditions	7	58
Job stagnation	6	50
Lack of incentives	2	17
Job location	5	42
Lack of career development	7	58
Conflicts among the teachers	11	91

According to Table 4.8, there are many factors responsible for job dissatisfaction among science teachers. Majority of head teachers (91%) felt that, conflicts among science teachers created disharmony and hence job dissatisfaction among the science

teachers. This view contrast with the results of the Lukuyani (2004) study which reported that secondary school teachers were generally dissatisfied with their salaries but were satisfied with interpersonal relations between their fellow teachers. Possible reason for the difference in finding may be due to the fact that the respondents in this particular question were school principals whose views may vary with those of teachers. Other major reasons contributing to job dissatisfaction among the teachers are: Low pay (66%), Poor working conditions (58%), Lack of career development (58%), and Job stagnation (50%). However, factors such as job location, and lack of incentives played minimal role.

Asked whether or not they were satisfied with their colleagues' interpersonal relationships; teachers' responses were as presented in Figure 4.4.



**Figure 4.4 Views of Teachers on Satisfaction with Colleagues' Interpersonal Relationship**

Figure 4.4 shows that majority of teachers (78%) were satisfied with colleagues' interpersonal relationships. However, 22% were not satisfied. A comparison between science teachers' views and that of the head teachers on the influence of conflicts among science teachers on job satisfaction shows different opinions. Whereas the head teachers felt that it is a major contributor in job dissatisfaction among science teachers (91%), teachers indicated that they were mostly satisfied with their colleagues' interpersonal relationship (78%). Teachers view was in agreement with Lukuyani(2004) findings that secondary school teachers were generally dissatisfied with their salaries but were satisfied with their interpersonal relations between their fellow teachers. Evans (1998) notes that job satisfaction is one of the individuals' needs fulfillments and that overall job satisfaction vary directly with the extent to which the needs of an individual including good interpersonal relations can be satisfied. Good interpersonal relations enhances teamwork in an organization hence ensures good results which may contribute to job satisfaction among workers.

The respondents were also requested to state the level of importance on factors influencing job satisfaction of science teachers.

The questionnaire contained the Likert Rating (L.R) scale where the respondent was instructed to circle the number which best represented his /her feelings about each statement in the L.R .The scale was scored by adding the circled numbers , the mean of which constituted the individual score. The higher the mean score, the more important is the job factor. The data are presented in table 4.9

**Table 4.9 Rating on Views of Teachers on the Level of Job Satisfaction**

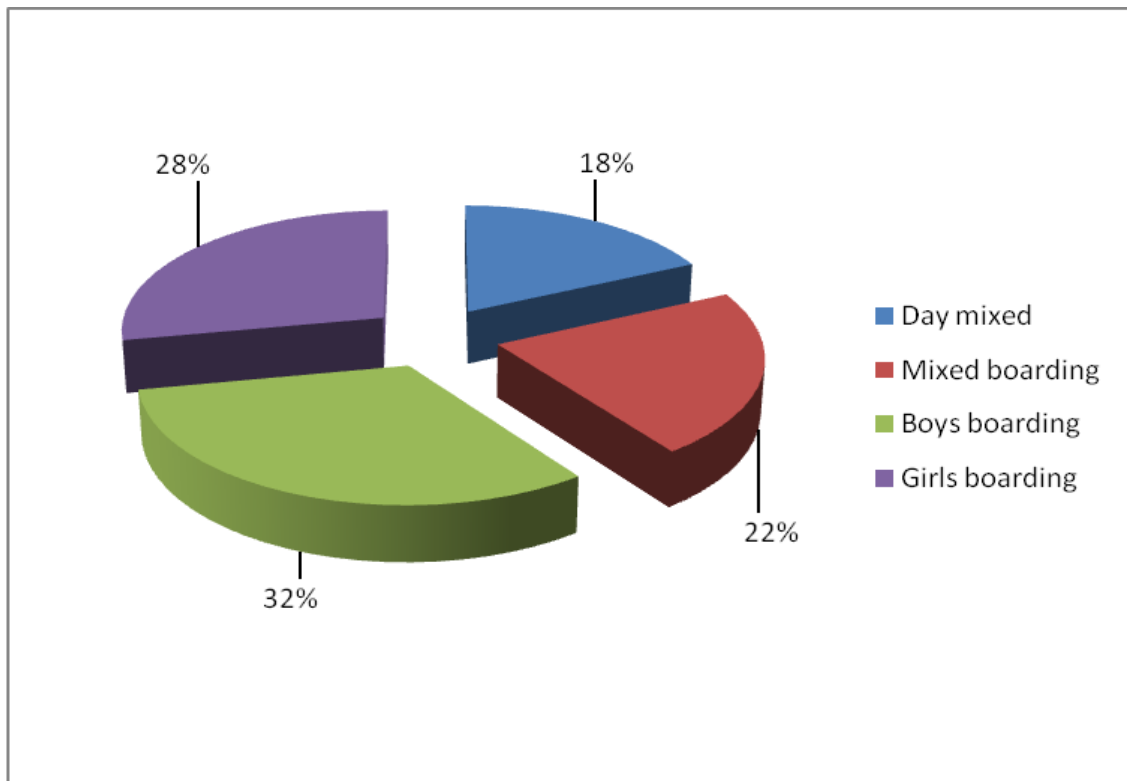
<b>Ranking</b>	<b>Job Factors</b>	<b>Sum</b>	<b>Mean</b>	<b>Std. Deviation</b>
1	Physiological needs	183.00	3.78	.50761
2	job security	182.00	3.02	.96724
3	Respect for others	176.00	2.68	.79821
4	Self-esteem	175.00	2.48	.68329
5	responsibility	173.00	2.44	.81341
6	Safety and security	166.00	2.12	.99411
7	Availability of facilities	152.00	1.96	.84370
8	Availability of equipments	152.00	1.96	.91310
9	Work conditions	151.00	1.92	1.17071
10	promotions	150.00	1.84	1.3542
11	Decision making	146.00	1.66	.932
12	status	121.00	1.2	.97750
13	Attainment (self- actualization)	120.00	1.12	1.0305
14	salary	111.00	1	1.11454

On the mean rating, physiological needs ( $M=3.58$ ,  $SD=.507$ ), job security ( $M=3.20$ ,  $SD=.967$ ), respect for others ( $M=2.68$ ,  $SD=.798$ ), responsibility ( $M=2.44$ ,  $SD=.813$ ) were ranked highest as some of the job factors science teachers were satisfied with. However among the factors which the science teachers were least satisfied with included, promotions ( $M=1.84$ ,  $SD=1.35$ ), decision making ( $M=1.66$ ,  $SD=.93$ ), status

( $M=1.2, SD=.977$ ), self-actualization ( $M=1.12, SD=1.03$ ) and salary ( $M=1, SD=1.14$ ) which ranked the lowest.

#### 4.5 The Importance of Work Environment/School Factors on Job Satisfaction of Science Teachers in Public Schools of Murang'a East District

The respondents were also asked to indicate the category of school taught. The responses to the question were presented in Figure 4.5.



**Figure 4.5 Category of School Teachers Taught**

Figure 4.5 shows the varying category of schools taught by science teachers. It is evident from the Figure that majority of teachers (82%) were teaching in boarding

schools. However, 18% of teachers taught in day schools. Majority of the teachers who taught in boys and girls boarding schools indicated that they were dissatisfied with teaching profession.. This may be due to the fact that teachers in boarding secondary schools have more responsibilities than those in day secondary schools. They interpret these responsibilities as overwork hence dissatisfaction .Njoka (2002) in her study found out that a greater percentage of HODs in District Boarding Schools was satisfied than in Provincial Boarding Schools. This she contends suggested that there were possibly more challenges in provincial Boarding Schools that contributed to job dissatisfaction than in District boarding ones. Rodes (2004) observe that job satisfaction involves liking for the work and acceptance of the pressures connected with that work. He contends that, job satisfaction can be conceptualized as a personality evaluation of conditions existing on the job.

The environment in which work is done is an important factor in enhancing job satisfaction among such workers. This prompted the researcher to gather information on the views of teachers and head teachers on the relationship of the work environment on teachers' job satisfaction. Data on Views of Head Teachers were presented in table 4.10.

**Table 4.10 Views of Head Teachers on the Importance of the Work Environment factors on Job Satisfaction**

Statements	EI		I		LI		NI	
	f	%	f	%	f	%	f	%
<b>Work Relationships</b>								
Relations with your co-workers	4	33	5	42	1	8	2	17
Relations with your supervisor/s	4	33	5	42	2	17	1	8
Relations with your subordinates	6	50	1	8	3	25	2	17
<b>Use of Skills And Abilities</b>								
Opportunity to utilize skills and talents	4	33	5	42	1	8	2	17
Opportunity to learn new skills	3	25	6	50	2	17	1	8
Support for additional training and education	6	50	3	25	1	8	2	17
<b>Work Activities</b>								
Variety of job responsibilities	4	33	5	42	1	8	2	17
Degree of independence associated with work	5	42	4	33	2	17	1	8
Adequate opportunities for changes in duties	3	25	1	8	6	50	2	17

**Key**

**EI - extremely important    I- Important    LI- less important    NI-not important**

Majority of head teachers (75%) suggested for an environment where teachers and their co-workers can co-exist cordially. Head teachers also felt that work environment where teachers relate well with their supervisors and their subordinates is important. Head teachers also felt that teachers should work in environments that allow teachers opportunity to utilize skills, talents, learn new skills and have support for additional training and education.

Other environmental factors which influence job satisfaction according to the head teachers are variety of job responsibilities (75%), degree of independence associated with work (75%). However, majority of head teachers (67%) said adequate opportunities for changes in duties were extremely not important.

The head teachers mean rating on the importance of the work environment factors on job satisfaction of the science teachers are summarized on table 4.11

**Table 4.11 Mean Rating on Views of Head Teachers on the Importance of Work Environment Factors on Job Satisfaction**

Ranking	Job Factors	Sum	Mean	Std. Deviation
1	Relations with supervisors	39	3.250	0.9369
2	Relation with your subordinate	37	3.083	1.1128
3	Opportunity to utilize skills and talents	36	3.000	0.8912
4	Opportunity to learn new skills	35	2.916	1.3140
5	Relations with your co-worker	35	2.916	0.8695
6	Support for additional training & education	34	2.833	0.9249
7	Variety of job responsibilities	33	2.750	0.8432
8	Degree of independence associated with work	31	2.583	0.9147
9	Adequate opportunities for change	29	2.416	1.1129

On the mean rating the most important environment factor influencing job satisfaction of science teachers according to the head teachers was relation with the supervisors (M=3.25,SD=.936). Other factors which were ranked as important includes, relations

with your subordinate (M=3.08,SD=1.11), opportunity to utilize skills (M=3.00,SD=.891),opportunity to learn new skills and talents (M=2.91,SD=1.314) and relations with your co-worker (M=2.91,SD=.869). The degree of independence associated with work (M=2.58,SD=.914) and adequate opportunities for changes in duties were ranked as the least important factors.

On the importance of work environment factors on job satisfaction, the science teachers were asked to give the opinion. Their responses were presented in table 4.16

**Table 4.12 Views of Teachers on the Importance of the Work Environment factors on Job Satisfaction**

Statements	EI		I		LI		NI	
	f	%	f	%	f	%	F	%
<b>Work Relationships</b>								
Relations with your co-workers	27	54	16	32	5	10	2	4
Relations with your supervisor/s	19	38	21	42	4	8	6	12
Relations with your subordinates	39	78	9	18	1	2	1	2
<b>Use of Skills And Abilities</b>								
Opportunity to utilize skills and talents	32	64	7	14	5	10	6	12
Opportunity to learn new skills	40	80	2	2	3	6	5	10
Support for additional training and education	38	76	8	18	3	6	1	2
<b>Work Activities</b>								
Variety of job responsibilities	4	8	5	10	2	2	39	78
Degree of independence associated with work	32	64	6	12	7	14	5	10
Adequate opportunities for changes in duties	11	22	7	14	23	46	9	18

According to Table 4.12, majority of teachers concurred with the head teachers' views on the influence of the environment on job satisfaction. On work relationship, majority of the science teachers(96%)cited relationship with your subordinate as the most important factor followed by relationship with your co-worker (86%) and relations with your supervisors (80%).On the use of skills and abilities majority of science teachers(80%) felt that opportunity to learn new skills was extremely important followed by support for additional training and education (76%).These findings are in agreement with Lewin et al (2001) who observed that teachers are rarely satisfied in areas where there is lack of professional development opportunities; little mobility to better positions; inadequate professional support and supervision; unprofessional treatment of teachers; and lack of incentives systems to stimulate and motivate teachers to remain in the teaching field. However, there were conflicting opinions on the variety of job responsibilities. Unlike the head teachers who said that the variety of job responsibilities was extremely important, majority of teachers (80 %) said that it was not important.

The teachers mean rating on the importance of work environment factors on job satisfaction are summarized on table 4.13. The scale was scored by adding the circled numbers, the mean of which constituted the individual score. The higher the mean score, the more important is the job factor.

**Table 4.13 The Mean Rating on Teachers Views on the Importance of the Work Environment Factors on Job Satisfaction**

Ranking	Job Factors	Sum	Mean	Std. Deviation
1	Relationship with your subordinate	188	3.72	.9684
2	Support for additional training & education	186	3.66	.8912
3	Opportunity to learn new skills	175	3.54	1.201
4	Relations with co-worker	167	3.36	1.2314
5	Opportunity to utilize skills & talent	166	3.3	.8695
6	Degree of independence associated with work	166	3.3	.92497
7	Relationship with your supervisor	152	3.06	.84321
8	Variety of job responsibility	121	2.4	.91788
9	Variety of in dependence associated with work	75	1.48	1.223

On the mean rating, relationship with subordinate ( $M=3.72$ ,  $SD=.968$ ) was ranked as one of the most important factors on job satisfaction. Other factors which ranked highly were support from additional training and education ( $M=3.66$ ,  $SD=.891$ ), opportunity to learn new skills ( $M=3.54$ ,  $SD=1.20$ ) and relations with co-workers ( $M=3.36$ ,  $SD=1.23$ ). Among the factors which ranked the lowest were, degree of independence associated with work ( $M=3.30$ ,  $SD=.924$ ), relationship with your supervisor ( $M=3.00$ ,  $SD=.842$ ), variety of job responsibilities ( $M=2.40$ ,  $SD=.917$ ) and variety of independence associated with work ( $M=1.48$ ,  $SD=1.23$ ) which was ranked last.

To be able to understand the relationship between teachers and their supervisors, the researcher sought information from teachers on how well they relate with their respective head teachers.

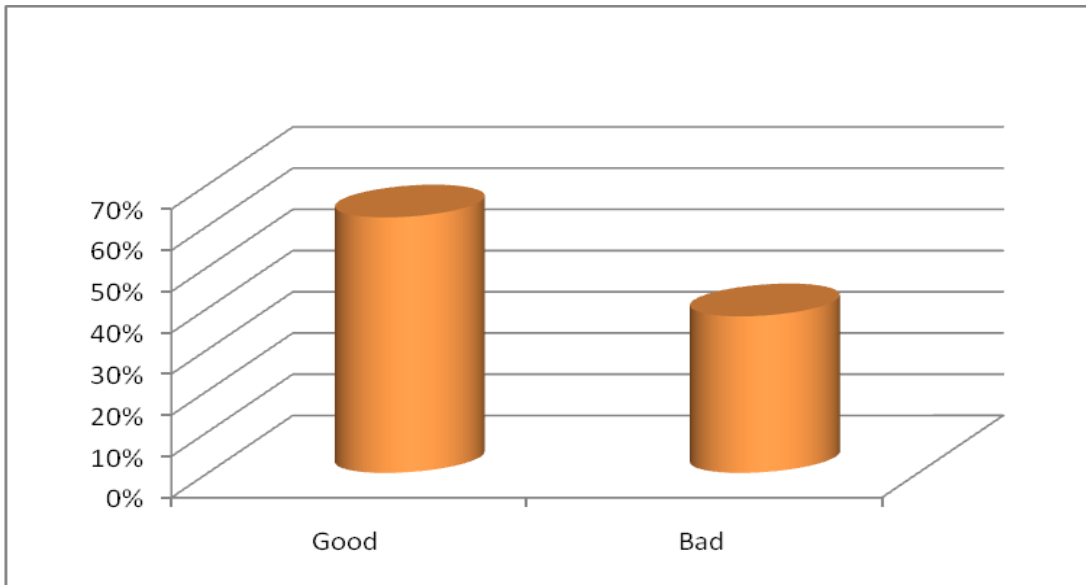
The data were presented in table 4.14.

**Table 4.14 Views of Teachers on the Good Relationship with Supervisors**

<b>Responses</b>	<b>F</b>	<b>%</b>
Strongly Disagree	21	42
Disagree	7	14
Not sure	11	22
Agree	9	18
Strongly agree	2	4
<b>Total</b>	<b>50</b>	<b>100</b>

Majority of teachers (56%) disagreed with the assertion that teachers always related well with their supervisors. Teachers felt that constant work conflicts observed between teachers and their supervisors bruised the rather cordial relationship expected in any organization. Often teachers seek transfers from their working stations due to poor relations with their superiors. Lack of cordial relationship between teachers and their superiors undermines the spirit of teamwork and consequently leads to job dissatisfaction among the science teachers. In the US, there are significant effects of school characteristics and organizational conditions on teacher turnover (Ingersoll, 2001). On the other hand, 22% of teachers felt that they related well with the head teachers. According to Rao and Sridha (2003) people engaged in the work which is not satisfying in itself naturally look for satisfaction from sources external to it. Thus, job satisfaction does promote happiness, success and efficiency in one's professional activity.

On whether teachers related well with their colleagues, majority of teachers (62%) indicated that their relationship has been good. This information is presented in Figure 4.6.



**Figure 4.6 Views of Teachers on Relationship with Fellow Teachers**

Figure 4.6 shows that whereas majority of the science teachers (62%) related well with their fellow teachers, 38% of teachers did not. This implies that though most of science teachers related well with their fellow teachers, there were some conflicts among some of them. The findings were in line with that of Lukuyani (2004) in his study in Turkana district that most secondary schools teachers were generally satisfied with their interpersonal relations between their fellow teachers. The implication of this harmony would be enhanced team spirit and a sense of belonging which boost job satisfaction.

The study sought information from teachers on whether the general school environment motivated science teachers to work. The results of findings are presented in table 4.15.

**Table 4.15 Teachers' Responses on Schools' Environmental Motivation**

<b>Responses</b>	<b>F</b>	<b>%</b>
No	36	72
Yes	14	28
<b>Total</b>	<b>50</b>	<b>100</b>

The results presented in Table 4.15 shows that majority of teacher (72%) were not satisfied with the schools environment. Many teachers complained that staffrooms were rarely washed and they were congested. In addition, the classrooms were also too congested. Most secondary schools in the rural areas lack adequate and decent infrastructure i.e clean washrooms, good staff houses, spacious classrooms etc. These facilities are supposed to be put up by the parent/community served by the school hence poor rural areas get disadvantaged. These findings are in agreement with Sargent (2003) study in China which underscored the challenge that impoverished rural communities face as they seek to retain teachers, and especially well educated teachers. Teachers get demotivated and dissatisfied when working in uncondusive environment. Those teachers who indicated that they were satisfied (28%) with the school environment attributed it to the general schools' improved infrastructure.

Teachers were asked to suggest reforms which could be undertaken in schools so as to get them satisfied in their work. This information was presented in table 4.16.

**Table 4.16. Views of Teachers on Reforms on Schools.**

<b>Responses</b>	<b>F</b>	<b>%</b>
Motivation through rewards	46	92
Salary increase	50	100
Enhance working conditions	25	50
Promotions	50	100
Career development	33	66

Teachers suggested a set of varying reforms necessary to improve work environment in schools.

All the teachers (100%) engaged in the study felt that there was an urgent need to review the salary of teachers so as to mitigate the harmful effects of the current inflation. In addition, all teachers (100%) complained about the slow pace the Ministry of Education has followed before one is promoted substantially to next grade. Other reforms suggested were; enhancing reward system (92%, improvement on career development (66%) and working conditions (50%).

#### **4.5.1 Availability and Adequacy of School Science Facilities and Materials**

To understand better the school science facilities and materials, the current study formulated an observation schedule to capture the availability and adequacy of these facilities. This information is presented in Table 4.17.

**Table 4. 17 School Science Facilities and Materials**

Facilities/Equipments	Not Available		Adequate		Not Adequate	
	F	%	f	%	F	%
Apparatus	-	-	7	58	5	42
Furniture	-	-	9	75	3	25
Chemical and Specimens	-	-	6	50	6	50
Text books	-	-	12	100	-	-
Teaching charts	-	-	7	58	5	42
Functional prep room	2	16	6	50	6	60
Piped water	8	66	5	42	7	50
Heating means e.g. gas	5	42	4	33	8	67
Gas/fume chamber	2	16	3	25	9	75
Laboratory attire	4	33	4	33	8	67

Information from the observation schedule showed that there were some schools without certain essential science materials and facilities. Table 4.17, indicates these as: piped water (66%), heating means e.g. gas (42%), and laboratory attire (33%). Except for text books which were termed as adequate in all the schools, all other facilities though available were not adequate in all the schools sampled for the study i.e Gas /fume chamber were inadequate in Seventy five percent (75%) of the schools, followed by Heating means e.g gas (67%), Laboratory attire (67%), functional prep room (60% and piped water (50%). It was also interesting to note that although gas/fume chambers were available in 82% of the schools, only in three schools were they functional. In a majority of the schools, fume chambers were used as stores where books and other teaching /learning resources were stored. Teachers cannot work

adequately and efficiently without adequate facilities. This is especially so in science subjects where frequent exposure of the student to practical is expected. Inadequate facilities lead to poor performance by students. This frustrates and demotivates teachers leading to dissatisfaction in their work.

#### **4.6 The Desired Changes Required by Science Teachers to Help Them Be Satisfied With Their Jobs**

The researcher sought suggestions from head teachers and teachers on ways necessary to enhance teachers' job satisfaction with teaching profession. These findings are presented in table 4.18.

**Table 4.18 Head Teachers' and Teachers' Suggestions for Enhancing job satisfaction of Science teachers.**

<b>Suggestions</b>	<b>No. of Head Teachers</b>		<b>No. of Teachers</b>	
	<b>f</b>	<b>%</b>	<b>F</b>	<b>%</b>
Improved working conditions	12	100	45	90
Salary increase	8	67	50	100
Enhanced Career development	8	67	35	70
Motivation through rewards	7	58	31	62
Reward with Promotions	9	75	39	78
Allowed to undertake study leaves	3	25	21	42
Enhance conflict resolutions mechanisms	12	100	26	52

Table 4.18 shows the teachers' and head teachers' views on changes necessary to enhance teachers' satisfaction with teaching profession. It is important to ensure that science teachers are satisfied in their work. This would translate into good performance by the students. Krishnan and Singh (2010) in their study noted that job satisfaction has a rather tenuous correlation to productivity on the job. They further asserted that job satisfaction and performance are directly related to one another. According to the majority of teachers and all the head teachers, improved conditions of service are necessary to enhance the teachers' satisfaction on the teaching career. Such conditions as indicated by teachers include optimal teaching loads and motivation through rewards. According to (Donna, 1994) employees want to be recognized – wherever they are – with rewards as unique as they are in one convenient solution. Everyone wants to be recognized for their hard work, loyalty or special achievements. Other changes necessary to enhance satisfaction of science teachers in their order of importance include: salary increase, reward with promotions, enhanced career development, access to study leaves and enhancing conflict resolutions mechanisms.

## **CHAPTER FIVE**

### **SUMMARY, CONCLUSION AND RECOMMENDATIONS**

#### **5.1 Introduction**

The purpose of this study was to assess job satisfaction of science teachers in public secondary schools in Murang'a East District, Murang'a County, Kenya.

#### **5.2 Summary of the Research Findings**

The study was guided by seven research objectives as follows:

##### **Specific Objectives**

- i. To find out the distinguishing factors on Job satisfaction among science teachers based on their demographic variables (gender, marital status and work experience)
- ii. To determine the level of job satisfaction of the science teachers in Murang'a East District based on factors related to work.
- iii. To identify factors that influence science teacher's job satisfaction in public schools of Murang'a East District.
- iv. To find out the effect of work environment /school factors on job satisfaction of science teachers in public schools of Murang'a East District
- v. To assess desired changes required by science teachers to help them be satisfied with their job.
- vi. The respondents constituted science teachers in public secondary schools and their principals. A sample of 14 schools and 70 respondents were included in

the study. Respondents included 56 science teachers and 14 principals. The study adopted a descriptive survey design. Two sets of questionnaires (one for science teachers and another for principals) and an observation schedule were used to collect data. Data collected was analyzed by use of descriptive or inferential statistics especially the measure of central tendency (mean and standard deviation). The findings were presented using tables, charts and graphs with explanations.

- vii. The researcher used SPSS Version 17.5 to summarize the quantitative data into frequencies and means that were used to answer research questions. Following the results from the analysis of data in chapter four, this chapter will present a summary of the findings, conclusions and recommendations on job satisfaction of science teachers in public secondary schools in Kenya.

### **5.2.1 The Distinguishing Factors on Job Satisfaction among Science Teachers Based on Demographic Variables (Gender, Marital Status, Work Experience and Age**

The study showed that majority of teachers were aged between 41 and 45 years of age. In addition, the findings also showed that majority of head teachers were aged between 46 and 50 years of age.

### **5.2.2 The Level of Job Satisfaction of the Science Teachers Based on Factors Related to Work and Working Conditions**

The study revealed that majority of teachers would leave teaching if given an opportunity; while only a minority indicated that they would not. Similarly majority of teachers felt that hours worked per week was an extremely important aspect of working condition. Another important aspect of working condition as indicated by majority of teachers was the location of work from the teachers' homes. However, amount of paid vacation/sick leave offered was rated by teachers as not being important. Views of teachers on salary, opportunities for promotion, and job security were said to be extremely important. However, teachers felt that fringe benefits e.g. health insurance and life insurance and recognition for work accomplishment were not important.

### **5.2.3 The Factors Influencing Science Teachers Job Satisfaction in Public Schools**

The current study indicated that a majority of head teachers felt that hour worked each week was a factor influencing science teachers' job satisfaction. The proximity to the teachers' work places also influenced teachers' satisfaction in their jobs as attested by the majority of head teachers.

All the head teachers indicated that fringe benefits-health insurance, life insurance were not important factors in science teachers' job satisfaction. However, head teachers felt that salary, opportunities for promotion, and job security, influenced the

satisfaction in their job. According to teachers, there are many factors which had a very strong influence on science teachers' job satisfaction. These factors influencing on science teachers' job satisfaction according to teachers are: hours worked each week, location of work, salary, opportunities for promotion, job security, relations with your co-workers, relations with your supervisor/s, opportunity to learn new skills, relations with your co-workers, opportunity to utilize skills and talents, support for additional training and education and degree of independence associated with work. On the reasons responsible the teachers' job dissatisfaction, majority of head teachers felt that conflicts among teacher created disharmony and hence job dissatisfaction among them. Other major reasons contributing to job dissatisfaction among the teachers are: low pay, poor working conditions, lack of career development and job stagnation in that order of importance. However, factors such as job location, and lack of incentives played minimal role. Majority of teachers were satisfied with physiological needs such as food, clothing and shelter. Seventy percent of teachers felt that teachers were not satisfied with their safety and security while in their respective schools. In addition, majority of teachers were satisfied with the following attributes; respect for others and self esteem. However, all of teachers were of the opinion that they were not satisfied with the salary and the scheme of service. Other attributes that teachers were not satisfied with are: availability of facilities, availability of equipments, promotions, decision-making, status and actualization.

#### **5.2.4 The Importance of Work Environment/School Factors on Job Satisfaction of Science Teachers in Public Schools of Murang'a East District**

The results of findings show that majority of teachers were teaching in boarding schools while the rest taught in day schools. Majority of the teachers who indicated that they were dissatisfied with teaching profession were mainly those from boys and girls boarding schools.

Majority of head teachers and teachers suggested for an environment where teachers and their co-workers can co-exist cordially. Other work environment/school factors that should enhance job satisfaction according to the head teachers and teachers are; variety of job responsibilities, degree of independence associated with work and opportunity for additional training and education. However, majority of head teachers and teachers said adequate opportunities for changes in duties were extremely not important. Majority of teachers disagreed with the assertion that teachers always related well with their supervisors. On the other hand, minority of the teachers felt that they related well with the head teachers. On whether teachers related well with their colleagues, majority of teachers indicated that their relationship has been good. The study further shows that majority of teachers were not satisfied with the schools environment. Most staffrooms had poor furniture and were congested. In addition, the classrooms were poorly maintained and also too congested. Staff washing rooms were also either inadequate or their state wanting.

All the teachers engaged in the study felt that there was an urgent need to review the salary of teachers so as to mitigate the harmful effects of the current inflation. Other reforms suggested were; enhancing reward system, improving working conditions and bettering career development.

#### **5.2.4.1 Observation Schedule for School Science Facilities and Materials**

The following facilities were not available in some schools: heating means e.g. gas, piped water, functional prep room, gas/fume chamber and laboratory attire. And except for text books which were termed as adequate in all the schools, all other facilities though available were not adequate in all the schools sampled for the study. The author noted that although gas/fume chambers were available in the majority of the schools, only in three schools were they functional. In a majority of the schools, fume chambers were used as stores where books and other teaching /learning resources were stored.

#### **5.2.5 The Desired Changes Required by Science Teachers to Help Them Be Satisfied With Their Jobs**

According to the majority of teachers and all the head teachers, improved conditions of service are necessary to enhance the teachers' satisfaction on the teaching career. Lastly other changes necessary to enhance satisfaction of science include: salary increase, enhanced career development, motivation through rewards, reward with promotions, opportunity to undertake study leaves and enhanced conflict resolutions mechanisms.

### **5.3 Conclusion**

Based on the results of these research findings, the following conclusions have been made:

Majority of science teachers are not satisfied with teaching profession and would leave teaching if given an opportunity.

The factors influencing science teachers' job satisfaction according to teachers are: hours worked each week, location of work, salary, opportunities for promotion, job security, relations with co-workers, relations with supervisor/s, opportunity to learn new skills, relations with co-workers, opportunity to utilize skills and talents, support for additional training and education and degree of independence associated with work.

Reasons responsible for the teachers' dissatisfaction are: conflicts between teachers and head teachers, low pay, poor working conditions and lack of career development. Job location and lack of incentives played minimal role and are not important factors that influence teachers' satisfaction.

The demographic variables such as age, academic and teaching experience have an effect on teachers' job satisfaction. Work environment /school factors influenced the satisfaction of science teachers in the teaching profession. Teachers preferred working in conducive environments.

Majority of the teachers who indicated they were dissatisfied with teaching profession were mainly those from boys and girls boarding schools. There was mobility of teachers leaving teaching profession to other more lucrative fields.

Teachers left teaching profession due to low pay, poor working conditions, lack of self actualization and to pursue further studies.

#### **5.4 Study Recommendations**

Based on the study findings, the researcher made the following recommendations based on the study objectives and questions:

- i. The MOE should improve pay and work environment of the teaching profession so as to attract and retain science teachers in the classroom.
- ii. There is need for MOE to facilitate and open up more avenues through which teachers would be able to pursue further education. More teachers should be allowed to pursue further studies while still under T.S.C payroll
- iii. Secondary school principal should be trained in professional's skills in management in order to be able to resolve conflicts between the school management and teachers. This would enhance harmony and contribute to job satisfaction among the science teachers.

## **5.5 Suggestions for further research**

The researcher suggested further studies to be conducted in the following areas:

- i. A more comprehensive study could be conducted on factors influencing job satisfaction of science teachers. The locale of this study was based on one district; a study covering a wider locale such as county or the entire country with a larger sample would be welcome. This would help to draw more conclusive findings.
- ii. The influence of factors not considered in this study, such as career choice before joining teaching profession could be investigated.
- iii. The study could also be replicated in establishing factors that influence job satisfaction of teachers in other disciplines such as technical subjects and languages.

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## APPENDICES

### Appendix I: Questionnaire for Teachers

I am pleased to work with you in this exercise. Please answer the following questions freely and accurately. No answer is wrong because it shows what you honestly feel. Do not write your name or the name of your school on this paper. All information will be kept secret.

#### **Section A : Personal data**

1. Age (Circle appropriately) i) below 30 ii) 30-35 iii)36-40 iv)41-45 v)46-50  
vi)above 50
2. Sex (Circle appropriately) i)male ii) female
3. Marital status (Circle appropriately) i)married ii) single iii)divorced
4. Academic qualification (Circle appropriately)
  - (i) S1 teacher
  - (ii) Diploma
  - (iii) Graduate
  - (iv) Masters
  - (v) Any other please specify
5. Which subject do you teach (Circle appropriately) i) maths ii) biology iii)  
physics iv) chemistry

**Section B: Information on school and work environment**

1. Which is your school category(Circle appropriately)
  - (i) Day mixed school
  - (ii) Mixed boarding school
  - (iii) Boys boarding school
  - (iv) Girls boarding school
  - (v) Any other specify
2. How many years have you served as a teacher? (Circle appropriately)
  - (i) 1-5
  - (ii) 6-10
  - (iii) 11-15
  - (iv) 16-20
  - (v) Above 20 years

**Section C: Job satisfaction and retention**

1. Will you leave the teaching profession if you found another job? (Circle appropriately)  
Yes      No
2. I am satisfied with my job as a teacher. State how you agree with this statement(Circle appropriately)
  - i. Disagree
  - ii. Strongly disagree
  - iii. Agree some how
  - iv. Agree
  - v. Strongly agree



<b>Needs</b>	<b>Somehow satisfied</b>	<b>Satisfied</b>	<b>Highly satisfied</b>	<b>Not satisfied</b>
Physiological needs (e.g. food, cloth, shelter, health, books e.t.c)				
Safety and security at the work place				
Sense of belonging and affection with work mates				
The feeling of respect for others				
Your self esteem				
Do you feel you have reached a point of self actualization				
Availability of facilities such as the laboratory				
Availability of equipments in the laboratory				
Salary				
Work itself				
Promotions				
Work condition				
Work itself				
Responsibility				
Recognition				
Status				
Autonomy				
Decision making				
Job security				

**RATING JOB FACTORS**

1	2	3	4
Extremely Important	Important	Less important	Not important

Using the scale shown above, rate your level of job importance with the following aspects of your job.

**GENERAL WORKING CONDITIONS**

\_\_\_\_\_ Hours worked each week

\_\_\_\_\_ Flexibility in scheduling

\_\_\_\_\_ Location of work

\_\_\_\_\_ Amount of paid vacation time/sick leave offered

**PAY AND PROMOTION POTENTIAL**

\_\_\_\_\_ Salary

\_\_\_\_\_ Opportunities for Promotion

\_\_\_\_\_ Benefits (Health insurance, life insurance, etc.)

\_\_\_\_\_ Job Security

\_\_\_\_\_ Recognition for work accomplished

**WORK RELATIONSHIPS**

\_\_\_\_\_ Relationships with your co-workers

\_\_\_\_\_ Relationship(s) with your supervisor(s)

\_\_\_\_\_ Relationships with your subordinates (if applicable)

**USE OF SKILLS AND ABILITIES**

- \_\_\_\_\_ Opportunity to utilize your skills and talents
- \_\_\_\_\_ Opportunity to learn new skills
- \_\_\_\_\_ Support for additional training and education

**WORK ACTIVITIES**

- \_\_\_\_\_ Variety of job responsibilities
- \_\_\_\_\_ Degree of independence associated with your work roles
- \_\_\_\_\_ Adequate opportunity for periodic changes in duties

In your opinion what are the reforms you feel can make you more satisfied with your job?

10. You have been able to be in the teaching profession for some time, what are some of the reasons why you have remained in the profession for this time?

(i) Have you tried to get a transfer to another station before? (Circle appropriately)

Yes                      No

(ii) if yes what happened

(iii) if no, what are your reasons of wanting to remain in the station

## **Appendix II: Questionnaire for Head teachers**

Instructions: The information given in this questionnaire will be treated as very confidential, please give your opinion as honestly and accurately as possible.

### **Demographic data**

1. Age (Circle appropriate) i) Below 3 ii) 30-35 iii) 36-40 iv) 41-45 v) 46-50 vi) Above 50
2. Sex (Circle appropriately) i) Male ii) Female
3. Marital status (Circle appropriately) i) Married ii) Single iii) Divorced
4. Academic qualification(Circle appropriately)
  - i) S1 teacher
  - ii) Diploma
  - iii) Graduate
  - iv) Masters
  - v ) Any other specify
5. What is your teaching experience?
  - i) 1-5
  - ii) 6-10
  - iii) 11-15
  - iv) 16-20
  - v) Above 20 years
6. How many years have you served as a Head teacher? i) 1-5 ii) 6-10 iii) 11-15
  - iv) 16-20 v) Above 20 years

**Attitudes towards the teaching profession**

1. How can you describe your satisfaction with the teaching profession?
2. How can you describe the job satisfaction of your teachers?
3. i) Are there teachers in your school who have left to join other professions?  
 ii) If yes how many?  
 iii) If yes what were their reasons
4. For the teachers who are not satisfied what are the major indicators in their work performance?
5. In your opinion what are the factors that lead to job dissatisfaction?
6. In your opinion what should be done to improve the job satisfaction of the teacher

**RATING YOUR LEVEL OF IMPORTANCE IN YOUR JOB**

<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>
Extremely Important	Important	Less important	Not important

Using the scale shown above, rate your level of job importance with the following aspects of your job.

**GENERAL WORKING CONDITIONS**

\_\_\_\_\_ Hours worked each week

\_\_\_\_\_ Flexibility in scheduling

\_\_\_\_\_ Location of work

\_\_\_\_\_ Amount of paid vacation time/sick leave offered

**PAY AND PROMOTION POTENTIAL**

- \_\_\_\_\_ Salary
- \_\_\_\_\_ Opportunities for Promotion
- \_\_\_\_\_ Benefits (Health insurance, life insurance, etc.)
- \_\_\_\_\_ Job Security
- \_\_\_\_\_ Recognition for work accomplished

**WORK RELATIONSHIPS**

- \_\_\_\_\_ Relationships with your co-workers
- \_\_\_\_\_ Relationship(s) with your supervisor(s)
- \_\_\_\_\_ Relationships with your subordinates (if applicable)

**USE OF SKILLS AND ABILITIES**

- \_\_\_\_\_ Opportunity to utilize your skills and talents
- \_\_\_\_\_ Opportunity to learn new skills
- \_\_\_\_\_ Support for additional training and education

**WORK ACTIVITIES**

- \_\_\_\_\_ Variety of job responsibilities
- \_\_\_\_\_ Degree of independence associated with your work roles
- \_\_\_\_\_ Adequate opportunity for periodic changes in duties

### Appendix III: Observation Schedule for the Schools' Science Facilities

Category of the School ( Circle appropriately) i) Day mixed school ii) Mixed boarding iii) Boys boarding school iv) Girls boarding school v) Any other please specify  
Population of the School.\_\_\_\_\_. NO. of Streams\_\_\_\_\_. Average Class Sizes(population)\_\_\_\_\_.Size of the Laboratory (Circle appropriately) i) Standard ii) Not Standard

<b>Facilities/Equipment</b>	<b>Available/Not Available</b>	<b>Adequate</b>	<b>Not adequate</b>
Laboratories			
Apparatus			
Furniture			
Chemicals & Specimens			
Text Books			
Teaching Charts			
Functional Prep room			
Piped water			
Heating means ie Gas			
Gas/ fumes chamber			
Laboratory Coats			
Proper Lighting ie electricity, natural			
Others(please specify)			

## **Appendix IV: Introduction letter**

Wachira Charles Mukuni  
Kenyatta University  
P.O BOX 43844-00100  
Nairobi

Dear sir/Madam,

**RE: REQUEST TO PARTICIPATE IN THE STUDY**

I am hereby writing to request you to participate in this study. I am a Kenyatta University student pursuing a Master of education (Administration) in the school of Education. I am currently doing a research project entitled “JOB SATISFACTION OF SCIENCE TEACHERS IN PUBLIC SECONDARY SCHOOLS IN MURANG’A EAST DISTRICT, MURANG’A COUNTY, KENYA”.

Please assist me by volunteering to give information concerning this topic. Information which you will give will be treated confidentially and will only be used for the purpose of this study. Thank you in advance as you participates in the study.

Yours sincerely

Wachira Charles Mukuni

**Appendix V: Letter of request to conduct research in an Institution**

Wachira Charles Mukuni  
Kenyatta University  
P.O BOX 43844-00100  
Nairobi

The Head Teacher

.....  
.....  
.....

Dear sir/Madam,

**RE: REQUEST TO CONDUCT RESEARCH IN YOUR INSTITUTION**

I am hereby writing to request permission to conduct research in your Institution. I am a Kenyatta University student pursuing a Master of education (Administration) in the school of Education. I am currently doing a research project entitled “JOB SATISFACTION OF SCIENCE TEACHERS IN PUBLIC SECONDARY SCHOOLS IN MURANG'A EAST DISTRICT, MURANG’A COUNTY, KENYA”.

The study will observe strict ethical consideration and the information given will be treated as confidential. I hope my request will receive positive appraisal. Thank you in advance,.

Yours sincerely

Wachira Charles Mukuni

**Appendix VI: Budget**

<b>a) Items (stationary)</b>	<b>Quantity</b>	<b>Cost in Ksh</b>
Pens	6 dozens @12	72/=
Pencils	3 @20	60/=
Rubber	2220	40/=
Flash disk	2@1500	3000
Paper	8 rims@500	4000
Sub total		7172
<b>b) Travelling</b>		
Transport to schools and back home for 20 days	20@200	4000
Administering questionnaire		5000
Lunch @400 per day for 60 days		24, 000
Sub total		44000
<b>c) Secretarial services</b>		
Research proposal typing, printing and binding		10, 000
Research typing printing and binding the final report		15, 000
Photocopying questionnaires		2, 000
Sub-total		27, 000
<b>d) Communication services</b>		
Sub-total		7, 000
<b>e) Miscellaneous expenses</b>		
Sub-total		10, 000
<b>GRAND TOTAL</b>		<b>87, 172</b>

**Appendix VII: Map showing location of the study area**



### Appendix VIII: Work Plan

2013					
ACTIVITY/MONTH	Feb	March	April	May-June	July
Developing a research topic and literature review					
Writing research proposal, developing tools for data collection and preparing for research proposal seminar					
Field framework/ conducting interviews					
Data entry, interpretation and analysis					
Compiling of the final draft.					
Presentation of findings/ final draft					

### Appendix IX: Research Permit

PAGE 2 PAGE 3

**Research Permit No. NCST/RR/12/1/SS011/159**

**THIS IS TO CERTIFY THAT:** **Date of issue: 21<sup>st</sup> November, 2011**

**Prof./Dr./Mr./Mrs./Miss/Institution** **Fee received: Kshs. 1000**

**Wachira Charles Mukimi**

**of (Address) Kenyatta University**

**P.O BOX 43844 Nairobi**

**has been permitted to conduct research in:**


**Location**

**Murang'a East District**


**Central Provinces**

**on the topic: Job satisfaction of science teachers**

**in public secondary schools: A case of Murang'a East District Murang'a County Kenya**



**Applicant's**



**Secretary**

**Signature National Council for Science and Technology**

**for a period ending 31<sup>st</sup> December 2011**