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Industrial Training in Kenya: A Case Study on Skilling for Building Trades in Nairobi.

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DECLARATION

DECLARATION BY THE CANDIDATE

I, Francis Mindo Gitaka, declare that this research project is my original work and has not been presented for the award of a degree in any other university.

Signature: …….

Date: …….

DECLARATION BY THE SUPERVISOR

This research project has been submitted for examination with my approval as the University supervisor.

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Signature: ……

Date: ……

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The Almighty Creator enabled me complete this project and to Him I give thanks and honour.

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DEDICATION

I wish to dedicate this work to my wife, Sally and our children, Esther, Mary, Chris and Bob for the encouragement and support they extended to me during my study.

ABSTRACT

Building industry plays a vital role in the economic growth and development of Kenya, both through its products and the employment created in the construction processes. The TVET Act (ROK, 2013) is a major policy initiative that was envisaged as an occupational field to provide the foundation for productive and satisfying careers and at the same time offer specialized preparation for employment. It is a crucial aspect of Human Resource Development (HRD) being implemented in national institutions and financed by the Government and the private sector. The Industrial Training Act (ROK, 1983) and The Industrial Training (Amendment) Act (ROK, 2011a) among other legal provisions, mandate the National Industrial Training Board (NITB) to ensure that personnel engaged in industry is well trained for good performance; ensure an adequate supply of trained work force for the industry; and share the cost of training as evenly as possible among employers. The training is financed from a Levy Fund that employers contribute to in accordance with the number of workers in employment in every particular month of the year. Despite the existence of this provision, most contractors do not contribute to the Fund yet contributors are expected to be reimbursed part or all of the costs incurred in respect of their training as well as that of their staff.

This study investigated the dynamics of industrial training in the building industry in Nairobi. The main areas of study were specifically how operatives finance acquisition, and upgrading of their knowledge and skills in the building industry; how they are coping with changing technology in the building industry; the level of utilization/awareness of the Industrial Training Levy Fund among the contractors. Descriptive design was adopted to depict the state of affairs. Systematic sampling was applied in respect of contractors and convenience sampling in respect of the operatives.

The findings indicate that most operatives train informally under qualified operatives or in accredited government institutions with negligible skill upgrading. Most of them finance their training are assisted by their parents and /or guardians with minimal input from their employers. Further it was found out that most of the artisans cope with the evolving technology through observation of fellow workers or reading manuals from manufacturers. Lastly, the study established that most of the contractors were not keen to register with DIT/NITA since they viewed the contribution of the Levy as a tax with only about 22% utilizing the Levy Fund to train their operatives. This is due to the fact that

most contractors do not understand the processes of seeking authority to train and training cost reimbursement from the Directorate of Industrial Training/National Industrial Training Authority.

The study recommends that to enhance widespread skills training National Industrial Training Authority (NITA) recruit and sponsor training for the operatives in accredited institutions irrespective of where they are employed. Further to enable the operatives cope with changing technology, NITA in liaison with the professional bodies should mount short term courses in the relevant trades. Finally, a robust awareness campaign should be instituted by NITA to counteract the perception that the Levy Fund is a form of a tax and also inform the contractors on the process of application for training of operatives and refund of the costs.

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ACRONYMS

BCITF	-	Building and Construction Industry Training Fund
CBD	-	Central Business District
DIT	-	Directorate of Industrial Training
GDP	-	Gross Domestic Product
HRD	-	Human Resource Development
ILO	-	International Labour Organization
KESSP	-	Kenya Education Sector Support Programme
MoPW	-	Ministry of Public Works
MPET	-	Master Plan on Education and Training
NDP	-	National Development Plan
NITB	-	National Industrial Training Board
SAQA	-	South Africa Qualifications Authority
SETA	-	Sector Education and Training Authority
SHRD	-	Strategic Human Resource Development
SSCs	-	Sector Skills Councils
SSDA	-	Sector Skills Development Agency
TE	-	Technical Education
TVET	-	Technical and Vocational Education and Training
ITLF	-	Industrial Training Levy Fund
TTIs	-	Technical Training Institutes
UNEP	-	United Nations Environmental Programme

CHAPTER ONE: INTRODUCTION

1.1 Background to the Study

Construction activities play a vital role in the process of economic growth and development, both through its products and the employment created in the construction processes. According to Sohail (1999), the construction industry is of immense economic importance as it contributes 10% of the Gross Domestic Product (GDP) in developing countries. The industry consumes about one-sixth to half of the world's wood, minerals, water, and energy and generates employment and income in a variety of technologies and practices on different scales, (UNEP, 1996). The Nairobi City Council registered an 11.8% per cent increase in the value of reported private building works to stand at Kenya Shillings 40,854.1Million in 2011 in comparison to Kenya Shillings 36,548.5 million in 2010 (ROK, 2012). The total estimated cost of reported completion of new public buildings increased from Kenya Shillings 1,041.0 Million in 2010 to Kenya Shillings 2,614.2 million in 2011whereas completed units increased from 390 to 587 (Ibid). Further total wage employment in the building and construction sector went up by 7.6 percent in 2011 to stand at 109 thousand persons from 101.3 thousand persons in 2010 (Ibid).Private sector employment in the construction sector rose by 9.5 per cent to 89,819 persons in 2011 compared to 82,041 persons in 2010 (Ibid). The public sector recorded a marginal decline from the number of 19,259 of in 2010 to 19,181 in 2011 (Ibid). In 2011, the construction sector contributed 4.1 percent of the Gross Domestic Product (GDP) of the country as compared to 4.3 percent in 2010 (Ibid). This shows that construction is a very important sector in Kenya due to its contribution to employment and economic growth of the country. This sector is responsible for the provision of shelter for social satisfaction of occupants and improved productivity. It is therefore necessary for the Government to support this sector for the development of the country.

Construction projects contribute to the social and economic development of the countries where they are located. All construction projects like airports, railways and harbours contribute to national economic development of a country. In most cases, contractors in the developed world provide for training of their personnel on emerging technology so as to improve on productivity and save on resources and thus increasing their profit levels.

Some of the countries with well structured training programmes for workers serving the industry in the developed and developing countries are China, Australia, United Kingdom, Egypt, Chile and South Africa (ROK, 2005a).

According to Mitullah and Wachira (2003), the composition of the construction sector in Kenya has changed with the diverse private construction sector that mainly invests through the informal system now dominating the building construction market. The informal workforce lacks any significant degree of formal industrial training. Industrial training, also known as Technical Education (TE), prepares learners for jobs that are based on practical activities, traditionally non-academic and totally related to a specific trade, occupation or vocation particularly in engineering and scientific disciplines (ROK, 2003a). It is referred to as Technical Education since the learner develops expertise in particular techniques or technology (Mitullah and Wachira, 2003).

Vocational education can be at the secondary or post-secondary level and can be combined with apprenticeship systems where trainees gain knowledge and skills in the industry. According to Mitullah and Wachira (2003), until the end of the twentieth century, vocational education focused on specific trades such as automobile mechanics or welding and was therefore associated with the activities of lower social classes. As a consequence, it attracted some stigma. Vocational education is related to the age-old apprenticeship system of learning. However, as the labour market becomes more specialized and economies demand higher levels of skills, governments and businesses are increasingly investing in the future of technical education through publicly-funded training organizations and subsidized apprenticeship or traineeship initiatives for businesses. At the post-secondary level, vocational education in Kenya is typically provided by institutes of technology or by local community polytechnics.

According to the Kenya Education Sector Support Programme 2005-2010 (ROK, 2005b), Technical and Vocational Education and Training (TVET) is a major policy initiative by the Government of Kenya and it was envisaged as an occupational field to provide the foundation for productive and satisfying careers and at the same time offer specialized preparation for initial employment by the government and self-employment.

The Policy Framework for Education, Training and Research (ROK, 2005b) highlights the importance of TVET in the provision and promotion of lifelong education and training for self-reliance. The review of curricula, retraining of teachers, refurbishment of physical facilities and upgrading of equipment in TVET institutions have been identified as the programmes that should be undertaken for improvement of training. Davison (1987) stresses the importance of further education and training for personal advancement when working in organizations. Lumumba (2009) refers education as 'a life-long journey of guided discovery where propagation of a set of beliefs takes place'. ROK (2008) states that 'the development of high quality technical, industrial and entrepreneurial human resource is important for industrial growth, competitiveness and ultimately, employment creation'. Kenya's global competitiveness depends on the ability to create a human resource base that is constantly subjected to skills upgrading and technological learning within employment (Ibid). In addition and in line with Poverty Reduction Strategy (PRS) Policy (ROK, 2003b) programmes should be developed to enhance employment creation and hence reduce poverty in Kenya. ROK, 2006 stresses that the government recognizes the importance of TVET in the development of the necessary critical mass of work force with the skills needed for national development through proper training by use of relevant curricula. This is a crucial aspect of Human Resource Development (HRD) by the government. It is implemented in the national polytechnics, institutes of technology, technical teachers training colleges, technical training institutes and youth polytechnics that are funded by the government which are spread all over the country. The Poverty Eradication Plan (ROK, 1999a) identifies education of Kenyans as a way of reducing poverty in the country. Education is a key pillar for human development towards the realization of Vision 2030 as it imparts knowledge and skills to individuals necessary for nation building (ROK, 2010a). Data collected during the 2009 census indicates that 14.2 million youth had left school and thus needed training for gainful employment (Ibid).

1.2 Problem Statement

In recent years, training has been influenced by the extent of global competition and technological development. According to Armstrong (1998), training is seen as a valuable tool and an investment in organizations that helps to improve profitability, reduce costs and increase employee motivation, commitment and effectiveness.

To a great extent, training activities are the key drivers of organizational development and growth. Armstrong (1998) further argues that training should be applicable to performance in a current or anticipated task, providing all the necessary learning. By improving employees' ability to perform tasks required by an organization, training allows better use to be made of human resources and further gives employees a masterly over their work, leading to improved performance (Graham and Bennett, 2001). Tan (1995) observed that training is designed to help employees perform their jobs effectively.

The key mandate of the National Industrial Training Board is to secure the greatest improvement in the quality of training of personnel engaged in industry; ensure that there is an adequate supply of trained manpower in industry; and share the costs of training as evenly as possible between employers (ROK, 1983 and ROK, 2011a). Contractors, who are also employers, are expected to pay training levy and thereafter access the same through reimbursement of part or all the costs incurred when relevant and approved training programmes are undertaken by either the owners of the organizations or their employees. Despite this provision, that can ensure that the workers in the construction sector acquire knowledge and skills in order to improve productivity as well as be in a position to readily adapt to new technology, most contractors do not contribute to the Levy Fund. The contractors who are levy contributors hardly utilize the Fund in the training of their operatives. In the 2009/2010 financial year, only 323 workers were trained under the industrial training scheme in respect of the construction sector (ROK, 2010b). According to records in the Directorate of Industrial Training, there were 1208 contractors registered as levy contributors in 2010 with a combined workforce of 7,539 in different departments like accounts, human resource, procurement and operatives included (Ibid). Granted that only 323 workers were trained using the Levy Fund (ROK, 2010b), this translates to 4.28 per cent of workers trained. Of the 323 workers, only 25 were operatives directly involved with the technical work of construction. The others were staff carrying out duties relating to accounts, human resource and procurement (Ibid). Moreover, due to lack of skills upgrading and training, the workers in the construction industry are left with the option of utilizing knowledge and skills acquired during their technical training and the practical skills gained in the course of execution of their tasks.

Refresher courses are important so that personnel acquire new knowledge and skills for effective and efficient performance.

The failure to train may lead to poor performance of the industry manifesting itself in the form of high wastage of materials due to poor site management, collapsing buildings, poor quality works, unjustified extended contract periods, poor handling of materials and equipment leading to high costs of construction thus exceeding the contract price/sum as well as putting to risk the lives of workers and visitors on construction sites. The additional costs incurred by contractors as a result of poor performance by operatives due to lack of training are passed on to developers in form of high construction costs. Some buildings under construction within towns as well as in rural areas have collapsed, in some instances causing the death of construction workers apart from the loss of money and time suffered by developers.

A number of instances where buildings have collapsed with devastating effects have been reported in some daily newspapers in the country (Wainaina & Ngirachu, 2006; Ombati, 2011; Amadala et al, 2011; Mosota, 2011; Mudiari , 2012; Ngobilo, 2012; Wanyonyi, 2012; Nation Correspondent, 2012a; Nation Correspondent 2012b; Nyasato & Otieno, 2012; Wanyonyi & Jakaa, 2012; Mukinda, 2012; Obuya and Ondongo, 2012; Muchiri, 2012).

According to ROK (2008a), Kenya has a youthful population with 73 per cent being under 30 years of age. The youth between 15 and 35 years accounts for 38 per cent of the population with females comprising 57 per cent and males 43 percent (Ibid). About 600,000 persons aged 15-64 years enter the labour market, majority being the youth (Ibid). Most of those who join the labour market perform jobs that do not match their qualifications and personal development goals. There is therefore need to offer training to those who either join the formal and informal sectors of the economy for improved productivity. According to Mitullah and Wachira, (2003), it is important that personnel carrying out actual construction works/projects like masons, carpenters, painters, electricians, plumbers undertake refresher courses for efficient and effective delivery of service. Lack of training may lead in inefficiency and wastage in the performance of tasks.

In view of the above, this study seeks to investigate how operatives acquire knowledge and skills, in the absence of structured training programmes; how the cope with the changing technology given the minimal levels of skills upgrading and the level of awareness of the Levy Fund by contractors. The findings may thereafter form a basis for the much needed reforms in the training of construction workforce, particularly operatives.

1.3 Objectives of the Study

The purpose of this study was to investigate the dynamics of industrial training in the building industry in Kenya. These dynamics within the context of this study are as stated in the following objectives:-

1. To investigate how operatives finance the initial skills acquisition and subsequent upgrading in the building industry.

2. To explore how operatives cope with changing technology in the building industry.

3. To assess the level of awareness of the Industrial Training Levy Fund amongst contractors in categories A-C.

4. To assess the level of utilization of the Industrial Training Levy Fund by levy contributing contractors in categories A-C.

1.4 Research Questions

1. How do the operatives finance the initial skills acquisition and subsequent upgrading in the building industry?

2. How do the operatives cope with changing technology in the building industry?

3. What is the level of awareness of the Industrial Training Levy Fund amongst contractors in categories A-C?

4. What is the level of utilization of the Industrial Training Levy Fund by levy contributing contractors in categories A-C?

1.5 Research Proposition

The research proposition is that low level of skills training in the building industry is due to non-utilization of the Levy Fund by most of the registered contractors.

1.6 Significance of the Study

According to Graham and Bennet (1998), training improves productivity, reduces spoilt work, improves versatility and adaptability to new methods, reduces need for supervision, reduces the number of accidents and improves job satisfaction as reflected in low labour turnover and lower absenteeism. Industrial training in respect of personnel serving the building industry is important due to the role construction plays in employment and economic development of Kenya. Social satisfaction for the population and improved productivity are achieved through the provision of houses and buildings. Moreover, some buildings under construction have collapsed leading to death and injury of workers and innocent citizens apart from the losses incurred in respect of materials, labour, equipment and time (Wainaina & Ngirachu, 2006; Odhiambo, & Kazungu, 2006; Ombati, 2011; Angira & Lime, 2011; Amadala et al, 2011; Mosota, 2011; Ayieko, 2012; Nzia, 2013). The collapse of buildings may be partly attributed to poor skills amongst the operatives. This calls for a study in the training of operatives in the building industry so as to save lives and resources. Poor performance of a worker can be attributed to lack of appropriate knowledge, skills and know-how amongst others factors (ROK, 1999b), making training necessary to address the gap.

The Industrial Training Levy Fund is available to contributors for the training of personnel engaged in industry (ROK, 1983). It is important that such a Fund be utilised in the training of operatives in the building industry for improved productivity as well as embrace the changing technology. Employers, who are contractors in the building industry, are expected to identify the training needs of their workers and thereafter recommend the appropriate training. Contractors engage operatives when they secure construction/building projects and release them on completion. According to ROK, 2005c, little is known of the Small and Medium Enterprises with regard to products, prices, needs, constraints, opportunities and ways of dealing with the issues relating to the sector.

The study may be of importance to the economy since majority of construction firms are in the small and medium categories offering employment to Kenyans.

1.7 The Scope of the Study

This study was undertaken amongst contractors and operatives in Nairobi and its environs. This is due to the fact that Nairobi and its environs have construction projects of varied sizes and complexity as well as at different stages of construction. Nairobi, the capital city of Kenya, has many construction activities due to the demand for office space and accommodation. The high population of 3,138,369 (ROK, 2012) people in Nairobi contributes to the demand for houses. The population of Nairobi increased by 3.8% in 2009 compared to the population in 1999 (Ibid).

Nairobi witnessed increased construction and in 2011 when building plans with a value of Kshs 112,842.8 Million were approved compared to Kshs 96,100.0 Million approved in 2010 (ROK, 2012).

The ongoing construction works in Nairobi that this study covered included commercial buildings (shops and warehouses), institutional buildings (schools, colleges, hospitals, hostels) and residential houses.

1.8 Limitations of the Study

The major constraints of this study were:

1. Limited time and resources: hence, operatives and contractors within Nairobi and its environs were interviewed.

2. Accuracy of data from operatives and contractors: Some operatives feared that the study would deny them job opportunities in case they did not possess formal qualifications while some contractors feared that they would be compelled to pay the Industrial Training Levy that they viewed as a tax. The contractors and operatives were informed beforehand and through a cover letter attached to each questionnaire that the study was purely for academic purposes and that the responses given would be treated with utmost confidentiality.

1.9 Operational Definitions of Terms

The following operational definitions are as per the Industrial Training (Amendment) Act (2011) and Agreement and Conditions of Building Contracts (1999).

- **Apprentice -** means a person who is bound by a written contract to serve an employer for a defined period with a view to acquiring knowledge, including theory and practice, of a trade in which the employer is reciprocally bound to instruct that person;

- **Building trade –** this is a specialized area in the construction sector for instance masonry, carpentry and joinery amongst others

- **Consultants** - the firms or persons that offer professional services in the design and supervision of construction projects

- **Contract period** - the period agreed by the Contractor and Employer for the construction of the Works or as extended in accordance with the contract provisions.

- **Contractor -** a person, company or a firm that is awarded a construction project through tendering, negotiation etc. and is paid for the services rendered by the client

- **Industrial attachment -** means the placement of a person in a workplace for the purpose of gaining knowledge and practical skills.

- **Industrial training -** means training for a specified industry.

- **Industry -** means a trade, occupation, profession or an economic sector.

- **Operative** - means a person employed for wages or salary and includes an apprentice, indentured learner, temporary, seasonal and worker on casual terms of service.

- **Projec**t - the scope of work contracted to a contractor by a developer with a defined scope, contract sum and period.

- **Site** - the place or places where the permanent Works are to be carried out and to which materials and goods are to be delivered and includes workshops or other places where materials, goods or work are being prepared for incorporation in the Works either by the Contractor, subcontractors or by others

- **Trainer -** means any person, firm, or institution responsible for industrial training

CHAPTER TWO: LITERATURE REVIEW

2.1 Introduction

This chapter presents and discusses the literature relating to industrial training. The chapter begins by providing the theoretical orientation of the informal sector and the construction industry in Kenya. It then briefly explores the issues of training and strategic human resource development, effectiveness of training and measurement, the providers of technical and industrial training in Kenya and the labour market in Kenya. It culminates by providing a conceptual framework of the study variables.

2.2 The Kenyan Construction Sector

The construction industry in Kenya is labour intensive since there is little mechanization and a big population of students leaving primary and secondary schools join the sector as workers (Wachira, 2008). Artisans are trained in the relevant skills areas through apprenticeship programmes under skilled and experienced artisans.

Workers are recruited when contractors secure construction projects. In some instances, contractors engage 'labour only' contracts avoiding the payment of wages and benefits like holidays, tool and travel allowances and retirement benefits (Wachira, 2008). This makes the workers not to be engaged in formal training making them take high risks in construction leading to deaths, injuries and loss of finances to developers. Buildings have collapsed in the recent past resulting in the death of workers on construction sites. Such incidents have been well highlighted in the print media in Kenya (Wainaina & Ngirachu, 2006; Odhiambo & Kazungu, 2006; Ombati, 2011 and Lime & Angira, 2011).

In order to address the poor performance in the construction industry, the Government established the National Construction Authority (ROK, 2011b) to oversee the construction industry and coordinate its development. The Board of the National Construction Authority has representatives from the Government at the level of the Permanent Secretaries of Ministries responsible for matters relating to public works, roads, local government, Treasury and housing. The Board has also representatives of Kenya Association of Building and Civil Engineering Contractors, Institute of Quantity Surveyors of Kenya, Law Society of Kenya, Kenya Federation of Master Builders,

Architectural Association of Kenya, Institute of Engineers of Kenya and Roads and Civil Engineering Contractors Association. The Board has also two members to represent groups with special interests in the construction industry.

Casualisation of labour has contributed to a pool of self employed site production work force that is employed by contractors on casual terms of engagement and at times hired directly by employers. The casualisation has eroded the incentive of contractors to train the operatives (Wachira, 2008).

The informal sector has grown over the years and comprises the developers who sometimes do not have adequate collateral to offer as security in order to secure loans to complete construction projects. They therefore engage operatives to execute works as per the funds available with the lead artisan taking charge of the project. The informal employer has no incentive to train the operatives since his concern is the utilization of the services of those in the industry.

The operatives executing such projects take risks during construction with some devastating implications at times, like the case of collapsing buildings that have been witnessed in the country or very poor workmanship.

Bangesser (2000), notes that there is now little divergence that the informal sector exists and it will be with us for the foreseeable future. This is attributable in the large measure to the three-decade effort by ILO in developing the concept of the informal sector and implanting it into the development paradigm. Ghersi, et al (1997) offers a simple definition of this phenomenon as ‘activities that operate underground and have legal ends though they employ illicit means, whose activities may not in themselves have a criminal content, but they are carried out illegally, even though they are legal and necessary for the economy’. Ghersi, et al (1997) further argues that economically, the most important characteristic of informal activities is that those engaging in them as well as the society in general benefit more if the law is not abided with.

It is a situation whereby people want to work legally but cannot and therefore resort to working in an area of relative illegality created by the legal cracks in the society as a last alternative. Ghersi, et al (1997) holds that although informality is socially and economically significant, informal activities have very low productivity.

ILO (2003), defines the informal sector as consisting of small-scale, self-employed activities (with or without hired workers), typically at a low level of organization and technology, with the primary objective of generating employment and incomes. ILO (2003) cites the lack of proper recognition of the conducted activities by the authorities and their escape from the attention of the administrative machinery responsible for enforcing laws and regulations.

Although many authors have argued that most informal entrepreneurs are in activities that are easy to enter with relatively low costs and few entry barriers, Mitullah and Wachira (2003) observe that this conventional belief is now being challenged. According to them, studies have established that the educational background of those operating in the sector has improved and education is used in sub-sectors to vet new entrants, faulting the assumption of ease of entry. In many sub-sectors, those wishing to join need to have the right networks relevant for linking the individual to the resources required and the site of operation (Graham, et al 1998). This was confirmed by McCormick, et al, (2001). Mitullah and Wachira (2003) argue that the assumption that there are no restrictions, rules, requirements or regulations to entry into the sector is due to ignorance of the dynamics of the sector.

According to Wachira, (2008), the Kenyan construction sector as is the case in many developing countries is labour intensive due to the relatively low level of mechanisation and the readily available labour resulting from the high population growth rate averaging 3% per annum over the past twenty years coupled with the fact that few primary and secondary school graduates (47% and 12% respectively) continue with education. More than 500,000 new entrants from the school system alone are released to the employment market annually. Although the new entrants to the sector are unskilled, site production comprises of a skilled set of activities requiring various categories of craftsmanship including inter alia masonry, carpentry, joinery, plumbing and electrical (Wachira, 2008).

She further maintains that even unskilled workers in construction require some basic training on construction processes and thus it is improbable that the labour needs of the sector can be satisfied from the ranks of the unskilled unemployed. The large potential pool of low cost workers willing and able to work in construction may not match the skills

required by the sector to be productive and thus need to be equipped with the requisite skills to become employable (Ibid).

Wachira (2008) holds that the construction industry in Kenya is unpredictable in regard to future workloads and therefore volatile and contractors have resorted to casualisation of labour. Construction firms shed off most of their labour obligations by subcontracting to unregulated labour-only subcontractors who typically operate in the informal sector, outside the confines of employment legislation. Consequently they offer no social protection or training to the workforce which enables their labour costs to be lower. The workers are hired on a daily or weekly basis and on a project basis and made redundant on completion of the project.

According to Wachira (2008), the casualisation of labour reduces the in-house training traditionally offered by construction firms thus making craftsmen gain skills through experience rather than formal training or qualifications. Such skills tend to be of lower quality leading to technical incompetence. Casualisation has eroded the incentive and responsibility to train by the contractors, as they are unable to reap any returns from such investment (Ibid).

Wachira (2008) notes that contractors can no longer be expected to train a casualised workforce, thereby resulting in poor quality facilities, high material wastage and long term productivity decline. Wachira maintains that casualisation of labour in Kenya has resulted in a decline in the incentive by contractors to train site production workers and hence they do not pay the Industrial Training Levy to the Directorate of Industrial Training/National Industrial Training Authority. Their workmen are therefore excluded from the formal training programmes. This has translated to a reduction in the number of formally trained craftsmen.

According to Wachira (2008), the change of government in 2002 coupled with an emphasis on the achievement of the Millenium Development Goals (MDGs) and the increase in the foreign investment inflow in Kenya elicited the potential for increased demand for both formal and informal construction. She states that the construction sector could be unprepared in terms of skills, availability to cope with any increased demand and would be forced to import skills from elsewhere thereby increasing construction costs and

preventing Kenya from gaining the maximum benefits from the increased economic activities. Lack of highly qualified workmen may make some contractors reluctant to undertake high quality building works involving complicated finishes or structures, as this may call for quality craftsmen skills that are may not be readily available (Ibid).

Wachira (2008) notes that experience from newly developed countries particularly in East Asia indicates that although availability of skills cannot catalyse growth by itself, lack of skills can seriously constrain economic growth and the skills level and quality of workforce provide the cutting edge in competing successfully in the global economy. Kenya therefore needs to address the skilling of her people including construction craftsmen.

2.3 Training

2.3.1 Defining the Concept

Vasishth (2009) defines training as 'a planned effort to facilitate employee learning of job-related behaviour in order to improve employee performance'. Vasishth (2009) states that training is needed so that an employee can improve efficiency; settle quickly in an organization; update knowledge and skills; be prepared for promotion to higher posts; learn skills of higher posts; reduce labour turnover and absenteeism; and promote movement from one job to another. Ghattas and McKee (2005), state that in order to improve productivity and quality, the management staff and employees have to be trained.

2.3.2 Measurement of Relevance of Training

Chang (1994) argues that training is not an indefinite process: it must come to an end. The trainee is thereafter evaluated by the trainer and when he/she gets employment, the employer also evaluates him/her to gauge whether the skills/ knowledge he/she acquired is relevant to the operations of the organization. To do this effectively, one must seriously reflect on the reasons for the training, the reasons of the appraisals, and the audiences for the results of the evaluation, the time spans to be considered and the general framework to be deployed.

The evaluations comprise both hard and soft results. Hard results are objective benchmarks that are easily verifiable empirically for example the percentage of timely

deliveries and the number of appointments met; output: the number of new customers enlisted, and sales made; quality: the number of tasks completed successfully, the amount of work done. Soft results are subjective and mostly depend on the behaviour and attitudes of people (Gakuru, 2005). Some of the clean variables include culture, the number of complaints and grievances from and about employees; promotability initiative: the number of new ideas researched and implemented; management team skills: the ability to make decisions and listening skills.

2.3.3 Significance of Training

Companies, corporations, parastatals and the Government in Kenya appreciate, with each passing day, the importance of training. In the 2011/2012 Financial Year, the Government of Kenya allocated Kshs 15,319.5 Million to the Ministry of Higher Education, Science and Technology as development funds, a sum that was more than Kshs 10,139.0 Million that was allocated in the 2010/2011 Financial Year (ROK,2012a). The funds were to cater for refurbishment and expansion in universities, polytechnics and technical training institutes, secondary schools and primary schools so to offer more training facilities.

A work/labour force needs to be well trained so as to be able to perform duties and responsibilities effectively. One of the major duties of a worker is to increase his/her productivity (Gakuru, 2005). Training is an investment in human resource that plays a vital role in increasing productivity and realizing an organization's goals as a way of achieving competitive advantage. If a company has invested in the training of its workforce, it makes sense to develop them in such a way that its skills are put to the best possible use thus maximizing returns on investments (Storey, 1989).

Training and development emerges, as a concept and practice, from the increasing realization that human resources are as important, if not more, as compared to capital, technology and machines for growth (Rao and Nair, 1990). Both the private and public sectors source their workers from tertiary institutions and universities for work that need specialized training. The private and public sectors recruit workers on graduation from training institutions and thereafter train them on the job. There is therefore the need to forge meaningful and purposive links between training institutions and the labour market so that graduates leaving training institutions are easily employable without having to undertake rigorous retraining (Ibid).

Training in construction and building trades can take the form of off the job or on the job training. The form that is utilized by different organizations will depend on the particular needs, resources available, capacity and the particular organization's context. Off the job training is conducted away from the work place for a short or long period depending on the needs of the organization and the trainee (Smith, 1994).

The old approach was to have the organization sponsoring the employee, where the firm takes full responsibility in terms of identifying the programme, venue and bearing the full costs. However, this is gradually dying with a change towards partial sponsorship where the trainee bears the full cost of the programme and the organization reimburses a part or the full cost upon successful completion of the programme. Off the job training may require employees to have special working hour arrangements. The trainee may also train away from the workplace under the supervision of an appointed person or under no supervision at all (Smith, 1994).

On-the-job training occurs when employees acquire skills under direct supervision. Trainees learn by observing experienced employees and by working with the actual materials, personnel and machinery (Schuller and Jackson, 1999). The main advantage of on-the-job training is that transfer of training is high because workers learn in the environment in which they will readily apply the skills on the job. It is effective where a small number of people are being trained and where the consequence of error is low. In some instances, coaching of high-level executives and other employees who hold visible and unique jobs is carried out. The coach addresses the training needs, gives feedback and guidance and advises on situations as they arise. Training can also be viewed as either formal or informal (Ibid).

Gakuru (2005) holds that formal training is systematic and usually aspires to tie training objectives as directly as could be possible to the goals of an organization. However, the training is expensive in terms of resources and time and is usually based on some standard form or "archetype". The training incorporates objectives, methods and evaluation mechanisms that monitor whether the necessary skills are well learnt.

Each phase of the learning process provides ongoing evaluation feedback to other phases in order to improve the overall systems process. On the other hand, informal training is

casual and incidental it is just part of the day-to-day work. It has no specified training goals as such, nor are there ways to evaluate if the goals of the training were actually accomplished or not. It is about gaining experience on the job. It can occur through the mentoring process; the invitation of guest speakers to address employees of an organization; and even some forms of apprenticeship. It is less effective than formal training but it provides the deepest and richest learning because this form is what occurs naturally in life (Ibid).

According to Gale (1994), in order to effectively manage a programme of on-the-job training, one needs to understand the universal objectives, such as improvement on job performance where people are trained so that they can improve their work performance; improve quality of service or products dealt with; reduce learning time, which is required to help employees attain acceptable standards of performance; creation of a more favourable attitude towards work and the organization and minimal supervision time. Personnel with the required knowledge and skills require less supervision and suffer less obsolescence. There is need to constantly update and upgrade employee's knowledge and skills because these tend to depreciate with changes in technology, markets and industry processes. This upgrade enables the organization to remain competitive (Ibid).

According to ROK (2011b), Technical and Vocational Education and Training (TVET) system prepares people for the world of work and the Industrial Training Levy System (ITLS) provides incentives for employers to provide training during employment. However, the two systems have not been adequate in providing skills and competences that employers need to develop a workforce that will deliver global competitiveness. The country has kept pace with the new emphasis on life-long learning. Learning in a formal classroom set up to prepare for work and learning on the job calls for a dual responsibility on part of the country and employers to develop flexible, modular education and training that will enable employees to progressively acquire new skills and competences (Ibid). The two systems have been slow in responding to these trends and the new legislation is necessary for implementation. Since 80% of employees are in the informal sector, ITLS should target this group in respect of training. The Micro, Small and Medium Enterprises (MSMEs) are the major component of the informal sector and should be targeted for training through utilization of the levy fund for improved output and quality of their

products (Ibid). A study carried out in 2010 reviewed that 21% of the enterprises interviewed reported skills shortages, indicating that skills were needed (Ibid). The study found out that about 40% of the workers needed to upgrade their skills for improved productivity (Ibid).

The study also found out that about 42% of the enterprises organize in-house training or recruit more skilled workers (Ibid). Most of the interviewed enterprises were not ready to increase apprenticeships or train workers in the existing government institutions.

Most enterprises use company employees (81%), while others utilize the services of private providers (27%) and others training in government institutions (11%) The study revealed that 16% of the firms recruited expatriates (Ibid). The main consideration for training was to address competitiveness and raising the skill levels of workers as reported by 50% of the enterprises interviewed (Ibid). High costs/insufficient budget and lack of time were stated as the major hindrances to training. Information Communication Technology (ICT), sales and marketing, finance and banking and customer care were the new areas commonly mentioned by enterprises as the areas where training was needed (Ibid).

ROK, (2011b), recommends that lecturers/ instructors of training institutions be attached to the industry so as to acquaint themselves with the technology in use. ROK, (2005b) identifies inadequate training institutions and lack of essential facilities and outdated technology in Government training institutions as a hindrance in proper preparation of trainees for the world of work. It is proposed that training institutions be linked with the industry through research, internship opportunities and financing for improved quality of training (Ibid). It is also proposed that curricula should address the needs of the industry; be developed in consultation with the private sector; and the private sector be encouraged to participate in technical education (Ibid).

ROK, 2003c, recognizes the importance of TVET in the provision of demand-driven skills, lifelong learning, mobility, credit and inter-institutions transfers and high quality training that enhances industrial transformation. ROK (2011a) strengthens industrial training through the formation of the National Industrial Training Authority working under the National Industrial Training Board.

This transformation delinks the current Directorate of Industrial Training from direct administration by Ministry of Labour for autonomy. ROK (1999) recognizes the importance of TVET in accelerating industrial and technological development and recommends that facilities in the institutions be upgraded and instructors be well trained so as to be in a position to offer relevant services to the trainees. ROK (2005f) recommends a review of the curricula relating to technical training in order to address emerging needs of the industry. ROK (2007b) recommends the promotion of linkages between the training institutions and industry for the acquisition of relevant training applicable in the industry. ROK (1994) recommends industrial training that matches the requirements of the private sector by strengthening the training institutions so as to offer quality training. ROK (2001) gives on emphasis on the importance of training through regular review of curricula and collaboration with the private sector for the provision of additional training facilities.

In Vision 2030 policy framework, the Government intends to create a globally competitive and adaptive human resource base to meet the requirements of a rapidly industrializing economy. Industrial training is expected to contribute to the attainment of the goals of Vision 2030 by ensuring adequate supply of manpower with hands-on skills in the various sectors of the national economy. The future of the country depends not just on having educated personnel but also on enlarging the pool of skills that can handle the rapidly changing manufacturing, services, globalization and the country's economic growth and sustainability. In this regard, it will be necessary to give prominence to industrial training in all sectors of the economy. In addition, it is also important to ensure that industrial training is managed in order to make it both cost effective and affordable to a wide audience.

2.4 Industrial Training in Kenya

2.4.1 Purpose of Industrial Training

The purpose of industrial training is to ensure that there is adequate and appropriately skilled workforce in the country. In addition to that, industrial training facilitates achievement of individual objectives which in turn enhances the individual contribution to the gross national output of a country, organizational objectives which assist the entities in their core business, functional objectives which maintains sector or industry contribution

at a level suitable to the national needs and societal objectives which ensures that a state is ethically and socially responsible to the needs and challenges of the society. Industrial training is necessitated by the increasing dynamic trends in the operating environment of industries.

The purpose of industrial training shall be to boost the skills and capabilities of the workforce, empowering them to cope with the constant and unpredictable changes in the environment. To achieve this there is need for the National Industrial Training Authority (NITA) to play an active role in industrial training.

2.4.2 Rationale for National Industrial Training Policy

Industrial training in Kenya is coordinated by the National Industrial Training Board (NITB) through the National Industrial Training Authority (NITA), the Secretariat to the Board. Currently, the economy is structured into fourteen (14) sectors as far as industrial training is concerned. The sectors are:-

1. Banks and Other Financial Institutions;
2. Building, Construction, Civil Engineering and Allied Industries;
3. Chemical Manufacturing, General processing and Allied Industries;
4. Food Processing and Allied Industries;
5. Commercial, Distributive and Allied Trades and Industries
6. General and Motor Engineering, Transport and Allied Industries;
7. Plantation, Agricultural, Ranching and Allied Industries;
8. Printing, Publishing, Paper Manufacturing and Allied Industries;
9. Saw milling, Timber, Furniture and Allied Industries;
10. Textile and Allied Industries;
11. Research, Education and Training & Allied Institutions;

12. Local Authorities and Allied Services;

13. Commissions and Allied Services;

14. Medical and Health Service Providers & Allied Industries;

The Kenya Vision 2030 identifies human resource development, labour and employment as integral foundations for national transformation. The three pillars (Economic, Social and Political) of Vision 2030 require a globally competitive and adaptive human resource base in which every Kenyan has decent and gainful employment that augments the Vision of a prosperous and middle income country. In addition, Kenya's global competitiveness will depend on the ability to create a human resource base that is constantly subjected to re-training and access to technology. Further, with rapid economic and technological changes, there is an urgent need to give a new thrust to human capital formation.

2.4.3 Management and Co-ordination of Industrial Training

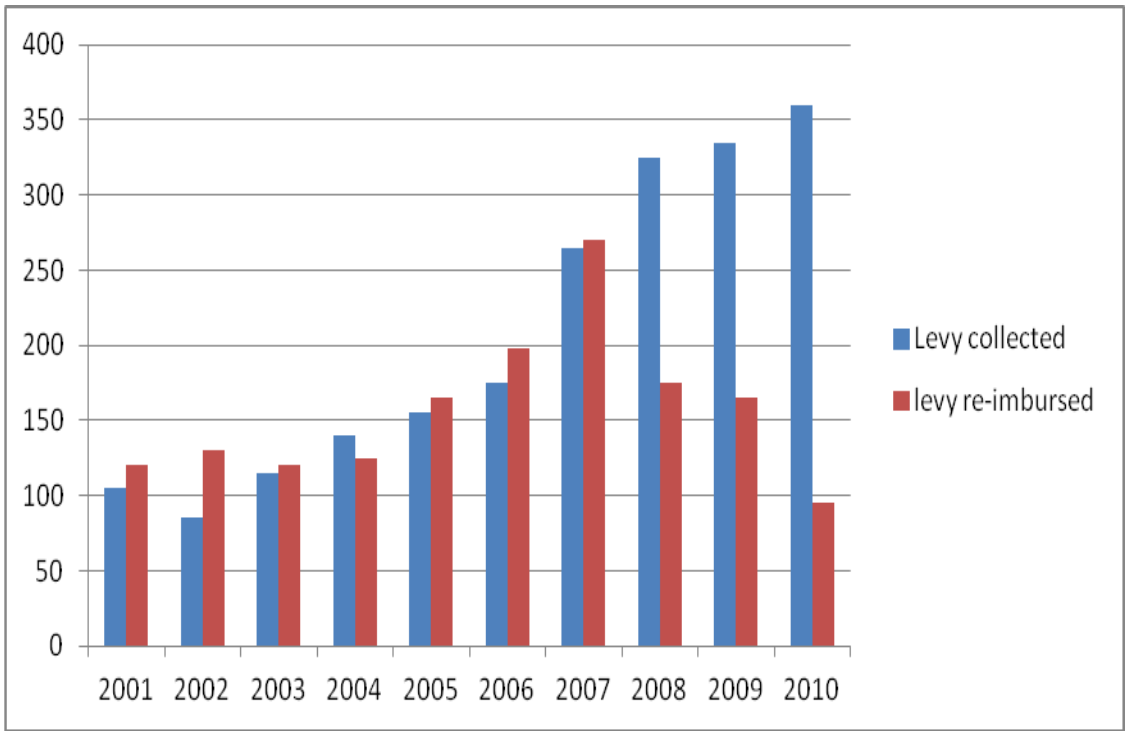
Management of industrial training has not been very effective in Kenya. There is no structure that defines management and coordination of industrial training. The Directorate has not been actively involved in the identification of training needs with the assumption that companies applying for training approval have done a training need analysis.

The Directorate has been more concerned with approval of training requests and the reimbursements thereafter. Follow up on the requirements of industrial training to ascertain that the right trainers and the stated topics for training during application has been inadequate. There has only been a few checks by the Directorate officials at the training venues. Over the years, capacity in terms of human resource has been a challenge to effective management and coordination.

2.4.4 Finances and Resources

The funds for industrial training are obtained from levy collection from employers, budget allocation by the government and other donations that the Directorate receives. For the period 2001 to 2010, there has been an upward gradual trend in funds raised from levies with the year 2010 recording the highest amount of Kshs 370 Million. The lowest amount was received in the year 2002 of Kshs 94 Million as shown in Figure 2.1.

Figure 2.1: Amount of funds collected from levy and reimbursed to employers from 2001 to 2010



Source: Directorate of Industrial Training (DIT)

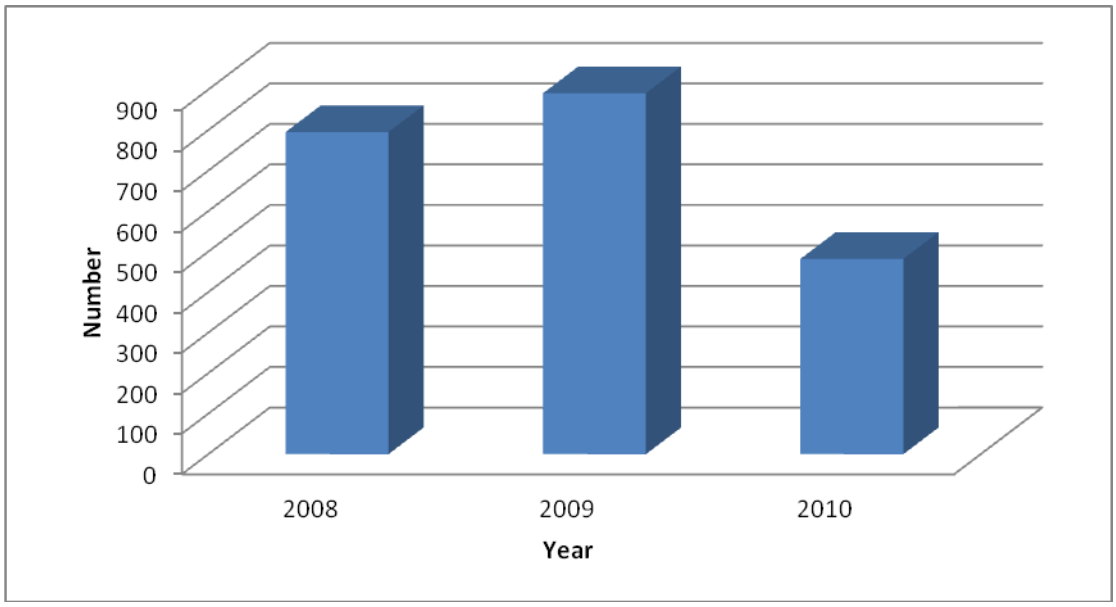
In the same period, the year 2007 recorded the highest amount of funds reimbursed to employers for cost of industrial training at Kshs 278 Millon. The lowest amount of funds reimbursed to employers was Kshs 99 Million recorded in the year 2010 as shown in the Figure 2.1.

This was the year that direct payments to training institutions was stopped. Employers were expected to first pay the training trainings and thereafter claim the costs from DIT. Since reimbursemnt was 'capped' to a miximum of two times the employer had coctributed in a particular year, most employers were not keen in spending huge sums on training when not all costs would be reimbursed.

2.4.5 Industrial Trainers' Capacity

The number of trainers increased by 86 between 2008 and 2009 and decreased by 409 between 2009 and 2010. This information is presented in Figure 2.2.

Figure 2.2: Number of registered trainers from 2008 to 2010



Source: Directorate of Industrial Training (DIT)

2.4.6 Performance of Industrial Training in Kenya

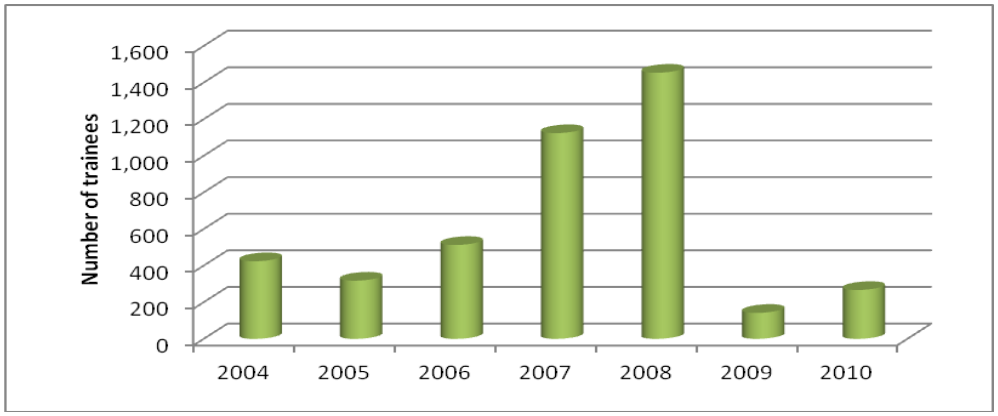
Industrial Training Schemes

Over the last four years the industrial training programme has maintained seven training schemes namely: skills up-grading scheme, private security officers training, industrial attachment, management and supervisory training, female engineering sponsorship, indentured learnership and apprenticeship training. A review of the performance of each scheme is as follows.

1. **Skills up-grading scheme.** This scheme consists of three levels: basic level for KCSE holders or Jua Kali artisans who want to sit for Trade Test Grade III, Intermediate level for basic or Trade Test Grade III Certificate holders and Advanced level for Intermediate or Trade Test II Certificate holders. The courses offered are also suitable for university graduates, Technicians and Do-It-Yourself aspirants who may want to have hands-on skills in any discipline. The courses take a total of 120 hours. Data available for the last seven years from 2004 to 2010 indicates that 2008 registered the highest number of individuals trained at 1,454 while 2009 had the least number at 142. Employers were sensitized on the importance of training their workers and thus the increased number of workers

trained in the years 2007 and 2008. However, employers were to be reimbursed double the amount they had contributed as levy in respect of training costs. This discouraged the employers with low number of employees and thus the drop in the workers trained in 2009. This is referred to as 'capping'. Figure 2.3 shows the variations in the workers trained.

Figure 2.3: Number of individuals trained under the skills upgrading scheme



Source: Directorate of Industrial Training (DIT)

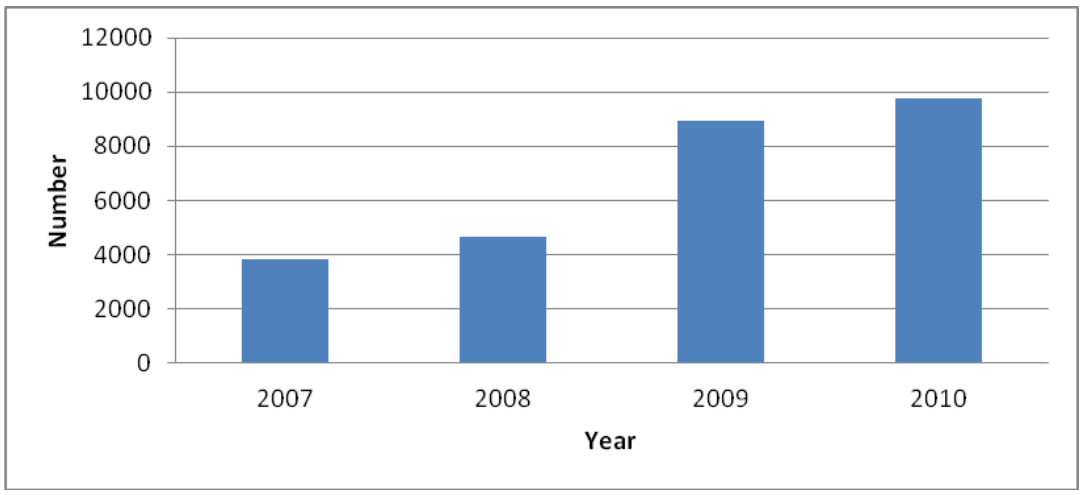
2. **Private security officers' training**. This scheme is aimed at imparting knowledge, skills, attitudes and competencies to enable private security officers discharge their duties diligently and competently. Data available for the period 2007/2008 to 2009/2010 shows that there was a total of 3,441 individuals trained, 1,212 trained in 2008, 1,450 in 2009 and 779 in 2010.

3. **Industrial attachment.** This scheme is aimed at regulating the training of attachees in industry. It is eligible to those in training, who have completed at least two-thirds of the course syllabus, to gain pre-professional work experience with specific assignments and responsibilities. In addition, those who are working also qualify for industrial attachment after identifying training needs with the approval of DIT. The scheme recommends an attachment period of between eight and twelve weeks, depending on the nature and level of training.

   A review of attachments facilitated indicates that there has been an increase in industrial attachments for the four years period rising from 3,840 in 2006/2007 to

9,763 in 2009/2010. The highest increase in number of students beneffiting from the scheme was registered between 2008 and 2009 as shown in Figure 2.4.

Figure 2.4: Number of students that have benefitted under the industrial attachment scheme from 2007 to 2010



Source: Directorate of Industrial Training (DIT)

4. **Management and supervisory training.** The management training is designed for employees responsible for policy development and managing resources in their organizations with the aim of enhancing their skills for achievement of desired organizational goals and objectives. On the other hand, supervisory training is designed for employees that are in charge and accountable for sections/units' performance; its purpose is to create work climate conducive for teamwork, co-operation and open communication in accomplishing work tasks

The total number of individuals that DIT approved for industrial training for the period 2005 to 2009 is 77,929. Ninety nine (99) percent of these approvals for local training while 0.01 percent for overseas training as shown in Table 2.1. Over a period of five years from 2005-2009, plantation sector has recorded the highest number of individuals trained. The year 2008 recorded the highest number of trainees at a figure of 26,053. DIT had approved a total of 357 individuals to attend oversees management and supervisory training courses in the last five years. General and Motor sector recorded the highest number of applicants while government and local authority and allied sectors have had neither applications nor approvals over the period as illustrated in Table 2.2.

Table 2.1: Number of individuals trained on management and supervisory training courses locally

SECTOR	NUMBER OF INDIVIDUALS TRAINED					
	2005	2006	2007	2008	2009	TOTAL
Banks	370	482	778	2,250	2,047	**5,927**
Building	27	78	24	97	346	**572**
Chemical	692	935	2,720	2,221	2,155	**8,723**
Commercial	670	711	1,792	3,385	5,849	**12,407**
General and Motor	1,026	932	3,152	4,171	2,646	**11,927**
Food Processing	495	56	1,271	1,985	2,000	**5,807**
Plantation	1,422	1,139	5,930	9,447	7,689	**25,627**
Printing	176	221	206	882	454	**1,939**
Saw Milling	198	136	256	276	175	**1,041**
Textile	249	203	400	1,021	674	**2,547**
Research	0	0	0	291	174	**465**
Government	0	0	0	8	0	**8**
Medical Health Services	0	0	0	19	563	**582**
Local Authority and Allied Services	0	0	0	0	0	**0**
TOTAL	**5,325**	**4,893**	**16,529**	**26,053**	**24,772**	**77,572**

Source: Directorate of Industrial Training (DIT)

Table 2.2: Number of individuals trained on management & supervisory training courses overseas

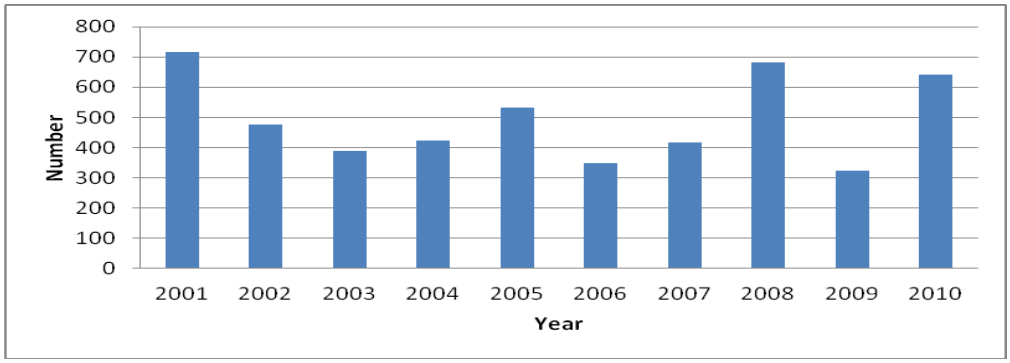
SECTOR	NUMBER OF INDIVIDUALS TRAINED					
	2005	2006	2007	2008	2009	TOTAL
Banks	6	6	38	12	3	**65**
Building	1	0	0	1	0	**2**
Chemical	7	7	7	14	9	**44**
Commercial	11	15	11	8	11	**56**
General and Motor	5	7	39	42	4	**97**
Food Processing	1	0	2	2	2	**7**
Plantation	2	1	9	3	2	**17**
Printing	5	10	2	0	3	**20**
Saw Milling	5	0	7	0	0	**12**
Textile	1	0	4	6	0	**11**
Research	9	0	0	1	7	**17**
Government	0	0	0	0	0	**0**
Medical Health Services	0	0	0	3	6	**9**
Local Authority and Allied Services	0	0	0	0	0	**0**
TOTAL	**53**	**46**	**119**	**92**	**47**	**357**

Source: Directorate of Industrial Training (DIT)

5. **Apprenticeship training**. This scheme involves an apprentice serving an employer for a specified period of time for the purpose of acquiring knowledge and skills of a given occupation. The scheme is divided into two parts: firstly, practical training on the job that is undertaken with the employer under supervision of a Senior Industrial Training Officer and second, supplementary craft course training that

includes practical training (70%) and theoretical instructions (30%) related to the trade that is conducted at one of the DIT training centres or at any other approved training establishment. The scheme consists of two levels i.e. technician/diploma and craft/certificate. Information relating to the number of trainees in this programme is as shown in Figure 2.5.

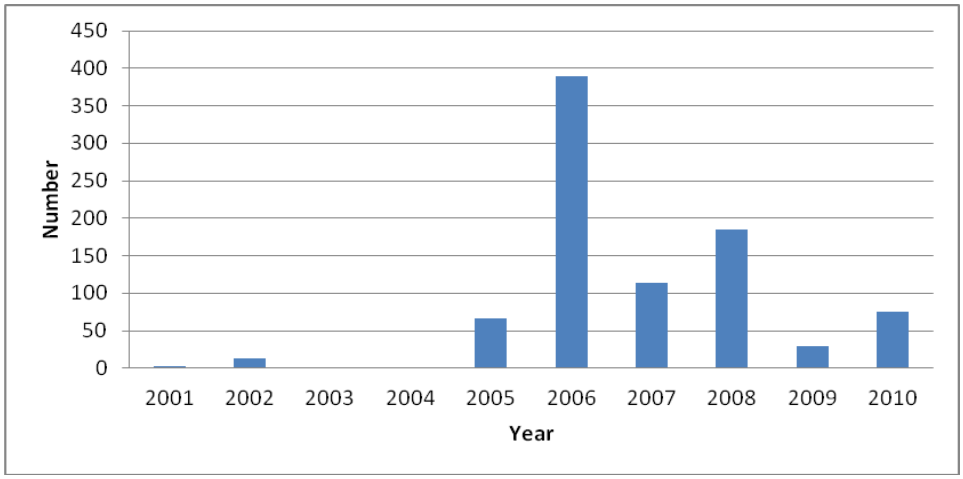
Figure 2.5: Number of individuals trained under the apprenticeship programme



Source: Directorate of Industrial Training (DIT)

6. **Indentured learnership**. This programme enables a person, often a young person, under a contract, to work for another person for a definite period of time to learn a particular occupation/job. It is mainly practical-oriented and requires the trainee to work with an experienced person. Performance of the indentured learnership programme has been as shown in Figure 2.6.

Figure 2.6: Number of individuals trained under the indentured learnership programme



Source: Directorate of Industrial Training (DIT)

The highest number of indentured learnership trainees for the period 2001 to 2010 was recorded in 2006 at 386. This was achieved through sensitization of employers on the importance of training of their workers for performance improvement. It was the year that Rapid Results Initiatives (RRI) programmes were introduced by the Government so that workers in the public sector would make an impact in service delivery to their customers. In 2003 and 2004, no workers were trained since reimbursement after training was unreliable thus discouraging employers from recruiting trainees for the programme.

7. **Female engineering sponsorship.** This scheme involves offering sponsorship to female students from poor families, some of whom are orphans. The sponsorship is for engineering courses and takes three years. Since its inception this programme has been sponsoring 25 female students annually who are placed in training institutions to undertake engineering diploma courses. The first group of trainees was sponsored in 2007. One hundred and fifty (150) trainees have benefited from the programme.

2.4.7 Emerging Issues in Industrial Training

Training programmes and their objectives changed in the 1980s and 1990s. Employers have to adapt to rapid technological changes, improve product and service quality and boost productivity to remain competitive. Such improvements require remedial training because employees have to use critical thinking and analytical skills in the execution of their tasks. Environmental changes may be conceptualized as threats or opportunities and both are associated with urgency, difficulty and high stakes (Chattopadhyay et al, 2001). They are thus likely to evoke organizational responses and consequently human resource management action.

Threats involve a negative situation in which loss is likely to be incurred while opportunity involves a positive situation in which some gain is likely to be enjoyed by an organization. Perceptions of threats can intensify concerns about efficiency-enhancing strategies, hence focusing on internal organizational issues such as cost-cutting, aggressive marketing, emphasis on quality and change in organizational culture, while perceptions of opportunities are associated with a greater sense of control which may

imply initiating risky actions such as developing new products or venturing into new markets.

The implication of environmental change means that organizations have to respond by instituting a variety of strategies in order to generate sustained levels of profitability in the future. An organization faced with environmental change can establish several strategic postures with the environment. Employees must acquire team building, decision making and communication skills. They also have to acquire knowledge and skills to work with the new technology. Employee training can serve to increase commitment to the organization and perception of the organization as a good place to work. This should arise from the fact that the organization shows commitment to employees by providing opportunities for employees to upgrade their skills and better themselves (Chattopadhyay et al, 2001).

It is essential that all employees undergo specific training programme that help in maximizing their potential. Training should be a continuous process keeping in view the changing industry demands and the environment. The role of a trainer, on the other hand, should be that of a mentor, facilitator and change agent.

2.5 Industrial Training Experience in Other Countries

Industrial training through a training levy is a practice that continues to work in many countries with success, facilitating the acquisition, financing and upgrading of skills, coping with new technology. In several countries studied, industrial training is of paramount importance and payment of the training levy is strictly enforced and the levy is optimally utilized. These are the issues that form the objectives of this study. Some of the countries that were found to have the best practices are China, Australia, New Zealand, Malaysia, India, Germany, Belgium, Sweden, United Kingdom, Egypt, Mauritius, South Africa, Chile and Brazil. This study heavily relied on a report (ROK, 2005a), by the National Industrial Training Council that was developed after a tour of various countries in 2005 coordinated by the Ministry of Labour.

The study carried out by the National Industrial Training Council (ROK, 2005a) found out that in all the countries listed above, the Government partly finances education and training and in most cases the levy is collected by agents contracted by the respective

national organisations administering the fund. The levy is either based on a percentage of monthly payrolls, net profit or contract sum paid prior to the contract. The Kenya Government finances part of the costs relating to education and training. In Kenya, Levy used to be paid either on a per capita basis biannually, percentage of contract for the building construction or percentage turnover in the case of the timber and furniture and quarry sectors before June 2007. After June, 2007, levy standardized at a uniform rate of Shillings fifty Kshs 50.00) per employee per month. Levy is paid by the employer. An employer who defaults in respect of payment of levy is charged a penalty of 5% per month of the amount of the default. An employer who fails to pay the penalty is liable for a fine not exceeding Kshs 6,000 or imprisonment for a period not exceeding six months or both (ROK, 1983).

2.5.1 Malaysia

Introduction

In Malaysia, industrial training is administered under the Human Resources Development Act of 1992 that established the Human Resources Development Fund (HRDF) administered by the Human Resources Development Council (HRDC). The Act provides for the establishment of a HRDC Board of Directors comprising representatives from employers, Government agencies responsible for human resources development / training, the Ministry of Human Resources, Ministry of Finance, Chief Executive and two independent members.

The Human Resource Development Council (HRDC) The objective of HRDC is to encourage employers in the private sector to re-train and upgrade the skills of their employees in line with their business needs and the industrialization strategy of the country. The HRDF is utilized in the creation of knowledgeable and skilled workforce that enhances the country's competitiveness in the global economy.

The Human Resources Development Fund (HRDF)

The HRDF covers employers with 10 and more employees and paid up capital of RM2 million and above. It is mandatory for this category of employers to register and pay levy at the rate of 1% of the monthly payroll. Employers with 10 to 49 employees and a paid-

up capital of less than RM 2.5 million are given the option to pay a monthly levy at the rate of 0.5 % of payroll.

An employer who fails to pay levy within the prescribed period is guilty and liable to a fine not exceeding RM 20,000 or imprisonment for a term not exceeding 2 years or both. Employers who fail to pay their levy have to pay an annual interest of 10% in respect of each day of default or delay in payment. The levy is paid directly through a bank contracted by the Fund. By March 2005 there were 6,120 registered employers and the rate of reimbursements is linked to the contributions made.

Training Schemes

The HRDF administers the following schemes:

i) **SBL Scheme**

This is the Human Resource Development Fund's (HRDF) main scheme where financial assistance in the form of training grants can be considered for all types of training programs relevant to the needs of the employers registered with the Secretariat.

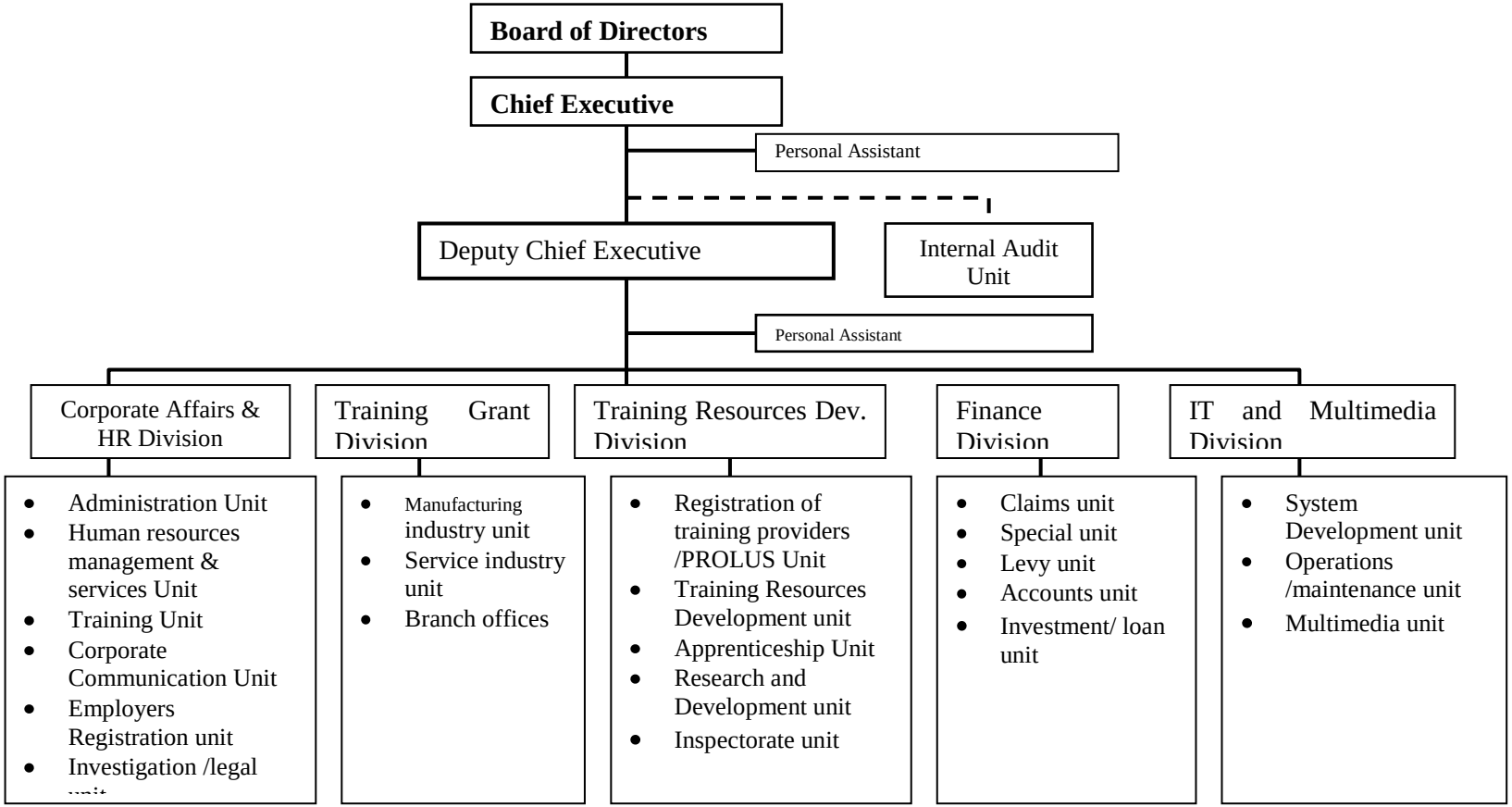
ii) **PLT Scheme**

This scheme is to enable employers to formulate annual plans, which are proposals for training activities that employers intend to carry out annually, commencing from beginning of the year. The plans are drawn up based on careful analysis to meet the company's business goals.

iii) ***Juruplan Scheme and SMI Training Needs Analysis Consultancy Scheme***

These are schemes to help employers who are not able to develop their own annual training plans due to lack of resources and expertise. The schemes are a one-off exercise thus there must be a transfer of knowledge and skills from participating consultants to employers in the context of a "change agent/ client' relationship. The Juruplan scheme assists employers with more than 200 employees while the Small and Medium Industries (SMI) Training Needs Analysis Consultancy scheme assists employers with 199 employees and below.

Figure 2.7 HRDC Organization Chart



Source: HRDC, Malaysia

iv) PROLUS Scheme

Under this scheme, training providers have to register with HRDC, after which they may submit their programs /courses to be considered for the award of Approved Training Programmes (ATP) status.

v) PERLA Scheme

This is a Training Agreement Scheme with selected training providers registered with the HRDC where employers sending their employees for retraining/skills upgrading with these training providers need not pay the full amount of fees charged. For example, if the fees charged for a particular program is RM 1,000 and the rate of financial assistance under the HRDF is 85%, employers need only pay an upfront of RM 150 upon registration. The training provider concerned would claim the balance of RM 850 from PSMB. Where the rate of assistance is 100%, the employer need not make any payment.

vi) **SBL-PKS Scheme:**

This scheme is for employers in Small and Medium Enterprise with 199 employees or less to retrain and upgrade the skills of their workforce. Employers may select any program offered by training providers registered under this scheme. Payment for course fees will be made directly to training providers on behalf of employers and the amounts will be debited to individual employer's account. Payment is made on a claimed basis.

In the Apprenticeship Scheme, apprentices are selected after leaving school. Existing employees with no formal training can also be sponsored by employers, subject to a ratio of 1 existing worker to 1 school leaver. The duration of training ranges from 6 months to 18 months, depending on the type of skills and needs of employers. The training involves a combination of theoretical training at the premises of the training provider with an emphasis on practical training structured on-job training at the premises of sponsoring employer. Sponsoring employers are also responsible for purchasing insurance coverage for the apprentices during the training period. Sponsoring employers are eligible for financial assistance at the rate of 100% of the allowable costs including insurance coverage, monthly allowances of apprentices and consumable training materials.

viii) **Joint Training Scheme**

The scheme enables several employers, particularly those from Small and Medium Enterprises (SMEs), to jointly appoint a training provider to conduct training for their employees. One employer organizes the others and determines the type of program required. He also engages the training provider and determines the training venue and determines the cost per employee to enable participating employers to claim the allowable costs incurred on completion of the course. The number of employees from participating employers must be more than 50% of the participants. The organizing employer will be able to claim 100% of allowable costs while participating employers can only claim the normal rates of financial assistance approved by HRDC.

ix) **Purchase of Training Aids and Setting up of Training Room Scheme.**

The scheme enables employers obtain financial assistance at the rate of 80% to purchase basic training aids and set up training rooms, subject to a maximum of 20% of total levy paid in the previous year.

x) **Purchase & software development scheme**

Employers who wish to purchase or develop computer-based training software including CD-ROM for the retraining and skills upgrading of workers are eligible for financial assistance. For the purchase of software, prior approval from HRDC is not required but such approval must be obtained to engage consultants to develop specific training software. The rate of financial assistance is based on the type of skills.

xi) ***Computer Based Training (CBT) Scheme***

Financial assistance is provided to employers to set up computer training units within their premises to encourage Information Technology training. Employers can under the scheme purchase several units of multi-media personal computers. The assistance is however up to a maximum amount of RM 25,000 for once in every three years for headquarters of companies.

xii) **Training for Retrenched Workers**

The scheme enables retrenched workers to enhance and upgrade their skills towards increasing their employment opportunities and also employers to recruit workers with higher skills from the labour market, particularly when the economy improves. Only the

training fees incurred and monthly allowances at pre-approved rates will be fully paid by HRDC.

2.5.2 Republic of South Africa

Introduction

Training is governed by four legislations namely the Skills Development Act, the Skills Development Levies Act, South African Qualifications Authority (SAQA) Act and the Employment Equity Act.

The Skills Development Act provides for an institutional framework to devise national, sector and workplace strategies, development and improvement of the skills of SAQA, learning that leads to recognised occupational qualifications, the financing of skills development by means of a levy-grant scheme and a National Skills Fund and regulation of employment services.

The functions of the Skills Development Act include developing skills of the South African Workforce, increasing investment in Education and Training, and encouraging employers to use workplaces as active learning environments. It establishes Sector Education and Training Authorities (SETAs) encourage workers to participate in learning and training programs, improve employment prospects of previously disadvantaged to enter the labour market, redress disadvantages through training and provide and regulate employment services.

The Skills Development Levies Act requires every employer to pay skills development levy each month to the National Skills Fund (NSF). Companies pay 1% of their payroll to South African Revenue Services (SARS) with 20% deposited with the NSF and 80% going to the SETA, (10% for administration and 70% for grants). Training is funded through the National Skills Fund from levies (20%), penalties collected by SARS, money appropriated by Parliament; interest earned on investments; donations and money received from any other source.

The money in the Fund may be used only for the projects identified in the National Skills Development Strategy and a maximum of 2% of the money may be used to administer the Fund. Each public service employer at the national and provincial levels of government is

required to budget at least 1% of its payroll for the training and education of its employees. There is provision for government departments to contribute funds to a SETA.

The Sector Education and Training Authorities are financed by 80% of the skills development levies, interest and penalties collected in respect of the SETA; moneys paid to it from the National Skills Fund; grants, donations and donations made to it; income earned on surplus moneys deposited; income earned on services rendered in the prescribed manner.

The South African Qualifications Authority Act, of 1995 provides for the establishment of the South African Qualifications Authority (SAQA), the development and implementation of a National Qualifications Framework (NQF) and matters connected therewith while the Employment Equity Act provides for the promotion and achievement of equity in the workplace.

Policy Framework

The National Skills Development Strategy (NSDS) spells out the national priority areas to which the projected income from the skills development levy would be allocated for the next five years and the strategy represents a detailed performance of the SETAs and the National Skills Fund initiatives.

The aim of the government is to have skills for sustainable growth, development and equity and this is achieved by having the NSDS contribute to sustainable skills growth, development and equity of skills in training institutions. The Principles of the NSDS are to promote productive citizenship for all by matching skills development with national strategies for growth and development. It accelerates broad based black economic empowerment and employment equity. It focuses on advancement of culture of excellence in skills development and lifelong learning. NSDS supports economic growth for employment creation and poverty eradication.

Sector Education and Training Authority (SETA)

The department of labour approved the establishment of SETAs under the Skills Development Act to ensure that the skills needed in every sector of the South African economy are identified and that training is available to provide for these skills. The SETAs are responsible for disbursement of the training levies payable by all employers.

The Services SETA has been established to ensure that the skills needs of the services sector are identified and addressed. The aim is to instill in working communities of the country a tangible, trainable, certifiable and accountable measure of service excellence that it can benchmark against comparable international standards of service. The Manufacturing, Engineering and Related Services Sector Education and Training Authority (MERSETA) is the SETA for the manufacturing, engineering and related services sector with the aim of promoting economic and employment growth while addressing inequalities in education and training in the sector.

The levy grant scheme provides incentives to employers to undertake training interventions that upgrade the skills of their workforce. The MERSETA offers levy payers three grants: two mandatory grants and a discretionary grant. A grant year starts on 1st April of a year and continue to 31st March of the following year. There are two Mandatory Grants issued by MERSETA namely, the Work Skills Plan (WSP) and the Annual Training Report (ATR).

The Work Skills Plan is a projected training plan submitted by an employer to the SETA. The WSP grants are based on up to date levy payments, appointment of Skills Development Facilitator (SDF), evidence of planned training, employer and SDF signatures for less than 50 employees trained and employed, SDF and trade union signatures for more than 50 employees trained. The Annual Training Report is submitted to the SETA and shows how much the WSP has been implemented. The ATR grants are based on up to date levy payments, completion of sixty percent planned training as per the submitted WSP, employer and SDF signatures for less than 50 employees trained, employer, SDF and trade union signatures for more than 50 employees trained and proof of training. The categories for the grants include apprenticeships, Learnerships, Adult

Based Education and Training (ABET) and training of an employee for career advancement as per the Employment Equity Act.

The Discretionary Grants (DG), are used for Apprenticeships and Artisan, Training and Recognition Agreement for Metal and Engineering (ATRAMI), Learnerships, Skills Programmes, ABET and Experiential Training for Technikon students in the engineering fields. Payment is based on; up to date levy payments, completed grant application forms Pre-completed grant application forms obtained from the regional office for apprentices/learners/ATRAMI trainees and signatures. The MERSETA Bursary Scheme seeks to partly address the broad scarce skills and skills gaps identified in the sector and are allocated to potential learners, including technical and university pursuing identified areas of focus.

The South African Qualifications Authority (SAQA)

The South African Qualifications Authority (SAQA) is a body of 29 members comprising of key education and training stakeholders appointed by the Ministers of Education and Labour. Its mandate is to ensure quality qualifications in South Africa, with the aim of having a world class National Qualifications Framework (NQF). The mission is to ensure the development and implementation of a NQF, which contributes to the full development of each learner and to the social and economic development of the nation at large. The functions of SAQA are to oversee the development of the NQF by formulating and publishing policies and criteria for the registration of bodies responsible for establishing education and training standards. It also ensures that provisions for accreditation are complied with, and that registered standards and qualifications are internationally comparable.

The roles of SAQA are to ensure that the nation has a standard setting system, a quality assurance system and a comprehensive information system known as the National Learners' Records Database (NLRD). The NQF is the set of principles and guidelines by which, records of learner achievements are registered to secure national recognition of acquired skills and knowledge, thereby ensuring an integrated system that encourages life-long learning. SAQA has adopted an eight-level framework with levels 1 and 8 respectively being regarded as open ended. Level 1 accommodates three Adult Basic

Education and Training (ABET) certification levels as well as the General Education and Training Certificate. The SAQA has seven Directorates, which are under the Chief Executive Officer. They include Standards Setting and Development, Quality Assurance and Development, National Learners' Records Database, Strategic Support, Information and Information Technology, Human Resources and Finance and Administration.

The Umsobomvu Youth Fund (UYF)

The UYF was established by the government in January 2001 with the mandate of promoting the job creation and skills development and transfer among young South Africans aged between 18 and 35 years. The main aim was to make strategic investments that would create opportunities for young people to acquire skills and access job opportunities or pursue meaningful self-employment opportunities. Its vision is to enhance the active participation of South African youth in the mainstream of the economy.

The UYF has established three main programmes. The Contact Information and Counseling (CIC) programme, gives young people access to information and counseling support relating to career growth, job prospects and entrepreneurship opportunities. This is done through Youth Advisory Centres, Youth Call Centre, Youth Portal and Youth Cards. Skills Development and Transfer Programme offers clearly defined exit opportunities for participants and comprise of two major programmes; School to Work and National Youth Service. The Business Development Service Unit (BDSU) provides assistance through Business Development Services Voucher and Entrepreneurship Education.

A comparative analysis therefore reveals that there is need for Kenya to look into some very critical issues. There is a need to develop national training goals, objectives, strategies and policies for skills development in Kenya. Kenya lacks a National Qualifications Authority which can develop a National Qualifications Framework (NQF). Capacity building, training and incentives for human resource development should be steeped up. Rehabilitation, updating and modernization of equipment, infrastructure and technology in training institutions should be an ongoing process especially in public training institutions like youth polytechnics which are the best avenues for the vast

majority of operatives. Workers should always adapt to the new technology so as to improve productivity. The polytechnics should be increased by constructing new ones and reviving the defunct ones.

Figure 2.8: The South African National Qualifications Framework

<table>
<tr><th>NQF LEVEL</th><th>BAND</th><th colspan="2">QUALIFICATION TYPE</th></tr>
<tr><td>8</td><td rowspan="4">HIGHER EDUCATION AND TRAINING</td><td colspan="2">• Post-doctoral research degrees
• Doctorates
• Masters degrees</td></tr>
<tr><td>7</td><td colspan="2">• Professional Qualifications
• Honours degrees</td></tr>
<tr><td>6</td><td colspan="2">• National first degrees
• Higher diplomas</td></tr>
<tr><td>5</td><td colspan="2">• National diplomas
• National certificates</td></tr>
<tr><td colspan="4">FURTHER EDUCATION AND TRAINING CERTIFICATE</td></tr>
<tr><td>4</td><td rowspan="3">FURTHER EDUCATION AND TRAINING</td><td colspan="2" rowspan="3">• National certificates</td></tr>
<tr><td>3</td></tr>
<tr><td>2</td></tr>
<tr><td colspan="4">GENERAL EDUCATION AND TRAINING CERTIFICATE</td></tr>
<tr><td rowspan="2">1</td><td rowspan="2">GENERAL EDUCATION AND TRAINING</td><td>Grade 9</td><td>ABET Level 4</td></tr>
<tr><td colspan="2">• National certificates</td></tr>
</table>

Source: ROK, 2005a

Industrial training through a training levy Fund is a practice that continues to work in many countries with success, facilitating the acquisition, financing and upgrading of skills, coping with new technology. In many countries, industrial training is of paramount importance and payment of the training levy is strictly enforced and the levy optimally utilized. The National Industrial Training Council report (ROK, 2005a), that was compiled after a tour of various countries in 2005 coordinated by the Ministry of Labour supports this statement.

2.6 Conceptual Framework of the Study

2.6.1 Prelude to the Study's Conceptual Framework

In Kenya, industrial training is not undertaken by many workers in a structured manner. In most cases workers are recruited when contractors secure construction projects. The consequences of untrained operatives are well documented in reports of collapsed buildings which have resulted in the death of workers, injuries and astronomical losses to developers.

Scholars like Wachira (2008) have noted a trend where contractors have resorted to casualisation of labour. Some construction firms subcontract labour only entities that operate outside the confines of employment legislation. They offer no social protection or training to the workforce and are declared redundant on completion of the project. Wachira (2008) continues to say that casualisation of labour has resulted in a decline in the incentive to train site production workers by contractors and hence they do not pay the Industrial Training Levy to DIT. The non-payment of levy makes their workforce be excluded from the formal training programmes. Many contractors are not aware of the existence of the training levy while others pay the levy but they do not utilize it for training largely because they are not conversant with the processes of training and reimbursement. Lack of skills can seriously constrain economic growth and the skills level and quality of workforce are the means to success in the global economy.

Kenya is reported to have inadequate training institutions while government training institutions lack essential facilities and have outdated technology which hinders proper preparation of trainees for the world of work. Most operatives cope with new technology either through training on site by the manufacturer or the contractor or trial and error.

In many countries industrial training through a training levy is a practice that continues to be in use successfully, facilitating the acquisition, financing and upgrading of skills, coping with new technology. In several countries studied, industrial training is of paramount importance and payment of the training levy is strictly enforced and the level is optimally utilized. Some of the countries that have best levy payment and utilization practices are Malaysia and South Africa. In these countries failure to pay levy attracts penalties.

Kenya's Vision 2030 recognises that the education and training is fundamental to the success of the Vision. The Government commits itself to reform and substantially invest in the education sector to produce the required human resources for the priority growth sectors. The Government notes that high disparities in access to education at all levels remain a challenge. The problem is most acute in Technical and Vocational and Education Training (TVET) institutions and at university level. Considerable investments will therefore have to be made by both public and private sectors to correct these disparities.

Inadequate facilities at post school level have resulted in most young people ending up in the informal sector. The mismatch between the skills imparted by the education sector and the requirements of the labour market must be addressed in order to meet the demands of a new economy. The Government recognises the importance of a skills inventory database that will indicate the distribution of all trained Kenyans. Such a database is an indispensable tool for planning the future training programmes of the country.

2.6.2 A Systematic Approach to Training

Against the summary in item *2.6.1* above, this study took systematic approach to training as its conceptual framework. In this case, training in organizations like construction firms requires a systematic approach, where this approach addresses issues of reasons why the training programme is necessary for the organization, and whether there is a need and the purpose it should serve. This approach emphasizes the need to establish what types of training are to be offered and identify who should be trained and who will offer the training. In addition, it should be established how effective the training will be by evaluating against set standards and benchmarks and means of identifying resultant changes (Palmer 1998).

The framework notes that training is both important and expensive. Therefore organizations have to ensure that implementation of a training programme is effective by selecting the right programme for the right people under the right conditions and a systematic approach to training is thus recommended. Cole (1997) outlines the advantages of training as: maintenance of sufficient and suitable range of skills among employees, development of knowledge and skills in the workforce, harnessing of work experience and other forms of on-the-job development in a planned way, achievement of improved job performance and productivity, improved product quality, improved service to customers

and increased motivation among employees. In addition, the benefits of training to individual employees include: increased personal stock of skills, job satisfaction, increased value in the labour market, added abilities that improve effectiveness, greater motivation and improved prospects of internal promotion and career development (Ibid).

Therefore this study is hinged on the tenets of a systematic approach to training.

CHAPTER THREE: RESEARCH METHODOLOGY

This chapter details the various methods employed in the course of this study. They include the research design, sampling method, data collection, data analysis, quality assurance and presentation.

3.1 Research Design

This study adopted a descriptive survey research design with the use of a multiple-site study. Descriptive design entails describing the state of affairs as they exist. Kothari (2004) states that descriptive research studies otherwise called diagnostic research are those studies which are concerned with describing the characteristics of a particular individual, or a group and goes further to determine the frequency with which the characteristics of the variables occur. This kind of design is concerned with specific predictions, with narrations of facts and characteristics concerning the individual. It is a method of collecting information by interviewing or administering a questionnaire to a sample of individuals. It can be used when collecting information about people's attitudes, opinions, and habits among others. The descriptive research design is appropriate where data is collected from a sample and findings used to infer the characteristics of the population, (Kothari, 2004). It is mainly used when accurate and factual data is needed from systematic descriptions. The design has been used by researchers in similar past studies (Gakuru, 2005).

This research design was appropriate for this study because of the cross-sectional nature of the data required. The data collected through two complimenting methodologies that were quantitative and descriptive approach. The method was appropriate since it described recorded, analysed and interpreted conditions that existed on the various sites visited. The main concern would be the status of operatives found working on a construction project. Hypothesis formulation and testing of analysis of the relationship between non-manipulated variables would be carried out. The main aim would be to collect complete and accurate information. Neuman (2003), states that survey techniques are often used in descriptive or explanatory research where a researcher asks people questions in a written questionnaire (mailed or handed to people) or during interview and the answers recorded. Neither the situations nor conditions during the collection of data

are manipulated. The data is thereafter summarized in percentages, tables and graphs. The data collected from a smaller group chosen as the sample is used to generalize for a larger group. Bell (2004), states that a well-structured and piloted survey can be a relatively cheap and quick way of obtaining information in instances where the sample population is truly representative of the population.

3.2 Target Population

3.2.1 Contractors

The Contractors Register, at the Ministry of Public Works as of November 2009, indicates that there were 2,976 registered contractors. Of these only 1,208 are registered with the DIT as is required by the Industrial Training Act, Cap 237 (ROK, 2009b). This forms the universe of the study. Since the study's horizontal scope was to cover Nairobi, tables 3.1 and 3.2 below show the classification of general and specialist contractors in accordance with the scope of work they can handle from the lowest, category H, to the highest, category A.

Table 3.1 Classification of General Contractors

CATEGORY	VALUE LIMIT (KSHS.)
A	Unlimited
B	Up to Kshs. 250,000,000.00
C	Up to Kshs. 150,000,000.00
D	Up to Kshs. 100,000,000.00
E	Up to Kshs. 50,000,000.00
F	Up to Kshs. 20,000,000.00
G	Up to Kshs. 10,000,000.00
H	Up to Kshs. 5,000,000.00

Source: Adapted from ROK, 2009b, Ministry of Public Works, List of registered Contractors

General contractors handle general building works including roofing, masonry, concrete works among others.

Table 3.2 Classification of Specialist Contractors

CATEGORY	VALUE LIMIT (KSHS.)
A	Unlimited
B	Up to Kshs. 50,000,000.00
C	Up to Kshs. 30,000,000.00
D	Up to Kshs. 20,000,000.00
E	Up to Kshs. 10,000,000.00
F	Up to Kshs. 4,000,000.00
G	Up to Kshs. 2,000,000.00
H	Up to Kshs. 1,000,000.00

Source: Adapted from ROK, 2009b, Ministry of Public Works, List of Registered Contractors

Specialist contractors just as the name depicts, handle special contracts like strictly electrical works, plumbing, among others.

Criteria for identification of the target population of contractors

- The study considered contractors who fall within the categories A to C for both General and Specialist contractors since they qualify to handle projects up to Kshs 30 Million. Building projects with an estimated cost of Kshs 30 Million with most of the works being concrete and masonry works can be executed in contract periods of up to one year. This is deemed to be a reasonable period for a contractor to make arrangements for an operative to be trained and services be utilized after the training.

- The contractors registered with the Ministry of Public Works and also registered with the Directorate of Industrial Training as contributors to the Industrial Training Levy Fund were considered in respect of utilization of the Levy Fund.

- In assessing the level of awareness of the Industrial Training Levy Fund, the focus was on contractors not registered with the Directorate of Industrial Training as Levy contributors but registered with the Ministry of Public Works.

The categorization of contractors within Nairobi in the Register at the Ministry of Public Works is as shown in Table 3.3. Out of the 270 contractors, 129 are registered with the Directorate of Industrial Training.

Table 3.3 Classification of contractors

Class	Number
A	123
B	54
C	93
Total	270
Registered with DIT	129

Source: Fieldwork, 2010

In order to capture the spirit of objectives 3 and 4, viz

- *To assess the level of awareness of the Industrial Training Levy Fund amongst contractors in categories A-C.*
- *To assess the level of utilization of the Industrial Training Levy Fund by levy contributing contractors in categories A-C.*

The study endeavored to understand the class of the company in terms of whether it was a general contractor or specialist contractor either of which information regarding the category of the company was important in respect of classes A, B and C.

Further the study did investigate the contractor's ways of financing the training of their workers whereby options such as Company's budget, Industrial Training Levy Fund, savings from employees and others which were specified by the respondents. The study also investigated the level of awareness by asking if the respondents were aware of the existence of the Industrial Training Levy Fund. Those who were aware of the existence of the Fund were further asked whether they were registered with the Directorate of Industrial Training as levy contributors and the period of registration. For those who were aware and using the fund, were asked whether at any time they had sought reimbursement from the Industrial Training Levy Fund in respect of training undertaken by their workers, and if the response was affirmative, they were asked if the claim for reimbursement was honoured. If the reimbursement was not honoured, the respondents were asked if DIT

gave them reasons for the rejection. For those who were aware of the existence of the Fund and were not utilizing it, the study inquired the reasons for the failure of not utilizing it. Generally, the study sought to know what measures should be undertaken to ensure that contractors utilize the Industrial Training Levy Fund.

3.2.2 Operatives

In order to assess how the operatives financed the initial acquisition of knowledge and skills and how they financed the upgrading of the same and how they cope with changing technology in the building industry, the study first inquired the specialization of the respondent in terms of the different trades for instance masonry, fabrication and welding, carpentry and joinery, plumbing and electrical. Further, the study endeavored to establish how skills in the mentioned trades were acquired, who and how it was financed.

The study also undertook to investigate whether the respondents had undertaken any training while in employment to improve their skills and if so, what was the nature of the training, where it was undertaken, duration of training and the financier of the training.

It was also important for the study to investigate how the respondents learn how to handle new materials and new technology in their trades, the challenges they face in doing so, and how they overcome the challenges.

Finally, the study did inquire from the operatives who in their opinion should finance the training of a worker while in employment.

3.3 Sampling Technique

Gay, (1981) as quoted by Mugenda and Mugenda, (2003) states that for descriptive studies, a sample size of 10% of the accessible population is enough to give valid data. However a researcher, depending on the availability of resources, may study more than 10% of the population. According to Neuman, (2003), sampling ratio should range from 30% for small populations (under 1000) to 0.025 % for large populations (over 10 million). Based on what Gay (1981) and Neuman(2003) say, any sample size exceeding 10% (according to Gay) and exceeding 30% (according to Neuman) is acceptable. This study is a case in point where 33.33% of the 270 contractors (approximately a third) were interviewed. This is an equivalent of 90 contractors.

3.3.1 Sample Population for Contractors

In sampling the contractors, the study administered a systematic sampling technique (Kothari, 2008). The k^{th} value for the systematic approach was calculated where in this case it was the every third contractor in the list. The ***k*** was 3.

Criteria for the systematic sampling of the contractors;

1. The list of contractors falling in categories A to C whose physical addresses are in Nairobi was generated from the Ministry of Public Works register.

2. Further segregation was done regarding whether a contractor was registered with DIT or not.

3. Out of the 270 accessible population, 141 contractors were registered with the Ministry of Public Works but not with the Directorate of Industrial Training. The list was randomised to give every contractor an equal chance of being picked. As a result, a third of the total was randomly selected, giving a sample size of 47.

   The Process of randomizing

   i. This study recommended the sampling of 33.33% of the total population of the contractors in class A to C, implying that only one third of this population was to be interviewed.
   ii. In systematic sampling as prescribed in item 3.3.1 above, every k^{th} value of the population would be picked for interview.
   iii. All the names of the 141 contractors were written in small pieces of paper, rolled into tiny balls and put inside a basket.
   iv. As indicated in (ii) above, every third ball picked would qualify for interview.
   v. From the basket, the researcher picked the balls without replacing so as to give every contractor an equal chance to be picked, such that after every two balls picked, the third would be put aside for interview.
   vi. After exhausting all the balls inside the basket, the study was left with 47 names of contractors registered with the Ministry of Public Works but not with the Directorate of Industrial Training

4. Equally the remaining 129 contractors are registered both with MoPW and DIT. The list was randomised and selected without bias, giving a sample size of 43 contractors.

The Process of randomizing

i. This study recommended the sampling of 33.33% of the total population of the contractors in class A to C, implying that only one third of this population was to be interviewed.
ii. In systematic sampling as prescribed in item 3.3.1 above, every k^{th} value of the population would be picked for interview.
iii. All the names of the 129 contractors were written in small pieces of paper, rolled into tiny balls and put inside a basket.
iv. As indicated in (ii) above, every third ball picked would qualify for interview.
v. From the basket, the researcher picked the balls without replacing so as to give every contractor an equal chance to be picked, such that after every two balls picked, the third would be put aside for interview.
vi. After exhausting all the balls inside the basket, the study was left with 43 names of contractors registered with both the Ministry of Public Works and the Directorate of Industrial Training

In total the study sampled 90 contractors.

3.3.2 Sample Population for the Operatives

Although convenience-sampling method being non-probabilistic suffers from a lack of representativeness and control of bias (Leedy, 1993, p. 200), it is the preferred method for this study. According to Monette, Sullivan and De Jong (1994), convenience sampling is popular and appropriate for research when it is very difficult or impossible to develop a complete sampling frame or too costly to do so. Convenience sampling is where a researcher chooses a sample purposively without due regard to how probable it may be. Adoption of this sampling technique was necessitated by the fact that any construction site was valid as long as there were operatives working in it. As far as the operatives were concerned, interviews were not restricted to contractors within the sample size since some contractors did have ongoing projects in Nairobi. The choice of construction sites was

done using the convenience sampling method. According to Business Directory (2013), convenience sampling is a statistical method of drawing representative data by selecting people because of the ease of their volunteering or selecting units because of their availability or easy access. The advantages of this type of sampling are the availability and the quickness with which data can be gathered. It is also referred to as accidental sampling.

However selection of operatives within the construction sites was done with bias although with some caution since the construction projects visited were in different stages of construction. This meant it would not be practical to find operatives from all trades (Electrical, Masonry, Fabrication and Welding, Carpentry and Joinery and Plumbing) in one construction site. Their availability on construction sites would automatically depend on the stage reached in respect of a project.

Regarding the sample size of the operatives, Cohen and Manion (1985), state that a sample size of thirty (30) is held by many to be the minimum number of cases if a researcher plans to use some form of statistical analysis on data. Since a larger sample size is preferable so as to reduce cases of sampling errors, the study interviewed thirty five (35) operatives from each of the five trades aforementioned which are five (5) cases above the minimum size for uniformity and consistency in each trade.

In order to meet the target of 175 respondents spread across the five trade areas of carpentry and joinery, plumbing, masonry, fabrication/welding and electrical, 35 sites, not necessarily managed by the identified contractors, were to be visited assuming that each of the five trade areas was represented. However, given the fact that projects would be in different stages of construction, it was not possible to find all the five trades represented at each site and thus the approach was to visit more than 35 sites. A maximum of 5 operatives per site were interviewed. In order to interview the 175 operatives in all trade areas equally represented, the study covered 45 sites.

3.4 Survey Instruments

Mugenda and Mugenda (2003) states that data collection instruments can be questionnaires, interview schedules, observational forms and standardized tests. This study opted to collect data through questionnaires because foremost they are most

appropriate for a quantitative research like this one. They are also cost effective when the questions are many is was the case with this research. One is also able to administer uniform questions with no middleman bias. Questionnaires also allow one to respond at their own time and in this research the larger population was always at work on construction sites such that they could answer when they were free and the questionnaire picked up later. Due to its unobtrusive nature, the respondent of a questionnaire is not interrupted by the research instrument (StatpacInc, 2013).

Kothari (2004) states that questionnaires can either be structured or unstructured. Structured questionnaires have definite, concrete and pre-determined questions whereas unstructured ones have a general guide on the type of information to be obtained from a respondent. The questionnaires were designed to collect information from contractors in respect of awareness of the Levy Fund and its utilization. As for operatives the questions sought information in respect of acquisition of skills, financing of training and how they cope with the changing technology.

Table 3.4 Classification of questionnaires

Two types of questionnaires were administered as highlighted below.

Type of questionnaire	Respondent	Information sought
Appendix B	Operatives	Acquisition of skills, financing of training and upgrading of skills Coping with new technology
Appendix C	Contractors	Awareness on the Industrial Levy Fund and its utilization

Source: Fieldwork, 2010

3.5 Pilot Study

Kothari (2004), states that a Pilot Study is a replica and rehearsal of the main survey and establishes weaknesses of the questionnaires and the survey techniques. According to Wikianswers (2013), a pilot study permits preliminary testing of the hypotheses that leads

to testing more precise hypotheses in the main study. It may lead to changing some hypotheses/questions, dropping some or developing new hypotheses/questions. It often provides the researcher with ideas, approaches and clues one may not have foreseen before conducting the pilot study. Such ideas and clues increase the chances of getting clearer findings in the main study.

It permits a thorough check of the planned statistical and analytical procedures, giving the researcher a chance to evaluate their usefulness for the data. One may then be able to make the needed alterations in the data collection methods and therefore analyze data in the main study more efficiently. It can greatly reduce the number of unanticipated problems because one has an opportunity to redesign parts of the study to overcome difficulties revealed during the pilot phase. It allows the researcher to modify the questions for clarity and appropriateness. The pilot study almost always provides enough data for the researcher to decide whether to go ahead with the main study. In the pilot study, the researcher may try out a number of alternative measures and then select those that produce the clearest results for the main study.

Twenty (20) questionnaires to operatives and ten (10) to contractors were administered during the Pilot Study. A correction in the questionnaire relating to the operatives in respect of certification and grading was carried out. However, the questionnaire in respect of the contractors was found to be satisfactory.

3.6 Procedure of Data Collection

3.6.1 Secondary Data

The research started with the review of the relevant literature, discussing the nature of the construction industry, strategic human resource development, training, current issues on training, technical training polytechnics, technical training institutes and national development as well as industrial training in Kenya.

3.6.2 Primary Data

The primary data was obtained from the questionnaires that were administered to the operatives and contractors. The primary unit of analysis depended on the objective being pursued. Contractors registered with the MoPW formed the unit of analysis for the level

of awareness. Contractors registered with MoPW and DIT as levy contributors formed the unit of analysis for of the utilisation of the levy fund. Regarding the operatives the study identified active construction sites within Nairobi where the operatives were interviewed. A questionnaire for each category of respondents was then developed *(See Appendices B and C)*. The questionnaires administered to the workers took between 10-20 minutes to complete. The questionnaires relating to contractors were less involving and took 5-15 minutes to complete.

The questionnaires were designed for self-administration, making it possible for the respondents to complete them during their free time. In exceptional cases, where the respondents were not able to complete the questionnaires on site or in the event of the absence of the contractors at the time of the visit, self-addressed stamped envelopes were provided and respondents requested to post the completed questionnaires within one week.

3.7 Data Analysis

The data collected was analyzed using Statistical Package for Social Sciences (SPSS) *Version 15* by descriptive statistical tools of analysis (percentages and frequencies). Percentages and frequencies were used to determine the status proportions of respondents and their responses on the questions regarding industrial training in Kenya. For ease of interpretation, the findings were presented in tabular and graphical forms where necessary.

3.8 Data Management and Ethical Considerations

According to Reason and Bradbury (2001), a number of key phrases describe the system of ethical protections that the contemporary social research establishment has created to try to protect better the rights of their research participants.

- This study upheld to the principle of voluntary participation that requires that people are not coerced into participating in research. The study sought the participants' involvement through informed consent. Essentially, this means that prospective research participants were fully informed about the procedures and risks involved in this research and gave their consent to participate.

- Ethical standards also require that researchers do not put participants in a situation where they might be at risk of harm as a result of their participation. Harm can be defined as both physical and psychological. The study applied two standard practices in order to help protect the privacy of research participants. Firstly the research guaranteed the participants confidentiality by assuring that identifying information will not be made available to anyone who is not directly involved in the study. Secondly by applying the stricter standard in the principle of anonymity essentially the participant remained anonymous throughout the study even to the researchers themselves.

3.9 Monitoring and Quality Assurance

McNiff and Whitehead (1996), state that it is important to ensure that a research project is well-regulated in terms of its execution from the beginning to the end. Against this background, the researcher ensured that the data collection exercise, data entry, analysis and interpretation were done objectively so as to reduce cases of subjectivity and biasness. Triangulation of information from various sources like from DIT and former MoPW, probabilistic sampling for the contractors and picking only a maximum of five operatives for interview in every sampled site are some examples at data collection stage, while at data entry, analysis and interpretation level; cleaning and editing data after field data collection, double entry of data to check on the consistency are some of the examples. The exercise made use of triangulation in data collection where topical project issues raised in the tools designed for the respondents to ascertain clarity and information coherence.

Summary

The study adopted a descriptive survey research design with the use of a multiple-site study. Contractors in categories A to C and in Nairobi and operatives working on sites within Nairobi were interviewed. 175 operatives and 90 contractors were interviewed in respect of this study. Questionnaires were developed for the collection of primary data. A pilot study was conducted to test clarity and appropriateness of the questionnaires in respect of data collection. Secondary and primary data was collected from relevant review of literature and from questionnaires respectively. Data was analyzed using Statistical Package for Social Sciences (SPSS) *Version 15.*

CHAPTER FOUR: DATA ANALYSIS AND PRESENTATION

4.1 Introduction

4.1.1 Chapter Overview

The purpose of this study was to investigate the dynamics of industrial training in the building industry in Kenya. The dynamics within the context of this study regards; how operatives acquire, finance and upgrade their knowledge and skills; how operatives cope with changing technology; the level of utilization of the training levy fund by contractors registered by DIT; and the level of awareness of the industrial training levy fund amongst contractors who are not registered by DIT. This chapter presents the findings of the study in the following order.

Section 4.2 gives an overview of the construction industry with respect to basic socio-demographic features. It serves as the introductory section of this chapter and sets the context. Sections 4.3 and 4.4 have details in respect of acquisition of skills, financing of training, skills upgrading and coping with technology amongst workers within the construction industry. Section 4.5 looks at the general features of the contractors. Section 4.6 details how the levy fund is utilized. Section 4.7 identifies the level of awareness regarding the levy fund amongst contractors registered with MoPW but not with DIT. Section 4.8 summarises the challenges faced by the contractors in training the operatives

4.1.2 Response Rate

All the targeted operatives and 89% of the targeted contractors were interviewed thereby giving a very good response rate. Table 4.1 shows the response in respect of contractors and operatives.

Table 4.1 Response Rate

Category of Respondents		Sampled	Interviewed	Percentage	
Contractors	Registered with MoPW & DIT	43	40	93.02%	**89%**
	Registered with MoPW	47	40	85.11%	
Operatives		**175**	**175**	**100%**	

Source: Fieldwork, 2010

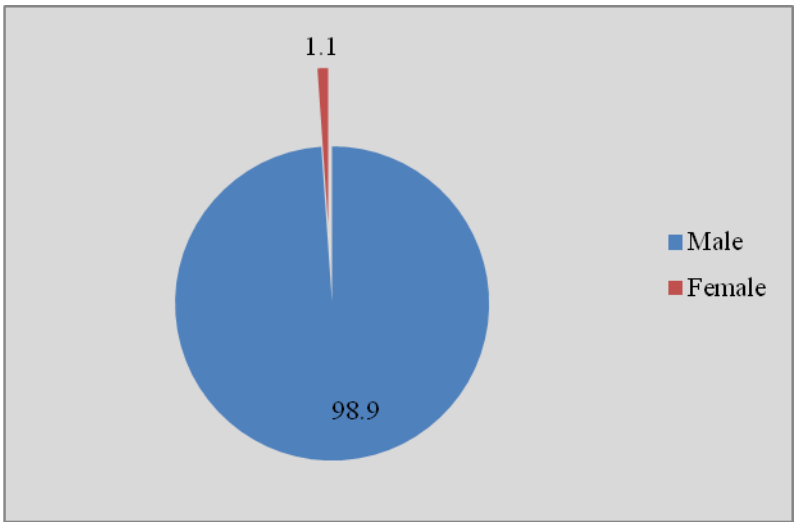
4.2 Characteristics of the Operatives

4.2.1 Socio-Demographic Indicators

Gender

This research revealed that out of the 175 operatives who were interviewed, women constituted 1.1% of the total sample. This shows as expected shows that the industry is male-dominated and in case training was to be carried out, men would be the ones to benefit. Except for electrical works, most of the trades need muscle power and men for being naturally strong better carry out these activities. The male dominance amongst the operatives is additionally an indicator of low levels of mechanization in the Kenya industry hence the preference for physical strength. Females are normally recruited to carry out other duties relating to procurement, human resource and accounts.

Figure 4.1: Gender Dimensions of the Operatives



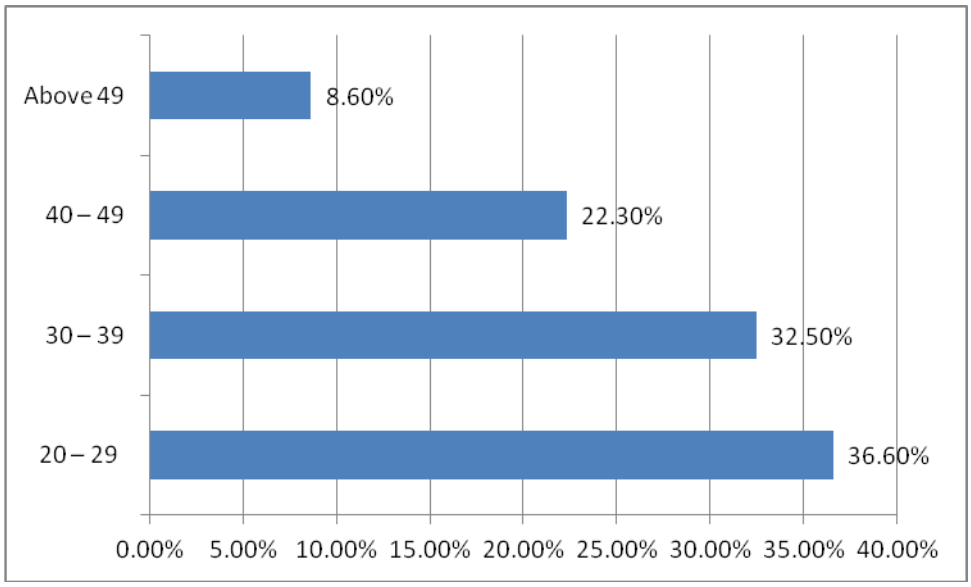
Source: Fieldwork, 2010

Ages

Figure 4.2 shows that as age increases, the number of operatives decreases. This is due to the fact that physical strength deceases with age. About 69.1% of the operatives that were interviewed were below 40 years which is an active age since most of them are physically strong. About 22.3% are in the range of 40-49 years and 8.6% above the age of 50 years which the study considers as a less productive age bracket, basically a retirement age.

Operatives at the age of fifty and above would in most cases be foremen on construction sites due to experience and be carrying out supervisory roles.

Figure 4.2 Age distribution of operatives



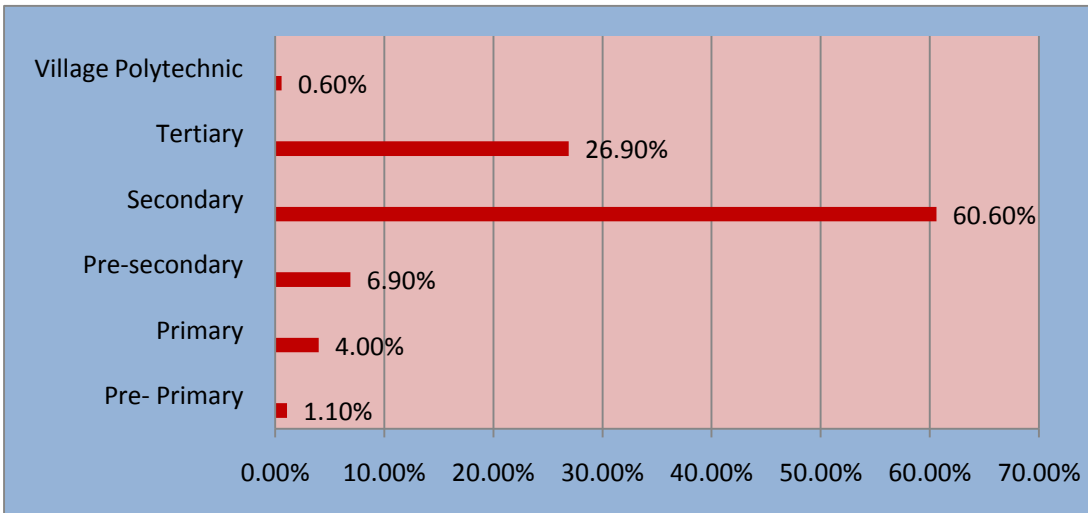
Source: Fieldwork, 2010

Education Background

The study established that over 87.5% of the operatives had attained a secondary school and tertiary education as shown in figure 4.3. With the lack of white collar jobs, this group opts for the operatives jobs unlike in earlier times when job opportunities were many and operatives jobs were left for the "uneducated". In times gone by one was considered uneducated if h/she did not possess a secondary education (ROK, 2005b).

Some operatives join the world of work before completion of their secondary education. These are the ones referred to as pre-secondary operatives. Those who complete secondary education and join training institutions like the polytechnics for certificate or diploma programmes are referred to as having completed tertiary institutions.

Figure 4.3: Education Background of the Operatives

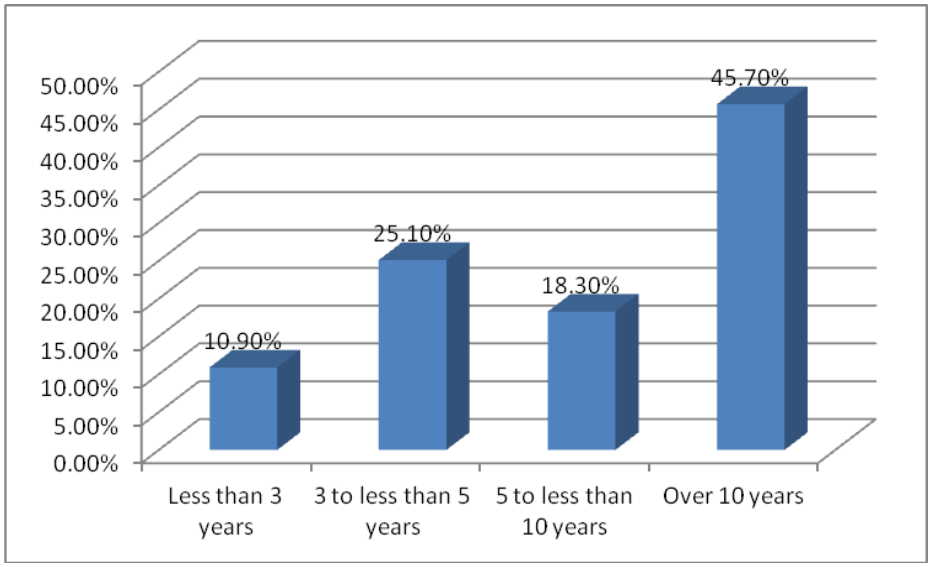


Source: Fieldwork, 2010

4.2.2 Duration in the Industry

Training and experience were correlated. It was found out that persons with over 10 years in the building industry were the preferred choice for training at 45.7% compared to the rest. It emerged that contractors generally train workers who consistently work in the industry. This is due to the confidence and trust that has been cultivated over that period. This is shown in Figure 4.4.

Figure 4.4 Duration that operatives have served in the industry



Source: Fieldwork, 2010

Due to the nature of the construction industry, where operatives are recruited after a contractor secures a project, majority of operatives work for contractors for the period that a project takes to complete. Most of the projects take less than five years to be completed. Most of the operatives work for about five years with contractors. Table 4.2 shows that about 88% of the operatives interviewed had worked for less than five years for the contractor. Except in cases where contractors secure big projects, that take a long time to complete, they release the operatives on completion of projects. This means that contractors recruit workers after they secure building projects. The services of the operatives are terminated after completion of construction projects. Unless the scope of a construction project is big and thus taking a long period to complete, the contractor is unlikely to sponsor an employee for training. This confirms the casual nature of in the construction sector.

Table 4.2 Period that operative has served with the current employer

Duration with the current employer	**Frequency**	**Percent**
Less than 3 years	114	65.1
3 to less than 5 years	40	22.9
5 to less than 10 years	10	5.7
Over 10 years	7	4.0
Retired	1	.6
Self Employed	3	1.7
Total	**175**	**100.0**

Source: Fieldwork, 2010

4.3: Knowledge & Skills Acquisition, Financing and Upgrading

4.3.1 Type of Trade Area

Under the types of trade area, the study sought to establish the area the operatives are specialized in, in order to establish the relevance of training. Five trade areas were identified in respect of this study since they are the most common trades in the building industry and contribute to a very high percentage of the elements in a building. Other trades encountered in a building project are such as painting, tiling and glazing and operatives carrying out these trades were not interviewed due to the challenge of time available for the study. However, the findings from the five trades whose operatives were interviewed would be used to infer the trend in the other trades.

The study also wanted to establish whether the operatives were graded or certified (Table 4.3). Grading is carried out by the Directorate of Industrial Training where tests are administered to the candidates. The tests have more emphasis on practical skills. The allocation of scores in respect of practical: theory for grade III level, the lowest, is 90:10, while that for grade II, the middle level is 85:15. The allocation of scores in respect of grade I is 80:20 (ROK, 2009a). Certification is carried out by the Kenya National Examinations Council with more emphasis on theory in respect of the examinations. This was to assess the skills possessed and the exposure to training.

Table 4.3: Trade area versus grading

Trade Area	Graded	Certified	Both	None	Total
Masonry	12	3	0	18	**33**
Fabrication & welding	7	2	0	23	**32**
Carpentry & Joinery	17	2	1	12	**32**
Plumbing	10	1	0	21	**32**
Electrical	9	4	2	12	**27**
Total	**58**	**13**	**3**	**116**	**190**
Valid Percentage of the operatives who responded	**30.5%**	**6.8%**	**1.6%**	**61.0%**	**100%**

Source: Fieldwork, 2010

Most of the operatives (61%) are neither graded nor certified in respect of the trades they are engaged in. This shows that operatives receive training while on the job where they join without formal skills training. The ease of entry and exit in the building industry makes the operatives join and leave the industry with ease. Most of the contractors are not keen on asking for paper qualifications since their main concern is output. Contractors recruit the operatives on casual terms of service and release them on completion of the task.

The study also endeavoured to find out whether employers recruit only graded and certified employees, and the findings were that only 6.5% of contractors recruit graded or certified operatives while 93.5% do not (Table 4.4).

Table 4.4 Consideration of contractors in recruitment of operatives

Methodology	**Responses**	
	N	**Percent**
Interview through performance of a task	68	48.9%
Reference from other employers	49	35.2%
Certificates of training	9	6.5%
Recommendation from current and previous employees.	4	2.9%
A combination of the above.	6	4.3%
Recommendation from friends/ business partners	3	2.2%
Total	**139**	**100.0%**

Source: Fieldwork, 2010

This group of respondents (93.5% of the employers) ascertains that the operatives can effectively perform their tasks after being referred to them by other contractors and employees. The work performed by the operatives is manual and practical. The main concern of the contractor is good quality work executed within a reasonable time which the operatives can deliver without paper qualifications, negating the need for the contractors to incur additional costs on formal training for the operatives. On their part, many of the operatives do not see the need to secure qualifications in an industry whose main concern is output.

4.3.2 Skills Acquisition

The study sought to establish how the operatives acquire the above skills so as to assess the utilization of training institutions by operatives. Most of the operatives acquire skills while working under qualified workers (50.2%) otherwise known as informal skilling. Government institutions e.g. Kiambu Institute of Science and Technology, Kenya Polytechnic, Kabete Technical Training Institute amongst others also play a major role in training operatives (37.1%).

Table 4.5 Acquisition of skills by operatives

How operatives acquire the skills	**Frequency**	**Percent**
Trained in an accredited government institution	**65**	**37.2**
Trained in an accredited private institution	**22**	**12.6**
Trained under a qualified operative/ informal attachment /observation /master	**88**	**50.2**
Total	**175**	**100**

Source: Fieldwork, 2010

An assessment of the role played by Government in training and skills acquisition indicated that the following government institutions were the most prominent in offering training for the operatives.

Table 4.6 Institutions offering training to operatives

Institutions	Frequency	Valid Percent
University Colleges	**13**	**14.9%**
Technical Training Institutes	**35**	**40.3%**
Youth Polytechnics	**17**	**19.5%**
Private Institutions	**22**	**25.3%**
Total	**87**	**100%**

Source: Fieldwork, 2010

At 25.3%, the Private Sector is also making an impact in the training of operatives. This suggests that more effort should be put towards attracting more players from this sector through offering them incentives and infrastructural support to spur the development of more private training institutions. The setting up of training institutions is an expensive venture due to the tools and equipment needed for practical lessons making the private sector shy away from such investment.

4.3.3 Skills Financing

In assessing financing of training for operatives and source of funds for training most of the operatives are sponsored by parents / guardians at 36.6%, however a good number of operatives sponsor themselves for the various courses undertaken (34.3%). This highlights the fact that the employers and government have abdicated their training responsibilities towards operatives. Given that parents and operatives have relatively limited resources and often have to grapple with competing expenditures e.g. provision of food and shelter, the construction industry will continue to be serviced by operatives without formal training. A levy fund to support the training of operatives would thus be appropriate.

Table 4.7 Skills financing

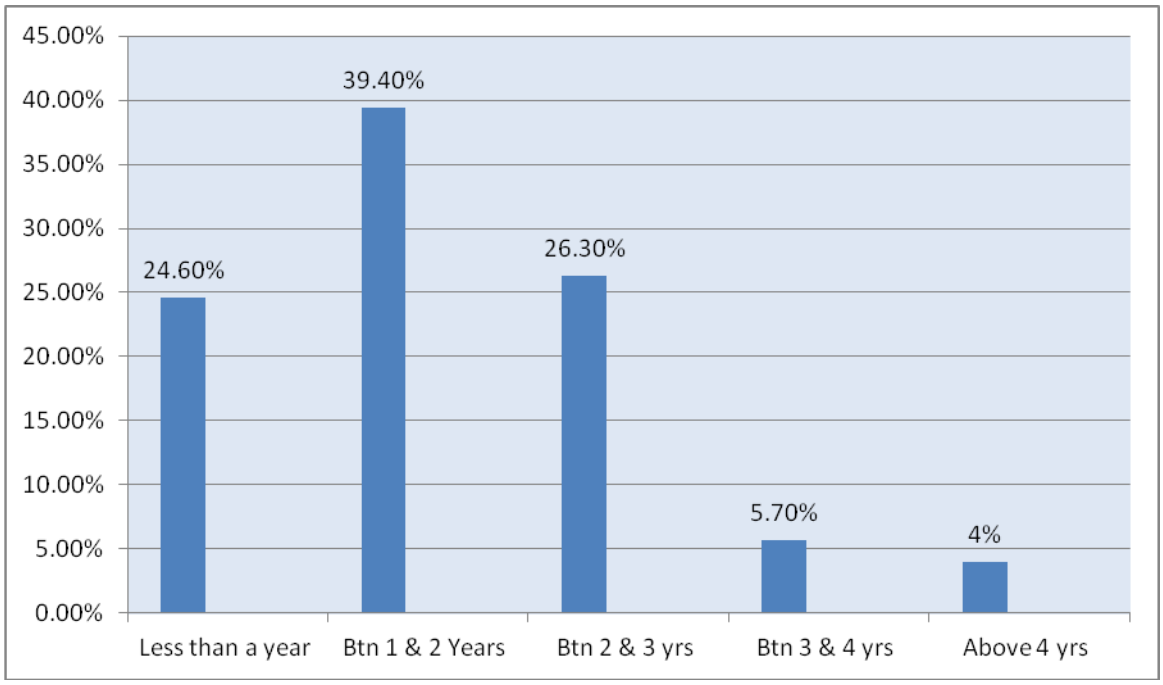
Source of funds	Frequency	Percent
Government sponsorship	18	10.3
Parents /guardians	64	36.6
Contractor /employer	22	12.6
Non-governmental organizations	11	6.2
Self	60	34.3
Total	**175**	**100.0**

Source: Fieldwork, 2010

4.3.4 Duration of Training

The study also endeavoured to establish the duration of training. Most of the training takes a maximum three years (about 90.3%). Trade tests, for grading purposes, can be taken within one year of training. However, the KNEC curricula are developed to be covered in 2.5 years with provision for industrial attachment during the training. This shows that an operative has to take a period of one year before certification.

Figure 4.5 Duration of training



Source: Fieldwork, 2010

4.3.5 Skills Upgrading and Training

Regarding whether the operatives have undertaken any skill upgrading to improve their skills in an effort to establish the level of embracing new technology, the study found that most (93%) of the operatives do not undertake formal training to upgrade their skills. Only 7.4% of those interviewed upgraded their skills in the course of executing their duties. This is more or less through in-service training. This has a negative impact on the need for operatives to train, although training is important if the workers are to cope with emerging technology (See Table 4.8).

Table 4.8 Skills Upgrading

Have you undertaken any skill upgrading to improve on your skills?	**Frequency**	**Percent**
Yes	13	7.4
No	162	92.6
Total	**175**	**100.0**

Source: Fieldwork, 2010

Regarding the type of training as an upgrading effort, the study showed that most of the operatives who attend upgrading courses are in the electrical/electronics trade where technology is rapidly changing and that the government and private institutions play a major role in skills upgrading. For this group, The Kenya Power and Lighting Company and Kenya Polytechnic University College train most of the operatives. In the same token the study established that most of the upgrading programmes (46.2%) take less than 8months. This is to ensure that the operatives are not disrupted for long from their working places.

The upgrading training programmes are mostly financed by the operatives themselves or their parents/guardians (53.9%). Contractors finance to the level of about 38.5%. Contractors recruit already qualified personnel and are not keen to train them since it is an additional cost. In instances where contractors train operatives, it is on-the-job training. The training is not normally structured and has no certification.

4.3.7 Challenges

It emerged that there were some key challenges identified being faced by the operatives in their trade. These are as indicated in Table 4.9.

Table 4.9 Challenges in training

Challenges	Frequency	Percentage
Lack of continuity of work	147	24.6%
Lack of proper tools and equipments	96	16.1%
Handling new technology	94	15.7%
Lack of training opportunities	85	14.2%
Lack of funds to finance training	83	13.9%
Handling new materials	82	13.7%
Others e.g. Insurance, delays in payment etc	10	1.8%
Total	**597**	**100.0%**

Source: Fieldwork, 2010

Lack of continuity of work is a major challenge in the building industry. The operatives are recruited when a contractor has a project. Most operatives remain idle when there is little construction activity going on. This lack of continuity of work means the income of the operatives is not consistent to support training alongside other expenses. Lack of proper tools and equipment, lack of know how to handle new technology, lack of training opportunities and lack of know how to handle new materials are other challenges that operatives encounter.

Regarding how the operatives overcome the challenges in their trades, varied responses were received and are tabulated in Table 4.10. Most of the operatives learn from observation from fellow workers (over 50%) and about (32%) receive training from their colleagues in their work places.

Table 4.10 Approaches in addressing training challenges

Remedies	Frequency	Percentage
Learn from observation from fellow workers	238	82.4%
Receive training coordinated by the contractor/employer	31	10.7%
Self sponsored training	14	4.8%
Others approaches	6	2.3%
Total	**289**	**100.0%**

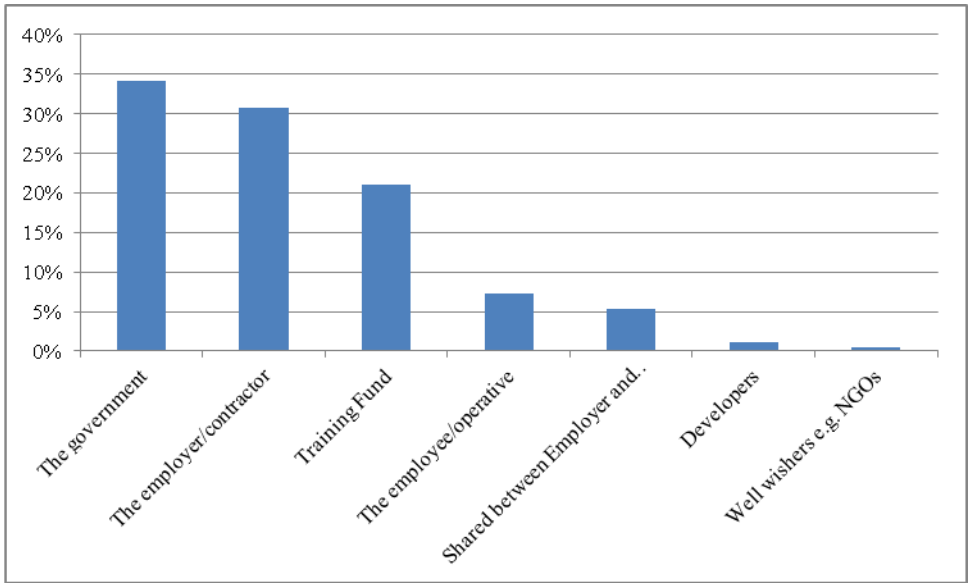
Source: Fieldwork, 2010

Most of the operatives acquire skills from fellow workers (82.4% of those interviewed) by executing activities on the site through the supervision of the qualified workers.

4.3.9 Financing Options

The study also sought the opinions of the operatives on who should finance training in their trade areas while one is in employment. They were of the view that the government, contractors and a training fund can be established to support training of operatives. The government, being the main consumer of services from the operatives can finance the training. The training will also make the operatives be self reliant and thus reduce unemployment in the country. A training fund where contractors contribute some fund would be appropriate since they utilize the services of the operatives in the execution of their projects. The training would improve performance. However, in the current situation, contractors are expected to train their workers and thereafter claim the costs incurred in respect of the training from DIT. As noted earlier, contractors would not be keen to sponsor an operative for training who will work for a short time on a construction project. Contractors would opt to recruit qualified operatives from the industry as need arises.

Figure 4.6 Financing options



Source: Fieldwork, 2010

4.4 Changing Technology & Coping Mechanism

The study enquired into how artisans in the building trades are coping with changing technology in the building industry in terms of how they learn how to work with new materials and new technology in their trade. This was in a bid to establish how they handle evolving technology. Data showed that most of the operatives overcome challenges in technology by observation, training from fellow workers and reading manuals as shown in the Table 4.11. Most of the operatives do not attend formal training sessions in order to adapt to the new technology in the industry. Majority of the operatives lack continuous finances due to the nature of the industry where they are employed on casual terms of service, a situation exacerbated by their low wages that make saving for purposes of training almost impossible. The period that operatives are out of employment can be a good period of attending training, but lack of finances and the reluctance by the contractors to finance the training makes them remain unemployed and not receive any training.

Table 4.11 Coping with new technology

Coping Mechanism	Frequency	Percentage
Observation	146	38.3%
Training from fellow workers	95	24.9%
Reading manuals	54	14.2%
Trial and error Method	40	10.5%
Training coordinated by the employer	33	8.7%
Training by manufacturer or distributor	7	1.8%
Training from skills upgrading college	4	1.0%
Studying by self	1	.3%
Practical work	1	.3%
Total	**381**	**100.0%**

Source: Fieldwork, 2010

On the other hand, employers/ contractors have also devised ways of ensuring that the operatives handle challenges they face in the wake of new materials and new technology. The contractors train workers in a particular technology. In other instances the contractor recruits workers who are conversant with new technology, see table 4.12. The contractor trains the operative in the specific technology that is readily utilized in the execution of projects. The contractor considers the investment in this type of training as reasonable due to its utilization.

Table 4.12 Training approaches used by contractors

Training approaches	Responses	
	N	Percent
Train the existing workers	76	48.7%
Employ workers who are conversant with the new technology	68	43.6%
Sublet the work to firms conversant with the technology	11	7.1%
Experiment with new materials on site	1	0.6%
Total	**156**	**100%**

Source: Fieldwork, 2010

4.5 Features of the Contractors

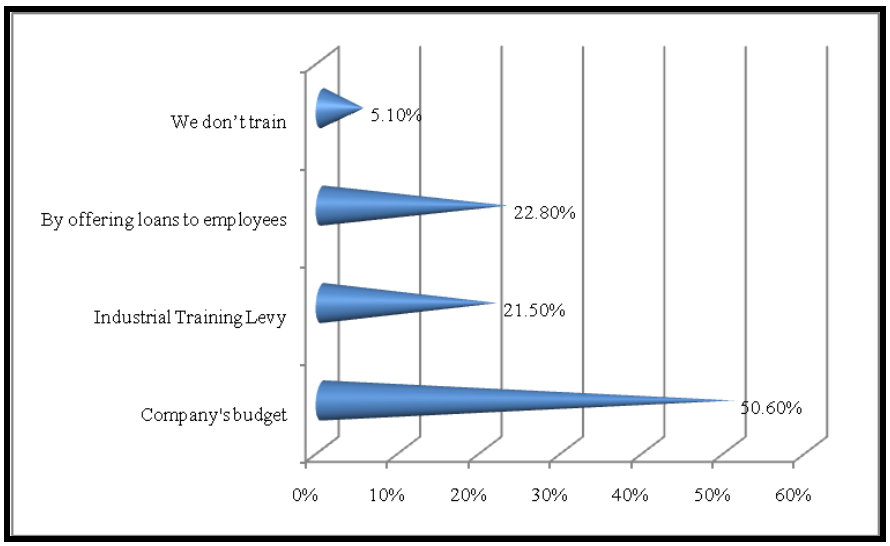
All the contactors interviewed were within category A-C which is a representative sample in the construction industry. Most of the firms within this bracket secure projects with a big financial outlay and therefore taking a long period to complete thus creating an environment where training of staff would be reasonable for the benefit of the organization. Contractors use cash bonuses and promotions as incentives to workers since these are easy to handle and are one off activities. Training is rarely considered because it may take a long and is considered expensive because it entails financing the training and paying the operative a salary while they undergo the training. This may be considered as double payment by the contractor due to the payment for the training and the salary.

The study revealed that in cases where contractors have financed the training of their operatives, records are maintained. These are in form of certificates attained by the employees, admission letters of employees into training as well as records of payments made to training institutions. Of the number of contractors who engage in the training of operatives, 88.8% of the sampled contractors maintain records of training employees. The records are maintained for the assessment of the cost of training against the performance of the trained operative.

4.5.1 Financing Training by Contractors

Some construction firms have a budget for training workers while others offer loans to operatives to enable them pursue training. As shown in the figure 4.7, only 21.5% of those interviewed use the Industrial Training Levy Fund while others offer loans or use the organization's budget while others do not train at all. This shows that training is not given a high preference by the contractors.

Figure 4.7 Financing training by contractors



Source: Fieldwork, 2010

4.5.2 Staff Identification for Training

The change in technology in specific trade areas and the performance of operatives play a leading role in identification of operatives for sponsorship for training as shown table 4.13. The contractor has to ensure that operatives are conversant with new technology so as to be able to execute works to the satisfaction of the developers. The changing technology will make contractors train their workers and in other instances recruit those with appropriate skills.

Table 4.13 Staff identification for training

Determining Factors	**Responses**	
	N	**Percent**
Age	6	4.3%
Trade area and change in technology	66	47.5%
Qualifications	26	18.7%
Performance	36	25.9%
Combination of the above factors	4	2.9%
They volunteer to go for training	1	.7%
Total	**139**	**100.0%**

Source: Fieldwork, 2010

4.6 Level of Utilization of Levy Fund

The study enquired into the level of utilization of the Levy Fund for training of operatives in the building industry.

4.6.1 Registration

Most of the 40 contractors registered with the Directorate of Industrial Training as levy contributors have been registered for 10 years. This is a small number compared to the registered firms in category A-C in Nairobi.

4.6.2 Seeking Reimbursement

The study also sought to establish if the levy contributors ever sought reimbursement from the Levy Fund in respect of training undertaken by their workers. A high percentage of 51.3% of the registered firms have sought reimbursement from the levy fund after seeking approval for training and submission of requisite claim forms. All of them attested to the fact that the reimbursement request was honoured. The firms that are conversant with reimbursement processes find it easy to train and seek reimbursement from DIT/NITA. Sensitization will be carried out to attract more contractors in joining the scheme.

4.6.3 Reasons for Non-utilization of the Levy Fund

When asked why they have not utilized the Levy Fund for training their permanent workers, the contractors gave varied responses. Most of the contractors do not utilize the Fund since most construction projects take short periods while procedures for claiming reimbursement is not clear to some contractors. Contractors should be encouraged to train their operatives for performance improvement during sensitization workshops by DIT/NITA and other agents who have benefited from the Levy Fund.

Table 4.14 Reasons for non-utilization of levy funds

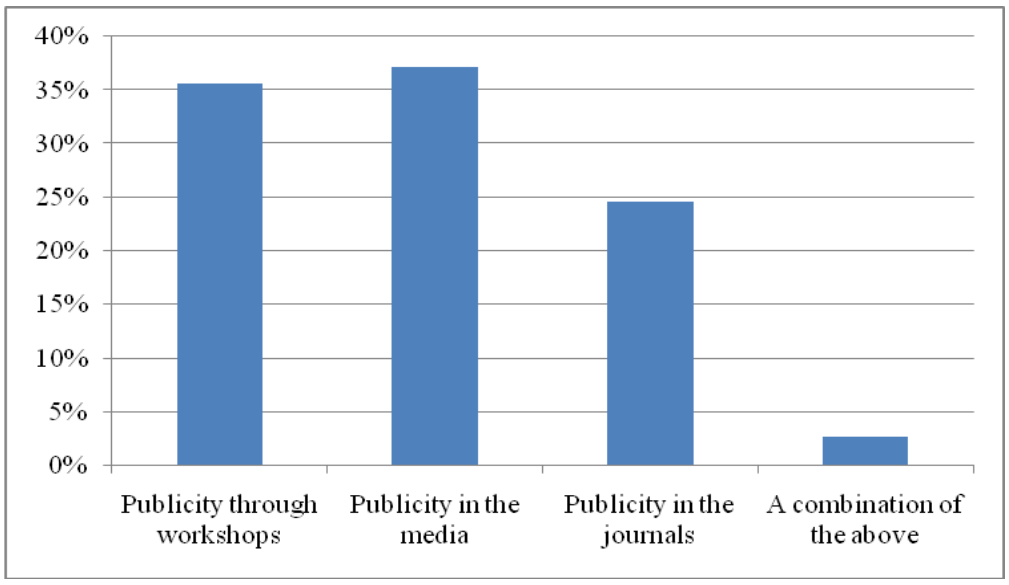
Reasons for not using the levy fund	Responses	
	N	Percent
The workers work for short periods when the project are running	9	27.3%
The recruited workers are already qualified	7	21.2%
The procedures for claiming are not clear	6	18.2%
Levy Funds not known	5	15.2%
We are not registered as yet	3	9.1%
It takes a long time to be reimbursed	1	3.0%
Don't have a self training policy	1	3.0%
We have had problems with reimbursement	1	3.0%
Total	**33**	**100.0%**

Source: Fieldwork, 2010

4.6.4 How to encourage Contractors to use the Levy Fund

The contractors' views were sought regarding the measures to be undertaken to ensure that they utilize the Industrial Training Levy Fund. Figure 4.8 indicates the responses. Publicity in the media and regional workshops will be carried out so as to recruit many contractors as levy contributors.

Figure 4.8 Encouraging contractors to use Levy Fund for training



Source: Fieldwork, 2010

4.7 Awareness of the Industrial Training Levy Fund

63.8% of the contractors interviewed were aware of the Industrial Training Levy Fund. However, most of them (86.2%) were not keen to register since they view contribution of levy as a tax, with only 10.3% willing to register as Industrial Training Levy contributors.

4.8 Challenges

Challenges are common encounters one must go through in every endeavor. In training the operatives, the study found out that contractors go through challenges as highlighted in Table 4.15.

Table 4.15 Challenges faced by contractors in training operatives

Challenges	Responses	
	N	Percent
Projects that take a short time to complete.	54	34.8%
Workers not ready to learn	38	24.5%
Lack of funds to finance training	29	18.7%
Inadequate specialized training institution	19	12.3%
Lack of modular curricula for building trade	13	8.4%
Lack of support from the Government	1	.6%
Training takes too long	1	.6%
Total	**155**	**100.0%**

Source: Fieldwork, 2010

4.9 Chapter Summary

The research proposition is that low level of skills training in the building industry is due to non-utilization of the Levy Fund by most of the registered contractors due to the perceived technicalities in the procedure of reimbursement from the Industrial Training Levy Fund.

Related to this proposition, the study found out that operatives rarely upgrade their skills through training. They upgrade skills on the job. Moreover employers do less often ask for certificates prior to employing an operative. They are more interested in the output of the

operatives rather than the academic and professional credentials. This is evidence of the casualisation of labour in the industry. It has a negative impact on the need for operatives to train, although training is important if the workers are to cope with the emerging technology.

Utilization of the Industrial Training Levy Fund for training of workers by the contractors is also subject to the period that a project takes. Most construction projects take short periods to complete. Procedures for claiming reimbursement from the Levy Fund are not clear to many of the contractors registered with the DIT.

Experiences from Malaysia and South Africa indicated that employers pay levy as a percentage of the wage bill as opposed to payment per head per month as is the Kenyan situation. Industrial training in the two countries is that industrial training is well-structured where employers conduct training needs analysis before any training is conducted.

CHAPTER FIVE: CONCLUSIONS AND RECOMMENDATIONS

This chapter presents conclusions and recommendations in line with the objectives of the study.

5.1 Conclusions

The study was to find out how operatives finance the acquisition of knowledge and skills and upgrade the same in building trade areas. Five trade areas were chosen for research covering operatives involved in masonry, fabrication and welding, carpentry and joinery, plumbing and electrical works. Most operatives train under qualified operatives as well as in accredited government institutions. Most of the operatives finance their training while a big number are assisted by their parents and /or guardians. A very small percentage of the operatives upgrade their skills in the course of execution of their tasks in the building industry. This means that the industry has to make do with operatives who lack the requisite skills and this has a negative impact on contractors in terms of high costs accruing from wastage, poor workmanship and long turnaround times. This cost is transferred to the developers in form of high tenders submitted by contractors during the submission of their bids.

The study also endeavored to establish how artisans in the building industry are coping with changing technology. Most of the artisans cope with the evolving technology through observation. Some of them learn from fellow workers while others read manuals from manufacturers. These are the three main methods of coping with new technology which are practised by 77.4 % of the operatives.

In assessing the level of awareness of the Industrial Training Levy Fund amongst contractors, it was noted that 63.8% of the contractors were aware of the Industrial Training Levy Fund. However, most of them (86.2%) were not keen to register since they view the contribution of the Levy as a tax. Only 10.3% would like to register as Levy contributors which stems from the fact that they do not understand the benefits accruing from the payment of the Levy.

While assessing the level of utilization of the Levy Fund in the training of operatives in the building industry, the study found out that although half of the contractors interviewed

were registered with the Directorate of Industrial Training as Industrial Training Levy contributors, only about 22% utilized the Levy Fund to train their operatives. This is due to the fact that most contractors do not understand the processes of seeking authority form the Directorate of Industrial Training/National Industrial Training Authority to train their operatives and the reimbursement processes of the costs incurred after the training.

The above validates the research proposition that low levels of skills training in the building industry are due to non-utilization of the Levy Fund by most of the registered contractors. The lack of contribution is mainly due to lack of understanding of the benefits accruing from the payment of the Levy amongst contractors and as mentioned earlier, many contractors view the Industrial Training Levy as a tax.

It is the view of the researcher that since the level of training amongst operatives working on urban-based projects is low, where training institutions are within reach and the degree of complexity of projects higher thus requiring operatives with a high knowledge and skills, the level of training in the rural areas is much lower. This calls for operatives to be properly trained but this research revealed otherwise, making one to infer that the situation in rural areas is worse.

5.2 Recommendations

1. The National Industrial Training Authority (NITA) recruits and sponsors training for the operatives in accredited institutions which are spread out in the country. They can be trained in Youth Polytechnics and Technical Training Institutes by utilizing the Industrial Training Levy Fund and thereafter be released to the industry. This approach would be applicable to those training for the first time as well as those who require to up-grade their skills. The skills and knowledge gained after training will be utilized during employment by contractors or developers or when the qualified operatives decide to be self employed.

2. Regarding coping with new technologies, short term courses be mounted for the operatives in the relevant trades in liaison with the professional bodies like Architectural Association of Kenya, Board of registration of Architects and Quantity Surveyors, Institute of Engineers of Kenya among others and be sponsored by the NITA.

3. A robust awareness campaign should be instituted by NITA to counteract the perception that the Levy Fund is some form of a tax thereby making most contractors who are aware not to register with DIT/NITA. This should be in the form of workshops, both print and electronic media. A similar stakeholders' awareness campaign organized by NITA for the registered contractors should equally be instituted to inform the contractors on the process of application for training of operatives and later on the application for refund of the costs incurred in the training.

5.3 Area for further research

The study proposes further research on the challenges encountered by the registered contractors as levy contributors in the process of applying for training, seeking approval for the training, conducting training and seeking reimbursement for the costs incurred in the training. The rationale for this proposal is that there are contractors registered with DIT/NITA as levy contributors yet do not utilize the Levy Fund for training. This subsequently narrows the country's capability in offering training to the operatives in the building industry.

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APPENDICES

Appendix A: Introductory Letter to the Respondents

Date: 7th September 2009

TO WHOM IT MAY CONCERN

Dear Sir/Madam,

REF: RESEARCH ON INDUSTRIAL TRAINING IN KENYA: A CASE STUDY ON SKILLING FOR BUILDING TRADES IN NAIROBI.

The holder of this letter is conducting a research on Industrial Training in respect of building trades in Nairobi as part of fulfillment for the award of the degree of Master of Arts (Construction Management).

Your firm has been selected from the firms involved in the construction to provide the information needed in this study. The challenges that you face in the course of carrying your tasks are common to most of the contractors based in Nairobi and Kenya in general.

Kindly provide the required information by completing the attached questionnaire .The information will be used for research purposes only and the identity of your organization will remain confidential.

We highly appreciate your assistance in facilitating this research.

Yours faithfully, **FRANCIS MINDO GITAKA**

RESEARCH STUDENT

Appendix B: Questionnaire to Operatives

UNIVERSITY OF NAIROBI

SCHOOL OF BUILT ENVIRONMENT

DEPARTMENT OF REAL ESTATE AND CONSTRUCTION MANAGEMENT

RESEARCH PROJECT

Industrial Training in Kenya: A case study on skilling for building trades in Nairobi.

QUESTIONNAIRE TO BE ADMINISTERED TO OPERATIVES

DECLARATION: All the information collected will be treated as confidential and will be

solely used for academic purposes.

Date of interview……..

Research Assistant's name……..

INFORMATION GATHERED FROM THE RESPONDENT.

SECTION 1

1.Sex male ☐ female ☐

2. Age of the respondent……years

3. Educational background (a) Uneducated ☐ (d) Pre secondary ☐

(b) Pre primary ☐ (e) Secondary ☐

(c) Primary ☐ (f) Tertiary ☐

(g) Other (specify) ----------

SECTION 2

4. How long have you been in the building industry?

(a) Less than 3 years (b) 3- 5 years (c) 5- 10 years (d) over 10 years

5. How long have you been working with the current employer?

(a) Less than 3 years (b) 3- 5 years (c) 5- 10 years (d) over 10 years

6. (i) Are you specialized in a specific building trade?

(a) Yes (b) No

(ii) If yes, which one?

(a)Masonry

(b) Fabrication and Welding

(c) Carpentry and Joinery

(d) Plumbing

(e) Electrical

(g) Other (specify)

7. (a) (i) Are you a graded operative?

(a) Yes (b) No

(ii) If yes, what is the level of your grading?

(a) Grade 3 (b) Grade 2 (c) Grade 1

(b) (i) Are you a certified operative?

(a) Yes (b) No

(ii) If yes, what is the level of your certification?

(a) Artisan (b) Craft (c) Technician (h) Other (Specify) ----------

8. How did you acquire the above-mentioned level?

(a) Trained in an accredited government institution (state the institution----------)

(b) Trained in an accredited private institution (state the institution----------)

(c) Trained under a qualified operative

(d) Trained through informal attachment / observation

(e) Other (specify)

9. Who financed your training?

(a) Government sponsorship

(b) Parents / Guardian

(c) Contractor/employer

(d) Non Governmental Organization

(e) Self

(f) Other (specify) ----------

10. How long did the training take? ……Months

11. (i) Have you undertaken any training while in employment to improve your skills?

1. Yes 2. No

(ii) If yes, state the type of training and the institution where you trained.

Type of training ----------

Institution where training was undertaken ----------

12) How long did the training take? (a) ..... years (b) ..... months (c) ……..weeks

13. Who financed the training above?

(a) Parents / Guardian

(b) Contractor/employer

(c) Non Governmental Organization

(d) Self

(e) Other (specify)

14. How do you learn how to handle new materials and new technology in your trade?

(a) Reading manuals

(b) Training from fellow workers

(c) Observation

(d) Training coordinated by the employer

(e) Trial and error method

(f) Other (specify) ----------

15. What challenges do you face in your trade?

(a) How to handle new materials

(b) How to handle new technology

(c) Lack of proper tools and equipment

(d) Lack of training

(e) Lack of continuity of work

(f) Others (specify) ----------

16. How do you overcome the challenges in your trade?

(a) Receive training from fellow workers

(b) Learn from observation from fellow workers

(c) Receive training coordinated by the contractor/employer

(d) Self sponsored training

(e) Other (specify) ----------

17. Who should finance training while a worker is in employment in your trade?

(a) The Government

(b) The employer/ contractor

(c) The employee/operative

(d) Training fund

(e) Developers

(f) Shared between employer and employee

(g) Other (specify) ----------

Thank you for sparing your time for the interview

Appendix C: Questionnaire to Contractors

UNIVERSITY OF NAIROBI

SCHOOL OF BUILT ENVIRONMENT

DEPARTMENT OF REAL ESTATE AND CONSTRUCTION MANAGEMENT

RESEARCH PROJECT

Industrial Training in Kenya: A case study of skilling for building trades in Nairobi.

QUESTIONNAIRE TO BE ADMINISTERED TO CONTRACTORS

DECLARATION: All the information collected will be treated as confidential and will be

solely used for academic purposes.

Date of interview……..

Research Assistant's name……..

1. *Name of the company* ----------.

2. *Classification of company*

   a. General contractor ☐

   b. Specialist contractor ☐

3. Category of company

Class A ☐ *Class C* ☐

Class B ☐ *Class D* ☐

4. Do you set performance targets to your employees?

(a) Yes (b) No

5. What incentives do you give to those workers who meet and surpass their performance targets?

(a) Cash bonuses

(b) Training

(c) Promotion

(d) Certificate of recognition

(e) Other (specify) ----------

6. (i) Do you maintain records on training of your staff? 1. Yes 2. No

(ii) If yes, what records do you maintain?

(a)Requests for training from employees
(b)Admission letters from training institutions
(c)Release letters to employees to undergo training
(d)Invoices from training institutions
(e)Copies of payments made to training institutions
(f)Copies of certificates obtained by employees
(g)Others (specify) ----------

7. (i) Do you recruit only graded and certified employees?

(a) No (b) Yes

(ii) If No, how do you ascertain that they have the required knowledge and skills?

i. Interview through performance of a task
ii. Recommendation from previous employers

iii. Recommendation from serving and previous employees

iv. A combination of the above

v. Other (specify)----------

8. (i) How do you train your employees in specific trade areas?

(a)On the job training

(b)Refresher courses

(c)In accredited training institutions

(d)Employees are recruited when they possess knowledge and skills

(e)Other (specify) ----------

9. How do you finance training of your workers/operatives?

(a) Company's budget

(b) Industrial Training Levy

(c) Savings from employees

(d) Others (Specify) ----------

10. How do you identify the staff/operatives to be trained?

(a) Age

(b) Trade area and change in technology

(c) Qualifications

(d) Performance

(e) Combination of the above factors

(f) Other (specify) ----------

11. How do you handle challenges that workers face in coping with new materials and new technology?

(a)Train the existing workers

(b) Employ workers who are conversant with the new technology

(c)Sublet the work to firms conversant with the technology

(d)Other (specify) ----------

12. (i) Are you aware of the existence of the Industrial Training Levy Fund?

(a) Yes (b) No

(ii) If yes, are you registered with the Directorate of Industrial Training as a levy contributor? (a) Yes (b) No (c) N/A

(iii) For how long has your firm been registered? ----------years

(iv) Have you at any time sought reimbursement from the Industrial Training Levy Fund in respect of training undertaken by your workers? (a) Yes (b) No

(v) If the answer is yes, was the reimbursement honoured?

(a) Yes (b) No

(vi) If the reimbursement was not honoured, were you informed of the reason(s) for it not being honoured? (a) Yes (b) No

(vii) Why have you not utilized the Levy Fund to finance training of your workers?

(a) It is cumbersome to claim
(b) The recruited workers/operatives are already qualified
(c) The workers/operatives work for short periods when projects are running
(d) The procedures for claiming are not clear
(e) It takes a long to be reimbursed
(f) Levy Fund not known
(e) Other (specify) ----------

13. What measures should be undertaken to ensure that contractors utilize the Industrial Training Levy Fund?

(a) Publicity through workshops
(b) Publicity in the media
(c) Publicity in journals
(d) Others (specify) ----------

Thank you for sparing your time for the interview.