4 *Jua Kali Automobile Mechanics at Work: Challenges of Lifelong Training in the Technological Dynamic World*

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1 Abstract

Economic growth is increasingly driven by knowledge and no country can remain competitive without applying knowledge. The knowledge economy provides efficient ways to produce goods and services and deliver them more effectively, and at lower costs, to a greater number of people. In addition to the danger of a growing electrical and electronic gap there is also a growing knowledge divide. There are striking disparities between formal and informal sector in their investment and capacity in science and technology. Learning and training benefit individuals, enterprises and society alike particularly when based on the needs of the market. Individuals benefit from education and training – provided that these are supported by other economic and social policies. Education and training make individuals employable and help them gain access to better jobs and escape from poverty. Human resources development and training contribute to improved productivity in the economy, reduce skill mismatches in the labour market, and promote a country's international competitiveness. In the 21st century, workers need to be lifelong learners, adapting continuously to changed opportunities and labour market demands of the knowledge economy. Education systems will have to evolve in that direction. The major challenge of learning and training in the 21st century for developing countries consists of insufficient capability to provide necessary education while also not being market oriented or not based on the needs of the market. These are issues will be discussed in this paper.

2 Introduction

The term "informal sector" was popularised by a 1972 study of Employment, Incomes and Equity (ILO, 1972). In Kenya, the informal sector is commonly referred as Jua Kali sector which is derived from a Swahili word "jua kali" meaning "the hot sun". The name is derived from the nature of the working conditions which is normally out door in the scorching sun. This is indicative of the severe conditions under which Jua Kali employers and their employees labour. The *jua kali* economy has a wide range of sectors including metal, trade, garments, woodwork manufacturing and vehicle repair as well as trade and services. Most Jua Kali automobile mechanics acquire skills through informal apprenticeship after either dropping out of school or failing to proceed to formal tertiary training institutions. However, there are skilled workers in the sector who were trained in the formal sector. Although at the end when both are in the Jua Kali job market they receive training through informal training and on-the job training. Therefore it is evident that both types of training affect the quality of work force in the Jua Kali sector. *The Faure Report* (1972) which was concerned with the realisation of informal learning potential while lacking a learner-oriented perspective, states that informal learning comprises about 70 percent of all human learning. About eight million people

in Kenya are directly or indirectly employed in the informal economy and it contributes about 18 percent of the GDP (Kinyanjui, 2006).

The aspect that makes this field become the interest of study is because the sector is really changing fast. In the past, there was not much fuss for a vehicle mechanics to do repair jobs on a vehicle. Back then, vehicles were much simpler and what one had learned working on one vehicle can be applied to others. Unfortunately, this is not the case anymore with modern vehicles. One cannot just open any car bonnet and simply get on to business anymore. In the automobile industry, the repair of motor vehicles is a popular activity for the Jua Kali sector in competition with the formal dealership sector. With the rapid changes in automobile technology, there is concern as to how the informal sector will cope especially in the quality of work considering the unique characteristics of the sector (Kipkurui *et al*, 2004). Though the basic design of motor vehicles has remained the same for many years, there is now greater use of electrical and electronic controls of automobile engines and systems (King, 1993; Hillier, 1997; Ed, 2000).

The main driver behind the move towards lifelong learning is the increasing pace of economic change, in technologies, in product and labour markets (Daneshvar, 2006). In this context, the traditional view of initial education and vocational training, as providing most or all of the skills required for an entire lifetime, has become obsolete (Daneshvar, 2006; Mwaniki, August 10, 2010; Wanyeki, 2011). In its place, there is a need for individuals to upgrade their skills on a continuous or lifelong basis (ILO, 2010). In many countries, nevertheless, most skills gained during TVET training are too narrow in scope and lack overall context, whereas competencies acquired over a work lifetime are still very often developed on the job, in both the formal and the informal economy (ILO, 2010). A feature of emerging approaches to lifelong learning is the importance attached to learning and skills acquisition that occurs in informal institutions. A major challenge, however, is to develop and extend these new approaches to lifelong learning to make it a reality for all. Instead of restricting lifelong learning to a small, elite group, there is now an expectation that it should involve the entire adult population (Daneshvar, 2006). For this to occur, new alliances and forms of collaboration between different government and private sponsored institutions and the social partners will be required (ILO 2010c).

The issue of acquiring knowledge through lifelong learning for all has become increasing important in all over the world, as globalisation and economic integration is making learning and training policies even more important (Daneshvar, 2006). This is even more troublesome, since the demand for skilled labour has risen significantly as a result of globalisation, changes in technology, the organisation of work, new development policies, including the transition to a low carbon economy, and the recent international financial crises and subsequent worldwide recession (ILO, 2010). It is now widely recognised that a well-trained work force is the key to provide firms with a competitive edge (ILO, 2010d). In this present environment, many observers contend that different individual skills sets are needed to match the technological dynamic world (Daneshvar, 2006; ILO, 2010). A more complete skills mix incorporates many generic skills such as the ability to think logically, to plan precisely, to anticipate difficulties and to be innovative and creative so as develop and update the necessary capacities and skills (individuals) need to enable them to be productively employed for their personal fulfilment and the common well-being (ILO, 2008b). There is, however, a pressing need to separate rhetoric from reality and walk the talk. While much has been said about lifelong learning for all, the concept is still a long way from being a reality for most workers. This paper examines some of the critical elements related to this challenge.

3 Jua kali Automobile Mechanics' Working Environment

For many years research has found out that there is a strong positive relationship between working environment and productivity. Following this revelation the ILO came up with universal working environment standards that must be met by the informal economy if it has to develop. The following

elements of the ILO (2008) decent work strategic objectives are intrinsically linked with the ILO approach towards the informal economy working environment:

1. Growth strategies and quality employment generation.
2. Regulatory environment including promotion of labour standards and core rights.
3. Entrepreneurship, skills, microfinance and market access.
4. Extension of social security and protection.
5. Organisation, representation and social dialogue.

Studies have reveal important institutional gaps and deficits in Kenyan automotive informal apprenticeships. Apprenticeship functions, but it often does not function well in the light of decent work outcomes. For example:

Control the Quality of Skills and Set Standards in Training

Mechanics in the informal sector perform the bulk of the repairs yet most of them do not have the right equipment and many have had no formal education in repairs of motor vehicles (Kipkurui, 2003, Wanyeki, 2011). The training system in the Jua Kali is mainly informal apprenticeship which is done by the master craftsman how my have limited scope of the required skills. There is no minimal qualification for someone to be able to practice as an automobile mechanics. This opens the door for non-professional to pose as mechanics hence substandard work which leads to many disadvantages.

In addition, more effective delivery of TVET as well as assessment of its functional outcomes through cooperation in TVET systems between enterprises and schools and with other stakeholders is still far from generally applied. The sharing of responsibility with employment stakeholders, especially when it comes to certification, measuring output-orientation of learning and better recognition of prior learning can still be much improved (Gallart, 2008; Allais, Raffe and Young, 2009; ILO, 2010).

> Ensuring a systematic diffusion of new skills and technologies into apprenticeship; with the present system of apprenticeship, masters teach their apprentices the way that they were taught and there has been little infusion of new technology and new designs (Ng'ethe and Ndua, 1992; Kinyanjui, 2006).

Thus, masters mostly duplicate their skills and knowledge to apprentices, but rarely create new knowledge. However, as Singh (1992) points out:

> While apprenticeships (formal and informal) or informal on-the-job training may provide basic skills, they do not familiarise the workers with new technologies or managerial skill.

Since the mechanics have to stay on the job so as to get some income, this has lead the sector with no option than to use trial and error and asking friends as their major why of getting new skills and technology.

Link with the Formal Training System

Link with the formal training system for example by combining apprenticeship training with theoretical teaching in training centres − although, in policy it looks like there is some form of linkage between formal and in formal training system the reality is that there is no linkage between the two. In fact, the informal sector as much as they would like to have some formal training they have a negative attitude towards the quality of training offered by formal training institutions. (Kipkurui, 2003). Further, formal training of artisans and crafts concentrate on practical and ignore theory. This lack of theory among automobile mechanics has been the major reason why lifelong learning is not being achieved in the informal sector (Kinyanjui, 2006).

Although the ILO's *Report on Employment*, report No 1, (2008) emphasises that countries must improve access for girls to apprenticeship training through a change in traditions and recruitment practice. In Kenya majority of the mechanics in *Jua Kali* garages are male (Kipkurui, 2003; Kinyanjui 2006).This is due to the public perception of automotive industry in general and the nature of working environment in the Jua Kali garages in particular. Lack of tools and equipment means that one uses a lot of extra energy and spends long hours in scorching sun and women may not like this (Kipkurui, 2003). Lack of role models for women in the automotive industry has also led to many girls and women shunning it (Kerre, 1999).

It is one of the ILO objectives that the very poor, for example be give access to informal training through microfinance and starters loans. However this has remained a wish full thinking in the Kenyan scenario. Apprenticeship in Kenya highly relies on indigenous resources, family ownership of enterprises (Meier and Rauch, 2007). Gibson (2007) in his report the informal sector in Kenya reports that the formal sector is closely linked to the Government in that there is access to credit facilities more than in the informal sector. Further, the Government still harasses the informal sector workers by denying them operating licenses as well as physical eviction of jua kali mechanics from the streets of cities and towns. The Government has also imposed tariffs and quotas, all aimed at protecting the formal sector from competition of the informal sector. On the other hand, the formal sector is associated with legality while the informal sector is perceived as illegal. Since the informal sector is illegal, it is associated with risk and uncertainty and thus further limiting the chances of the very poor accessing to informal training.

ILO Report on Employment, Report No 1(2008), recommends the recognition of skills in informal labour markets by means of formal assessment and certification. In Kenya this task is overseen by directorate of industrial training (DIT). When the informal apprentice feels higher education is comfortable both in terms of practical skills learned and financially capable to book for the exam, higher education/she is free to do so at designated centres spread across the country. The assessment is biased towards hands on skills rather than theory.

4 The Concepts of Lifelong Learning

Lifelong Learning

Based on (ILO 2003), the ILO's constituents agreed upon a number of definitions pertaining to skill, qualifications, employability and lifelong learning. The term "lifelong learning" encompasses all learning activities undertaken throughout life for the development of competencies and qualifications. The term "competencies" covers the knowledge, skills and know-how applied and mastered in a specific context, while the term "qualifications" means a formal expression of the vocational or professional abilities of a worker which is recognised at international, national or sectorial level. The term "employability" relates to portable competencies and qualifications that enhance an individual's capacity to make use of the education and training opportunities available in order to secure and retain decent work, progress within the enterprise and between jobs and cope with changes in technology and labour market conditions (ILO, 2003).

OECD (1996) provides the broadest possible definition of lifelong learning: that is, what people learn across their entire life span. A useful distinction is given by *The ILO Report Learning and Training for Work in the Knowledge Society* (2002), which distinguishes between initial or pre-employment training which tends to focus on the young and continuous training or lifelong learning, which emphasise adult learning.

Compared with traditional forms of learning, lifelong learning is different in that it claims to be universal, that is, covering all citizens across life cycles and across individuals (Daneshvar, 2006). The ultimate goal is to have quality education as a foundation for future training; a close matching of skill supply to the needs of enterprises and labour markets; enabling workers and enterprises to adjust to changes in technology and markets; and anticipating and preparing for the skills of the

future give each individual the motivation, the financial means and the physical access to learning at any time in his or her life (G20, 2010). The equity or social dimension permeates many country specific definitions of lifelong learning.

The Lifelong Learning Framework

The lifelong learning framework emphasises that learning occurs during the entire course of an individual's life (Rowe and Parson, 2009). Formal education and training contribute to learning, as do non-formal and informal learning taking place in our working environment (Faure Report, 1972). Its key features are the following: the centrality of the learner, catering to a diversity of learner needs; emphasis on the motivation to learn, for instance through self-paced, self-directed and increasingly ICT-assisted learning; the multiplicity of educational and training policy objectives and the recognition that an individual's learning objectives may change over the course of his or her lifetime; and that all kinds of learning formal, non-formal and informal should be recognised and made visible (Daneshvar, 2006).

According to the ILO:

> Lifelong learning ensures that the individual's skills and competencies are maintained and improved as work, technology and skill requirements change, ensures the personal and career development of workers; results in increases in aggregate productivity and income; and improves social equity" (ILO 2000).

The draft recommendation further calls on governments, employers and workers:

> To renew their commitment to lifelong learning: governments by investing to enhance education and training at all levels; the private sector by training employees; and individuals by making use of the education, training and lifelong learning opportunities…"

Skills have become increasingly important in determining an individual's ability to secure a job, job promotion, retain employment and move flexibly in the labour market (Kerre, 2010). Although vocational skills remain important, another category has become crucial for the individual's employability. This category has been variously labelled under key and core skills, key competencies and generic skills (Doneshvar, 2006; ILO, 2008b). These skills differ both in number and type according to the socio-economic context and time reference. However, there is consensus over the requirement of higher and non-vocational skills that enable the individual to perform at work and in society (ILO, 2010). In other terms, an individual's employability is the result of a set of vocational and core-work skills that can be transferred between and across occupational sectors (Doneshvar, 2006).

5 Knowledge Era and Lifelong Learning in the Jua Kali Sector

Knowledge era (K-era) exposes us to a competitive world which the core weapon is knowledge (Doneshvar, 2006). K-society, K-economy, K-workers and other K's have been part of our life environment. Developing the informal sector is very much related to developing k-workers rather than concentrating on capital investment as the whole. Workers with k-competencies would be more valued assets to be exploited in developing the informal sector. Most Jua Kali automobile mechanics dream to be multi-skilled, knowledgeable and to develop the informal sector using their knowledge. Even in automobile formal dealership sector, we see some companies establish special unit like competitive intelligence, research and development or whatsoever called which is equivalent to them in order to manage the knowledge competitive power.

This awareness by the Jua Kali automobile mechanics has led to, for instance, the environment of long life learning, continuous professional education or development, e-learning, flexible long distance learning. Now, the media are there but the question is; how to inculcate the culture of

continuous seeking knowledge, sharing knowledge or being responsible in developing k-society (Doneshvar, 2006).

In addition, the emergence of science and technology has enjoyed remarkable progress that lead to the rapid and exciting paradigm changes. One of the most important factors in this progress is the expertise resulting from specialisation, which has enabled human beings to utilise profound and highly detailed stores of knowledge. In order to know and understand these kind of changes, the society now are being motivated to begin searching for answers, with a variety of different people searching in a variety of ways, amassing knowledge in ever-increasing detail (Doneshvar, 2006).

6 Lifelong Learning for Work in the Jua Kali Sector

While Kenyan governments has reasserted their primary governance and policy-making role in promoting lifelong learning policies and programmes, actual programme and course provision is increasingly done by the private and enterprise sectors. In a large number of countries the private sector is responsible for skills development and lifelong learning on a substantial scale (Doneshvar, 2006). In Kenya, the state dominates the provision of high-profile institutional training. However, the Jua Kali sector, through innumerable types of learning and training activities, many of them being informal and discernible only to those directly involved, may well be making the greater contribution overall.

Expanding access to lifelong learning opportunities is a major concern in Kenya. Access to lifelong learning remains limited for various reasons. According to the *ILO Report* (2010), teachers and trainers for the future – technical and vocational education and training in a changing world − asserts that the opportunities for lifelong learning may not be available because people may lack physical access or the financial means to pay for learning opportunities. Others may be blocked from further learning for lack of recognition of the skills they have gained earlier, formally or informally. People may also lack information about existing courses, programmes and opportunities for learning.

Many private enterprises are investing more and more in lifelong learning training programmes for their employees. This giant step is not evident in the Kenyan Jua Kali sector because it lacks professionalism, organisation, finance and appropriate infrastructure and environment. This is because much of lifelong learning training programmes investment is triggered less by Government incentives or support than by enterprises' realisation that by investing in new skills, upgrading and continuous or lifelong learning of their employees and they are most likely to improve performance and competitiveness. Enterprises are often disillusioned by the (poor) quality of training provided by public institutions. Markets and technologies undergo continuous change. Automobile repair is becoming increasingly knowledge intensive. In this environment, formal dealership is increasingly investing more in the skills, knowledge and lifelong learning of their staff than in physical capital. This type of investments is not in the informal sector and yet they are in competition with the formal dealership. Even some firms, particularly in competitive high-technology sectors, spend significant shares of their operating expenses on training staff.

Modern ICTs are revolutionising learning and training, internationally (Doneshvar, 2006). From a passive teacher or trainer-centred approach to gaining knowledge and skills, there is a shift towards learning for work and life, centred around the individual. ICTs are used by an increasing number of people as learning tools, since access to them is expanding rapidly in high − and many middle-income countries and free courses are becoming available on the Internet (Doneshvar, 2006). This is not common in Kenya automobile Jua Kali sector as only 11.7 percent of Jua Kali automotive mechanics use the Internet to source new knowledge because majority of them are computer illiterate.

7 Financing Challenges

The great diversity of training provision renders a clear picture of investment in TVET nearly impossible. Funds allocated to general education do not usually distinguish the resources devoted to TVET, especially where systems or institutions offer both general and TVET programmes, be they secondary or tertiary. Some financing of public provision is obtained from private sector resources through formal public-private partnerships or informally, for example through equipment donations. Employers' levies derived from payrolls or other sources represent a major source of public formal TVET financing in dual systems especially (Gasskov, 2006; UNEVOC and UIS, 2006; UNESCO, 2010).

Bearing in mind this cloudy picture, estimates of the relative weight of public and private financing at secondary and post-secondary but non-tertiary education (largely technical and vocational in nature, including apprenticeship programmes) in most African countries public financing accounts for 1–3 percent of GDP in funds for institutions, whereas private sources (including individuals) represent 0.1–0.6 percent according to the country (UNESCO-UIS, 2007). Tuition and fees paid by individuals are estimated to cover 25 percent of recurrent costs in Sub-Saharan African countries, but this kind of financing raises equity questions for the poor in the absence of government compensatory measures (Johanson, 2004).

In the 1990s, estimates for selected African countries put the investments in financing of TVET as a percentage of public education expenditures in a range from 1 to 12 percent, though even those estimates were somewhat questionable. Formal TVET provision is rather weak in African countries, where informal training and apprenticeship programmes tend to prevail (ILO, 1999; UNEVOC–UIS, 2006).

Even though public training policies in many countries are under pressure to shift towards a greater encouragement of TVET, constraints on public spending make it difficult for Kenyan government to finance even the training for which they are in charge of. This occurs in a context where evidence suggests that TVET is more costly than general education in developed and developing countries alike (Johanson and Adams, 2004; OECD, 2008; World Bank, 2008). Recent data on development assistance indicates that the relatively paltry commitment to TVET by OECD bilateral donors will not fill the gap for developing countries like Kenya − from 2002 to 2008 on average only 2 percent of bilateral donor development assistance to education went to TVET, whereas it received only 1 percent of education funding assistance from multi-bilateral donors (development banks and the United Nations). On average about 40 percent of the development assistance for TVET goes to low-income countries with 60 percent going to middle-income countries (OECD, 2010a).

The current economic recession has not made things easier, as mounting public deficits and limited fiscal capacity restrict needed investment in TVET along with other levels of education. The medium- and long-term prospects are not encouraging either. At the end of 2009 one forecast estimated a possible loss in funding for education of nearly US$5 billion in the African region through 2010 as a result of slower growth and declining public revenue, twice the current amount of international aid to basic education in the region (UNESCO, 2010). If realised, the knock-on effects for TVET which are already substantially underfunded, are likely to be high (ILO, 2010).

8 Objectives to be Adopted in Realise Lifelong Learning in Kenya

A coherent education system from preschool to higher education must provide the opportunity for everyone to acquire excellent basic skills, a qualifying education and a solid foundation for lifelong learning. There must be equal opportunities and room for all.

Education must be world-class. The education system shall foster talent and be more accommodating to weak learners. Quality is given pride of place, and education must match the needs of the labour market and the society.

There must be relevant, high quality adult education and continuing training for everyone in the labour market which matches the needs and puts particular emphasis on the need for lifelong skills upgrading for those with the lowest level of education. There is a shared responsibility to ensure that everyone in the labour market is engaged in lifelong learning.

Systematic competence development in the workplace should be strengthened in both public and private enterprises. Increased public and private investment in continuing training and competence development for employees shall contribute to improving the skills of individuals and strengthen the development of the enterprises.

Opportunities for guidance and counselling must be improved and help ensure the best possible conditions for pupils, students and adults to choose education programmes and to participate in lifelong learning.

All forms of education and learning should be based on and build on the knowledge, skills and competencies of individuals. In adult education and continuing training new and improved opportunities shall be created promoting visibility and recognition of an individual's prior learning.

Coherent education paths and transparency in the education system are to contribute to targeted education and lifelong skills upgrading and facilitate the best possible use of public resources.

A global perspective must be included in all education programmes contributing to strengthening internationalisation and cooperation with the world around us.

Stronger higher education environments are to be created in order to contribute to higher quality in education and knowledge development, and a better framework and better conditions shall be developed for interaction between educational institutions and enterprises and other relevant players.

9 Conclusions and Recommendations

All the parties concerned, including the State, the enterprise and individuals, will have to contribute to increased investment in lifelong learning institutions and programmes. Building the foundations for lifelong learning by emphasising learning-to-learn skills in particular. With the massive increase in information available today, people must learn to access, select and use information that is relevant to their needs and transform it into knowledge.

A fundamental change in education and training policies and development is necessary in order to ensure that all citizens have access to, and make effective use of, opportunities for lifelong learning. Building a lifelong learning system is not "adding" adult and continuous training at the top of the existing education and training system, but rather a fundamental process of structural adjustment of the entire system of education and training." What goes with effective lifelong learning? The following are some recommendations:

Guidance and Counselling

Guidance and counselling about opportunities in adult education and continuing training for workers and enterprises must also be improved. New initiatives to reinforce the guidance effort in adult education so as they develop positive attitude towards formal training institution and appreciate importance of continuing training with particular emphasis on the needs of those with the lowest level of formal education for guidance and advice from enterprises.

Recognition of Prior Learning

It is the Government's aim to create better opportunities for individuals to have their knowledge, skills and competencies assessed and recognised within the adult education and continuing training, regardless of where they were acquired. This is to promote the participation by adults in adult education and continuing training and to improve their opportunities in the labour market. This can be promoted through development of simple and easily accessible documentation tools which

individuals can use to identify, clarify and describe their prior learning obtained during work and leisure activities. The tools shall also be made accessible on the Internet.

Cohesion and Transparency in the Education System

Cohesion and transparency in the education system is to be promoted. It is the Government's aim that there shall be better transition between all levels in the education system including the informal education system. The system should offer opportunities to transfer credit, be transparent and accessible to all.

Stronger Professional Educational Institutions

Stronger training institutions are to be developed. The Government's should create fewer and stronger institutions with a large academic breadth and high quality. This shall help develop and future-proof education and training, and help strengthen knowledge development and innovation through interaction with research and enterprises.

Partnerships in Education and Training and Lifelong Skills Upgrading

Partnerships in education and lifelong skills upgrading should be strengthened. The Government should ensure that all national, regional and local players are involved in and accept core responsibility for ensuring that the strategy for lifelong skills upgrading is broadly anchored in the Kenyan society. The partnerships should include specific agreements on how business, private sector and governmental and nongovernmental organisations can and will participate in improving lifelong learning. This is because partnerships in the area of education and competence development will help strengthen the quality of long life learning.

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