THE FAILURE OF TECHNICAL EDUCATION IN SECONDARY SCHOOLS IN MALAWI: CAUSES AND IMPLICATIONS

A Thesis

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APPROVAL

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DECLARATION

I hereby declare that this dissertation entitled: THE FAILURE OF TECHNICAL EDUCATION IN SECONDARY SCHOOLS IN MALAWI: CAUSES AND IMPLICATIONS is my own work and that it has not been submitted to any university before for any award.

RASHID SHIDS KHOWOYA

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SIGNATURE

MAY 2008

DEDICATION

This study is dedicated in memory of my late parents, Mr Isaac Gideon Khowoya and Mrs Amina MwinDete Nyamlazi Khowoya, who strove to get me through my education. To also my dear wife, Violet, and all the children: Gregg, Chikondi, Tusambe, Mercy, Eric, Chisomo, Kumbukeni and Tinaliambili, who have persevered during my long absence from home for studies and therefore stood by me in spirit and otherwise to ensure my success.

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ABSTRACT

This study aimed at seeking causes for the failure of technical education in secondary schools in Malawi. The nature of the problem necessitated use of qualitative methods to explore it, although quantitative data has also been used. Thus the study used in-depth interviews, focus group discussions and document analysis.

Among the many findings, the study has uncovered a number of anomalies that range from the training of technical teachers, lack of interface among various stakeholders, lack of administrative machinery, lack of focus and support, to the mismatch of the educational policies on technical education. The study found that among the many issues that affected technical education at secondary school level, the transfer of policy from the Ministry of Education to the Ministry of Labour was one of the major anomalies, since policy provides direction for implementation and that financial allocation also follows the policy. This could be argued to have been the major policy disjuncture. However, it is gratifying to note that the government has addressed this concern by taking the policy back to the Ministry of Education.

Inadequate training for teachers of technical subjects coupled with inappropriate teaching practice has been among the issues that have influenced young graduates to shun the teaching of technical subjects, preferring to teach mathematics and sciences. Lack of consultation between the curriculum experts – The Education Methods Advisory Service (EMAS) and the administrators - has also affected recruitment and deployment whereby

some technical teachers are deployed in schools that do not offer technical subjects while those that offer technical subjects have either inadequate or no technical teachers at all.

Students' perceptions of technical subjects are some of the causes for low students' enrolment in technical subjects. Many students do not see any positive future in the subjects. Those that are interested in the subjects tend to get frustrated by the often poor condition of machines, equipment, tools, instruments, books and other materials necessary for learning. They are further frustrated when the only teacher they have for the technical subjects gets either transferred without replacement or leaves the job.

The current treatment and perception of technical subjects has, in some schools, led to workshops being used as either warehouses for furniture or as ordinary classrooms. Indirectly this has had a negative effect on the condition of machines and equipment in the workshop. Furthermore, the practice has led to the theft of tools in the workshops.

The study has noted gaps at all levels of the EMAS organogramme from Headquarters to schools. This has meant lack of representation and flow of information in the hierarchical ladder. Evidently, this has resulted in lack of an administrative machinery to support the system. This has further resulted into financial suffocation of technical subjects in secondary schools in Malawi. The study, therefore, recommends that there is a need for reformulation of a comprehensive policy framework in which all issues uncovered by the research be systematically tackled from the policy drawing board.

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LIST OF ACRONYMS AND ABBREVIATIONS

The following is the list of the acronyms and abbreviations as used in this study:

- CCAP: Church of Central Africa Presbyterian
- CERT: Centre for Educational Research and Training
- EMAS: Education Methods Advisory Service
- EMIS: Education Management Information System
- FDG: Focus Group Discussions
- FPE: Free Primary Education
- G&O: Geometric and Orthographic Drawing
- GER: Gross Enrolment Ratio
- HQ: Headquarters
- IDA: International Development Agency
- INSERT: In Service Training
- JCE: Junior Certificate of Education
- MANEB: Malawi National Examinations Board
- MCDE: Malawi College of Distance of Education
- MDG: Millennium Development Goals
- MIE: Malawi Institute of Education
- MoE: Ministry of Education
- MSCE: Malawi School Certificate of Education
- MW: Metal Work
- NER: Net Enrolment Ratio
- PCAR: Primary Curriculum and Assessment Reform

- PEMA: Principal Education Methods Advisor
- PIF: Policy and Investment Framework
- PRSP: Poverty Reduction Strategy Paper
- SACMEQ: The Southern Africa Consortium for Monitoring Educational Quality
- SADC: Southern Africa Development Community
- SEED: South East Education Division
- SEMA: Senior Education Methods Advisor
- TD: Technical Drawing
- TEVET: Technical, Entrepreneurial and Vocational Education and Training
- UK: United Kingdom
- UNDP: United Nations Development Programme
- UNESCO: United Nations Education and Scientific Organization
- UNICEF: United Nations Children Emergency Fund
- UNIMA: University of Malawi
- UPE: Universal Primary Education
- USA: United States of America
- WB: World Bank
- WW: Wood Work

CHAPTER 1

1.0 INTRODUCTION

Chapter overview

This chapter gives background to the beginning and rationale for the introduction of technical education in Malawi. It also explains why technical education still remains an important education sector for the social-economic development of a developing country like Malawi. In this regard, the chapter looks at how technical education has performed over the years. This is followed by a descriptive statement of the problem. In a quest to find causes, the chapter finally discusses a number of preliminaries ranging from the context of the problem, purpose of the study, significance of the problem, objectives, research questions, and the conceptual framework, which is the guiding map for this research.

1.01 Background

Formal education was brought to Africa by the early Christian Missionaries (Banda, 1982). Although the principal objective of the missionaries, who came to Africa in general and to Malawi in particular, was to spread Christianity to the indigenous people, this objective was later extended to meet other needs. Schools were established to teach the local people how to read the Bible for themselves and for them to also know how to write. Further to this development, missionaries wanted people to help in various clerical jobs and in carrying out other errands related to their work. This approach, which led to the kind of education that went beyond literacy and numeracy, is what is now regarded as the genesis of formal education in Malawi.

With the passage of time, technical workshops were established next to the schools for the purpose of maintaining school as well as missionary furniture. This establishment was expanded further to start providing diverse artisan skills to the local citizens in order for them not only to serve the needs of their missionary masters, but also to improve their standards of living through, among other things, sale of their wares. This is what particularly accounts for the beginning of formal Technical Education in Malawi at a rather basic level. However, although the formal technical and vocational education movement throughout the world came into being in the late nineteenth century, essentially informal technical and vocation education had existed as long as humankind (Abramson, Tittle and Cohen: 1979: 19).

1.02 Definition of technical education

According to Phoso (1990), the definition of Technical Education varies considerably from country to country depending on its orientation and objectives. The conceptual difficulty is due to its transversal nature as it can be used to cut across levels from primary to tertiary. It may also be formal, school-based, non-formal or even informal through apprenticeship (Atchoarena, 2002: 17). However, borrowing from Good (1959), Phoso defines technical education as "a means of fitting a man/woman for work below college level". For purposes of this work, technical education is defined as the attainment of practical skills in Metalwork, Woodwork, and Geometric and Orthographic Drawing, commonly referred to as Technical Drawing, alongside academic subjects at secondary school level. Technical Education at secondary school involves skills oriented subjects. As such, it is regarded less academic.

1.03 Malawi technical education and its development

The need for technical and vocational education was officially identified and expressed in 1964 by the American Council on Education (Alide, 1997: 132). This was in recognition of the fact that technical and vocational education would boost industrial production for both internal and external markets, in addition to establishing a technological and enterprising culture for the youths. The programme was eventually introduced in Malawi in 1967 with an initial training of technical teachers soon after independence as a subject on the formal curricula. The Malawi Government, like the missionaries, wanted its citizenry to acquire practical skills through the official and formal schooling system.

The modification it made to the missionary approach, among others, was to start these practical subjects at secondary school level. As such, an initial target of 40 secondary schools was proposed. The schools were to be built on self-help basis (Alide, 1997: 132). The failure to recognise the importance of backward mapping in the policy process made the self-help programme fail to take off the ground. Policy is a product of various stakeholders, and the effectiveness of any educational changes must be negotiated rather than imposed (Haddad, 1995; Hartwell, 1994: 1).

The failure of self-help initiative led to the government seeking donor support and development partners in which 12 secondary schools were constructed in phase 1 by 1969 and to which one secondary school was added in phase 2 with financial and technical assistance from the International Development Agency (IDA) and the World Bank (WB) for both phases (Phoso, 1990; Alide, 1997; Khowoya, 1992; Chawani, 1991;

Mwanza, 1995). According to McNamara (1989) in Phoso (1990), the World Bank's objective was to assist Malawi in meeting needs for the industrial skills since a trained labour force was essential for social economic development.

As a general educational manifesto, the first Five-Year Development Plan from 1965 to 1969 was to expand and improve secondary and post-secondary education in order to meet human resource needs (Phoso, 1990). The assumption was that secondary school development would be a "prerequisite for winning economic development" (Office of the President and Cabinet, 1971 in Phoso, 1990).

Table 1: Distribution of Secondary Schools that offer Technical Subjects in Malawi- By District and Region

SCHOOL	STATUS	DISTRICT	REGION
1. Mzuzu Govt. Secondary School	Government	Mzimba	
2. Mzimba Secondary School	Government	Mzimba	**NORTHERN REGION**
3. Robert Laws Secondary School	Govt-Aided	Mzimba	
4. Bwaila Secondary School	Government	Lilongwe	
5. Dedza Secondary School	Government	Dedza	**CENTRAL REGION**
6. Malosa Secondary School	Govt-Aided	Zomba	
7. Masongola Secondary School	Government	Zomba	
8. Blantyre Secondary School	Government	Blantyre	
9. Chichiri Secondary School	Government	Blantyre	**SOUTHERN REGION**
10. Soche Secondary School	Government	Blantyre	
11. H. H. I. Secondary School	Govt-Aided	Blantyre	
12. Thyolo Secondary School	Government	Thyolo	
13. Mulanje Secondary School	Government	Mulanje	

Table 1 above shows the 13 secondary schools that offer technical subjects. Of these, 10 are government and 3 government-aided secondary schools. The 3 government-aided secondary schools belong to three Missionary Churches, which share one each. These are the Church of Central African Presbyterian (CCAP) of Livingstonia Synod in Northern Malawi, the Anglican Church and the CCAP of Blantyre Synod, both in the Southern Malawi.

Distribution of secondary schools that offer technical subjects in Malawi leaves much to be desired. There are 28 districts in Malawi and yet technical education is offered only in seven districts. Of the 28 districts five are in the northern region. All the three schools offering technical subjects in the Northern Region are in one district – Mzimba. The study has not been able to establish the criteria used for deciding which schools to offer technical subjects.

1.04 Technical Teacher Training

Technical Teacher training in the University of Malawi started before technical education was introduced in secondary schools. In addition to training higher levels in order to feed the lower level with teaching expertise, the philosophy behind such an arrangement was also to recognize the partnership and co-operation between the Ministry of Education, on one hand, and the University of Malawi on the other as the supplier of secondary school technical teachers. This arrangement was necessary to ensure that teachers are available before the subjects were introduced in schools.

However, it is not known what might have gone wrong to the technical teacher training and the original co-operation that existed between the University of Malawi and the Ministry of Education. To this effect, there was a need to find out whether the University of Malawi has continued with the training programme because there is a cry that the system lacks technical teachers in secondary schools. If the programme has continued, where do the teachers go? In this regard it was still necessary to know what purpose the programme is serving since the system it was designed to serve is not operational.

Kadzamira and Rose (2001) describe this approach, which subsequently leads to programme failures as "policy disjunctures".

1.05 Rationale for Skills Development Curricula

Middleton, Adams and Ziderman (2005) have noted that 'general' education may enable some students to enter post-secondary education, but it is most often seen as the final preparation for entry into the world of work. The curriculum of academic secondary education is specially oriented towards entrance into the university. The three writers above contend that this form of secondary school education does not prepare students for a specific occupation. In contrast, they observe that vocational and technical education and training develop specific skills that a worker is expected to use on the job. In addition, technical and vocational education gives both young people and adults the knowledge and opportunity required to pursue a trade, which, in itself, provides a passport to employment and social advancement (Atchoarena and Delluc, 2002). However, the extent to which these skills can effectively be used depends a great deal on the characteristics of different kinds of employment in the economy (Middleton, Adams, and Ziderman (2005).

1.06 Relevance of Educational Curricula

Education Curricula all around the world are undergoing a process of change with the sole objective of answering the question of relevance. Malawi Educational Sector - *Policy and Investment Framework* –PIF (2001) supports this notion by proposing regular reviews of secondary school curricula to make it more relevant to the needs of the 21st

century. According to MacJessie-Mbewe (2004), secondary school education is crucial for human capital development. For education to play its role, it must therefore, be made relevant at all times.

After noting the growing demand for education at various levels and dwindling quantity for white-collar jobs, the Malawi Government initiated skills oriented subjects at all the three levels of education. The theoretical context of this policy was to broaden the curricula and provide the type of education that would be relevant to individuals even after school life. This was by way of providing skills with which they would enhance their standards of living. Musopole (2005) observes that people develop themselves but must be accorded appropriate opportunities to do so.

The rationale for the introduction of technical education in secondary schools in the 1960s was to provide relevant technical skills for self-reliance. This was a new policy vision in which the Government of Malawi recognised the legacy of colonial education that entrenched skills in the curricula. This type of curricula was integrated together with the general academic education in order to broaden secondary school knowledge and increase students' choices where their talents could be realised. In addition to providing specialised skills, technical subjects were also meant to be part of the general pool of subjects required for certification at Junior Certificate of Education (JCE) and the Malawi School Certificate of Education (MSCE) levels and to serve as entry requirements to the University of Malawi as well.

Due to the limited opportunities for entry into the university, the provision of technical education would assist students to be self-reliant and economically support themselves and their families. It would also function as a stepping-stone for those aspiring for further university education in a field that needs initial technical orientation. For example, in olden days a professional diploma and degree course in technical education did require an initial background of secondary school technical education among others.

1.07 Focussing Education

Nkungula (1980) has argued that students, particularly those in secondary school, should have the opportunity to study various economic systems, theories and principles, and more importantly learn practical skills in order to make education as realistic as possible to the individual and to the economic development of a country. For this reason Nkungula argues for a balance between academic and practical skills to deal with contemporary social realities.

In this regard, education ought to be properly focussed in order for it to be desirable for the attainment of future individual and national goals (Willis, 1963 in Nkungula, 1980). Holsinger and Cowell (2000) have observed that secondary school education addresses unique problems to human capital development. They also contend that academic secondary schooling, narrowly defined, may be educationally inappropriate for increasing productivity (Holsinger and Cowell, 2000: 35). What this means is that academic education alone does not increase productivity.

Oxenham (1984) argues that it is not automatic and obvious that an increase in education translates directly to an increase in productivity. This argument is especially true if education is planned as a partial solution, in which it does not address peoples' problems. Education has an obligation to serve society. If it does not serve as intended then it becomes obsolete and invalid. In this regard "there is need for people who are critical, creative, imaginative and able to make informed choices, through technology education" (Alide, 1997: 130).

Traditional types of work roles are being rendered obsolete by technology and as such the modern generation of pupils needs to be educated technically to the new dimensions of time and change (Nkungula, 1980:3). In support of this view, Alide (1997: 134) observes that today's changes are so rapid that providing education that lasts one's life time is next to impossible. Alide has further noted that the world today is influenced by technology and therefore, technological education must be entrenched in schools to help children make sound decisions for individual, society and environmental needs. This is important for survival, sustenance, and preservation of the environment.

Education for economic competency and survival, therefore, involves much more than training in academic subjects. The current social-economic challenges require interventions. Education therefore, calls for training in some kind of technical skills. In an economy in which technological change occurs at a rapid pace, there are a number of jobs that disappear or require new skills (Stoikov, 1975).

The growing demand for education suggests that there is need to democratise and broaden curricula at all levels. In any case, democracy entails broadening people's opportunities to enhance their lives. In view and support of this notion of reasoning, Malawi needs a range of supporting skills of all kinds and it is the responsibility and obligation of the education system to focus towards that goal of social economic and national development (Nkungula, 1980). Malawi's political and economical liberalisation has posed new social and economical challenges to be tackled. What this means is that the nation's philosophical move towards poverty reduction needs to be supported by many fronts one of which is education that empowers society with life-long skills that would drive the movement from a consuming to a producing society. Technical education would thus provide for that gap.

1.08 Free Education and the need for Alternatives

Providing Free Education and focussing on reducing repetition at lower levels is, indeed, important as it increases Educational Rate of Returns but may not be meaningful if further higher levels are not expanded to allow, not only for more access, but also for more democratic and diversified opportunities. The current education trend in Malawi and the world at large is for mass and inclusive education (Holsinger and Cowell, 2000). Citing Ministry of Education document (MoE, 1998), the Primary Curriculum and Assessment Reform (PCAR, 2002) indicates that the aim of current policies is to increase enrolment by 40% Gross Enrollment Ratios (GER) and 25% Net Enrollment Ratios (NER) and in numerical terms from 1.8 to 3.2 million pupils at primary level. The above policy plans are good intentions but they alone may not assist Malawi if both primary and

post primary education is not democratised for further opportunities. One of the policies of Primary Curriculum and Assessment Reform (PCAR, 2002) is to build a strong social economic base. How the above notion is meant to be realised is not clear.

The views and policies expressed above by the Ministry of Education (MoE, 1998) and PCAR (2002) may not be adequate as viable interventions to tackle poverty in Malawi. Knowledge-based education, without technological know-how to transform that knowledge into solutions to problems would not eliminate or even reduce the current poverty. Education without future relevance is not useful. In view of this, alternative routes to education ought to be provided for in the education system. Meaningful and relevant self-reliant practical skills need to be entrenched in the Malawi Education policies, especially at secondary school level to provide for those less likely to proceed with the general academic education.

1.09 Appropriate Technology and Technical Progress

The need for appropriate technologies in Malawi need not be over-emphasised. Malawi has, in the recent years, been importing technologies too simple to be imported and in some cases inappropriate and irrelevant for her own needs. In addition to this argument, importing technology for development is not only costly but also breeds dependency (Fagerlind and Saha, 1989).

Theories of development and modernization entail change and copying attitudes from the West, which suggest change and adoption of universalistic attitudes in addition to

acquiring Western technologies to boost and enhance production (Peet and Hartwick, 1999).

This practice, it may be argued, is retrogressive educationally in the context of national capacity building, as importing technology from the West may not provide lasting and fulfilling opportunities for a country to develop and grow. In addition, importing technology establishes perpetual dependency and provides employment opportunities where that technology comes from and inhibits internal employment opportunities and the ability to innovate economically in the context of the national challenges. It is for this reason that it is recommended that education system ought to increase opportunities for technical education to develop skills and knowledge base for appropriate technologies that are indeed appropriate to the situations besides providing and establishing internal entrepreneurial and employment opportunities.

Alide (1997: 134) defines appropriate technology as an appreciation of technical and non-technical skills in pursuit of solution to problems the society faces. Appreciation of skills means putting theoretical knowledge into use through inventions as workable solutions to problems. Alide further observes that technological skill would financially empower, not only the youth, but people at large in the rural areas. People must therefore be equipped with both scientific understanding and technical know-how with which they can meet their day-to-day challenges head-on. However, this can be achieved and realised if the education investment is focussed towards long-term cost-benefits curricula, which would

come by empowering and according the people, especially the youth, with various practical skills to enhance their lives and collectively increase productivity.

1.10 Technical Education for Agricultural Productivity and National Needs

The current weather pattern, for example, has tended to remind Malawi of the need to revisit her stance on agricultural irrigation techniques. Various agro-based techniques and technologies are simple, cheap and manageable locally. The Treadle pump, for example, is one of the simple, old but cheap and effective technologies for irrigation that need not be imported. It can easily be made in a rural setting as long as appropriate knowledge and practical skills are imparted to the people, especially the youths.

Bairoch (1975) noted that stimulating agricultural development on a vast and economic scale through agrarian reform requires technological advancement. Technical progress means an increase in productivity and this in turn generates wealth for a nation. However, technical progress can only be achieved if the education system invests in the human capital that is technically sound. Malawi therefore needs technical progress that would cumulatively and collectively, with other sectors, enhance growth and reduce poverty.

1.11 Technical Education and National Goals

While education as a whole is upheld as a crucial engine for reducing poverty, technical education properly entrenched would in particular further accelerate the achievement of National Goals such as poverty reduction and development. The Malawi dream of moving from a consuming or importing to a producing and exporting nation may be

realised only if Malawians attain various skills needed for various jobs including technical ones.

STATEMENT OF THE PROBLEM

1.12 Technical Education and its achievements in Malawi

According to Phoso (1990), a nation's well being, its standards of living and its potential depend on the effectiveness of its technical education system among other things. As a pilot project, technical education started well. During its early years in the 1970s and a larger part of the 1980s, it received as much attention as it required by way of human, financial and material resources.

Although there were only three subjects namely Woodwork, Metalwork and, Geometrical & Orthographic Drawing (Commonly referred to as Technical Drawing – TD), most of the schools, which taught these subjects, had an average of five technical teachers per school, which made these institutions fully operational. As a result of the availability of such resources, class enrolments for these subjects were large to the extent that some schools had to put a limit on the number of students who would take such subjects.

Available statistics demonstrate that examination results were good in most of these schools and they compared very well with results in other subjects. In fact, in many cases, many candidates, who sat for examinations in the afore-mentioned technical subjects made it to the University of Malawi because of the contribution of technical subjects in the final aggregate grades. Enrolments were large both at school level as well as at the examination entries. It could therefore as well be argued that the technical subjects were,

at that time, cost-effective for both the Malawi Government and The Malawi National Examinations Board in that there was optimal or maximum use of both material and human resources, which were deployed. Technical education, therefore, had considerable influence on certification at both Junior Certificate Examination (JCE) and Malawi School Certificate Examination (MSCE) levels on the one hand, and providing suitable entry requirements to the University of Malawi besides providing lifelong skills to candidates, on the other. However, Technical education at secondary school has now collapsed, some of the causes being lack of technical teachers and teaching and learning resources.

1.13 The paradox of Policy and Practice: Education in crisis

It cannot be denied that education is a necessary tool for both economic growth and social development of any nation. However, if it is not in tune with other national strategic policies, and be able to address current and future challenges, the above can only be more of rhetoric than reality. To this end, the basic conceptual objectives of education as propagated by the Millennium Development Goals (MDGs) cannot be achieved. As the world is abreast with inequalities, social injustices, unemployment and a struggle for social-economic and self-survival in a world of limited resources, education must be seen to meet and address such ever increasing and, in some cases, unique challenges.

While technical education may be an answer to many social, economic, and employment problems in that it creates skilled people who can engage in self-employment and productive undertakings, the Government of Malawi, through the Ministry of Education

has, for many years, missed the opportunity to recognize the important role that technical education could play as it is an equally important sector in development.

Although many years have passed since the introduction of technical education in secondary schools in Malawi, the project has not only remained at the pilot stage without expansion, but it has also been inactive. The project has been non-operational in many of the secondary schools that are supposed to offer technical subjects. Literature attributes this problem to lack of teaching and learning materials and shortage or lack of technical teachers in these secondary schools (Khowoya, 1992; Kachilika, 1994; Phoso, 1990; Mwanza, 1995). Describing enrolment trends of technical subjects, Mwanza (1995) has noted that unless some other mechanism is put in place, the numbers of students taking or pursuing technical subjects would continue to dwindle. However, issues of lack of technical teachers and material resources are only either symptomatic or indicators of the deeper problems, which this study intended to investigate.

According to Blinkerholf and Crossby (1995) new policies bring new hope to society. This being the case, the current status of technical education in the country leaves a question as to what was the original objective for the introduction of the programme and where did the programme go wrong.

The importance of technical subjects, it is assumed, lies more in the relevance of its provision of skills for self-sustenance to those who benefit from its curricula and in the ability of its recipients to participate in and contribute to nation's social-economic development. In view of this concept, it would have been expected therefore that

technical education would have received more attention and emphasis, which would ultimately have increased its accessibility. In spite of its importance however, the numbers of students taking technical subjects has significantly dwindled over the years (Mwanza, 1995). At the moment, as the figures in Table 2 below suggest, technical education at secondary school level is almost dead.

In 2004 and 2005, for example, there were only 23 and 26 MSCE entries respectively for all the three technical subjects in the entire country (Table 2). The actual number of candidates could actually be less because some candidates take more than one technical subject.

Table 2: Trends of MSCE Entries for Technical Subjects (1995 - 2005)

YEAR	SUBJECTS			TOTALS
	G & O (TD)	METALWORK	WOODWORK	
1995	103	33	30	166
1996	194	38	7	239
1997	108	17	24	149
1998	171	19	51	241
1999	105	13	18	136
2000	63	16	19	98
2001	32	13	27	72
2002	38	7	11	56
2003	33	2	2	37
2004	16	4	3	23
2005	24	0	2	26
TOTALS	11 YEARS	887	162	194	1243

Source: Malawi National Examinations Board (21/10/2005): 1995-2004 Entries
Malawi National Examinations Board (05/04/2006): 2005 Entries

Table 2 above shows MSCE enrolment of technical subjects between the years 1995 to 2005, which is meant to show the trend of decline these subjects have been going through. According to Fig. 2 enrolment picked up in 1996 and dropped in 1997 then picked up again in 1998. Since 1999 the trend has continuously been going down. It could also be assumed that the decline started earlier than 1995. However, it is also important to note that the enrolment numbers for G&O (Technical Drawing – TD) are a bit higher than both Metalwork and Woodwork because it is tradition as well as a requirement that those taking Metalwork or Woodwork must also take G & O. The argument is that G & O provides a better groundwork for understanding some crucial areas of both Metalwork and Woodwork. However, the small numbers of students currently taking technical subjects would not be considered to be a cost-effective way of using the scarce resources. Why are students shunning technical subjects? This is one of the questions that the study investigated. For a nation with an average population of 12 million people, it is sad to note that technical education can produce a total of 1243 secondary school graduates for a period of 11 years (Table 2). It may, without doubt, be said that the programme has not been cost-effective during that period and with the above indicated enrolment trend, it cannot meet its objectives. To save such a situation it was, therefore, imperative to dig into the deeper causes behind the decline, beyond lack of human and material resources as articulated by the literature. Hence, the undertaking of this study.

1.14 The Research

The research problem is in four areas:

- Policies
- Administrative machinery

- Administrative support
- Resource availability (Human and Material)

1.14.1 Policies

Most Malawi policy documents such as *Vision 2020, Malawi Poverty Reduction Strategy Paper (MPRSP),* and the Education Sector *Policy and Investment Framework (PIF)* all recognise the importance of skills development for self-reliance. In support of these policies Benson, Machinjiri and Kapachika (1998: 4) noted that much income in Malawi is derived from self-employed business or subsistence-oriented production. What this means is that if the curricula emphasised promotion of self-reliance like the one, which is cultivated by technical subjects, the financial base of Malawi as a country would be broadened because a larger part of its secondary school graduates would be engaged in productive undertakings or self-employment.

Despite the articulation of many policies on the importance of skills for self-reliance the education system has failed to operationalise these. According to Kachilika (1992), Mwanza (1995), Phoso (1990), Atchoarena and Delluc (2002), and Matengo (1985), the failure of technical education in secondary schools is as a result of lack of technical teachers, instructional materials and lack of maintenance of machines. Citing Courtney (1988), Alide (1997) confirms that while there was surplus of technical teachers in the 1985/86 academic year, there was a critical shortage of 23 teachers in 1994. Apart from the general attrition of teachers, the Malawi Government official machinery and negative attitude of those in authority have been responsible for this state of affairs (Khowoya, 1992, Alide, 1997).

1.14.2 Administrative machinery

One of the problems of technical education is due to lack of administrative machinery to monitor the sector and advise appropriately. Due to negative attitudes of officials in secondary schools and at the Ministry of Education Headquarters, this sector has suffered lack of machinery to support it (Khowoya, 1992; Alide, 1997). The argument behind the attitudes is that the sector is expensive to sustain. This has in a way not helped the sector in finding alternative solutions to the problems of technical education in secondary schools.

1.14.3 Administrative support

Administrative attitudes also have had negative impact on the sector. As a result of such attitudes attributed to earlier, administrative support to the sector has been lacking. This may have contributed to the collapse of the system.

1.14.4 Resource availability (Human and material)

Issues of availability of resources, both human and material, for technical education in secondary schools have been recognised as one of the major reasons for the collapse of technical education in schools. In addition to issues of attitudes and lack of administrative support, this research also intended to probe into the various factors that have contributed to lack of resources in form of technical teachers and the material resources for teaching and learning.

1.14.5 Search for a Real Problem

In spite of the many research exercises that have taken place on the subject of technical education, no scholar has established the real causes for the lack of such resources and whether the lack of resources alone is responsible for the collapse of technical education in the absence of other causal links**.** Although literature attributes the failure of technical education to the lack of resources, Phoso (1990) observes that much as they are important and necessary, financial, material and human resources are not always solutions to problems. "Not all solutions to a problem always need resources". In this connection, lack of resources for a programme may only be indicative of deeper problems. In other words something must be responsible for the lack of such resources. It was the intention of this study to probe and explain for deeper causes of the problem as a way of addressing the gap that Phoso and others had identified above. Such a new and additional dimension to the much sought after explanation could as well serve as a beginning to a comprehensive understanding of the decline of technical education in Malawi. We need to understand the real problem if we are to solve it.

1.15 CONTEXT OF THE PROBLEM

Country Background

1.15.1 Historical

While the Portuguese explorers were the first to reach Malawi in the 16th century, the Scottish Missionaries, pioneered by Dr D. Livingstone, were the first to establish Christian Missions in Malawi (Wikipedia, Free encyclopaedia). Following this development a number of traders mostly from Glasgow formed the African Lakes

Company to supply goods and services to the missionaries. This development led to other missionaries, traders and planters to make establishments in the then Nyasaland (Wikipedia, Free encyclopaedia).

According to the Wikipedia, (the free encyclopaedia) the British established the Nyasaland Protectorate, also known as the British Central African Protectorate in 1891. For many years the British remained in control of Nyasaland despite attempts by the indigenous people to obtain independence. However, the pressure for independence increased when Nyasaland was joined in 1953 by Northern and Southern Rhodesia, the current Zambia and Zimbabwe respectively, to form a federation of Rhodesia and Nyasaland.

The return of first president of Malawi, Dr Hastings Kamuzu Banda in 1958 from U.S. and U.K., where he had attained education and worked, respectively, intensified the struggle for independence. Following this development a series of activities took place that led to the dissolution of the Federation of Rhodesia and Nyasaland on December 31,1963. This, in turn, paved the way for independence that was attained on July 6, 1964 and a republican state two years later in 1966 (Wikipedia). Thus, the name Malawi was born out of Nyasaland.

1.15.2 Geographical and Social Economic Status

Malawi is a small landlocked country in Central Africa with an area of 118,480 sq. km. of which 94,080 sq. km is land and 24,400 sq. km is water (Retrieved; PCAR, 2002). The country shares borders with Tanzania in the North (475 km), Mozambique part of the

West, the South and the East (1569 km), and Zambia to the North-West (837 km) (Wikipedia). Lake Malawi, which has an average length of 580 km, makes a fifth (20.6%) of the country's territory. Among some of the resources and minute mineral deposits, Malawi has limestone, hydropower and potential hydropower sources, coal and unexploited deposits of uranium and bauxite in Karonga and Mulanje districts, respectively.

Despite its small size and a very marginal economic base, the country is densely populated with population estimates of 11,937,934 and annual population growth of 3.32% (National Statistical Office, February 2003). In addition to this scenario, Malawi is one of the poorest countries in the world. According to an Oxfam Report; UNICEF; more than 62.7% of the Malawian population, is below the poverty datum line. According to NSO, it is even lower to 52.4%. As a result of this, its economy is highly dependent on the donor community. Needless to say therefore, that as a result of this state of affairs, the economy of Malawi is unstable because nobody can guarantee sustainability of cash inflows from the donors as well as donor driven programmes. However, Malawi has good arable land, although agriculturally, only a marginal area is profitably used. Tobacco and tea are the major agro-based products for Malawi's exports.

1.15.3 Malawi Education System

As has already been alluded to, formal education in Malawi came with the arrival of the Christian Missionaries whose initial main objective was to spread Christianity. Since these missionaries were largely British, education system that was established had British orientation, which is still being followed to date.

The Malawi education system is partitioned in three categories, which follows an 8-4-4 system. This implies 8 years of primary, 4 years of secondary, and 4 years of tertiary education. All of these fall under the Ministry of Education and Vocational Training. The administrative structure of education in Malawi is based on six Division Offices and 32 Education Districts. However, there are two other ministries, which are also involved in the education in Malawi although on a smaller scale. These are the Ministry of Women and Child Development, which is responsible for early childhood education and adult literacy (Chimombo et al, 2001). Initially the Ministry of Labour was responsible for Technical and Vocational Education because it was the policyholder for both Technical Education at secondary school and Vocational Training at tertiary level. However, this has, since July 2006, been taken back to Ministry of Education and Vocational Training. The problem under the study was at secondary school level.

1.15.4 Education Support Institutions

The education system in Malawi under the Ministry of Education has a number of parastatal support institutions with which it works and collaborates on a number of issues. Notable of these are:

(a) The Malawi Institute of Education. This institution was established with the sole responsibility for the development and evaluation of both primary and secondary school curriculum and instructional materials. The institution is also responsible for in-service teacher training programmes. However, technical education, especially at secondary school, is never featured at any of its programmes or

activities. While the institution has various subject specialists for both primary and secondary school levels, technical subjects are not represented anywhere.

(b) The Malawi National Examinations Board (MANEB). This institution is responsible for developing and administering primary, secondary and primary teacher-training examinations, developing examination syllabuses for all subjects, testing programmes, evaluation and testing of job applicants, and many other research services in education and educational measurement. The institution also develops and administers craft examinations. MANEB also administers examinations in the country on behalf of other examining boards outside Malawi. Among the many subject experts, the institution has a technical subjects specialist.

(c) The Malawi College of Distance Education (MCDE) has the responsibility of enrolling secondary school students who apply to study through correspondence. This institution does not provide any service pertaining to technical education at secondary school level.

(d) University of Malawi which has five constituents. The Centre for Educational Research and Training (CERT) is a unit attached to the University of Malawi, Chancellor College which undertakes educational research studies. University of Mzuzu is another institution of higher learning that has just been established in the recent years to also assist in the national capacity building.

Fig. 1: Malawi showing Secondary Schools with Technical Subjects

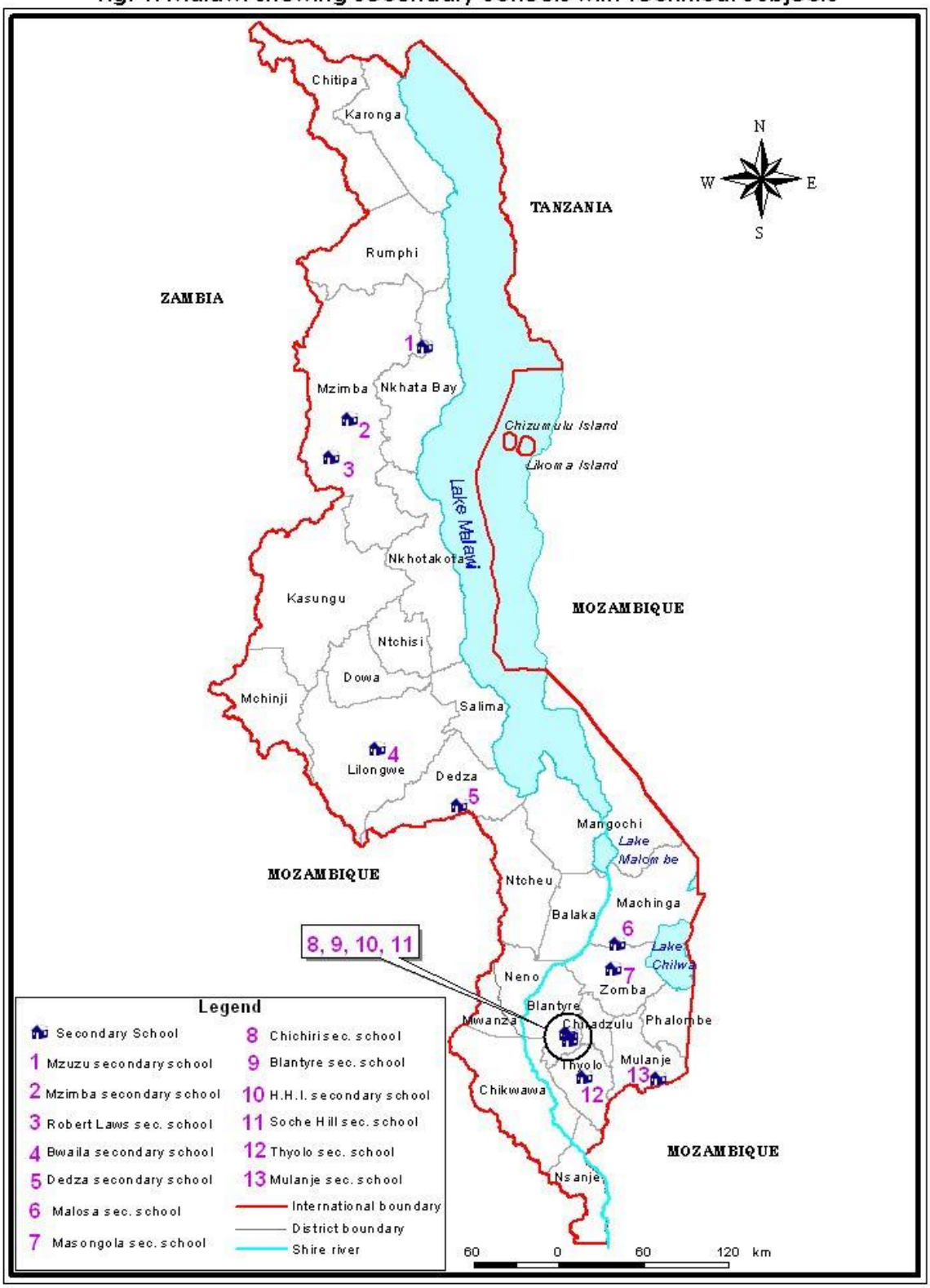
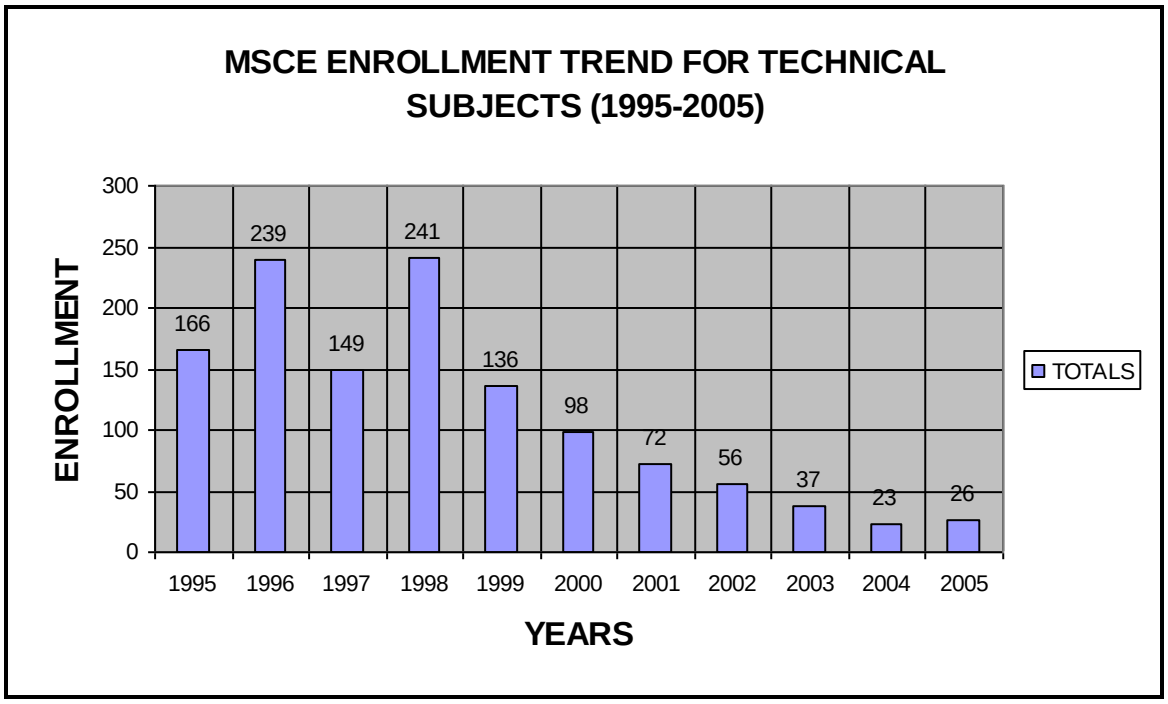


Fig. 2: MSCE Technical Subjects Enrolment (1995 – 2005)



Source: Malawi National Examinations Board (21/10/2005): 1995-2004 Entries
Malawi National Examinations Board (05/04/2006): 2005 Entries

The above chart represents the yearly total enrolment trend of all the three technical subjects namely: Woodwork, Metalwork and Technical Drawing (G & O)

While Table 2 represents breakdown of enrolment of individual technical subjects, Fig. 2 shows graphically the total presentation of how Technical Education has performed over the years. As can be seen, the decline trend has been continuous except for the interruption of 1996 and 1998 where, for unknown reasons, enrolments went up. The graph representation can be summed up as the context of the problem.

1.16 THE PURPOSE OF THE STUDY

The failure of technical education to take off has resulted into further implications and consequences on the education system by way of "policy dysfunction and disjunctures" on other institutions such as the Malawi National Examinations Board (MANEB) on the cost-effectiveness of its examination processes and expenditures, and the University of Malawi which is responsible for technical teacher training. The cost-effectiveness of an educational investment is largely dependent on the number of students partaking that education service. The current status indicates that the programme is no longer cost-effective.

Among other problems, the failure of technical education to progress has been compounded by controlling officers who make decisions that are at variance with desirable goals set in policy documents of government (Khowoya, 1992). Among the many problems, this has resulted in many technical teachers being deployed in secondary schools that do not offer technical subjects leaving those that offer without teachers of technical subjects.

Phoso (1990) also observes that the secondary school graduates of technical education, who have not been successful to proceed with their studies to the university, have not been channelled to other various areas to practice and upgrade skills acquired at secondary school. Supporting this argument Alide (1997) also observes that secondary school technical education is not favourably considered for further technical skills education intake such as into technical institutions. This brings lack of progression from

secondary school to further skill development. It was also observed that before the policy was taken back to Ministry of Education and Training there was no active policy link or co-ordination between the then Ministry of Education and the Ministry of Labour to absorb such students so as to further develop into purposeful life skills (Phoso, 1990).

The study therefore, sought to examine the real factors that are responsible for the collapse of technical education in secondary schools. Literature has attributed the problem to the lack of technical teachers and material resources in secondary schools. But "resources are not always solution to problem". In this regard there must be deeper causes that have resulted not only in the dwindling enrolment and retrogressive growth of technical education, but also in the failure of the whole system in secondary schools in Malawi.

1.17 SIGNIFICANCE OF THE STUDY

This research was significant for many folds:

1. Academically, the study would substantially add knowledge to the existing scholarly literature by addressing the gap that was identified by literature.
2. This research would inform policy and improve practice of Technical Education in Malawi. In particular, the study would reveal bottlenecks and make it possible for technical education to make a fresh and promising move forward so as to contribute positively to National Goals of Poverty Reduction.
3. The research would highlight issues that various stakeholders and development partners will find important and necessary for the development process.

4. Good as it may look, general education is uncertain of future's change and today's challenges. Technical education would, therefore, be a necessary tool for expanding alternative knowledge source base as well as increasing absorptive capacity of education. To this end, this study would improve the existing knowledge of technical education and may help in devising ways of how best technical education in secondary schools may be managed for the betterment of the Malawi education system and national development.

1.18 THE AIM OF THE STUDY

The aim of this study was to identify and explain the causes for the failure of technical education in secondary schools in Malawi in which, among other problems, the sector lacks teachers and material resources, and suggest ways of promoting it.

1.19 SPECIFIC OBJECTIVES

The specific objectives of the study are:

- To explain causes for the inadequate supply of technical teachers and instructional materials in secondary schools in Malawi
- To determine why many students do not opt for technical subjects in secondary schools that offer the subjects
- To examine how the presence or absence of well articulated policies may positively or negatively affect technical education programme
- To examine and explain the implications and the major policy disjunctures among various stakeholders such as between the Ministry of Education which is the

'motherboard' of technical education, on the one hand, and, the University of Malawi and the Malawi National Examinational Board (MANEB) on the other.

- To provide a framework and, or recommendations on how best technical education in secondary schools may be managed successfully.

1.20 RESEARCH QUESTIONS

The following are the research questions as related to answer or address the research objectives.

Q1. What was the objective of transferring policy on technical and vocational education from Ministry of Education to Ministry of Labour and how did it affect the teaching of technical subjects in secondary schools?

Q2. Why are teaching and learning resources for technical subjects not readily available in secondary schools in Malawi?

Q3. Is there a management problem towards technical subjects?

Q4. Why are technical teachers not available in schools?

Q5. Why are technical teachers sometimes deployed to schools that do not offer technical subjects?

Q6. Why do students shun or show lack of interest in enrolling for technical subjects?

Q7. What relationship is there between the Ministry of Education and its co-operating stakeholders such as the University of Malawi and the Malawi National Examinations Board in promoting the activities of technical education in secondary schools in Malawi?

Q8. Does the University of Malawi still train teachers for technical subjects?

Q9. What are the effects and implications of the failure of technical education on the operation of other education sectors such as MANEB?

Objective 1: To explain causes for the inadequate supply of technical teachers and instructional materials in secondary schools in Malawi

Research Question numbers 2, 4, 5 and 8.

Objective 2: To determine why many students do not opt for technical subjects in secondary schools that offer the subjects

Research Question number 6.

Objective 3: To examine how the presence or absence of well articulated policies may positively or negatively affect technical education programme

Research Question number 1.

Objective 4: To examine and explain some implications and the major policy disjunctures among various stakeholders such as between the Ministry of Education which is the 'motherboard' of technical education, on the one hand, and, the University of Malawi and the Malawi National Examinations Board (MANEB) on the other.

Research Questions number 3, 7 and 9.

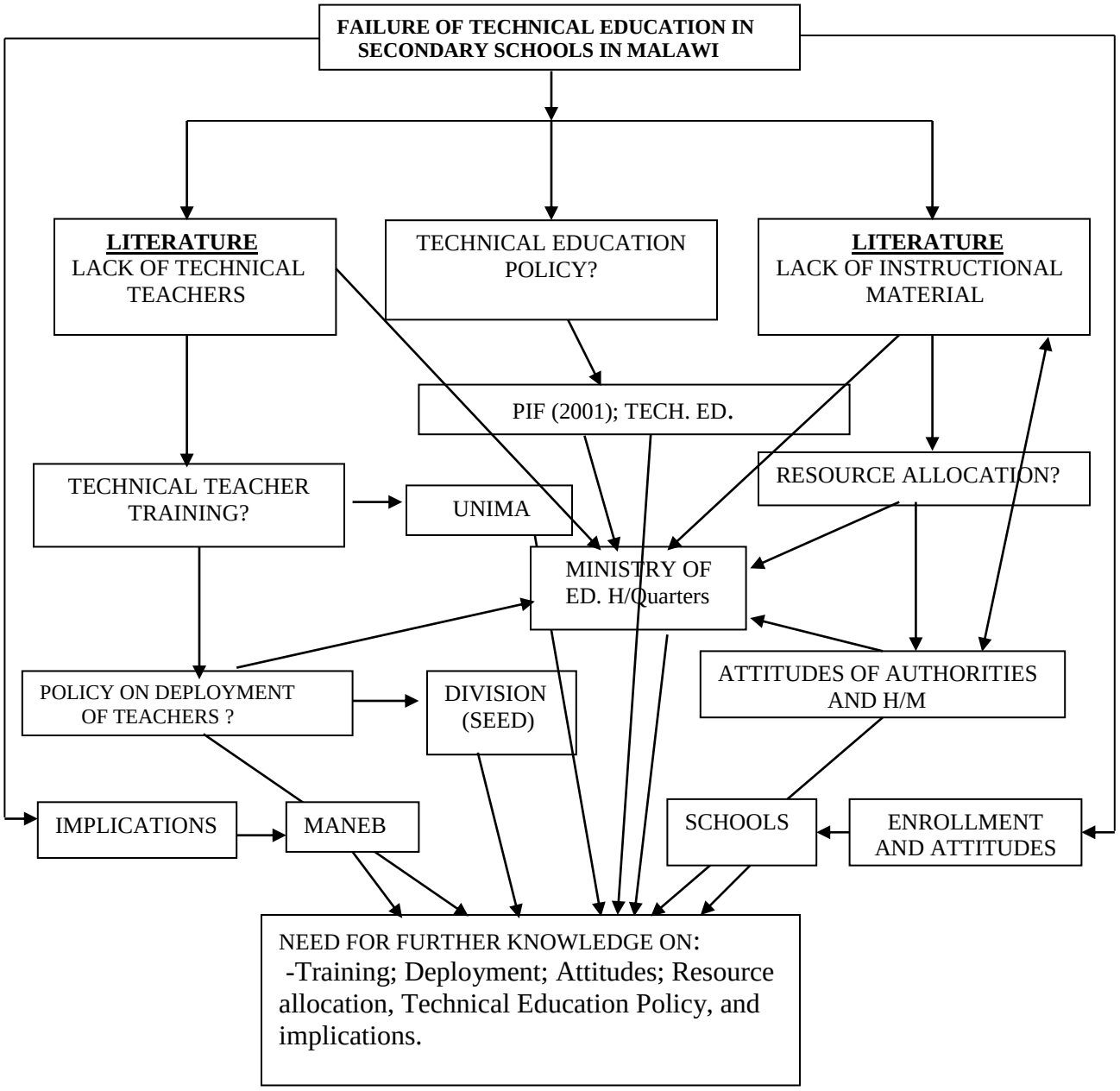
Objective 5: To provide a framework and, or recommendations on how best technical education in secondary schools may be managed successfully.

The above objective did not have a specific research question but rather that the recommendations would be drawn from the findings. Therefore the recommendations are the reflections of the findings of the study.

1.21 CONCEPTUAL FRAMEWORK:

RESEARCH PROBLEM FLOW MAP -- CAUSAL LINKS

Fig. 3



1.21.1 Conceptual Framework - Explained

According to the Statement by the Appalachian State University (Undated), the assumptions of knowledge is that it is socially constructed, community of practice provides the context for learning more knowledge and that knowledge is the tool that guides policy and practice. In pursuit of this knowledge a community of practice was used to link the past and the present for this research.

In seeking to uncover the deeper causes beyond those already explained, the above diagrammatic conceptual framework in Fig.3 tried to use the causal link concept starting from what the literature attributes to as the problem. In this connection, the study sought to know from the University of Malawi what the technical teacher-training programme was like. From the South East Education Division (SEED) and the Ministry of Education Headquarters, what the policy stipulates on teacher deployment, and why teaching and learning resources for technical subjects are not available in schools. The effects of the negative attitudes of the decision-makers and controlling officers on the operation of technical education were also linked to the study for the purpose of determining implications for technical education. The study also included the Malawi National Examinations Board (MANEB) as one of the stakeholders of technical education to find out some of the implications the problem has had on its operations.

CHAPTER 2

2.0 REVIEW OF THE RELATED LITERATURE

Chapter Overview

The chapter has focussed on technical education as an educational sector that can contribute to social and economic development. The chapter begins with the examination of the literature on the general background issues whose objective is to emphasise the point that the sole purpose of education is to serve society so that the same society may be able to find solutions to the many social and economic challenges. The chapter further explains the importance of Human Capital and Life skills creation, and the role of technical education, from individual livelihood perspectives to the economic growth and development of a nation. While technical and vocational education has been criticised as a fallacy, the authors in the chapter argue that it is, in part, such notions that have contributed to the downfall and dwindling enrolments of technical education across the world.

The many forms and objectives of technical education largely determine the management and governance of technical education. However, the chapter shows that lack of comprehensive policies and administrative support to guide the sector, compounded by resource inadequacy have all contributed to the collapse of technical education across the world, especially in the SADC region.

While primary education is crucial and important, it has been demonstrated in the chapter that its over-emphasis has also contributed to the collapse of other educational sub-

sectors especially technical and vocational education due to the fact that large financial allocations go to primary education and probably very little to other sub-sectors.

The chapter concludes with some statistics of the place of technical education in the education system in Malawi in comparison to some other countries in the SADC region. Using statistics, the chapter argues that at 1.8% in relation to gross education enrolment Malawi technical education started poorly and without appropriate interventions and a deliberate plan of action, the sector was prone to failure. Indeed, between 1970 and 1995 the sector's enrolment dropped to 0.8% (Table 5). Eleven years later the sector has completely collapsed (see Table 2).

2.01 General Background Issues

Bereday and Lauwerys (1967: 1) quoting *The Republic* by Plato contended that education must be a well-articulated scheme which takes account of the political needs of the people and which makes the school the servant of the society. Also quoting John Knox of the 16th century, the two further describe education as a national system of schools and colleges, which would serve the 'Scots' and lead them not only to spiritual salvation but also to well-being.

In describing educational planning, Anderson and Bowman (1967: 9) proposed that education must simultaneously seek to satisfy economic, social and political objectives. On the other hand, Milner (1967) observed that although the general assumption is that education may in some cases be a cause for economic growth, the mere expansion of the

educational system would not guarantee the expansion of job opportunities. It is against this context that Callaway (1967) brings to the attention of the enormous problems and challenges of unemployment Nigeria encountered upon launching free primary education in 1955 in total disregard of the other tiers or interventions.

According to Coombs (1967: 69), evidence is accumulating that educational production is increasing more rapidly in many developing countries than the creation of new jobs for secondary school leavers, university graduates and even primary school leavers in some cases. For this reason, decisions regarding education must be planned rather than ad hoc (Anderson and Bowman, 1967). It is in view of the above issues that Hunter (1967) proposed deliberate and realistic plans in order to provide for more productive opportunities for the young generation who leave or drop out of school every year. It has been noted that "…time appears ripe for further extension of educational opportunities in a direction rather different from what has been seen and regarded to be the tradition" (Williams, 1977: 13). This essentially means that technical and vocational education needs to be accorded a special place in the education system.

Avigad (1971: 122) observed that in order for society to be able to adapt to new methods of production and challenges, "it is important for an educational system to create in elementary and secondary schools a co-ordinated curriculum where vocational, technical and general education reinforce each other." Under such an educational system, Avigad contended, no student is rejected outright at any stage of one's education.

2.02 Human Capital and Creation of Life skills

In earlier times, practical skills or apprenticeship tended to be seen as alternative to schooling (Bereday and Lauwerys, 1967). As such it was regarded not as integral part of real education. However, as Bereday and Lauwerys put it, today technical skills are one of the important elements of education that contribute directly to the general increase in wealth and provides social stability (Bereday and Lauwerys, 1967: 3).

However, Hunter (1967: 242) argues that if education policies look for manpower skills requirements in the context of the modern industrial sector only, then it falls short of sight of the huge mass of young people who are not required for paid employment. Hunter argues therefore, that education policies cannot escape a responsibility for seeing that funds are not wasted by pursuing curricula that does not have future relevance to the individual in case he or she drops out of school or does not find employment.

Chimombo (2005) observes that the attention of policy makers in the 21st Century has been on the role of education in preparing children to participate actively and productively in economic growth and national building. However, Milner (1967: 39) argues that the concept of education that deals directly with the effects of economic growth is virtually useless if it tends to treat education as a factor influencing those aspects of modernization which are not integrally linked with increased individual income and growth of well being.

The philosophy of Julius Nyerere's education for self-reliance as noted by Chimombo (2005) emphasised a system of education whose cost and impact on practical skills and

attitudes were to be appropriate to the country's needs. National needs change with changing challenges. Technical education thus provides skills that would otherwise serve current and future challenges. However, as Chimombo observes, analysis of such dreams and programmes have shown that such attempts have not been successful because of inadequate planning and failure to take account of the systems and important dimensions into which the innovations are being introduced.

Coombs (1967: 71-72) noted that the major cause of the unsuccessful implementation of a programme may be the "lack of administrative machinery to understand, support, forecast and test against the financial limitations." Reimers and McGinn (1997: 169) observe that: "plans are made for symbolic reasons and are forgotten as soon as the plan document is ready." It is against this context that Weiss (1998: ix) reiterates that solving social problems is difficult and calls for large resources of money, time, will power and ideas.

According to Chimombo (2005), the aim of education policy should be to give every person a chance of developing his/her inherent potential. This could be regarded as the major social mission of education as a whole. The argument however is, what kind of education should educational policy propagate in order to accelerate growth and realise more individual incomes and national wealth? These issues require different educational approaches, and this accounts for difficulties in planning for an education that is required to serve multiple dimensions. However, social-economic challenges have given rise to the need of empowering societies with more of a skill oriented education.

Although Psacharopoulos and Woodhall (1985) and the advocates of Universal Primary Education (UPE) believe that education is the root to economic prosperity, and a host of other benefits, the argument is short of recognizing elastic limits of job opportunities in the absence of other interventions in which education ought to be seen as engine to combat social and economic challenges (UNDP, 1991). Frank (1978) asserts that indeed education is important and necessary, but continues to argue that the masses of the educated and yet unemployed in India and Sri Lanka show a bitter relief the dangers of partial solutions of education in which the educated depend solely on being employed. Large numbers of migrants from rural to urban are educated youths, who stay unemployed because of faulty educational orientations and probably inflated expectations (El-Shakhs and Obudho, 1974).

According to Hartwell (1994: 7), many believe that schools have become irrelevant because graduating students do not have the 'skills' needed to obtain a job. Hartwell observes that the intuitive logic of this line of reasoning is that there is a continuing pressure for vocationalizing education at all levels, even at primary. In support of this argument Atchoarena and Delluc (2002: 15) have noted that: "…schools everywhere are being asked to prepare young people for the job of tomorrow, and technical and vocational education has an important role to play in this process". UNESCO (1984: 9) observes that the expansion of technical and vocational education is in the interest of economic development, democratization of education and society and adjustments between education and the employment market. Cowen (1981: 52) supports the above argument by saying that "… it is true that expansion of an education system such as

technical and vocational education can contribute to the democratization of educational opportunities". What this means is that expanding education towards technical and vocational orientation does not only provide skills necessary for survival but also opens up educational opportunities to allow for those who need it. This is what democracy entails.

2.03 Curriculum and Relevance

According to Atchoarena and Delluc (2002: 184-85), curricula revisions involving Vocational Education must take into account working conditions and occupational standards on the basis of job-task analysis. They continue to argue that such an approach has an implementation advantage as it involves consultative meetings with employers and exposing teachers to training and employment issues in addition to orientations and exposure to new technologies and industrial realities. Curriculum must therefore, be relevant to the challenges of the time.

However, Atchoarena and Delluc have noted that most technical and vocational education curricula in Sub-Saharan Africa do not fit the needs of their societies. The two have observed that the education system of such countries normally reflect and are influenced by the former colonial powers and the donor community and reforming the curricula in the context of the existing challenges is always difficult. While most French speaking countries in Africa such as Mali and Cote d'Ivoire get their educational models and aid from their former colonial "masters" like France, Canada and Belgium, the

Malawi educational system has also been influenced by the former colonial “masters” – the British (Atchoarena and Delluc, 2002; MacJessie-Mbewe, 2004).

According to the Policy and Investment Framework- PIF (2001) issues of curricula relevance and life skills are highlighted as paramount to the educational sector. Currently, both primary and secondary school curricula have been revised to address current challenges and reflect issues as proposed by PIF. However, it may be necessary to remember that while addressing issues of current challenges, policymakers fall short of sight of old issues that still remain challenges. Although technical education is an old phenomenon, its relevance to society remains important and needs to be included at various levels of the education planning process.

Kadzamira and Rose (2001) have observed that the relevance of the type of education currently received by children who are unable to continue beyond the primary level is questioned. Kadzamira and Rose further argue that the appropriateness of the curricula has also been questioned in relation to its applicability to Malawi's poverty alleviation. The two reported that most parents and teachers at primary school level view the teaching of technical and agricultural skills as more important than the present academic curricula (Kadzamira and Rose, 2001: 22).

Kadzamira and Rose continue to argue that the present academic curricula is aimed at preparing students for secondary education to which very few actually have access and therefore the achievement of poverty alleviation goals through education is uncertain. It

is against this background that Phoso (1990) reiterates that as long as school leavers do not find employment upon leaving school, the terminal objectives of Malawi's educational system would not be met. The school leavers' plight in Malawi is compounded even further by the presence of a technical education system that is neither expanding nor working (Phoso, 1990).

2.04 Objectives of the technical education

While the objective of the Vocational Education and Training is to raise the productivity level of the formal and informal sectors and to train the workforce for self-employment, the objective of the Technical Education at secondary school, on the other hand, is to broaden the curricula and provide the to-be school leavers with skills' opportunity to ably integrate into the society (Atchoarena and Delluc, 2002:38). Phoso (1990: 10) also noted that the approach provides an opportunity to link theory to practice. Atchoarena and Delluc observe that the objectives of technical and vocational education have become more social, including the fight against poverty and the integration of the young people into the world of productive working.

UNESCO (1984: 10) has observed that the educational reforms are not only to meet development or manpower needs, but also to democratize education in such a way as to broaden opportunities for all to develop their capacities to the full, both in individual terms and in terms of their role in society and the working world. Phoso (1990: 16) quoting Programme of Action 1986-1990 noted that the integration of curriculum towards practical work in Malawi was to develop the individual potential and to

appreciate the world of work. However, Atchoarena and Delluc also observe that: “the fact that the system is neglected, unfocussed and impoverished makes it all the more difficult for technical and vocational education to take up these challenges”.

Most countries in Sub-Saharan Africa officially aim high for poverty eradication. However, practical policy does not always follow suit especially where government commitment is deficient (Asche, 1998: 255). Verspoor (1994: 172) argues that discontinuity and gap between the rhetoric of policy declaration and implementation by politicians and senior sector managers are quite often different from those intended by the policymakers.

2.05 Resource Inadequacy

Resource allocation has been one of the major constraints that have suffocated the sector. With costs of acquiring teaching and learning resources rising up more or less continuously, the sector has suffered in carrying out its duties. Kachilika (1992) observes that secondary schools with technical subjects in Malawi lack materials for teaching the subjects. To compound the problem, Phoso (1990) also noted that the technical teacher-training programme at the University of Malawi is such that it is on high demand in the industries. As a result most teachers upon graduating join industries where they earn much more than in teaching. This has also significantly contributed to the lack and disappearance of technical teachers from secondary schools.

2.06 Finance of Education

Atchoarena and Delluc (2002) observe that most education systems in Sub-Saharan Africa concentrate on basic education and allocate very little financial resources to the technical sector. The introduction of Free Primary Education (FPE) in Malawi, for example, has also led to financial suffocation of other education sectors despite being important as well. Kadzamira and Rose (2001:17) observe that emphasis on primary education has implications for other sub-sectors of the education system. It is likely to increase pressure on the secondary school system. The Malawi education sector receives its funding from the national budget, donors and parental support in form of labour and fees at secondary level (Chimombo et al, 2001). The share of total government expenditure allocated to the education sector has increased over the years. According to Chimombo et al, there has been a shift of resources, in the recurrent budget, towards primary education, and that between 1993 and 1997 the primary-education share rose from 49% to 62%. The implication of this is that other sectors of education have suffered in terms of resource allocation. In turn, this has had serious repercussions on the sustenance and development of such sectors. One of the goals of education is to ensure equity in access and participation, and equality in terms of human and material resource distribution both among divisions and schools within the divisions (Chimombo et al, 2005).

2.07 Management and Governance of technical education

There are considerable variations in the governance and management of technical education worldwide. Atchoarena and Delluc (2002) assert that it has been the tradition

for this sector of education to be the responsibility of the state. The controversy, however, is which government ministry or department ought to be the overseer of this branch of the education system. To minimize such confusion, some countries such as Togo created a Ministry of Technical Education and Vocational Training in order to ensure better co-ordination between technical education and vocational training (Kanoko, 2000 in Atchoarena and Delluc, 2002).

While most countries have the Ministry of Labour for coordinating skills training policies with other government initiatives, it still remains the responsibility of the education system for supervising, organizing and managing initial technical training in co-ordination with the general education according to the educational and political strategies of the government which may change from time to time (Lannert, 1999 in Atchoarena and Delluc, 2002).

On the other hand, since its establishment in Malawi, Technical and Vocational Education has been the responsibility of the Ministry of Education. Having attained multiparty democracy in1994 the Malawi education sector established a comprehensive draft educational guideline document known as Policy and Investment Framework (PIF) that was meant to guide the education sector both at policy and strategic levels between 1995-1998. In this document, however, technical education at secondary school is loosely featured. In the revised version of the same (PIF, 2001) both technical and vocational education were completely removed from the PIF document. The argument was that the policy was transferred to the Ministry of Labour. Up until July 2006 the Ministry of

Labour was the policyholder for both Technical Education at secondary school and Vocational Education and Training at tertiary level (PIF, 1995-1998; PIF, 2001). It seems likely that this arrangement created one of the major setbacks because it lacked proper linkage and coordination between the two ministries.

2.08 Technical Education for Economic Growth and Development

Todaro (1989) and Msiska (2001) have noted that economic growth and development are two different concepts that are however strongly interrelated and depend on one another. As economic growth enables the national economy to equitably distribute its national wealth and activities, development entails people's well-being and improved standards of living (Msiska, 2003). In this regard, the quest is for economic growth to translate into development. Lewellin (1995) observes that any policy, educational or otherwise, that focuses on economic growth without due regard to its effects on the society is void.

UNDP (1991) on Human Development Report observes that no sustained improvement in well-being is possible without the growth of the economy but it is also wrong to suggest that high economic growth will automatically translate into higher levels of human development because, as Long (1977) defines it, development is progress towards welfare goals of satisfying human needs. Arndt (1989) reiterates therefore, that development is indeed a desirable objective because it is a means to human ascent. It is in this context that technical education provides those skills necessary for satisfying individual and national welfare goals.

2.09 Sociological Perspectives

In his sociological argument, Meighan, (1981) asserts that the paramount necessity for society and individual is the well being of life from external constraints. The key notion of this theory is that “man” must be accorded opportunity to realise one's full potential. This is possible only when people are freed from external constraints. The issue, therefore, is to find solutions that would ultimately relieve people from such external constraints. As noted by the Report of the South Commission (1990) the challenge is therefore to reaffirm in words and action that the purpose of development is the promotion of the well being of its people, with economic growth directed at satisfying their needs and fulfilling their purpose. According to the UNDP (1991), educational policies must ensure that opportunity is provided to the young generation in order for them to actively participate in the various economic activities that will not only contribute to economic growth but also uplift their own status and standards of living.

UNDP (1991) further observes that no nation can hope to grow if the majority of its people are not provided with the necessary skills for survival. In support of this argument, Phoso (1990) contends that the development of a nation depends on how its people manage the country’s resources to create a healthy economy. But the success of converting the resources into wealth depends on the utilization of the manpower available (Fagerlind, 1983). Archer and Moll (1992) also noted that education’s economic links are not only to growth but also to development in the sense of the individual and collective fulfilment of potential. Education viewed as human resource development may indeed, enhance economic growth if it increases productivity (Williamson, 1979). However,

Adam Curl (1964) in Williamson (1979: 97) questions the kind of changes in education that ought to be brought about to better realise that productivity and development.

Although Simmons (1980) contends that education is viewed as a device for curing poverty, Williamson (1979) observes that contemporary attention is so concentrated on the role of education in development that people are inclined to forget its capacity to also stunt growth if it is wrongly focussed. Williamson further observes that the rate of growth of an economy depends upon the availability, quantity and quality of the human capital stock to exploit new technologies and innovate economically. Commenting on the same, Archer and Moll (1992: 160) observe that: "In South Africa the contention for decades that skilled labour shortages have been the major constraints upon growth is some testimony to its prevalence". According to Milner (1967) the question of whether a particular education service augments human capital and thus constitutes investment appears inseparable from the evaluation of their consequences since there is no objective way of determining increments to human capital if it falls short of observing the economic effects.

Arndt (1978) reminds us that economic growth is meaningless if its benefits are not shared. Arndt continues to argue that the rate of economic growth cannot be increased by wishing, but rather that meaningful steps need to be taken deliberately and collectively to increase it and the major of which is the education system that is oriented towards empowering people to increase productivity. To a larger extent, economic growth depends on productivity, which also depends on technology (Arndt, 1989). It is against

this background that Milner (1967) further observes that the concept of education that deals directly with the effect of economic growth is virtually useless if it does not link with increased individual income and well being. Gsanger and Heufers (1998: 3) observe that economic growth is necessary but not a sufficient condition for sustainable social economic development. This may suggest that Technical Education would be a basis for sustainable economic development for both an individual and the nation.

Economic growth and the social development of a nation are collective efforts of various sectors both private and public including development partners. Above all however, education is the major engine to drive and achieve the desired policy objectives of a country. Educational policies must not only look at externalities, as general benefits of general education (Atkinson, 1983; Schultz, 1961; Shaffer, 1961; UNDP, 1990; Weisbrod, 1962; Blaug, 1965; Bennel, 1995; Elias, 1992; Halsey, Floud and Anderson, 1965). Much as the issue of externalities is a true reflection of education, such a notion cannot boost economic growth, as it does not provide an opportunity and a fertile ground for active economic productivity (Thirlwall, 1972; Rosenberg, Landau and Mowery, 1992). Education must, otherwise, aim at empowering society with practical skills in order to increase productivity. The various stages of economic growth as expounded by Rostow (1971) rely more on national productivity whose results are meant for social economic progress that would ultimately reduce poverty. However, such an argument cannot be achieved if the education system is not specifically focussed towards that goal. After all education has a social mission to accomplish which is to serve the society.

Education must therefore be seen to be the servant of the society in words and action (Mtunda and Safuli, 1985).

Theory of Hurdles by Weber (1958) in So (1990: 66) argues that development is overcoming a series of obstacles. Education must deliberately and purposively be planned to remove or reduce such obstacles and achieve the desired development goals. The fruit of economic growth is a question that depends on a number of structural factors, the most significant one being access to productive resources. Technical education provides for that productive gap.

According to Gsanger and Heufers (1998) reduction of poverty is possible only if the poor are given a fair share not only in political decision-making but also in productive assets. Among other things poverty is a consequence of the denial of a fair share in society and also a consequence of social and educational policies that fail to meet important principles, most important of which is sustainable livelihood for all (Gsanger and Heufers, 1998). Bark and O'Hare (1984) have noted that vicious circle of poverty could be broken through an education system that includes skills development, among other interventions. The argument therefore is that Technical Education, if properly focussed, could immensely contribute in achieving the policy objectives of National Goals among which are the economic growth and poverty reduction.

2.10 Fallacy Argument of Technical and Vocational Education

Technical and Vocational Education was considered to be a solution to many unemployment problems of the Developing Countries during the early years of their independence. Its failure to achieve the then aspirations by these Developing Countries is regarded today as a fallacy. According to Middleton and Demsky (1988) in Atchoarena and Delluc (2002), criticism of technical and vocational education has tremendously contributed to the current status of this education sector and has thus led to cuts in the volume of skills education and training provided in public institutions and to shifting more of the responsibility for providing the initial service to enterprises and private institutions.

Foster (1966: 397) argues that although both technical and agricultural education are the two important sectors for development and that they must definitely be accorded priority in all development schemes, "there is virtual absence of explicit dicta [statement of intention] regarding how the programme would enable to seek and satisfy the developmental and economic needs. It also seems to lack proper planning mechanisms on determining various issues such as what stage should technical and vocational education begin in the formal education and why; how technical education would integrate with general education; how would the content be designed to serve current and future needs of development and what variables are necessary for the effectiveness of the programme". Foster (1966: 398) observes that technical, vocational and general academic education are not substitute to each other but rather complimentary.

Although the fallacy argument by Foster (1966) and many others on the subject is that agricultural education; technical and vocational instructions may not likely have a determinative influence on the occupational aspirations and destinations of the students, the two still remain viable alternative routes to self survival considering dwindling employment opportunities not only in Malawi but as a world-wide problem. Unless other alternatives can be identified and put in place, massive school leavers will end in street in which vending and other unproductive and undevelopmental ills are likely to be perpetrated by the same as is currently happening and taking root in Malawi. Indeed as Foster (1966) observes, aspirations are largely determined by the individual perceptions of the opportunities within the sector of the economy, but unless these opportunities are made available, the students' aspirations would not otherwise accrue to substance.

2.11 The place of Technical Education in the Malawi Education system as compared with other countries

According to Atchoarena and Delluc (2002) technical and vocational education occupies a marginal position in the African Education system. However, enrollment statistics as shown by UNESCO Statistical Yearbook (1999) in Atchoarena and Delluc (2002) vary considerably from country to country. The enrollment trends indicate that technical and vocational education has not done very well in most Sub-Sahara African countries. It is observed that most of these problems occurred at a time when most African economies entered a period of recession and economic crisis in the late 1970s (Atchoarena and Delluc, 2002: 37).

Phoso (1990) observed that technical education in Malawi sprung from the simple artisan training introduced by the Christian Missionaries. As a result of such a weak foundation there were limitations to the proper development and sustenance of technical education in Malawi.

According to UNESCO statistics (UNESCO Statistical Yearbook, 1999 in Atchoarena and Delluc, 2002), Malawi entered this sector with marginal numbers. By 1970 Malawi had 236 students at secondary school pursuing this type of education. This translated to 1.8% of the total gross secondary school enrollment (UNESCO Statistical Yearbook, 1999 in Atchoarena and Delluc, 2002). During the same period some of the African countries, even those closer to Malawi in the SADC such as Botswana and Mozambique, started this sector much better in terms of enrolment (see Table 3).

Table 3: Comparison of Percentage Enrolment of Technical Education in Secondary School by 1970 in some Sub-Sahara African Countries in relation to their Overall (Gross) Secondary School Enrolment

COUNTRY	PERCENTAGE
Botswana	20.5
Burkina Faso	15.2
Cameroon	23.7
Chad	10.1
Mozambique	36.0
Uganda	14.6
Malawi	1.8

Source: UNESCO Statistical Yearbook, 1999 in Atchoarena and Delluc (2002).

The statistical data shown above indicate that the problem of technical education in Malawi dates way back during its introduction. At 1.8% Malawi entered this sector of

education extremely poorly. It could well be said therefore, that the manner in which the programme took off the ground risked it to be a failure especially coupled with lack a mechanism for its sustenance and expansion. Even within the Southern Africa Development Community (SADC) region data indicate that Malawi's entry into this sector was worse compared to other countries. For example, while Malawi's enrolment in T.E. was at 1.8% Botswana and Mozambique were at 20.5% and 36% respectively.

Table 4: Trends of Technical Education Enrolment in Secondary Schools in some SADC Countries from 1970 – 1995

	YEARS									
COUNTRY	**1970**	**1975**	**1980**	**1985**	**1990**	**1991**	**1992**	**1993**	**1994**	**1995**
Malawi	236	529	647	560	780	840	863	1007	1080	1054
Botswana	1009	1699	1800	2784	3514	2803	3213	3710	4093	6947
Mozambique	15031	*	12704	11643	9932	9729	9787	11644	13816	14582

Source: UNESCO Statistical Yearbook, 1999 in Atchoarena and Delluc (2002). (Note: * denotes information unavailable)

Table 4 above shows the enrolment progression of the three countries from 1970 to 1995. In real terms statistics above show that enrolment has been increasing in all the three countries. However, although there is some notable increase in enrolment for Malawi for that period, the increase is very marginal as compared to other countries.

Table 5: Trends of Percentage Enrolment of Technical Education in Relation to Gross Secondary School Education Enrolment (1970-1995) - SADC

	YEARS									
COUNTRY	**1970**	**1975**	**1980**	**1985**	**1990**	**1991**	**1992**	**1993**	**1994**	**1995**
Malawi	1.8	2.8	2.7	1.5	1.3	1.2	1.2	1.1	1.0	0.8
Mozambique	36.0	*	*	7.9	6.4	6.2	6.3	7.3	8.4	8.1
Botswana	20.5	12.3	8.9	8.0	5.8	3.7	4.1	4.2	4.5	6.3

Source: UNESCO Statistical Yearbook, 1999 in Atchoarena and Delluc 2002. (Note: * denotes information unavailable)

Table 5 above is meant to show that although the enrolment trend for Malawi shown in Table 4 indicates a gradual increase in actual numbers, comparing it with gross enrolment, it is actually on the decline. The enrolment trend for Malawi shows an increase from 236 to 1054, translating this information in relation to gross secondary school education enrolment in Malawi, indicates a steady decline (Table 5). This may be explained in terms of expansion of general education. While general education has had a remarkable expansion, during the same period, technical education has remained the same since its introduction in Malawi. The number of secondary schools for general education has increased from 66 schools in 1980/81 to 93 schools in 1990/91 to 107 in 1994/95 and to 985 in 2003. (Chimombo et al (2005: 4). The 2006 Education Census shows the current figures standing at 1106 secondary schools in Malawi (EMIS: 2006). In terms of secondary school enrolment, Malawi recorded 5,951 students in 1964 rising to 218,310 in 2006. On the other hand Technical and Vocational Education recorded 381 students in 1964 rising to 1,756 in 2003 (EMIS Annual Statistics 2006: 6). Lack of growth of the sector accounts for this disparity. While the above figures indicate a notable expansion in Malawi's general education, technical education on the other hand started with 13 secondary schools with technical subjects in 1970 and, unfortunately, there are still 13 such secondary schools to date (Table 1).

While the figures indicate a general decline in all the three SADC countries (Malawi, Mozambique and Botswana), Botswana and Mozambique started showing an increase in enrolment by 1992. In contrast, however, since 1970 Malawi registered an increase from 1.8% in1970 to 2.8% in 1975. Since then enrolment for technical education in Malawi

has been on the decline. As can be observed from Table 5 enrolment declined to 0.8% by 1995. Currently, the figures have dwindled even further as can be seen from Table 2, which indicates only 26 MSCE entries for the 2005 examinations.

2.12 The Educational Policy Disjunctures

Malawi Education Sector – Policy and Investment Framework-PIF (2001) recognises the importance of practical curricula in the education system. It is for this reason that the PIF proposed that the Malawi Education Curricula be reviewed regularly in order to capture issues of relevance in the education system. In support of this goal, *Vision 2020* recommended that skills education be promoted to provide and empower Malawian people for self-reliance. As one of the measures for combating mass abject poverty in Malawi, the Poverty Reduction Strategy Paper also stresses the need to provide skills oriented education for self-employment.

However, despite such good and well-wished policies, the Malawi education sector has not translated the policy wishes articulated above into tangible interventions to realise their objectives. Devereux (2005) observes that policy interventions in Malawi are not well articulated either with each other or with the national development strategy and this constitutes a partial failure of institutional programmes.

Pain (1998) also observes that lack of a coherent Social Development Policy implies that the overall initiatives on developmental objectives in Malawi are unclear. Education systems in many Developing Countries fail to provide direction for sustainable

development due to lack of monitoring structure (Verspoor, 1994). In the case of Malawi the monitoring mechanism would enhance the harmonisation of various contents of the policy documents mentioned above in order to achieve the development goals.

Dye (2002: 52) observes that policy implementation often requires the development of formal rules and regulations. Dye further reiterates that a nation must adopt the right policies to achieve the right goals. “Policy is an art because it requires insight, creativity and imagination in identifying societal problems and describing them in devising policies that might alleviate them in finding out whether these policies end up making things better” (Dye, 2002: 9). It is against this backdrop that education must develop policies that would address long-term people’s problems and in turn be able to achieve national development goals.

2.13 The place of Girls in technical education

Inequalities in the access to technical and vocational education are prevalent in Sub-Saharan Africa (Atchoarena and Delluc, 2002). According to Atchoarena and Delluc girls are under represented in this type of education in much of Africa. Even those who choose technical and vocational education as their study area most of them end up choosing specialities leading to jobs typically occupied by women such as hairdressing, secretarial work, health care, hotel work and home economics (Atchoarena and Delluc 2002: 43). This division, Atchoarena and Delluc point out, is based on a complex system of long-standing traditions and attitudes.

According to Khowoya (1992), Atchoarena and Esquieu, (2002), enrolment of technical education at secondary school indicate that girls in Malawi are hardly represented. Gender inequalities in technical and vocational education imply that boys and girls are not prepared equally for integration into the society and labour market (Atchoarena and Delluc, 2002; Khowoya, 1992). Although currently enrolment for technical education has been opened up for every one, girls get frustrated on the way due to lack of resources.

2.14 The need for Technical Intervention

According to MacJessie-Mbewe (2002), Kadzamira and Rose (2001), increased basic enrolments have also created educational pressures at other higher levels. For some reasons, this has also resulted in growing numbers of failures and dropouts, which would necessitate the need for technical and technological skills in order to create a society that is self-reliant for social survival even among those who neither make it to secondary school or the university. In support of this argument, Holsinger and Cowell (2000) observe that without requisite education to guide youth development, not only would young people be ill prepared for tertiary education or for work place but they would also be susceptible to juvenile delinquency and teenage pregnancy thereby exacting high social costs.

Although the current World trend of secondary education is to move from selectivity to mass opportunity, only a marginal number of Malawian youth find a place at secondary school. The incorporation of MCDE into secondary school enrolment has had, indeed, a positive impact on transition rates. However, currently only 35.09 % of Malawian youth

find a place at secondary school (EMIS, 2006). In terms of the actual figures the number is huge. Of 147, 613 Standard 8 Primary School Leaving Examination entries for 2005, only 51, 791 were selected for entry into secondary school representing 35.09% (EMIS, 2006). This indeed is a remarkable effort by the Malawi Government especially considering that a few years ago it was at 7% by 1990/91 and has been staggering between 9% and 12% between 2000 and 2004 (Holsinger and Cowell, 2000: 34; Chimombo et al, 2000; Kadzamira, Nthara and Kholowa, 2004; Kadzamira, 2003; Kadzamira et al, 2004: 8). Although the transition rate trend shows an improvement, the remaining 64.91% that cannot find a place at secondary school is dangerously retrogressive to be kept idle. These need to be accorded an opportunity for some form of skill development. Holsinger and Cowell have further observed that the transition trend is even worse from secondary to tertiary levels. Consequently, the majority of pupils who proceed neither to secondary school nor university need to be furnished with survival skills in form of technical education that would make them self-reliant and realise their potential. Malawi has experienced explosive proportions of non-technical forms of vending. The country cannot economically develop by trading in imported goods. This practice tells a story of the education system in Malawi. The Head of State – Dr Bingu wa Mutharika (2007) reiterated that Malawi needs to move towards being predominantly a producing and exporting nation. For this to be realised productivity of various forms ought to be enhanced. This philosophy is indeed very good for the country Malawi, but requires an education that is skill based for the country to realise the dream.

Chapter summary

The chapter has firstly, provided a discussion on the role of education in general and curriculum in particular that it is the servant of the society and must therefore endeavour to fulfil its purpose. Secondly, the chapter has looked at the general picture of technical education in Africa with a particular emphasis on some Sub-Sahara African countries including Malawi. Thirdly, the chapter has also discussed the general enrolment trend of technical education in Malawi from 1970 to 1995 comparing with other African counties in the same period. The chapter has included a discussion on the "place of technical education in Malawi education system" which intended to look at enrolment progression of technical education as compared to overall (gross) secondary school enrolment progression in Malawi. Compared to overall secondary school enrolment, literature has found out that Technical Education has not done very well in Malawi. Finally the chapter has concluded with the literature on some of the causes for the current status of technical education in Malawi – being lack of resources both human and material. The central argument from the literature is that there is need for further research to feel the gaps as identified in the literature as to why resources are not available in schools among other causes.

CHAPTER 3

3.0 RESEARCH DESIGN AND METHODOLOGY

Chapter Overview

The study investigated causes for the collapse of technical education in secondary schools in Malawi. This chapter describes how the research problem was investigated. It begins by listing the research questions that were addressed. This is followed by a description of the population of interest, sampling procedure, data collection techniques, instruments used and data analysis. The theoretical framework of the study is also presented.

3.01 The Research Questions

The study investigated the problem by addressing the following research questions:

Q1. What was the objective of transferring policy on Technical and Vocational Education from Ministry of Education to Ministry of Labour and how did it affect the teaching of technical subjects in secondary schools?

Q2 Why are teaching and learning resources not available in secondary schools in Malawi?

Q3. Is there a management problem towards technical education in Malawi?

Q4. Why are technical teachers not available in secondary schools?

Q5. Why are technical teachers sometimes deployed to schools that do not offer technical subjects?

Q6. Why do students shun or show lack of interest in enrolling for technical subjects?

Q7. What relationship is there between the Ministry of Education and its cooperating stakeholders such as the University of Malawi and the Malawi National Examinations Board?

Q8. Does the University of Malawi still train teachers for technical subjects?

Q9. What are the effects and implications of the failure of technical education to the operations of other educational sectors such as MANEB?

3.02 Population of Interest

In order to understand and address the problem of the collapse of technical education in secondary schools in Malawi, the study gathered information from the following:

i. All the 13 secondary schools that offer technical subjects;

ii. MANEB who assess students' competences;

iii. University of Malawi – The polytechnic - who are the producers of teachers of technical subjects;

iv. South East Education Division which is the local administrative wing of the Ministry of Education; and

v. Ministry of Education Headquarters

3.03 Sampling

Sampling is employed to provide a general picture and representative characteristics of the population on the problem (Blaxter, Hughes and Tight, 2001), and there are two basic ways to select respondents from the total population: random sampling and non-random sampling (Weiss, 1998). This study employed a purposive sampling technique which is

an example of non-random sampling. Since there are only 13 secondary schools that offer technical subjects, the study decided to collect data from all of them, interviewing Head-teachers and technical subject teachers. The study also conducted two focus group discussions with 20 students currently taking technical subjects in two of the 13 secondary schools. In-depth interviews were also conducted with four stakeholder institutions. The numbers of respondents that participated in the study are described below:

- One Head-teacher from each of the 13 secondary schools that offer technical subjects.
- Two technical teachers from each secondary school.
- 20 students from two schools that participated in focus group discussions. Each focus group discussion had ten students from the same school. The two schools were selected on the basis of their proximity to the researcher.
- Four officers from the Malawi National Examinations Board. One officer was a technical subject specialist, one was a specialist in craft, another was a researcher and the other one was an examinations officer.
- Four officers from the South East Education Division. Two were Senior Methods Advisors, one was Principal Methods Advisor and the other was a Senior Administrator.
- Four officers from the University of Malawi – The polytechnic. Three were lecturers in the Department of Technical Education and one was an Administrator.

- Three officers from the Ministry of Education Headquarters. One was from EMAS section, one from Planning section and the other from the Directorate of Technical and Vocational Education.

3.04 Methods

The overall data collection approach employed in this research was qualitative. In particular, the study used in-depth interviews, focus group discussions (FGD) and document analysis.

3.04.1 Qualitative Approach – In-depth interviews

In order to allow for the researcher to probe and uncover detailed explanation from various respondents such as lecturers, teachers, head teachers, and officers in stakeholder institutions, the study employed an in-depth interview technique. As recommended by Marshall and Rossman (1995), a tape recorder was also employed in this activity in order not to miss some issues during the interviews.

The in-depth interview was conducted with secondary schools that offer technical subjects and some stakeholders as described below.

(i) Secondary schools that offer technical subjects

The study conducted in-depth interviews with head teachers of secondary schools and teachers of technical subjects. The data gathered helped to answer research question numbers 3, 4 and 6.

(ii) Stakeholders of Technical Education

As an educational sector, technical education has a number of interest groups. For this reason, the study also collected data from institutions that are involved in the activities of technical education in Malawi. Specifically data were collected from South East Education Division, the University of Malawi – The Polytechnic, Malawi National Examinations Board and the Ministry of Education Headquarters. Apart from collecting qualitative data through in-depth interviews, the study also collected quantitative data from MANEB on examination entries for the technical subjects.

3.04.2 Qualitative Approach – Focus Group Discussions

For students, the study used a focus group discussion (FGD) technique. This was found appropriate for two main reasons:

a) The approach has the advantage of getting data in participants' own words and has the capacity to develop deeper insights about the issue under study.

b) It allows students to build on one another's response and come up with ideas they might not have thought in a one-on-one interviews.

Data collected using this approach was used to answer question number 6.

3.04.3 Document analysis

Documentary material can also be used as source of information. Apart form the techniques described above, this study also collected data from relevant printed and recorded materials from the secondary schools and the University of Malawi – The

Polytechnic. Used together with data from in-depth interviews, data from documentary materials helped answer research question numbers 2, 4 and 8.

3.05 Instruments for data collection

As indicated earlier, qualitative data were collected from the University of Malawi, Ministry of Education, SEED, MANEB, Head teachers, technical subject teachers and students. In-depth interviews and FGDs were the data collection techniques used. FGD was used to collect data from the students, while in-depth interviews were used to collect data from the rest. In both techniques, sets of general questions which served as guide to the kind of information required were prepared.

(a) University of Malawi – The Polytechnic

The study collected data from The Polytechnic in view of its role as a producer of teachers of technical subjects. In order to establish trends in technical teacher production, the study inevitably collected quantitative data from the institution (Appendix E, Part A). However, in order to get explanation for the trend and answers as to why technical teacher supply was inadequate in secondary schools, in-depth interviews with lecturers and an administrator were conducted. A set of general questions was prepared for this (Appendix E, Part B). The same instrument was used to assess the status of relationship between the University of Malawi - The Polytechnic and Ministry of Education and Vocational Training. The data collected helped to answer research questions 7 and 8.

(b) Ministry of Education Headquarters.

The study also collected data from Ministry of Education Headquarters to investigate various policy issues such as deployment of teachers, policy on technical education and administrative machinery to support technical education in secondary schools (Appendix G). The instrument was designed to help answer research questions numbers 1, 2, 3, 4, 5, 6 and 7.

(c) South East Education Division (SEED).

Data collected from SEED was meant to find out the role of the Division in promoting the welfare of the individual subjects with particular attention to technical subjects at secondary school (Appendix H). This instrument was used to assist in answering research question numbers 2, 4 and 5.

(d). Secondary schools that offer technical subjects

Data collected from schools was meant to get an explanation for the dwindling enrollment of students taking technical subjects, determine availability of technical teachers and teaching resources and condition of equipment and machines in schools.

Data from students currently taking technical subject was collected through FGD (Appendix I). Data collected from schools (Head teachers, teachers and students) helped to answer questions 3, 4 and 6.

(e) MANEB

Data collected from MANEB was meant to find out the implications the failure of technical education has had on its operations (Appendix F). The data collected helped answer research question number 9.

Where necessary, a tape recorder was used during interviews in order to capture as much information as possible.

3.06 Management and Data Analysis

3.06.1 Management

Data management and data analysis are integrally related (Robson (1993). In recognition of the importance of good techniques of data management in assisting the process of data analysis, both tape recorded and hard copy files were opened to keep data for each of the instruments employed in the data collection.

3.06.2 Data Analysis

The process of analysing qualitative data started as soon as data collection started. In this regard, the task of analysing the data was a continuous process from the time the collection of data started.

Questionnaire data was coded and categorised according to emerging themes. Reporting of this study was, therefore, based on the data analysed from the document and the various in-depth interviews.

3.07 Piloting

To improve the validity of data collection tools, the study piloted the instruments at Masongola secondary school. The school was chosen for two main reasons. Firstly it was near the researcher and secondly, it fitted the researcher's requirements in that it is one of the schools that offer technical subjects. Piloting was done on the in-depth interview guide for schools and was done on Part C for students, Part D for technical teachers, and Part E for Head teachers (see Appendix I).

3.08 Trustworthiness and Ethical Considerations

In compliance with ethical requirements of research, permission to conduct interviews was sought well in advance from school administrations, and all those institutions and organizations that were involved in this research (See appendices C_1, C_2, C_3, C_4, and C_5). Some of these responded (see appendices C_2^b, C_3^c, C_4^{d1}, C_4^{d2},). According to recommendations by Rossman and Rallis, 2003; Cresswell, 2003; Marshall and Rossman, 1999, the research also endeavoured to seek individual consent to participate in the research activity including consent to be tape-recorded. The study also assured respondents of their confidentiality and privacy (see Appendix D). This was an important part of the research activity because it paved way for participants' co-operation and allowed the respondents to freely, genuinely and willingly accept to participate in the research exercise (Marshall and Rossman, 1999; Cresswell, 2003).

3.09 Theoretical framework

The theoretical context of this study was that knowledge is socially constructed. In view of this, the study was constructivist in practice. In recognition of the above, both methodology and design were guided by the theory that knowledge is in people. As such the study deliberately employed a participatory approach so as to be able to uncover some important issues of the problem. In this case therefore, the major validation of the information was through participatory approach coupled with multiple sources of data. In this context the research was rigorous in searching for alternative explanations for the problem.

Further, the study triangulated data collection techniques in order to provide richer details of the problem so as to validate and enable confirmation of the findings from other sources. This validation helped in interpretation of the results. In this way the study was rigorous in its activity in order to achieve the desired objectives.

3.10 Position of the researcher

The researcher was aware and recognised that one's experiences and background shape the interpretation of the findings. However, the researcher was also aware that generation of meanings is social and out of interaction with a human community. The study was, therefore, exploratory and was designed to listen to participants for purposes of learning and build an understanding based on their ideas (Cresswell, 2003). In other words, knowledge was inductive. This was in order to minimize subjectivity that may have creped in.

Table 6: RESEARCH SITES

SCHOOL	REGION	STAKEHOLDERS
1. Mzuzu Govt. Sec. School	North	**1.** Malawi National Examinations Board **2** University of Malawi **3.** Ministry of Education **4.** South East Education Division
2. Mzimba Sec. School	North	
3. Robert Laws Sec. School	North	
4. Bwaila Sec. School	Centre	
5. Dedza Sec. School	Centre	
6. Malosa Sec. School	South	
7. Masongola Sec. School	South	
8. Blantyre Sec. School	South	
9. Chichiri Sec. School	South	
10. H.H.I. Sec. School	South	
11. Soche Sec. School	South	
12. Thyolo Sec. School	South	
13. Mulanje Sec. School	South	

Table 7: OVERALL RESEARCH SUMMARY

INSTITUTION	SAMPLE SIZE	METHOD	DATA ANALYSIS
1. Schools	26 teachers (2 per school)	Document Analysis and In-depth Interviews	Categorising themes
2. Schools	13 Head teachers	In-depth Interviews	Categorising themes
3. Schools	2 Groups of 10 students each	Focus Group Discussions	Categorising themes
4. MANEB	4 Officers	Document Analysis and In-depth Interviews	Categorising themes
5. University of Malawi	3 Lecturers and 1 Administrator	Document Analysis and In-depth Interviews	Categorising themes
6. MoE Hq.	4 Officers	In-depth Interviews	Categorising themes
7. SEED	4 Officers	In-depth Interviews	Categorising themes

Note: Quantitative data that was collected from schools, MANEB and UNIMA was not to be analysed quantitatively but rather to validate and inform qualitative analysis.

3.11 DELIMITATIONS

The research was confined to:

- Schools with technical subjects
- Teachers of technical subjects
- Head teachers of secondary schools that offer technical subjects
- Students taking technical subjects
- Institutions that are stakeholders in the technical education in Malawi

3.12 LIMITATIONS

The research was handicapped in the following ways:

- One official (The Minister of Education, Technical, Vocation and Training) from whom this research was to collect information was not available.
- Original documents for technical education could not be found at the Ministry of Education Headquarters.

CHAPTER 4

4.00 FINDINGS AND DISCUSSION

Chapter Overview

This chapter outlines the findings as they unfolded during the entire course of the research activity. The research employed mostly qualitative approach, and data were collected from the four stakeholders of technical education, as well as from the 13 secondary schools that offer technical subjects. The purpose of the research was to probe into the factors or causes that have led to the collapse of technical education in the secondary schools in Malawi. Literature has attributed the collapse of technical education in secondary school to the shortage or lack of technical teachers and teaching and learning materials for the technical subjects. Among other things, this study was conducted to find out why teachers and teaching and learning materials for technical subjects were lacking in schools that offer the subjects. Presented in this chapter are the results.

FINDINGS

This research has found out that the failure of technical education in secondary schools in Malawi is multidimensional as well as multifaceted. Although some may not seem to be directly connected to the problem, in essence, they all, in the long run, have had an impact on the problems and failure of technical education in secondary schools in Malawi. While some of these may be direct causes to the problem others are indirect. They have therefore been grouped as such. The following are the results.

DIRECT CAUSES

- Lack of policy direction for technical education as a result of the policy transfer from Ministry of Education to the Ministry of Labour
- Poor condition of machines, equipment, tools, instruments, books and materials
- Worn out teaching and learning resources
- Financial suffocation of technical subjects
- Unfocussed management machinery of Technical Education
- Lack of Administrative machinery to support the sector
- Inconsistent recruitment and deployment of technical teachers
- Students' negative perspectives of technical subjects
- Poor mechanism for enrolling students in technical subjects
- Lack of primary school background and absence of career guidance
- Lack of collaboration and coordination

INDIRECT CAUSES

- Paradigm shift in Technical Education Teacher Training
- Inadequate training for technical subjects
- Inappropriate teaching practices
- Failure to utilise Technical Teachers for secondary schools
- Misuse of workshops

FINDINGS AND DISCUSSION

This section presents findings as they relate to particular research questions. The research question is presented first, followed by the findings.

DIRECT CAUSES

Q1 – What was the objective of transferring the policy on Technical and Vocational Education from Ministry of Education to Ministry of Labour and how did it affect the teaching of technical subjects in secondary schools?

4.01 Lack of Policy for Technical Education as a result of Transfer from the Ministry of Education to the Ministry of Labour

According to an officer at the South East Education Division (SEED) the technical education sector is "run without guidelines." The views expressed by the Ministry of Education officials at the Headquarters also indicated and confirmed those expressed by a number of officers at the South East Education Division. However, they laid most of the blame concerning technical education on to the transfer of the policy from Ministry of Education (MoE) to Ministry of Labour (MoL).

On this one official noted:

> The transfer of the policy was one of the biggest anomalies ever made. The transfer of policy on technical education and Vocational Training meant that Ministry of Labour was also responsible for technical education at secondary school. However, it seems there were no logistics and strategies on how the two ministries were to coordinate, especially considering that the infrastructure and human resources (teachers) are controlled by the Ministry of Education. The failure of proper coordination created a gap because, while Ministry of Education handles academic part, Ministry of Labour deals with Practical skills only. Worse still, the transfer of policy from Education to Labour meant that the whole administrative section of technical education was also transferred. Although EMAS remained in the Ministry of Education, it only deals with curriculum. Indeed, EMAS is responsible for all subjects including technical education but many issues such as deployment are the responsibility of the administration. In addition to all this, the transfer of policy meant that Ministry of Education had no mandate for many issues of technical education. This affected programmes that remained in the Ministry

> of Education. In summary it could be said that the move of policy created an administrative gap because the implementation link was not available.

(Interviews with officials at the Ministry of Education Headquarters on 31st July, 2006).

When asked why the policy was transferred and what were the expectations for the transfer, a senior official at the Ministry of Education Headquarters had this to say:

> The transfer of any part or sector from one Ministry to another is the prerogative of the Head of State (President). At the time of the transfer of the policy from Ministry of Education to that of Labour, expectations were that it would serve better if it is in the Ministry of Labour, as it would interact well with labour market.

(Interview with an official at the Ministry of Education Headquarters on 31st July, 2006)

Although the Head of State has the prerogative to move one function from one ministry to another as noted above, the transfer of an Education Sector such as what happened to Technical Education ought to have been done after careful, adequate and ultimate consultations to prevent the system from malfunctioning. The mishap of technical education suggests that the transfer of the policy from Ministry of Education to the Ministry of Labour might have been done in disregard of issues of implementation at secondary school.

It is in view of such as above findings that Devereux (2005) observes that Policy interventions in Malawi are not well articulated either with each other or with the national development strategy and this constitutes a partial failure of institutional programmes. The views expressed above on policy seem to suggest that issues of policy have been among the major causes of the current poor performance of the technical education sector in Malawi secondary schools. As noted by many officials interviewed, the implication of the transfer of the policy meant also the transfer of the mandate to run technical

education. Unless modalities and logistics were put in place for the coordination of the two ministries, the future of technical education at secondary school remained bleak and uncertain. It is against such background that Pain (1998) noted that policies in Malawi are not coherent with the development process.

It may also be suggested from the findings above that issues of policy determine the direction of financial allocation. Therefore, the implication of the transfer of the policy meant confusion, not only on administration of technical education, but also to almost every issue that surrounds technical education. The findings seem to suggest that issues of planning, strategies, financial allocation and implementation of programmes as related to technical education are all hinged on to the policy, since policies provide direction. It was not clear which ministry would fund technical education in schools. Without or with poorly articulated policies goals cannot be achieved. Verspoor (1994) has thus noted that educational systems in Developing Countries fail to provide direction for sustainable development due to lack of comprehensive policies and structural mechanism for monitoring.

The transfer of policy to the Ministry of Labour has had negative impact. However, it is gratifying to note that the government has responded to the concern regarding the ownership of policy by taking the policy back to the Ministry of Education currently known as Ministry of Education, Technical, Vocation and Training.

Q2 – Why are teaching and learning resources for technical subjects not readily available in secondary schools?

4.02 Poor Condition of Machines, Tools, Instruments, Books and Materials

Secondary school workshops have over time dilapidated. Conditions of the equipment, machines and supply stock of tools and material have all significantly contributed to the current failure of technical subjects. However some machines such as lathes for both woodwork and Metalwork are generally in a manageable working condition although general service is still required (Table 8).

However, according to the findings as displayed in Table 8, the general condition of tools and instruments, supply of books and the teaching and learning materials have all been extremely poor and one of the contributing factors for the failure of technical subjects. Although most problems of workshop machine, tools and materials are attached to funding, a number of technical teachers had some reservations about this and had this to say:

> Some of the problems of technical subjects are caused by the head teachers. Head teachers keep the workshop keys and sometimes use the workshops for maintenance purposes. An outsider is contracted for the purpose and they work in the workshops without knowledge and presence of a technical teacher in the workshops. The consequence of this is that machines and precision equipments are misused and damaged. Worse still, tools are sometimes stolen because of lack of monitoring in the workshops.
>
> On the other hand head teachers also complained that technical teachers also have a hand in the misuse of school workshops as they engage in using workshops for personal business such as making furniture for sale.
> (Interview with technical teachers on 16th June, 2006).

Although head teachers are the managers of schools, custodians of the workshops ought to be the teachers themselves who are supposed to be responsible for the welfare of workshops. Management of workshops are like stores, which cannot be under two people

or masters. Lack of proper guidelines for the management of workshops means anyone can use the workshops and in turn this does not provide safeguards of responsibility in case something goes wrong. School workshops are for the benefit of the learners of the subjects. For teachers to also use such facilities for their own ends other than for teaching and learning is also tantamount to misuse of the resources and need to be discourage

Table 8: Condition of Machines, Equipment, Tools, Instruments, Books and Materials

NAME OF SCHOOL	LATHES		SHAPERS	DRILLING MACHINE		GRINDING MACHINES		CIRC SAW	BAND SAW	GEN. TOOLS & INSTRUMENTS			BOOKS			MATERIALS & D. Paper			SCHOOL OUTLOOK
	WW	MW	MW	WW	MW	WW	MW	WW	WW	WW	MW	T/D	WW	MW	T/D	WW	MW	T/D	
Mzuzu G. S.	G	G	S	P	S	P	G	P	P	P	P	P	P	P	P	G	P	P	**VP**
Mzimba S.S	G	G	P	G	P	P	G	P	S	P	P	P	P	P	P	P	P	S	**VP**
Robert L. S.	S	S	P	S	P	P	P	S	P	S	S	P	P	S	P	P	P	S	**P**
Bwaila S.	P	P	P	P	P	G	G	S	P	P	P	P	P	S	P	P	P	P	**VP**
Dedza S.	S	P	P	G	P	P	P	P	S	P	P	P	P	P	P	S	P	S	**VP**
Malosa S.	G	G	S	S	G	G	G	G	P	P	S	P	P	G	G	P	P	P	**S**
Masongola	G	G	P	P	S	S	S	G	S	P	P	P	P	S	P	P	P	S	**S**
Chichiri S	P	S	S	P	G	P	G	G	P	P	P	P	P	P	P	P	P	S	**P**
Blantyre S	S	S	P	S	S	G	S	P	P	P	P	P	P	P	P	P	P	S	**VP**
H.H.I. S.	S	S	P	S	G	P	S	P	P	P	P	P	P	S	S	P	P	P	**VP**
Soche S. S.	EP	S	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	**EP**
Thyolo S.	S	P	P	S	G	P	S	P	P	P	P	P	P	P	P	P	P	S	**VP**
Mulanje S.S	P	S	P	P	S	G	S	P	P	P	P	P	P	P	P	P	P	P	**VP**
NATIONAL OUTLOOK	**S**	**S**	**V P**	**S**	**S**	**P**	**S**	**P**	**VP**	**EP**	**EP**	**EP**	**EP**	**VP**	**EP**	**EP**	**EP**	**S**	

Note: National Outlook analysis was done on average condition of each material resource across all schools in the country.

Source: Data collected from schools (2006).

KEY: WW: Woodwork
MW: Metalwork
T/D : Technical Drawing (G & O)
EP: Extremely Poor

G: Good
S: Satisfactory
P: Poor
VP: Very Poor

Fig. 4 Showing one of the still good looking workshop integrating Metalwork and Woodwork

While some schools have tried to maintain the original look of workshops like the one shown in Fig. 4 above, many of these, across the country, have not been generously looked after. Fig. 5 shows how a number of workshops have dilapidated over time. When asked for reasons for such state of affairs, technical teachers had this to say:

> Workshops have had a number of reasons for the current status. One of the reasons is that most workshops have never had any face-lift in form of maintenance and reconditioning of the buildings and machines. Secondly, theft by the surrounding communities has left workshops dilapidated.
>
> (Interview with technical teachers on 20th July, 2006).

Fig. 5 Showing how some school workshops have dilapidated over the years even looking from outside

Figures 6 and 7 are intended to show the inside view of standard and properly looked after workshops in schools. Despite this seemingly good-looking machinery, a number of these are not in very good working condition. This research has found out that since the plantation of these machines in schools there has never been any formal maintenance apart from minor services by the technical teachers themselves. Lack of formal and regular maintenance services have contributed to overuse of these facilities. Long overdue maintenance and service, will render future restoration of some of the machinery very expensive and difficult.

Fig. 6 Showing a standard interior of Metal Workshop

Fig. 7 Showing a standard interior of Wood Work shop

4.03 Worn out Teaching and Learning Resources

The picture in Fig. 8 below shows the state of Technical Drawing equipment (Drawing Boards) used in Technical Drawing. In most schools the drawing equipment is as shown in this Fig. 8. Technical Drawing being a practical subject, the above shown status of equipment has significantly affected the quality of teaching and learning of the subject. The status of equipment is also a major determining factor to enrolment of students into technical subjects. On the low enrolment of students in Technical Drawing, a technical teacher pointed at the dilapidated and worn out drawing boards used for the subject (Fig. 8). "If we increase enrolment how do they learn the subject?" a technical teacher lamented.

Fig. 8 Showing worn out drawing equipment for Technical Drawing

Fig. 9: Showing only 6 Form 2 students attending to Technical Drawing class in one of the secondary schools. Far back is a pile of damaged and worn out equipment for drawing (Drawing Boards).

The picture in Fig 9 shows an example of the dwindling enrolment for technical subjects. In this picture, only 6 Form 2 students attending a Technical Drawing class due to lack of adequate equipment, in this case, drawing boards. The teacher also disclosed that the school doesn't have even a single drawing instrument and the students are asked to improvise by using non-accurate Mathematical Instruments. This justifies why enrolment for technical subjects is very poor. The worn out equipment is due to overuse. Since the introduction of technical subjects in Malawi equipment has never been replaced. This means that lack of focus and planning to ably provide for these subjects has been one of the major setbacks that has reduced these subjects to this status.

4.04 Financial Suffocation of Technical Subjects

The Head teachers have complained that technical subjects are expensive to run. They disclosed that the small financial allocation that schools are given for their daily running couldn't suffice to include the running of technical subjects. It was also noted that the financial allocation to schools is the same irrespective of whether the school has technical subjects or not. Schools that offer Technical Education also offer subjects offered in other schools that do not offer Technical Education. Giving similar financial allocation is somewhat not fair. The general cry was that the Ministry of Education does not give any priority to technical subjects in schools despite its nature and importance. To this end Atchoarena (2002) already noted that technical education in Sub-Sahara Africa is given very little financial priority.

However, Head teachers noted that technical subjects remain to date very important subjects because they provide a broader opportunity for survival especially considering that not every one would get a chance for a University education. To this end it was recommended by the Head teachers that a special financial allocation ought to be established to service and manage technical subjects in secondary schools in Malawi.

Q3 – Is there a management problem towards technical subjects?

4.05 Unfocussed Management Machinery for Technical Education

(a) The Organogramme Gap of the Inspectorate (EMAS) and Lack of Technical Departments in schools

The structural hierarchy of the Malawi education inspectorate, which is currently called Educational Methods Advisory Service (EMAS), is such that below the Director and the

Deputy Director there are 5 Assistant Directors responsible for each of the sections namely: In Service Training (INSERT), Technical Education (TE), Humanities, Sciences, and Languages (Fig 10). Below each Assistant Director there are subject Principal Education Methods Advisor (PEMA), followed by subject Senior Education Methods Advisors (SEMA) at both Headquarters and Divisions, and finally down to schools with the subject Heads of Department. This is the established hierarchy of the EMAS in the Ministry of Education.

While most of these positions from the Assistant Directors down to the schools subject Heads of departments are filled, Technical Education positions from Assistant Director down to the schools head of departments, on the other hand, have remained vacant for many years (Fig. 10).

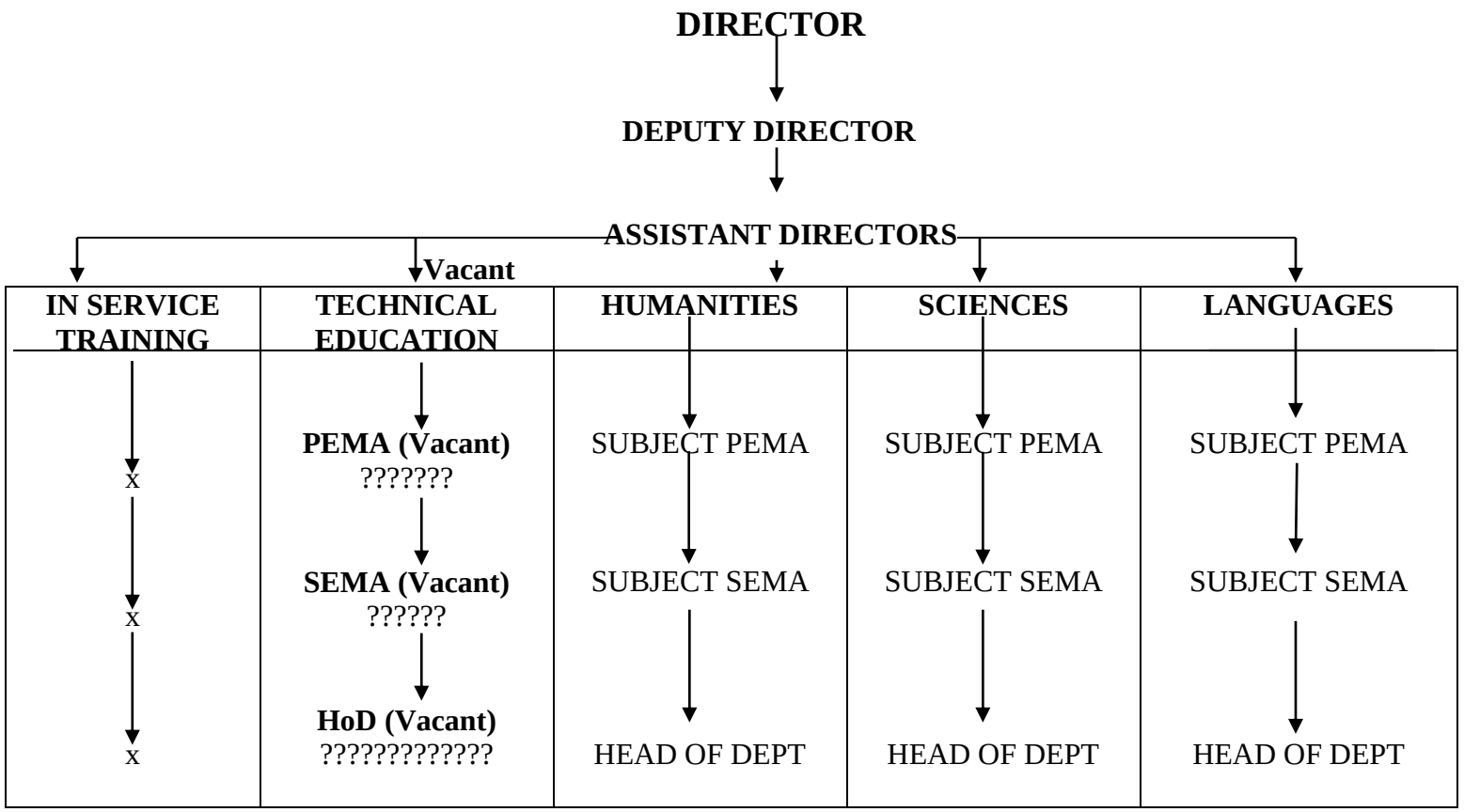
It has been noted that the above anomaly has resulted in most of these schools running without Heads of departments. As a result the technical wings of such schools have been incorporated into the Science Department whose heads have no idea of issues regarding technical education. Consequently, there has been no hierarchical structure for reporting issues from the bottom to the top of the ladder for action. According to an official at the Ministry of Education Headquarters:

> The hierarchical gaps in the Inspectorate and in the Ministry of Education as a whole are sometimes by design because the recruitment procedures of the Department of Human Resources are problematic. Previously the Ministry of Education employed teachers directly. Currently it is the responsibility of the Department of Human Resources. Secondly, funding has been a problem

> for the Ministry. Such problems have prompted the Ministry of Education to fill only key positions in the hierarchy.

(Interview with an official at the Ministry of Education Headquarters on 31st July, 2006).

Fig. 10: THE INSPECTORATE ORGANOGRAMME (EMAS)



Established hierarchical positions of the EMAS

KEY: x = Hierarchy not clear as may be applied to schools
PEMA: Principal Education Methods Advisor; **SEMA:** Senior Education Methods Advisor; **HoD:** Head of Department

(b) The Technical and Vocational Education and Training Directorate

According to information from the Ministry of Education Headquarters, there was no Directorate for Technical Education in education. This created an administrative gap in the running of this education sector. However, having realised the important role this sector plays and the operational gaps that have hindered the implementations of technical education programmes, the policy on Technical and Vocational Education was reallocated back to the Ministry of Education with effect from July, 2006. The return of the policy has also paved way for the immediate establishment of the Directorate of Technical and Vocational Education within the same month.

According to one official in the Technical and Vocational Education and Training Directorate at the Ministry of Education Headquarters:

> The Malawi Government is currently urging the Ministry of Education to embark on reform to give impetus to technical education. Through Ministry of Education, the Government of Malawi would currently, want to revisit the whole policy on technical education and see whether Technical Education in Malawi is in line with the development requirements and strengthen the emphasis on Malawi changing focus by becoming a producing and exporting nation.

(Interview with an official at the Ministry of Education Headquarters on 31st July, 2006).

When asked how technical education is to be financially sustained, an official noted:

> The President has made a policy of Malawi being a producing and exporting country. This policy shows political will, which will help solicit funds to sustain the sector. However, schools must also come up with output-based budget to be able to sustain technical education in secondary schools.

(Interview with an official at the Ministry of Education Headquarters on 31st July, 2006).

4.06 Lack of Administrative machinery to support the sector

Although there were some few head teachers who showed support for technical subjects, many technical teachers were of the view that head teachers are also to blame for the current status of technical subjects at secondary school. It was noted through teachers that the general administrative attitude on technical subjects is a very negative one. Consequently, the school administrators do not provide much support because they feel that the sector is too expensive. However, most head teachers dismissed the allegation as expressed by the technical teachers. Head teachers noted, however, that lack of resources as required by the technical teachers for the workshop purposes may imply that head teachers do not want to support the system.

> We receive very little financial allocation to run all the activities of the whole school. Considering that technical subjects are very expensive this allocation cannot meet the requirements of the sector and at the same time being able to run other issues of the school effectively.
>
> (Interview with one Head teacher on 17th July, 2006).

On the same note one head teacher disclosed that:

> The school receives an average monthly allocation of K170, 000.00 [$1,214]. Some schools get much less than this. However, most of this funding is spent on utility bills considering that this is a double shift school with many students. In addition to this scenario the funding has a set of guidelines on how the funds are to be spent. However, there is no mention in the guidelines on attaching this funding to technical subjects. As a result we are also in a dilemma on how to solicit teaching and learning resources for technical subjects. Technical subjects ought, either to have their own funding or required resources bought centrally and disbursed to schools for the running of these subjects.
>
> (Interview with the Head teachers on 17th July, 2006).

Q4 – Why are technical teachers not available in schools?

Q5 – Why are technical teachers sometimes deployed to schools that do not offer technical subjects?

The two questions above refer to the problem of technical teachers in schools.

While question number four investigated lack of teachers in schools and that many of those already in the system do not prefer to teach technical subjects, question number five wanted to know why technical teachers are deployed to schools that do not offer technical subjects against a crisis of shortage of the same in schools that offer the subjects. Below is one of the reasons to the problem of technical teachers in schools.

4.07 Inconsistent Recruitment and Deployment of Technical Teachers

According to an officer at the South East Education Division (SEED), the recruitment of teachers is the responsibility of Ministry of Education Headquarters. However, the Division deploys teachers according to vacancies or needs or indeed deficiencies of the schools, which are also guided by the establishments of the schools such as double or single stream and availability of infrastructure such as houses. An officer at the South East Division had this to say on deployment:

> Deployment is not done professionally. There is no fair distribution of teachers. It is being influenced by many factors. Most importantly deployment of teachers has been adversely affected by loose ends of policy. Issues of marriage, illness and infrastructure availability such as housing have all affected deployment of teachers. As a result urban areas are congested regardless of the needs.
>
> (Interviews with officials at the South East Education Division on 9th June, 2006; 19th June, 2006; 23rd June, 2006).

When asked why some technical teachers are deployed to secondary schools that do not offer technical subjects and yet those with technical subjects are left without a technical teacher, an officer at the Division (SEED) admitted that if it happens it is "an anomaly" but was also quick to add that sometimes it is dictated from higher officers as to where a teacher should go as such we are left with no choice. Moreover another senior officer pointed out that even if technical teachers are deployed to schools with technical subjects, they don't prefer to teach the subjects.

> Technical teachers themselves opt to teach other subjects under the disguise that materials and tools are not available and that machines are also not operational
>
> (Interviews with an official at the South East Education Division on 19th June, 2006).

The study also solicited views from headquarters on the problem of deployment of technical teachers in schools. On this a senior official had this to say:

> Problems of deployment of teachers are unfortunate issues. However, the major cause to all deployment issues is an administrative one such as lack of proper liaison between the curriculum experts and the administration. In addition to this some teachers refuse to go to some schools and the democratic dispensation has made reinforcement of some of the rules and regulation difficult.
>
> (Interviews with an official at the Ministry of Education Headquarters on 31st July, 2006).

While deployment of teachers in schools may have a share of the problem of allocating teachers wrongly as a result of probably poor coordination, it has also come to light that the teachers themselves are not eager to teach technical subjects even if they are correctly deployed. This study finds inadequacy on the part of training as one of the causes for the failure and lack of interest for the technical teachers to handle technical subjects. As a

result teachers prefer to be deployed to schools to teach other subjects other than technical subjects.

Q6 – Why do students shun or show lack of interest in enrolling for technical subjects?

4.08 Students' negative Perspectives of Technical Subjects

Since primary schools do not have technical subjects most Form one students said they had no idea of what technical subjects are all about and the future such subjects can offer. It was also noted that most schools with which this research was involved do not have career guidance or mechanisms to sell their subjects. As such, students have mixed perceptions of technical subjects. It was noted that even those that are interested in the subjects, are de-motivated by the situation in the schools such as poor examination results in the technical subjects. They noted that schools lack teaching and learning resources for the subjects. This affects their desire to continue with the subjects. As a result they end up dropping the subjects.

However, most students interviewed, especially those in Form 3, expressed the importance of technical subjects saying that many of the other subjects are almost irrelevant after school life as compared to those cultivated by technical subjects. The students said that the knowledge of technical subjects can enable graduates to earn a living especially at a time when opportunities for University education are expensive and limited. Girls taking technical subjects also expressed similar sentiments that technical subjects are indeed very important. However, they also noted that there was no government mechanism to provide a channel for those students with technical skills from secondary schools to proceed for further specialised technical skills.

Most students attributed the problem of lack of interest in technical subjects to many factors including the following:

- There is a general feeling that technical subjects are difficult especially at Form 1 and 2 levels due to lack of relevant primary school backgrounds. However, students complained that teachers are also part of the problem on this aspect because they fail to teach the subjects very well. As such, most students shun or drop the subjects on the way.
- Technical teachers get transferred to other schools and are not replaced. Students are afraid to be left stranded.
- Technical teachers lack expertise to teach technical subjects well especially Technical Drawing and Metalwork. For example, some technical teachers fail to operate machines successfully. Such failure demoralises students.
- Lack of tools, books, drawing boards, aprons, materials and visual aids further demoralise students because technical subjects are practical-oriented subjects such that learning theories without practical demonstration does not pay off.
- Some students lose interest in technical subjects because they feel the government does not provide any special opportunity for them to proceed with their technical skills, especially having failed to go to the University.

  (Focus Group Discussions on 10th and 11th August, 2006).

4.09 Poor Mechanism for Enrolling Students in Technical Subjects

Schools have different mechanisms for enrolling students into technical subjects. Students have complained that they are not given a chance to choose the technical subject of their choice. In some schools, specific classes are allocated Woodwork, Metalwork or Home Economics. Such arrangements, students complained, do not give them an opportunity to change classes to take the technical subject of their choice. However, head teachers and the technical teachers defended themselves saying that the allocation of classes for technical subjects is as a result of shortage of technical teachers and the inadequate supply of teaching and learning resources. As a result, schools are not able to enroll every candidate who is interested in technical subjects. Since technical subjects require specific resources, the inadequate supply of such resources may indeed hamper students' enrolment.

4.10 Lack of Primary School Background and Absence of Career Guidance

According to the officials at the Ministry of Education Headquarters, there are many reasons for the poor enrolment of students into technical subjects. One official noted:

> Apart from inadequate funding and problems of technical teachers to support the system, pupils themselves are not interested in technical subjects and are also de-motivated because they feel there are no chances for further education in that field. Technical education has not been popularised in the education system in Malawi. Furthermore, there is no background of primary school technical subjects to build on to knowledge of secondary school technical education.
>
> (Interview with an official at the Ministry of Education Headquarters on 31st July, 2006).

However, a senior lecturer at the Polytechnic blamed Ministry of Education and head teachers in schools for the problem:

> Because of lack of administrative and financial support from the Ministry of Education and head teachers to support the sector, these subjects have tended to have poor examination results. It is such poor results that make pupils shun such subjects.
> (Interview with a lecturer at The Polytechnic on 29th June, 2006).

Q7 – What relationship is there between Ministry of Education and its co-operating stakeholder such as the UNIMA and MANEB on enhancing the positive growth of technical education in secondary schools in Malawi?

4.11 Lack of collaboration and Coordination

At the time when technical education was introduced at secondary schools and at The Polytechnic as the training institution, wood and metal were the only material resources available. However, plastic has added into the list of material resource. In recognition of its importance and the role plastic science plays in the current material resource, the Polytechnic has incorporated plastic in its technical teacher-training curriculum. The research has noted that the incorporation of plastics in the training was done more than 10 years ago. Although plastics has been taken on board as one of the material in the training, lecturers lamented on the stalemate by the Ministry of Education to appropriately include plastics in the curriculum as another material resource in the teaching of technical subjects at secondary school. An official from the Ministry of Education Headquarter admitted by saying:

> There was a lapse over the last 10 years on many fronts between Ministry of Education and the University of Malawi. As a result University of Malawi was just producing whatever they could.
>
> (Interviews with an official at the Ministry of Education Headquarters on 31st July, 2006).

Most interviewees recognised that the major objective of establishing technical education at secondary schools was to promote skill development in the country. Although most original documents as related to technical education could not be traced due to various shifts, an official at the Ministry of Education Headquarters concurred with the very same views that technical education was to equip citizens especially the youth with skills for use later in life in addition to producing artisans to compliment industrial shortfalls.

The findings suggest that the establishment of a technical teacher-training programme was specifically to address the teacher requirement gaps that would be needed at secondary schools from time to time. However, findings suggest that there has been no coordination between the Ministry of Education and the University of Malawi on issues pertaining to problems of Technical Education at secondary schools. As such even the training of technical teachers has been taking place with no regard to the needs on the ground. This lack of collaboration resulted into change of focus on the part of training of teachers with regard to technical subjects at secondary schools. This has also significantly contributed to the lack of technical teachers at secondary schools in Malawi.

INDIRECT CAUSES

Although some of the issues to the problem of technical education, in this study, have been categorised as indirect causes, they may actually have had a remarkable negative impact on the technical education as a whole. The following are the findings.

Q4 – Why are technical teachers not available in schools?

Q8 – Does the University of Malawi still train technical teachers?

The study found out that although the training of technical teachers has continued to deliver, the actual training has contributed to the lack of teachers in schools. The following are the findings that have added in trying to address questions number 4 and 8:

4.12 Paradigm Shift in Technical Education Teacher Training

University of Malawi through its constituent college – The Polytechnic was mandated to train technical teachers. According to one lecturer, the original objective was to recruit and train technical teachers who would teach technical subjects (Woodwork, Metalwork and Technical Drawing) at secondary schools. This objective seems to have worked very well at Diploma level from 1968 to 1982 and the early years of the Degree programme introduced in 1984 because most of the schools at that time had adequate technical teachers. As could be noted from Fig. 11, there were a number of years when the programme was on recess. This suggests that there was a mechanism that was meant to control the saturation of technical teachers in schools considering that there were and still are only 13 secondary schools which offer technical subjects in the country. In a way, this is an indication that there was good coordination and cooperation between the Ministry of Education and University of Malawi - The Polytechnic as a training institution.

Although the programme was specifically established to provide technical teachers to teach technical subjects at secondary school, one of the senior lecturers at the Polytechnic noted that the objectives have currently shifted in favour of recruiting and training of technical teachers to teach Mathematics and Sciences at both secondary schools and technical colleges. It has also been noted that the Polytechnic has also of late changed its recruitment into technical teacher-training programme to incorporate foreign students in

the SADC region. In essence therefore, the programme to train technical teachers has not been stopped but rather the Polytechnic has diversified its activities.

According to the data presented in Fig. 11, the trend in the output of technical teacher graduates has been almost steady and adequate enough to meet the current secondary technical teacher requirement of at least 3 per station. Actually, the number of technical teachers (65) who graduated in 2005 would be adequate to meet the demand for teaching technical subjects in all secondary school in Malawi. However, it was also noted that the Ministry of Labour, most of whose staff are apprentices, sends its employees to upgrade to technical teacher training through the mature entry programme and are expected to go back to their work upon finishing their training. These special arrangements have tended to inflate the training figures without actually translating to improvements in the number of technical teachers in secondary schools. (Compare Fig. 11 and the total number of technical teachers currently in schools in Table 9). This suggests that even the normal student recruits tend to join the same Ministry of Labour upon finishing the training as there seems to be higher demand for technical teacher graduates in this ministry.

Training and the recess years

According to Fig.11, there were a number of years when the training programme was on recess during both diploma and degree such as in 1969, 1971, 1973-1977, and 1980 during diploma time and 1997, 1998 and 2000 during degree. The assumption to such an arrangement was presumably to avoid saturation of technical teachers in schools considering that technical subjects were in few selected secondary schools. Although

technical teachers assisted in the teaching of other subjects such as Mathematics and Sciences, their main objective was to teach technical subjects. This was the very reason, it may be suggested, why the programme had breaks in which no graduates were produced. Notably, of these years, was the long pause of five years during the diploma programme from 1973 – 1977. It may be seen that the training of technical teachers during that time was not haphazardly done but rather suggests that there was full monitoring and collaboration between the training institution and the Ministry of Education.

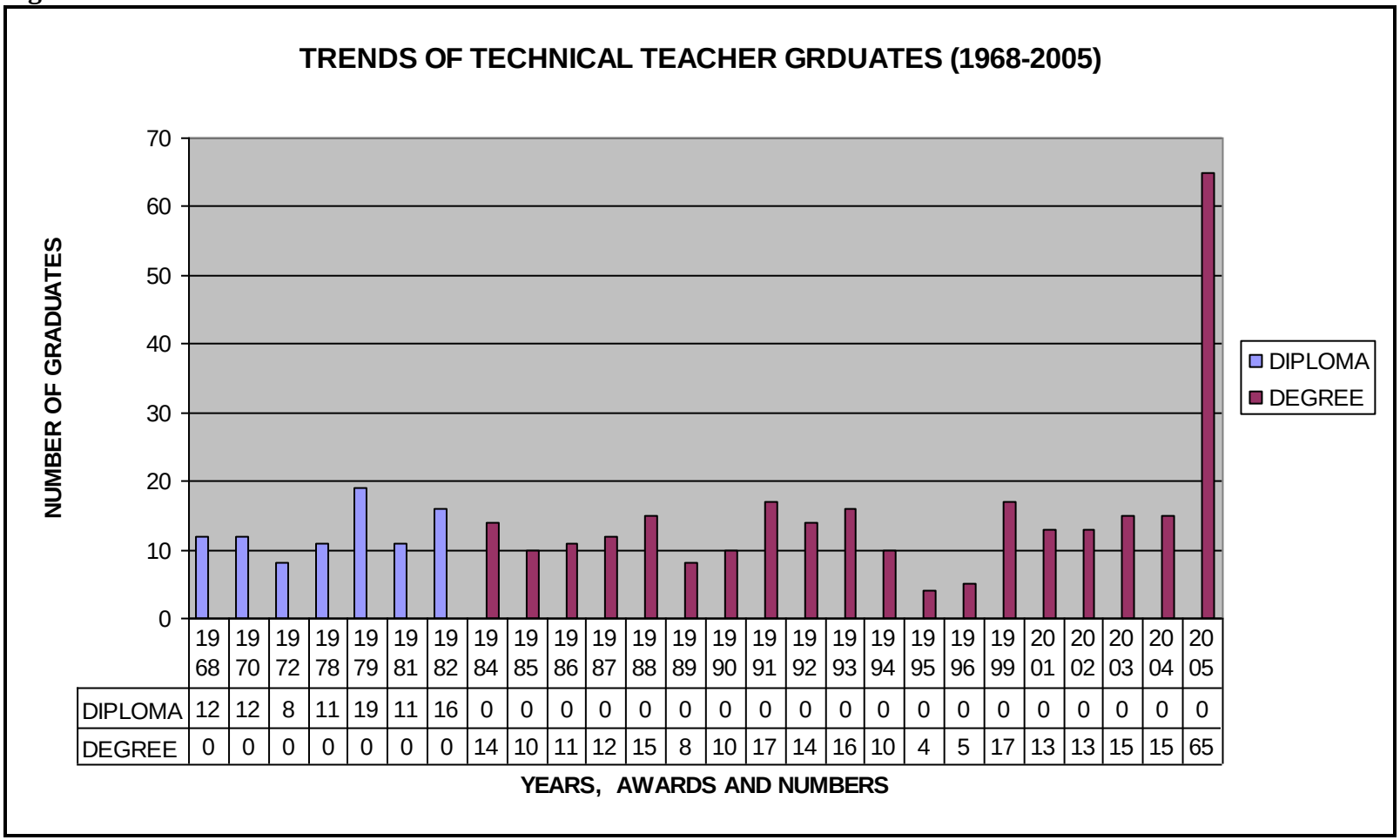
The trend of technical teacher training

The document statistics as shown in Fig. 11 shows that the University of Malawi, from the time it established the Diploma in Technical Teaching in 1968 to the time it was phased out in 1982, had trained a total of 89 Diploma technical teachers within a period of 15 years with recess years in between. The degree programme, on the other hand, started producing its graduates in 1984. From 1984 to 2005 the University of Malawi – The Polytechnic trained 284 technical teachers with degrees in varying awards between the Bachelor of Science (Technical) and the Bachelor of Education (Technical). When asked why there are two types of awards for what could be argued as the same degree, one senior lecturer said that the arrangement was a deliberate one to accommodate those that may not be comfortable with sciences.

The total number of technical teachers the University of Malawi has produced from 1968 to 2005 stands at 373 (see Fig. 11)**.** However, this figure is difficult to quantify exactly because some of the beneficiaries to the degree programme were those upgrading from

diploma. As such the figure may not be a true reflection of the exact individuals trained by the University of Malawi. However, even with such arguments and coupled with attrition in the system, lack of technical teachers in schools has been due to different causes other than the trained numbers of technical teachers.

Fig. 11



	1968	1970	1972	1978	1979	1981	1982	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1999	2001	2002	2003	2004	2005
DIPLOMA	12	12	8	11	19	11	16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DEGREE	0	0	0	0	0	0	0	14	10	11	12	15	8	10	17	14	16	10	4	5	17	13	13	15	15	65

Totals: Diploma = 89; Degree = 284 [373 Technical Teachers trained]
(For more detailed information see also Appendix A_2)

Source: University of Malawi Central Office, and The Polytechnic (Collected on 20th July 2006)

4.13 Inadequate Training for Technical Subjects

Students complained that their technical teachers lack expertise and in some cases fail to teach the subjects very well. In support of the student's argument, many technical teachers themselves agreed with this assertion and attributed the problem to the training process. On this claim technical teachers had this to say:

> Technical Education training at the Polytechnic is not targeting the current technical syllabi at secondary school. There is more in-depth training in Mathematics and Sciences than technical areas. In most cases we have done more theories and very little or minimal practical work.
>
> (Interview with teachers on 3rd July, 2006)

Teachers bemoaned the inadequacy of the practical part of the training having observed that new graduates feel too unprepared to handle practical work in the workshops.

> Although we have learned to do welding, for example, it has only been in theory. We have never done it in practice and how does one expect such a technical teacher to perform in that area? As a result we find technical syllabi difficult to teach.
>
> (Interview with teachers on 17th July, 2006)

The above concerns were expressed by many interviewed technical teachers throughout the study. Technical teachers expressed dissatisfaction with the training especially with regards to practical skill acquisition. This answers the question as to why most technical teachers, even if deployed to schools that offer technical subjects, prefer to teach other subjects to technical ones. Even those that teach technical subjects fail to perform as required. Some technical teachers were even quick to add that some lecturers are very incapable in their delivery.

The views expressed by technical teachers in the field concurred with those of some lecturers at the Polytechnic. Responding to some queries made by the technical teachers, one senior lecturer said that the current practical training is not as intensive as compared to that of the early years of the training programme. To the above argument another senior lecturer added:

> In the past, a full day was allocated for each one of the three practical subjects, weekly, in order to fully acquire the necessary practical skills. As such the complaints of incompetence on the part of graduating technical teachers were non-existent. However, currently that system has changed and one cannot expect the output to be the same. The current syllabus at the Polytechnic is not comprehensive enough for teachers to teach technical subjects at secondary school properly, as a result it is true to say that most technical teachers would prefer to teach Mathematics and Science because of that kind of background. The original training was a perfect one for technical teachers to teach secondary school technical subjects as compared to the current one that takes into account other needs. The other issue that is of paramount importance is that the recruitment process has also changed. In the past those taken for the training were those with secondary school technical backgrounds because the training was intensive and comprehensive. Currently, the training cannot be as intensive and comprehensive because the recruitment procedure is not the same.
>
> (Interviews with a lecturer at the Polytechnic on 29th June, 2006)

In the diversification of its programmes, the Polytechnic has also included plastics as an integral part of the training. However, this has not been integrated as one of the material resource in the secondary school curriculum. Another lecturer also argued that the training is an expensive exercise, especially where it involves practical work. The lack of resources that has affected and crippled secondary schools for a long time has also been experienced at the Polytechnic.

Commenting on the issues of training, a senior official at the Ministry of Education Headquarters had this to say:

> The Ministry of Education has not evaluated the work of the University. However, currently the Inspectorate (EMAS) would like to seek mandate to look at the Faculty of Education and see how teachers are being produced.

(Interviews with an official at the Ministry of Education Headquarters on 31st July, 2006).

4.14 Inappropriate Teaching Practices

Although the training is on technical education, technical teachers in the field lamented the teaching practice that goes on in the schools. Due to the situation in the schools on the lack of teaching and learning resources, teachers noted that their teaching practice is in Mathematics and Sciences rather than technical subjects. As a result, technical teachers expressed concern that the teaching practice does not in any way prepare them to teach technical subjects. This has further compounded the problem.

> When we go to schools for teaching practice, most of us are allocated either Mathematics or Sciences. Actually teaching practice does not, in most cases, take place in schools that offer technical subjects. This also adds to our inadequate preparation for the technical subjects. As such, we are afraid to handle technical subjects at secondary schools, as we feel somehow not very prepared to handle technical subjects, especially the practical part.
>
> (Interviews with technical teachers on 13th July, 2006; 17th July, 2006; 21st July, 2006).

The above sentiments are probably the reasons why technical teachers shun and are not interested in the teaching of technical subjects.

4.15 Failure to Utilise Technical Teachers in secondary schools

While Fig. 11 shows that The Polytechnic has continuously been recruiting and training technical teachers to man technical subjects at secondary schools, there has been a cry of

lack of technical teachers to teach these subjects. The lack of technical teachers in schools has been pointed out as one of the major causes for the current status of the technical education at secondary schools.

Despite the positive trend of trained technical teachers, schools still do not have adequate teachers to man the subjects. Table 9 shows a total of 27 technical teachers across the country. Of these only 17 actually teach technical subjects while others prefer other subjects. On the shortage of technical teachers in schools, one lecturer at the Polytechnic had this to say:

> Technical teachers are now available but the Ministry of Education is not utilizing them due to lack of clear policies to support the technical subjects at secondary schools. Technical teacher graduate output has increased but this has not improved the availability of technical teachers to teach these subjects in schools because technical education at secondary school is not active anymore and that the attitude of the Head teachers and that of the Ministry of Education officials on technical subjects is negative. The argument is that technical subjects are too expensive to run and sustain. In this regard lack of expansion, inadequate funding, lack of administrative support, poor attitudes and lack of direction for technical education have all frustrated technical teachers in schools. This has resulted in most teachers going to industries.
>
> (Interviews with lecturers at the Polytechnic on 29th June, 2006).

This study has also found out that change of focus on the part of the training process has in a way contributed to the problem of technical teachers in secondary schools in Malawi because teachers themselves shun the subjects. Some members of the teaching staff at the Polytechnic admitted that although the training output of graduates in technical education has been steady and in some cases tremendously increased like that of 2005 as shown in Fig. 11 some of these were foreigners while others were specifically for the Ministry of Labour for the requirements in Technical Colleges.

Lecturers at The Polytechnic said that the College has currently diversified its training to also meet the industrial requirements. It was noted that the current policy is also to integrate the training in Mathematics and Science. This is meant to help in the teaching of such subjects at secondary schools as a way of complementing shortfalls in those subjects. In support of this view, a member of staff also pointed out that most graduates go into the industries due to lack of expansion and poor conditions of technical education at secondary schools. In defence of the diversification of the technical teacher training programme one member of staff at The Polytechnic pointed out that the training of technical teachers must continue otherwise the department would cease to exist if its objectives were still to train technical teachers for secondary schools especially in view of the fact that technical education at secondary schools is neither expanding nor doing well. On why there are few technical teachers in secondary schools one lecturer said:

> We are mandated to recruit and train technical teachers, what happens after they graduate is not our business especially now that there is no proper collaboration between the Ministry of Education and the Department of Technical Education at the Polytechnic, except on directives to increase enrolment of technical teachers who would go to teach Mathematics and Sciences. For example, we have currently been asked to increase intake up to 120 in the next 2007 academic year. Secondly, with the current diversification of the training, graduates have a wider choice of where to work. Lastly but not least, lack of support at secondary school compels technical teacher graduates to look elsewhere for employment.
>
> (Interviews with lecturers at The Polytechnic on 24th July, 2006).

The technical-teacher training programme in the University of Malawi - The Polytechnic and the technical subjects at secondary schools were established concurrently since the two depend on each other for survival. In this regard lack of collaboration between the

Ministry of Education and the training institution has aggravated the already bad situation on the ground in the schools.

While it is true that the role of the Department of Technical Education at the Polytechnic is to train technical teachers, the general attitudes that it is not their business on what happens after students graduate is also retrogressive. The success of technical education at both secondary schools and at the Polytechnic is a collective effort of both stakeholders. The Polytechnic ought, as the training institution, be seen to be taking a better participatory and supportive role than the current attitudes as portrayed by some of its members of staff.

The changes in technical teacher training have shifted the focus in that there are more of Mathematics and Sciences in depth training than the usual technical subjects. Supporting this notion a number of technical teachers in schools confessed that they are more comfortable teaching Mathematics and Sciences than technical subjects. This view is also supported by Bwaila Secondary School statistics in which out of 6 technical teachers at the school only 2 teach technical subjects while the rest teach Mathematics and Sciences (Table 9).

However, some head teachers have also lamented the lack of initiative and interest on the part of technical teachers themselves. For example, at a certain secondary school there was a volunteer technical teacher who managed, on his own initiative, to teach Technical Drawing to all classes from Form 1 to 4, despite lack of resources. However, when the volunteer technical teacher left and 3 new recruits came in the school, they refused to

take on the challenge and preferred to teach Mathematics and Sciences to technical subjects for which they were posted there.

The above trend seems also to have hampered students' enrolment into technical subjects. Despite the presence of some technical teachers at the schools, students' enrolment into technical subjects is either very low or completely absent in some schools (Table 9).

Table 9: Summary of Students' Enrolment in Technical Subjects and the Overall Number of Technical Teachers in Secondary Schools in Malawi.

SECONDARY SCHOOLS	SUBJECTS												SCHOOL ENROLMENT TOTALS	NUMBER OF TECHNICAL TEACHERS	T/ TEACH. TEACHING T/ SUBJ.
	WOODWORK				METALWORK				G & O (TD)						
	FORMS				FORMS				FORMS						
	1	2	3	4	1	2	3	4	1	2	3	4			
Mzuzu Govt Sec Sch.	0	0	0	0	0	0	0	0	40	20	10	7	**77**	**3**	**2**
Mzimba Sec School	0	0	0	0	0	0	0	0	20	15	9	5	**49**	**2**	**2**
Robert Laws Sec Sch	0	0	0	0	0	0	0	0	0	0	0	0	**0**	**1**	**0**
Bwaila Sec School	0	0	0	0	0	0	0	0	125	0	0	0	**125**	**6**	**2**
Dedza Sec School	0	0	0	0	0	0	0	0	0	0	0	0	**0**	**3**	**0**
Malosa Sec School	0	34	0	0	40	0	13	0	40	34	13	0	**174**	**1**	**1**
Masongola Sec Sch	16	9	4	0	16	4	5	0	32	6	9	0	**101**	**2**	**2**
Chichiri Sec School	0	0	0	0	0	0	0	0	20	14	11	3	**48**	**3**	**2**
Blantyre Sec School	34	15	5	0	10	0	3	0	44	15	13	8	**147**	**3**	**3**
H.H.I. Sec School	0	0	0	0	0	0	0	0	0	0	0	0	**0**	**0**	**0**
Soche Hill Sec Sch	0	0	0	0	0	0	0	0	0	0	0	0	**0**	**0**	**0**
Thyolo Sec School	11	5	0	0	13	8	0	0	24	13	13	8	**95**	**2**	**2**
Mulanje Sec School	0	0	0	0	0	0	0	0	35	40	0	0	**75**	**1**	**1**
GRAND TOTALS	**61**	**63**	**9**	**0**	**79**	**12**	**21**	**0**	**380**	**157**	**78**	**31**	**891**	**27**	**17**
	133				**112**				**646**						

Source: Data from schools (2006).

KEY: T/ TEACH: Technical Teacher; T/ SUBJ: Technical Subject

Table 9 above shows the enrolment of students and the subjects the schools are offering. Statistics indicate that Malosa Secondary School tops the enrolment. Although the enrolment is not across all the Forms (classes), Malosa secondary school is offering all the technical subjects and yet the school has only one technical teacher (Table 9). This may suggest that some of these teachers show interest in the subjects, especially those of the older generation.

According to enrolment in Table 9, the teaching and enrolment of technical subjects tends to favour Technical Drawing as compared to Woodwork and Metalwork. While the total enrolment for Technical Drawing is at 653 Form 1-4, Woodwork and Metalwork is at 133 and 112 respectively. Of the three subjects Metalwork has suffered the worst because while it is easier to improvise in Woodwork by using alternative materials such as softwood e.g. pines, it is very difficult to improvise in Metalwork.

The trend of enrolment in technical subjects keeps on dropping as the years go by from Form 1 - 4 (Table 9). Currently, both subjects Woodwork and Metalwork have no MSCE candidate across the country, presumably due to lack of teaching and learning resources for practical work in addition to lack of teachers.

Technical Drawing shows higher enrolment as compared to other subjects. Even where the school does offer all the technical subjects, the larger part of the enrolment is taken by Technical Drawing. When asked why this trend one teacher said that Technical Drawing

requires paper, pencils and drawing instruments. He went on to say that paper is generally affordable.

On the same note another technical teacher lamented that although Technical Drawing does not require more expensive machines, equipment and materials as compared to Woodwork and Metalwork, most available equipment and instruments are so dilapidated that they cannot be used. As a result teachers said that they ask students to acquire Mathematical instruments as a way of improvising for Technical Drawing purposes, which also compromises heavily on standards and the quality of learning the subject.

There are six technical education teachers at Bwaila secondary school and yet only two teach technical subjects and in particular Technical Drawing with a total enrolment of 125 all of whom are in Form one (Table 9). Due to lack of resources teachers said that even this figure will be reduced to less than 40 in Form 2.

This research has established that for unknown reasons Soche Hill and H.H.I. secondary schools have never had a technical teacher for more than six continuous years. As such Head teachers bemoaned that there has never been students of technical subjects for all these years. Although machines for Woodwork at Soche Hill secondary school are dilapidated, Metalwork machines seem to be in a manageable state. It has not been established why technical teachers have not been deployed to these schools for such a long time.

Despite having working machines, the Head teacher at Robert Laws also disclosed that the technical teacher who was there previously never wanted to improvise and teach technical subjects. What this means is that some teachers prefer to teach other subjects with which they are comfortable to teach other than those they were deployed there for.

School enrolment seems to be higher in the lower classes (Form 1) and gets reduced as the years go by. This trend seems to have aggravated MSCE enrolment. For example, while the current statistics show that there are 31 Form 4 candidates for the 2006 academic year there is not even a single candidate for either Woodwork or Metalwork- (Table 9). The findings here also confirm data that was presented on the trend of MSCE entries, which have kept going down for the last eleven years from 1995 to 2005 (Table 2). According to data technical teachers themselves are partly to blame. They don't seem to be adequately prepared to handle the subjects, especially the practical component.

Q3– Is there a management problem towards technical subjects?

Q9– What are the effects and implications of the failure of technical education on the operation of other education sectors such as MANEB?

4.16 Misuse of Workshops

(a) Workshops being used as normal classrooms

While Figure 7 shows a standard Woodwork shop, some schools use these facilities as normal classrooms. In one of the schools a member of staff said that since the school has an increased enrolment and that workshops are not being used "we thought of using the workshops as classrooms". Figs. 12 and 13 are meant to show workshop

rooms whose benches and other workshop equipment have been removed to pave way for use as normal classrooms (Compare Fig.7 with all equipment and benches in place, with Figs 12 which show an example of empty rooms now used for other purposes such as for ordinary learning). The result of this is that pupils tend to abuse the facilities. Consequently, the machines and electrical installations have been damaged in some of these workshops. Although the Economics of Education demands putting educational resources, including infrastructure, to optimal use to maximize efficiency, it is also imperative to note that workshops are special rooms and also house very special facilities. Using such rooms for purposes other than those for which they were designed, is not only to expose students to uncalled for accidents, but also to help in accelerating dilapidation, damage and theft of tools, equipment and machines. This has also contributed to the further worsening of the already bad condition in workshops.

Fig. 12 Showing workshop being used as classroom

Fig. 13 Showing a workshop machines left open and misused by students as a result of being used as an ordinary classroom

(b) Workshops being used as warehouses for furniture and miscellaneous materials

The pictures shown in Figs 14 – 18 are also meant to show how workshops in various schools across the country are being used. As has been shown workshops are being used as warehouses for timber, broken chairs, beds and various things for the school. Workshops have sensitive and precision equipment for teaching and learning purposes Therefore, using workshops as warehouses has damaging effects on the condition of machines and equipment such as marking tables. To use workshops as shown below can only worsen the already poor conditions in school workshops.

Fig. 14

Fig. 15

Fig. 16

Fig. 17

Fig. 18

IMPLICATIONS

Q9 – What are the effects and implications of the failure of technical education on the operation of other education sectors such as MANEB?

When asked about the implications on its activities with regards to the dwindling enrolment of technical subjects at secondary schools, officials at Malawi National Examinations Board (MANEB) had this to say:

> By an Act of Parliament MANEB was given mandate to examine and assess students, irrespective of numbers. This mandate is open without any restrictions even if a subject has only 1 entry. In other words MANEB is mandated to develop examination papers for every Malawian candidate who qualifies. However, although the mandate for the Malawi National Examinations Board lies on the activities of examinations, these processes involve setting, moderation, printing, transport, delivery, invigilation and many more other duties pertaining to examinations, as such low candidature costs MANEB dearly. Due to the same candidature enrolment irregularities MANEB sometimes spends where it ought not to have spent. The procedure of processing examination papers for minor subjects is the same as that of major subjects and so are the costs. In essence, therefore, the dwindling candidature costs MANEB even the more. Dwindling numbers has in a way over stretched our operations because it is cheaper to produce more copies than just a few. Unfortunately, there is no policy at MANEB that looks at the subjects whose enrolment is dwindling. We only receive instructions on what to do from Ministry of Education.

(Interviews with officials at MANEB on 22 June, 2006)).

On whether MANEB would continue to put up examination papers for technical subjects even if candidature continues to dwindle further, another official reiterated that:

> MANEB is governed by curriculum. As long as curriculum is officially available, MANEB will continue to examine because it does not have a mandate to take out a subject whose candidature enrolment is dwindling. However, the funding MANEB receives is usually not adequate and there is a possibility that one day some minor subjects may be dropped since with low enrolment such subjects become very expensive to run. In this regard there may be a need for a specific policy to guide the promotion of technical subjects
>
> (Interviews with an official at MANEB on 23rd June, 2006).

On efficiency of its operations MANEB officials noted that the dwindling sitting enrolment in minor subjects such as technical subjects has had a negative impact on its statistics:

> When entries are small it becomes difficult for statistics to make meaning, and let alone generalizing information on small data may not be applicable. In other words determining efficiency of our operations depends on the number of candidates sitting for examination papers. Good feedback depends on magnitude of the sitting enrolments for issues to qualify for generalizabilty. Magnitude of feedback also affects efficiency of our operations.
>
> (Interview with an official at MANEB on 26th June, 2006).

Although the mandate of MANEB is to conduct examinations, officials said the Board is concerned with the status of various subjects including technical ones in secondary schools. In view of this the Board has communicated such issues to the Ministry of Education so that it can take measures on the situation. However, one official noted:

> Although there have been a number of forums on various issues with Ministry of Education, MANEB is only involved in issues of curricula review. Otherwise, MANEB is not autonomous as it gets instructions from the mother Ministry.
>
> (Interview with an official at MANEB on 26th June, 2006).

Economies of scale is a fundamental economic principle. Cost per unit decreases as more units are produced. According to Margaret Chase Smith Policy Centre (undated Paper – University of Maine), there are economies of scale in just about every economic and educational activities. In similar context, the cost effectiveness of an educational investment depends, to a large extent, on the number of partakers or students of that programme. The dwindling enrolment of technical education at secondary school has had an impact on the operations of the Malawi National Examinations Board (MANEB) as

one of the stakeholders involved in Technical Education. MANEB was established with the sole aim of developing and conducting examinations for assessment.

The implication for the failure of technical education in secondary schools is not only on the routine operations of the Malawi National Examinations Board (MANEB) but also suggests that the Malawi educational system does not make prompt follow-ups on issues that hamper educational growth. Despite knowledge of the status of technical education through meetings and reports, findings and data shown in Fig. 9 suggest that the absence of responsible officers at various levels has also contributed to the lack of attention to oversee and act on such reports at the Ministry of Education Headquarters. This has had negative implications on the activities of technical education and has thus perpetrated further problems of technical education at secondary school level in Malawi.

Implications to Enrolments

The poor students' enrolment as shown in Table 9 also confirm the 11 year (1995 – 2005) trend of MSCE entry enrolment figures in the statement of the problem Document Analysis in which total enrolment for the period for all the technical subjects stood at 1243. (See tabulated information of Fig. 2 below) As shown below the system has not performed to the required expectations.

SUMMARY OF TOTAL MSCE ENTRIES FOR TECHNICAL SUBJECTS (1995 - 2005)

PERIOD	SUBJECTS			TOTAL
1995 – 2005	G & O (TD)	METALWORK	WOODWORK	
(11 YEARS)	887	162	194	1243

Summarised from Fig. 2

Source: Malawi National Examinations Board (21/10/2005): 1995-2004 Entries
Malawi National Examinations Board (05/04/2006): 2005 Entries

Implications of the policy and findings on the state of Technical Education:

Policy provides direction, planning and procedures on how to achieve the desired goals. In the absence of well-articulated guidelines, the implementation of a programme becomes endangered for a failure. The current state of Technical Education in Malawi is as a result of the multifaceted dimensions. This calls for consolidated efforts for policy direction to resurrect the system. The taking back of the mandate from the Ministry of Labour to Education has been a right move in the right direction. However, that alone may not be sufficient, as more need to be done.

Table 10: SUMMARY OF FINDINGS

CENTR	COND. OF MACH.	EQ. & TD INSTR.	MATERIALS & TOOLS	TRAINING OF T/T	STUDENT Attitudes	HEAD/T Attitudes	NUMBER OF T/T	ORG. HIERA	TECH. DEPT.	FIN. SUPP.	T/T EXP.	ENR.	ADMIN SUPP.	POLICY	RECR. & DEPL.	BKS	Pop S.	IMPL.
Schools	Poor	Poor	Poor	Inadequate	Positive	Negative	Inadequate	Poor	Extinct	Poor	Poor	Poor	Poor	Just Established	Poor	Poor	TD	Bad
MoE	*	*	*	No Monitoring	*	*	*	Poor	*	Poor	*	*	Poor	Just Established	Poor	*	*	Bad
UNIMA	*	*	*	Changed focus	*	*	*	*	*	*	*	*	*	Not clear	Not Involved	*	*	Bad
MANEB	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	Bad
SEED	*	*	*	*	*	*	*	Poor	*	Poor	*	*	Poor	Not clear	Poor	*	*	Bad

KEY AND ABBREVIATIONS TO TABLE

***…… Not applicable**

MoE. ……Ministry of Education
UNIMA……University of Malawi
MANEB……Malawi National Examinations Board
T/T……Technical Teachers
ORG……..Organisational
TECH. DEPT…....Technical Department
FIN. SUPP…… Financial Support
T/T EXP……....Technical Teacher Expertise
ENR……Enrolment
ADM. SUPP…….Administrative Support
RECR. & DEPL…Recruitment & Deployment of technical teachers
POP. S……...Popular Subject
IMPL…….....Implications
SEED…… South East Education Division
EQ. & TD INSTR…Equipment & Technical Drawing Instruments
BKS……Books

TABLE 11: SUMMARY OF FINDINGS AGAINST RESEARCH QUESTIONS

QUESTION	FINDINGS
1. What was the objective of transferring policy for Technical and Vocational Education from Ministry of Education to Ministry of Labour and how did it affect the teaching of technical subjects in secondary schools?	- It was envisaged that the policy would perform well in the Ministry of Labour as it would interact better with the labour market. However, this created administrative and financial gap for programmes that remained in the Ministry of Education as it remained without both mandate and policy direction.
2. Why are teaching and learning resources for technical subjects not readily available in secondary schools?	- Financial suffocation of the sector to source resources - Teaching and Learning resources are poor, worn out and or outdated - Lack of formal maintenance of machines and equipment
3. Is there a management problem towards technical subjects?	- Lack of human and material resources for the teaching of the subjects - Has created lack of administrative machinery to oversee the activities of the sector. The inspectorate gaps for technical subjects has meant: ▪ Lack of monitoring the system ▪ Lack of hierarchical ladder for reporting or channelling issues of technical education from down the schools ▪ Lack of resources for technical subjects in the schools
4. Why are technical teachers not available in schools?	- Inconsistent deployment of Technical Teachers. - Paradigm shift in the training. Technical teachers are drilled more on Mathematic and Science than in technical subjects. As such they are not adequately prepared to handle technical subjects. Most technical teachers are afraid to teach the subjects - Inappropriate Teaching Practice. Lack of teaching practice in technical subjects compounds their inadequacy to handle the subjects.

	- Lack of collaboration between the Ministry of Education and the University of Malawi on Curriculum content to ensure that issues of Technical Education are addressed in the training.
5. Why are technical teachers sometimes deployed to schools that do not offer technical subjects?	- Lack of collaboration between the Curriculum Experts (EMAS) and the Administration on recruitment and deployment.
6. Why do students shun or show lack of interest in enrolling for technical subjects?	- Students have negative perspectives/perceptions of technical subjects. - Lack of learning resources has frustrated students - The subjects have not been popularized - There is no formal Career Guidance to sensitise students on the benefits of technical subjects. - Students feel there isn't good future in these subjects as such it would be a waste of time taking them.
7. What relationship is there between Ministry of Education and its co-operating stakeholder such as the UNIMA and MANEB on enhancing the positive growth of technical education in secondary schools in Malawi?	- There is not much collaboration on issues of promoting technical education except on directives of increasing technical teacher training enrolment. - MANEB's basic role is to develop examinations. There is no policy or mandate of any kind on helping subjects whose enrolments are dwindling such as those experienced by technical subjects
8. Does the University of Malawi still train technical teachers?	- University of Malawi has continued to train technical teachers. However, despite this good trend, schools do not have adequate technical teachers apparently due the paradigm shift in the training in which student teachers are drilled more in Mathematics and Science. This leaves them inadequately prepared for the technical subjects.
9. What are the effects and implications of the failure of technical education on the operation of other education sectors such as MANEB?	- The operational processes for examinations for major and minor subjects are the same. As such the dwindling of enrolments costs MANEB dearly because it is cheaper to produce larger quantities of examination papers.

CHAPTER 5

5.01 CONCLUSION

The youth is the critical mass for increasing productivity levels and thus contribute to the economic growth and development of any nation. Secondary school education is crucial and critical in human capital development. In support of this, Willis, 1963 in Nkungula, (1980) noted that education can only be desirable if it is well focused for the attainment of future individual and national goals. Indeed, all educational ventures are important in their own rights but academic secondary schooling, narrowly defined, may educationally, be inappropriate for increasing productivity (Holsinger and Cowell, 2000). Technical education, correctly tuned can help address multiple issues. As this study has shown, technical education in secondary schools in Malawi started with much enthusiasm, but the programme changed focus and this created room for its failure. While general education at secondary school level has realised tremendous growth over the years, technical Education in secondary school has not done very well. The sector entered the system at 1.8% of the gross secondary school enrolment by 1970. With the growth of general education, technical education has unfortunately lagged further behind dropping to 0.8% by 1995 (Tables 3, 4, and 5). Starting at 1.8% in relation to the gross secondary school enrolment, technical education ought to have had a strategic plan for its growth. Lack of this plan and focus has resulted in technical education enrolments dropping against gross secondary education enrolments. The dropping further of enrolment asserts that the sector lacked focus (Table 5).

Although there has been a similar trend within SADC countries due to common economic crisis, Malawi system has since worsened as compared to other countries whose enrolment trends have since started to pick up. The Malawi School Certificate of Education examination enrolments for the period of 11 years (1995 – 2005) show that the problem of technical education at secondary school has worsened even further. A total enrolment of only 1243 for the three technical subjects for a period of 11 years is more of a mockery to the system than a reality (Table 2).

While the Economics of Education advocates putting education resources to optimum use, technical education in secondary schools has resources that have not been used efficiently, in some cases, they have been misused by school administrations and technical teachers themselves. In short the sector has not been cost effective.

The study has found that the Ministry of Education wanting for lack of direction to correct and improve Technical Education at training institution, administrative machinery and support, and at secondary school, which is the implementation level. Although technical teacher programme was specifically designed to address issues of technical teachers at secondary schools, the training has also played a part on the lack of teachers by losing focus of its initial objectives.

Technical teacher training is a special programme. While its graduates can indeed teach Mathematics and Sciences, sight ought not to be lost of the fact that a number of colleges offer training in similar fields but the Polytechnic is the only institution in Malawi that can train technical teachers to specifically teach technical subjects at secondary school. In

this regard the shifting of focus for the graduates to also get drilled for Mathematics and Sciences has deprived technical education at secondary schools to get its rightful teachers. This has resulted into lack of teachers to teach technical subjects.

Lack of materials and tools in schools has frustrated the already few technical teachers. Retaining them in schools under such frustrating conditions has been a big challenge. Such frustration has also contributed to teachers leaving the profession.

In support of Kadzamira and Rose (2001: 4), the researcher believes that not all of the problems of education are as a result of resource constraints or would be resolved merely by an increase in government expenditure. It could therefore be suggested that many of the educational dilemmas and disjunctures of technical education could be overcome through improved policy framework, planning and design, implementation, monitoring and evaluation of the activities and policies. In this regard conducive administrative machinery needs to be put in place to support the sector. Focus ought to be established and a deliberate effort made towards that goal.

It is with great hope and enthusiasm now that a relevant directorate of Vocational and Technical Education has been established and that the policy on the same taken back to the Ministry of Education and Vocation and Training within the time frame of this research. It is further hoped that apart from the policy itself being revisited and a new vision for the sector established, many other issues that this study has uncovered as being obstacles to the development of technical education at secondary schools shall seriously

be regarded as limelight towards finding solutions to the revival and success of technical subjects at secondary schools in Malawi.

The revival, development and success of technical education at secondary schools in Malawi shall require collective efforts of various stakeholders. As some issues of policy have been re-directed to the appropriate Ministry of Education, the study only hopes that the many bottleneck issues that have negatively affected the sector shall also be looked into for the betterment of technical education in secondary schools in Malawi.

Improvements on the Malawi social economic landscape demands diversified modes of productivity. Although skills development is an age-old phenomenon, the many emerging social and economic challenges demand new impetus that requires the input of a vibrant and active technical education in the education system. Education focused towards that goal would play a major role in achieving the desired end. Technical education, properly focused, would significantly contribute in inculcating a culture of not only self-employment but also entrepreneurial skills, which are important and crucial in complementing other national developmental programmes. The current social challenges have given rise to the need for a paradigm shift on the way education should be planned. The Malawi's philosophical move towards Poverty Reduction needs support from several fronts one of which is education that empowers society with life-long skills. Technical education would thus provide for that gap.

5.02 RECOMMENDATIONS

Based on the findings of this study, the following recommendations are made in order to improve and promote technical education in secondary schools in Malawi

(a) Establish an explicit Technical Education Policy as a framework to guide technical education in secondary schools. Revise the whole Technical Education system in Malawi in order to bring focus on the direction of the sector on what it is the country wants technical education to do and how it can be achieved.

(b) Establish a mechanism for the Ministry of Education to collaborate with the Ministry of Labour and other institutions in order to absorb less successful candidates to further their skills either at Polytechnic, Technical Colleges or the TEVET activities.

(c) Revive the collaborations between the University of Malawi - The Polytechnic and Ministry of Education on curriculum and other activities of technical education in order to improve technical teacher graduates in the teaching of technical subjects at secondary schools.

(d) Establish a mechanism for ensuring that schools have up-to-date machines, equipment and all learning resources for technical subjects e. g. create funding to address problems of machines, equipment, books and lack of tools and materials. Acquire new machines and technologies as those currently in schools are out dated and obsolete. Introduce regular mandatory maintenance of workshop machinery in schools.

(e) Provide opportunities for Technical Education teachers to update their knowledge and skills. This could be through regular workshops, seminars, short courses and orientation trips within or outside the country to help them address their technical shortfalls and get abreast with new changes and technologies. This will help in the teaching of technical subjects and also act as a motivation of retaining technical teachers in secondary schools.

(f) Ensure that teaching practice is done in technical subjects in order for the student teachers to acquire the appropriate practical skills.

(l) Ensure there is full liaison between curriculum experts and administration on issues of deployment of technical teachers to prevent the inconsistency and unnecessary deployment and misuse of technical teachers when his or her services are required in the teaching of technical subjects.

(m) Establish and develop technical education at primary schools to provide an appropriate background enthusiasm and improve students' perceptions of technical subjects.

(n) Provide guidelines to schools on how workshops should be used to prevent schools using workshops as ordinary learning rooms and or warehouses.

(o) Make deliberate efforts to popularize technical subjects in secondary schools by introducing career guidance forums on what technical subjects can offer to an individual. Sensitize the Malawi youth on the importance of skills-oriented education

(p) Conduct regular Curriculum Reviews on technical education in order that the sector be relevant to the prevailing social and economic challenges.

(q) Introduce other material resources, such as plastics, in secondary school technical education curriculum to reduce dependability on wood and metal and increase material resources for the learning.

REFERENCES

Abramson, T., Tittle, C.K. and Cohen, L. (1979). *Handbook of Vocational Education Evaluation.* Sage Publications Ltd, 28 Banner Beverly Hills, London.

Alide, Y. (1997). *Technology Education in Secondary Schools in Malawi.* In Susuwele Banda, M. J. and Lemani, E. (Raporteurs) (1997): *Interim Report of Workshop to Train Members of Syllabus Committee in Curriculum Development Process.* Malawi Institute of Education. Secondary School Curriculum Activities.

Anderson, C.A. and Bowman, M.J. (1967). "Theoretical Considerations in Educational Planning". Comparative Education Centre, University of Chicago, USA. In Bereday, G.Z.F. and Lauwerys, J.A. (ed.) (1967): *Educational Planning.* The World YearBook of Education 1967. Evans Brothers Limited, London.

Archer, S. and Moll, P. (1992). "Education and Economic Development". In Abedian, I. and Standish, B. (1992): *Economic Growth in South Africa.* Selected Policy Issues. Oxford University Press. Walton Street Oxford OX2 6DP, United Kingdom.

Arndt, H.W. (1978). *A Rise and Fall of Economic Growth:* A Study in Contemporary Thought, Melbourne. Longman, Cheshire Pty, Ltd.

Arndt, H.W. (1989). *Economic Development.* The History of an Idea. London, University of Chicago Press.

Asche, H. (1998). "Ambiguous Links between National Poverty Assessments and Poverty Reduction Programmes". The Kenyan Experience. In Gsanger and Heufers (eds)(1998): *Poverty-Oriented Social Policy in South and East African Countries.* Deutsche fur Internationale Entwircklung (DSE). German Foundation for International Development. Economic and Social Development Centre. Berlin

Atchoarena, D. and Delluc, A. (2002). *Revisiting Technical and Vocational Education in Sub-Saharan Africa.* An update on trends, innovations and Challenges. UNESCO Publishing. International Institute for Educational Planning.

Atchoarena, D. and Esquieu, P. (2002*). Private Technical and Vocational Education in Sub-Saharan Africa.* Provision patterns and Policy issues. UNESCO IIEP. November 2002. 7-9 rue Eugene-Delacroix, 75116 Paris, France.

Atkinson, G.B.J. (1983). *The Economics of Education*. HODDERS AND STOUGHTON LTD, Mill Road, Dunton Green, Sevenoaks, Edinburgh.

Appalachian State University, Retrieved on 03/02/2006, from: http://www.ced.appstate.ed/collegeinf

Avigad, M. (1971). "Pre-vocational and Technical Education in Primary and Secondary Schools". In Philip and Gillion, H. (eds) (1971): *Science and Education in Developing States.* Proceedings of the 5th Rohovot Conference. Praeger Special Studies in International Economics and Development. Praeger Publishers. Fourth Avenue, New York, N.Y. 10003 USA.111.

Bairoch, P. (1995). *The Economic Development of The Third World Since 1990* Merthuen & Co. Ltd., 11 New Fetter Lane, London EC 4 P4 EE.

Banda, K.N. (1982). A Brief History of Education in Malawi. Dzuka Publishing Company Limited, Private Bag 39, Blantyre, Malawi.

Bark, M. and O'Hara, G. (1984). *The Third World*. Conceptual Framework in Geography, Oliver & Boyd. Robert Stevenson House, 1-3 Baxter, Place.

Bennel, P. (1995). "Using and Abusing Rates of Return". A Critique of the World Bank's 1995 Education Sector Review. Institute of Development Studies. Working Paper.

Benson, T., Machinjiri, C., and Kachikopa, L. (1998). "Poverty in Malawi". FCND Discussion Paper No 183. Food Consumption and Nutrition Division. International Food Policy Research Institute. 2033 K Street, N.W. Washington, D.C. 20006. USA.

Bereday, G.Z.F. and Lauwerys, J.A. (ed.) (1967). *Educational Planning.* The World YearBook of Education 1967. Evans Brothers Limited, London.

Blaxter, L., Hughes, C., and Tight, M. (2001). *How to Research.* 2nd ed. Open University Press. Celtic Court, 22 Ballmoor, Buckingham, MK18 1XW.

Blaug, M. (ed) (1968). *Economics of Education 1.* Penguin Books Ltd, Harmondsworth, Middlesex, England.

Blinkerholff, D.W.and Crossby, B.L. (1995). *Managing policy reform:* Concepts and Tools for decision makers in developing and transitioning countries. Broomfield, CT: Kumarian Press, Inc.

Callaway, A. (1967). "Unemployment among school leavers in an African city". M.I.T. Centre for International Studies, Cambridge, Mass. USA. In Bereday, G.Z.F. and Lauwerys, J.A. (ed.) (1967): *Educational Planning.* The World YearBook of Education 1967. Evans Brothers Limited, London.

Chawani, B.S. (1991). *Review of Technical and Vocation Education in Secondary Schools in Malawi:* Malawi National Commission for UNESCO Implications for Educational Policy And Financing – Malawi.

Chimombo, J.P.G. (2005). "Issues in Basic Education in Developing Countries". An Exploration of Policy Options for Improved Delivery. Centre for Educational Research and Training, University of Malawi. Journal of International Co-operation, Vol. 8, No.1, 2005, pp.129-152 Centre for the Study of International Co-operation in Education, Hiroshima University.

Chimombo, J.P.G., Milner, G., Banda, T., and Mchikoma, C. (2001). SACMEQ – Malawi I. *The quality of Primary education.* Some Policy suggestions based on a survey of schools. Malawi – An interim Report. Ministry of Education, Science and Technology, Lilongwe, Malawi. SACMEQ Educational Policy Research Series: Report No. 7 Series Editor: Kenneth N. Ross. International Institute for Educational Planning, UNESCO.

Chimombo, J.P.G., Kunje, D., Chimuzu, T., and Mchikoma, C. (2005). The SACMEQ Project II. *A Study of the conditions of schooling and the quality of education.* Malawi Working Paper. Ministry of Education. SACMEQ Educational Policy Research Series.

Chimombo, J.P.G, Chibwana, M., Dzimadzi, C., Kadzamira, E., Kunkwenzu, E., Kunje, D., and Nampota, D. (2000). "Classrom School and Home Factors that negatively affect Girls' Education in Malawi". Draft. December 2000. A Report Submitted to UNICEF.

Cohen, L. and Manion, L. (1994). *Research Methods in Education.* 4th ed. Routledge 11 New Fetter Lane, London ECAP 4EE.

Coombs, P.H. (1967). "What do we still need to know about Educational Planning". International Institute for Educational Planning. UNESCO, Paris. In Bereday, G.Z.F. and Lauwerys, J.A. (ed.) (1967): *Educational Planning.* The World YearBook of Education 1967. Evans Brothers Limited, London.

Cowen, R. (1981). *International Yearbook of Education.* Volume XXXIII-1981. Prepared For International Bureau of Education. Department of Comparative Education, University of London, Institute of Education. UNESCO. 7 Place de Fontenoy, 75700 Paris, France.

Cresswell, J.W. (2003). *Research Design.* Qualitative, Quantitative and Mixed Methods Approach. 2nd ed. Sage Publications, Inc.2455 Teller Road, Thousand Oaks, California 91320.

Devereux, S. (2005). "Social Policy for the 21st Century". Re-visioning the agenda. Centre For Social Research. University of Malawi. Zomba, IDS Research, Institute of Development Studies, University of Sussex. Brighton BNI 9RE, UK.

Dye, T.R. (2002). *Understanding Public Policy.* 10th ed. Prentice Hall. Upper Saddle River, New Jersey 07458.

Elias, J.V. (1992). *Sources of Growth.* A Study of Seven Latin American Economics, ISC. Press, Institute for Contemporary Studies. San Francisco, California 94108.

El-Shakhs, S. and Obudho, R. (1974). *Urbanization, National Development and Rural Planning in Africa.* Praeger Publications, Inc., 111 Fourth Avenue, New York, N.Y. 10003, USA.

Fagerlind, I. (1983). *Education and National Development*. A Comparative Perspective. New York / Oxford: Pergamon Press.

Fagerlind, I. and Saha, L.J. (1989). *Education and National Development*. A Comparative Perspective. New York/ Oxford: Pergamon Press.

Foster, P.J. (1966). "The Vocational School Fallacy in Development Planning". In Anderson, C.A. and Bowman, M.S. (eds) (1966): *Education and Economic Development*, Aldine Publishing Co. Reprinted in Blaug, M. (1968): *Economics of Education.* Selected Readings, Vol.1 Penguin.

Frank, A.G. (1978). *Dependent, Accumulation and Underdevelopment.* The MacMillan Press Ltd. London & Basingstoke.

Fraenkel, J. R. and Wallen, N.E. (2000). *How to Design and Evaluate Research in Education.* 4th ed. The McGraw-Hill Companies, Inc.

Gsanger and Heufers (eds)(1998). "Poverty-Oriented Social Policy in South and East African Countries". Deutsche fur Internationale Entwircklung (DSE). German Foundation for International Development. Economic And Social Development Centre. Berlin.

Haddad, W. (1995): *Educational Policy Planning Process.* An Applied Framework, Paris: UNESCO International Institute for Educational Planning.

Halsey, A.H.; Floud, J.; Anderson, C.A. (ed) (1965). *Education, Economy, and Society.* The Free Press New York. Collier-Macmillan Limited London.

Hartwell, A (1994). "Education Policy in Anglophone". The work of Education Commission. In Evans, D.R. (ed). *Education Policy Formation in Africa:* A comparative Study of Five Countries. Washington DC: USAID. Technical Paper No 12, Bureau for Africa, ARTS Pp, 29-57.

Holsinger, D.B. and Cowell, R.N. (2000). "Positioning Secondary School in Development Countries". International Institute for Educational Planning, UNESCO. December 2000. 7-9 rule Eugene-Delacroix, 75116 Paris.

Hunter, G. (1967). "Primary Education and Employment in the Rural Economy with Special reference to East Africa". In Bereday, G.Z.F. and Lauwerys, J.A. (ed.) (1967): *Educational Planning.* The World YearBook of Education 1967. Evans Brothers Limited, London.

Kachilika, J. B. (1992). "Impact of SADC B.Sc. Technical Education on Secondary Schools in Malawi"- unpublished.

Kadzamira, E. and Rose, P. (2001). "Education Policy Choice and Policy Practice In Malawi. Dilemmas and Disjuntures". IDS Working Paper 124. January 2001 IDS Publications Office, Institute of Development Studies at the University of Sussex, Brighton BNI UK.

Kadzamira, E. (2003). "Where has All the Education gone in Malawi?" Centre for Educational Research and Training. University of Malawi.

Kadzamira, E., Moleni, C., Kholowa, F., Nkhoma, M., Zoani, A., Chonzi, R., and Chigeda, A. (2004). "Student Testing and Assessment" Draft Report. May 2004. University of Malawi.

Kadzamira, E., Nthara, N., and Kholowa, F. (2004). "Financing Primary Education for All" Public Expenditure and Educational Outcomes in Malawi. January 2004. University of Malawi.

Khowoya, R. S. (1992). *The Low Participation of Girls in Technical Secondary Schools In Malawi.* A B.Sc. Dissertation. Unpublished.

Lewellin, T. (1995). *Dependency and Development:* An Introduction to the Third World, London: Bergin and Garvey.

Long, L. (1977). *An Introduction to Sociology of Rural Development.* London, Tavistock Publications.

MacJessie-Mbewe, S.L.W. (2002). "An Analysis of Free Primary Education Reform in Malawi". International Journal of Education Reform Vol.11 No 2.

MacJessie-Mbewe, S.L.W. (2004). *Analysis of a Complex Domain:* Access to Secondary Education in Malawi. A Ph.D. Dissertation. Graduate School of the University of Massachusetts. U.S.A.

Malawi Government. *Education Management Information System (EMIS).* Education Statistics (2006). Department of Education Planning. Ministry of Education and Vocational Training.

Malawi Government Education Sector. *Primary Curriculum and Assessment Reform* (PCAR, (2002).

Malawi Government Education Sector. *Policy and Investment Framework* - (PIF) Revised (2001).

Malawi Government. *Poverty Reduction Strategy Paper*. Malawi Department of Economic Planning.

Malawi Government. *National Statistics Office*. February, 2003. Zomba

Malawi Government. *Vision 2020*. Malawi Department of Economic Planning.

Margaret Chase Smith Policy Centre (undated). Economies of Scale in Education. The University of Maine, 5715 Coburn Hall, Orono, ME 04469-5715.

Marshall C., and Rossman G.B., (1995): *Designing Qualitative Research.* 2nd Ed. Thousand Oaks, Sage Publication.

Mason, J. (1996). *Qualitative Researching.* London. Sage publications.

Matengo, F.E. (1985). *Management of Technical Education in Malawi Secondary Schools.* B.Ed. Dissertation. University of Wales.

Middleton, J., Adams, A.V., and Ziderman, A. (2005). *Skills for Productivity:* Vocational Education and Training in Developing Countries. Oxford University Press.

Mtunda, F. and Safuli, S.D.D. (1985). *Introduction to Theory and Practice of Teaching.*

Melghan, R. (1981). *A Sociology of Education*. Holt, Rinehart and Winston, London.

Miles, M. B. and Huberman, A. M. (1994). *Qualitative Data Analysis.* An expanded Sourcebook. 2nd Edition. SAGE Publications. International Educational and Professional Publisher. Thousand Oaks London New Delhi.

Millennium Development Goals.

Milner, J. (1967). "The Relationship of Education and Economic Planning". Maxwell School of Citizenship and Public Affairs, Syracuse University, New York. In Bereday, G.Z.F. and Lauwerys, J.A. (eds.) (1967): *Educational Planning.* The World YearBook of Education 1967. Evans Brothers Limited, London.

Msiska, F.G.W. (2003). "Education and National Development" A Conceptual Framework. (Occasional Paper).

Musopole, A. (2005). "Education and Class-Consciousness". The Lamp. Montfort Media, No. 56 November – December 2005. P.O. Box 280, Balaka. Malawi.

Muthalika, Bingu Wa – Head of State (2007). "Graduation Ceremony." Natural Resources College, Lilongwe, Malawi. Television Malawi of 28th April, 2007.

8:00 pm News.

Mwanza, S.J. (1995). "The Decline in Student Numbers Studying Technical Subjects in Malawi Secondary Schools" The Causal Factors. Malawi National Examinations Board. Unpublished.

Nkungula, T. H. (1980). *Development of a Model of Technical Education for the country of Malawi.* Western Michigan University, USA.

Oxenham, J. (ed)(1984). *Education Versus Qualification?* London. George Allen & Unwin.

Pain, C. (1998). "Evolution of Social Policy in Malawi". The German Experience of Policy Advice. In Gsanger and Heufers (eds)(1998): *Poverty-Oriented Social Policy in South and East African Countries.* Deutsche fur Internationale Entwircklung (DSE). German Foundation for International Development. Economic and Social Development Centre. Berlin.

Patton, M. Q. (1990). *Qualitative Evaluation and Research Methods*. Sage, Newbury, Park. California.

Peet, R. with Hartwick, E. (1999). *Theories of Development:* New York/London: The Guilford Press.

Phoso, K.G. (1990). *A Study of Some Problems in the teaching of Technical Subjects in Secondary Schools in Malawi.* M.Ed. Dissertation. Unpublished.

Psacharopoulos, G., and Woodhall, M. (1985). *Education For Development.* Washington. World Bank.

Reimers, F. and McGinn, N.(1997). *Informed Dialogue.* Using Research to Shape Education Policy Around the World. Praeger, Westport, Connecticut, London.

Robson, C. (1993). *Real World Research for Social Scientists and Practitioners-Researchers.* Blackwell Publishers Ltd. 108 Cowley Road, Oxford, OX4 1JF, UK.

Rosenberg, J., Landau, R., and Mowery, D.C. (ed) (1992). *Technology and The Wealth of Nations*. Stanford University Press. Stanford, California.

Rostow, W.W. (1971). *The Stages of Economic Growth:* A Non-Communist Manifesto, Cambridge: Cambridge University Press.

Rossman, G. B. and Rallis, S.F. (2003). *Learning in the Field.* An Introduction to Qualitative Research. 2nd ed. Sage Publications, Inc. 2455 Teller Road, Thousand Oaks, California 91320.

Salant, P. and Dillman, D. A. (1994). *How To Conduct Your Own Survey*. John Wiley & Sons, Inc New York.

Schultz, T.W. (1961). "The Concept of Human Capital" Reply. American Economic Review, Vol. 52 (1961), No 4, pp. 1035-9: in Blaug, M. (ed) (1965): *Economics of Education 1*. Penguin Books Ltd, Harmondsworth, Middlesex, England.

Shaffer, H.G. (1961). "A Critique of Human Capital". Investment in Human Capital Comment, American Economic Review, Vol. 52 (1961), No 4, pp. 1026-35: in Blaug, M. (ed) (1968): *Economics of Education 1*. Penguin Books Ltd, Harmondsworth, Middlesex, England.

Simmons, J. (ed) (1980). *Education Dilemma.* Policy Issues for Developing Countries in The 1980s. Pergamon Press Ltd, Headington Hill Hall, Oxford OX3 OBW, England.

So, Y. (1990). *Social Change and Development.* Modernization, Dependency, and World-System Theories. Sage Library of Social Research 178. Sage Publications. The International Professional Publishers. Newbury Park. London.

Stoikov, V. (1975). *The Economics of Recurrent Education and Training.* International Labour Office. CH-1211 Geneva 22, Switzerland.

The South Commission (1990). "The Challenge to The South". The Report of the South Commission. Oxford University Press, Walton Street, Oxford OX 2 6DP, Oxford.

Thirlwall, A.P. (1972). *Growth and Development.* With special reference to Developing Countries. MACMILLAN LONDON.

Todaro, M. (1989). *Economic Development in the Third World. Fourth Edition,* New York/ London: Longman.

UNDP, (1990). "Defining and Measuring Human Development". Human Development Report (New York: Oxford University Press, 1990) pp.6-16. In Ayres, R. (ed) (1995): *Development Studies.* An Introduction Through Selected Readings. Greenwich University Press, Unit 42, Dartford Trade Park, Hawley Road, Dartford, Kent, DAI IPF UK.

UNDP, (1991). "Human Development Report". Oxford University Press, Oxford .New York.

UNESCO, (1984). *Policy, Planning and Management in Technical and Vocational Education.* A Comparative Study. Trends and Issues in Technical and Vocational Education. UNESCO, 7 Place de Fontenoy, 75700 Paris.

Verspoor, A.M. (1994). "Planning Educational Reforms": Use of Contingency Approach. In Husen & Postlethwaite (ed.). *The International Encyclopedia of Education.* (2nd ed.). London: Pergamon Press. (Pp. 4514-2519).

Weisbrod, B.A. (1962). "External Effects of Investment in Education". Education and Investment in Human Capital, Journal of Political Economy, Vol. 70 (1962), No. 5 Part 2 (Supplement), pp. 106-23: In Blaug, M. (ed) (1965): *Economics of Education 1*. Penguin Books Ltd, Harmondsworth, Middlesex, England.

Weiss, C.H. (1998). *Evaluation*. Methods for Studying Programmes and Policies. 2nd ed. Prentice Hall, Upper Saddle River, New Jersey 07458.

Wikipedia, The Free encyclopaedia. Retrieved on 06/02/2006 from: http://www.cia.gov/publication/factbook/field/2147.html

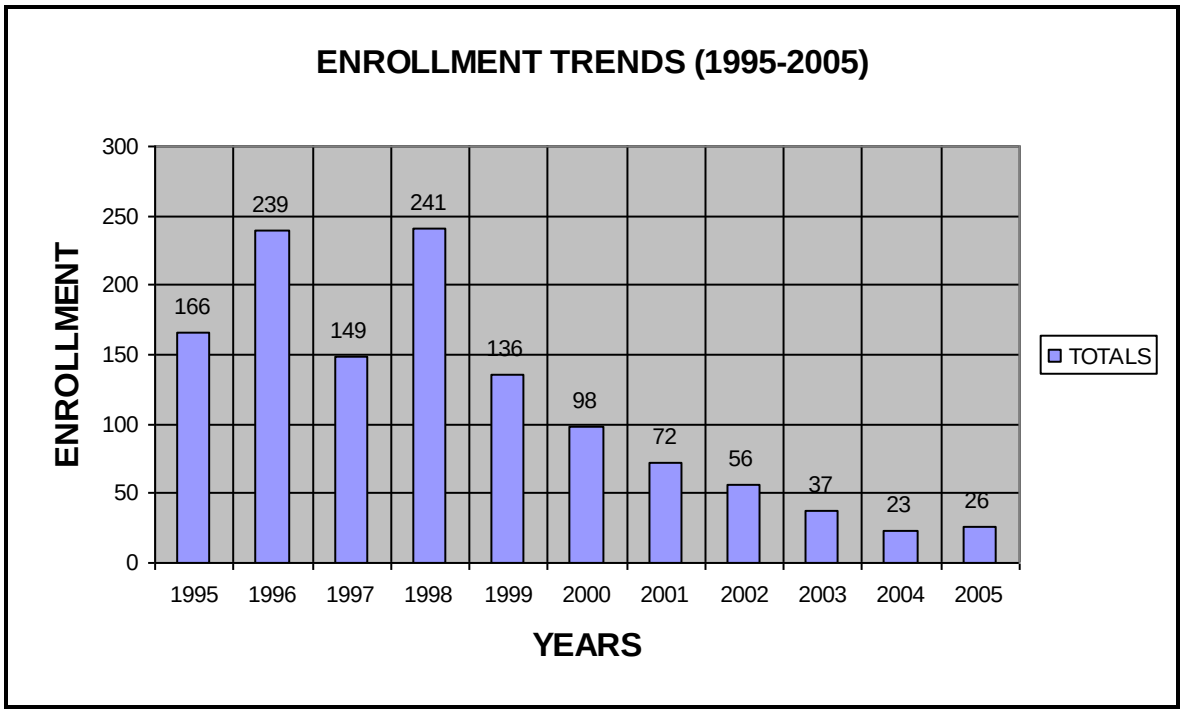
Williams, G. (1977). *Towards Life-long Education*. A New Role for Higher Institutions. The Development of higher education. UNESCO. 7 Place de Fontenoy, 75700 Paris.

Williamson, B. (1979). *Education, Social Structure and Development.* A Comparative Analysis. The Macmillan Press LTD. London.

APPENDICES

Appendix A_1

MSCE TECHNICAL SUBJECTS ENROLLMENT TRENDS (1995 – 2005)



The above chart represents the total enrolment trend of all the three technical subjects

Appendix A_2

UNIVERSITY OF MALAWI - THE POLYTECHNIC

DOCUMENT STATISTICS FOR TECHNICAL TEACHER GRADUATES OF THE UNIVERSITY

OF MALAWI FROM 1968-2005

YEAR	**1967**	**1968**	**1969**	**1970**	**1971**	**1972**	**73 -77**	**1978**	**1979**	**1980**	**1981**	**1982**	**1983**	**1984**	**1985**	**1986**	**1987**	**1988**	**1989**	**1990**
Diplomas	-	12	R	12	**R**	8	**R**	11	19	**R**	11	16	*	*	*	*	*	*	*	*
Degrees	-	+	+	+	+	+	+	+	+	+	+	+	+	14	10	11	12	15	8	10

YEAR	**1991**	**1992**	**1993**	**1994**	**1995**	**1996**	**1997**	**1998**	**1999**	**2000**	**2001**	**2002**	**2003**	**2004**	**2005**	**TOTAL**
Diplomas	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	**89**
Degrees	17	14	16	10	4	5	**R**	**R**	17	**R**	13	13	15	15	65	**284**

Source: University of Malawi Central Office, and The Polytechnic (Collected on 20th July 2006)

KEY: - Programme not started
* Programme stopped (Diploma)
+ Programme unavailable (not yet started) (Degree)
R Programme on Recess

Appendix B_1: Workshops being used as classrooms

Appendix B_2: Workshops being used as warehouses


11 10:23 AM


11 10:26 AM


11 10:22 AM


11 10:26 AM
L4

Appendix C_1

University of Malawi
Chancellor College
Faculty of Education
Department of Education Foundation
P.O. Box 280
Zomba.

The Head of Department
University of Malawi-The Polytechnic
Department of Technical Education
P/B 303
Chichiri
Blantyre 3

Dear Sir,

REQUEST TO CONDUCT RESEARCH

I write to request for permission to conduct an academic research in your department. This research will seek to source some information from you personally and some members of your department. It is planned to take place sometime between February and March. The research is on the current status of technical subjects in secondary schools in Malawi.

I am a student currently pursuing a Masters degree course in Policy, Planning and Leadership at Chancellor College.

The research is for academic purposes only and any information will be treated with utmost confidentiality. Ethically, no names will be required or used unless seriously required in which case consent from the owner shall be sought.

May I thank you in advance.

Yours faithfully,

R. S. Khowoya

Appendix C_2

University of Malawi
Chancellor College
Faculty of Education
Department of Education Foundation
P.O. Box 280
Zomba.

The Division Manager
South Eastern Education Division
P/B 48
Zomba

Dear Madam,

REQUEST TO CONDUCT RESEARCH

I write to request for permission to conduct an academic research in some schools in your Division that is planned to take place sometime between February and March. The research is on the current status of technical subjects in secondary schools in Malawi and specifically will focus on Masongola and Malosa Secondary schools respectively. May I further request that the research will also seek to get some information from a number of your officers in the Division office and your assistance on this will be appreciated.

I am a student currently pursuing a Masters degree course in Policy, Planning and Leadership at Chancellor College.

The research is for academic purposes only and any information will be treated with utmost confidentiality. Ethically, no names will be required or used unless seriously required in which case consent from the owner shall be sought.

May I thank you in advance.

Yours faithfully,

R. S. Khowoya

Appendix C_3

University of Malawi
Chancellor College
Faculty of Education
Department of Education Foundation
P.O. Box 280
Zomba.

The Secretary for Education
Ministry of Education
P/B 328
Lilongwe 3

Through: Head of Department
Faculty of Education
Department of Education Foundation
P.O. Box 280
Zomba.

Att: The Deputy Secretary (Mr Nyirongo)

Dear Sir/Madam,

REQUEST TO CONDUCT RESEARCH AT HEADQUARTERS

I am one of your technical teachers currently pursuing a Masters of Education degree course in Policy, Planning and Leadership (PPL) at Chancellor College.

Research exercise being one of the requirements, a number of institutions and organizations have been earmarked as centres for data collection one of which is Ministry of Education Headquarters. A letter for this purpose was written some two months ago but response was not given.

I, therefore, write to request for permission to conduct an academic research there at Headquarters. The research is on the current status of technical subjects in secondary schools in Malawi (Causes and Implications).

The research activity would specifically want to interview the following:

- The Honourable Minister of Education
- The Director of EMAS
- The Deputy Director of EMAS
- The Head of Secondary School section

The research is for academic purposes only and any information will be treated with utmost confidentiality. Ethically, no names will be required or used unless seriously required in which case consent from the owner shall be sought.

May I thank you in advance.

Yours faithfully,

R. S. Khowoya

Appendix C_4

University of Malawi
Chancellor College
Faculty of Education
Department of Education Foundation
P.O. Box 280
Zomba.

The Head teacher
……
P.O. Box…….
…….

Through: The Head of Department
Faculty of Education
Department of Education Foundation
P. O. Box 280
Zomba

Dear Sir/Madam,

REQUEST TO CONDUCT RESEARCH

I write to request for permission to conduct an academic research at your school that is planned to take place sometime between February and March. The research is on the current status of technical subjects in secondary schools in Malawi.

I am a student currently pursuing a Masters degree course in Policy, Planning and Leadership at Chancellor College. The research is for academic purposes only and any information will be treated with utmost confidentiality. Ethically, no names will be required or used unless seriously required in which case consent from the owner shall be sought.

May I thank you in advance.

Yours faithfully,

R. S. Khowoya

Appendix C_5

University of Malawi
Chancellor College
Faculty of Education
Department of Education Foundation
P.O. Box 280
Zomba.

The Executive Director
Malawi National Examinations Board
P.O. Box 191,
Zomba.

Through: The Head of Department
Faculty of Education
Department of Education Foundation
P. O. Box 280
Zomba

Dear Sir,

REQUEST TO CONDUCT RESEARCH

I write to request for permission to conduct an academic research at your organisation that is planned to take place sometime between February and March. The research is on the current status of technical subjects in secondary schools in Malawi. The research will seek to get information from you personally or/and some of your officers that will be allowed and assigned to me for this purpose.

I am a student currently pursuing a Masters degree course in Policy, Planning and Leadership at Chancellor College.

The research is for academic purposes only and any information will be treated with utmost confidentiality. Ethically, no names will be required or used unless seriously required in which case consent from the owner shall be sought.

May I thank you in advance.

Yours faithfully,

R. S. Khowoya

Appendix D

CONSENT FORM

University of Malawi
Faculty of Education
Department of Education Foundations
P. O. Box 280
Zomba

This is an academic study, which seeks to find causes for the collapse of technical education in Malawi. The study would therefore like to humbly engage you as one of the respondents in the study. Your participation will greatly help this study achieve its objectives. However, you are not coerced to do so but rather, with your own free will, are willing to participate to help in the study. Should you accept to participate in this activity, through your own informed consent, you are hereby assured that the study will protect your privacy, confidentiality and anonymity. In this case the study results will neither show your name nor use the final findings to personally harm you.

In agreement to participate in this activity you are therefore asked to sign below.

Name…….

Sign……

Date……

Appendix E

UNIVERSITY OF MALAWI - THE POLYTECHNIC

PART A DOCUMENT STATISTICS FOR TECHNICAL TEACHER GRADUATES OF THE UNIVERSITY OF MALAWI FROM 1967-2005

YEAR	**1967**	**1968**	**1969**	**1970**	**1971**	**1972**	**73 -77**	**1978**	**1979**	**1980**	**1981**	**1982**	**1983**	**1984**	**1985**	**1986**	**1987**	**1988**	**1989**	**1990**
Diplomas																				
Degrees																				

YEAR	**1991**	**1992**	**1993**	**1994**	**1995**	**1996**	**1997**	**1998**	**1999**	**2001**	**2002**	**2003**	**2004**	**2005**	**TOTAL**
Diplomas															
Degrees															

IN-DEPTH INTERVIEW GUIDE

PART B: HEAD OF DEPARTMENT AND LECTURES

1.What was the objective of setting up the technical teacher-training programme in the University of Malawi?

_____

_____

_____

_____

_____

2. What challenges does the University of Malawi encounter in meeting the objectives mentioned above?

_____

_____

_____

_____

_____

_____

_____

3. Enrolment of students taking technical subjects in secondary schools has significantly dwindled over the years. One of the major causes is lack of technical teachers in secondary schools.

   (a) Why are technical teachers not in secondary schools

   _____

   _____

   _____

   (b) What efforts has the University of Malawi taken to address the problem? Has it succeeded? If not why?

   _____

   _____

   _____

   _____

4. How is the technical teacher-training enrolment in the University of Malawi? Has it increased or decreased?

   _____

   _____

5. In what way has the enrolment of technical teacher training affected or improved technical education in secondary schools in Malawi?

   _____

   _____

   _____

6. Technical teacher training has gone through a number of changes including changes in Awards between B.Ed and B.Sc.

   (a) What necessitated such changes?

   _____

   _____

   _____

   (b) Do such changes still address the original objectives for which the programme was set?

   _____

   _____

   (c) How capable are the current graduates in teaching the syllabus for technical subjects?

   _____

   _____

7. Currently, does the University of Malawi train technical teachers with an aim of addressing the gaps of technical teacher requirements in secondary schools? If not why?

_____

_____

_____

_____

8. What policy coordination exists between the University of Malawi - The Polytechnic and the Ministry of Education with regards to the technical teacher requirements in secondary schools?

_____

_____

_____

9. Does the University of Malawi-The Polytechnic participate in the deployment of technical teachers in secondary schools? If not why?

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

Appendix F

MANEB

IN-DEPTH INTERVIEW GUIDE

1. In what ways has the dwindling numbers of candidates taking technical subjects affected your operations with regard to

   (a) Costs_____

   _____

   _____

   (b) Examination Processes

   _____

   _____

   _____

   (c) Efficiency_____

   _____

   _____

2. Is there any policy at MANEB that looks at the promotion of subjects, whose enrolment numbers keep on dwindling like that of technical subjects?

_____

_____

_____

_____

3. What policy co-ordination is there between Ministry of Education (MoE) and Malawi National Examinations Board (MANEB) with regards to promotion of technical education in secondary schools in Malawi?

_____

_____

_____

4. What future policy frameworks have been put in place for the dwindling numbers of minor subjects such as technical subjects.

_____

_____

_____

5 Would MANEB still be willing to continue to put up examination papers for technical subjects even if candidature continues to dwindle further? If yes why?

_____

_____

_____

_____

_____

6. According to Policy and Investment Framework-PIF (2001) there is a strategic policy that states to the effect that MANEB shall explore innovative and cost-effective ways

of administering examinations. In what ways would MANEB explore cost-effective means in relation to technical subjects?

Appendix G

MINISTRY OF EDUCATION (MoE) HEADQUARTERS

IN-DEPTH INTERVIEW GUIDE

1. What were the original objectives for setting up technical education curriculum in secondary school in Malawi?

_____

_____

_____

_____

_____

2. What is the policy of technical education in secondary schools in Malawi?

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

3. The current PIF (2001) indicate that the policy for technical and vocational was removed

   (a) Why did this happen?

   _____

   _____

   _____

   (b) What were the expectations for this action?

   _____

   _____

   _____

   _____

   (c) Who is in control of technical education in secondary schools in Malawi?

   _____

   _____

   _____

4. The current enrolment trend indicates that the numbers of candidates taking technical subjects are dwindling.

   (a) Are you aware of this development?

   _____

   _____

   _____

(b) What factors have contributed to this development?

_____

_____

_____

_____

_____

_____

(c) What has the Ministry of Education done about this problem?

_____

_____

_____

(d) What challenges has the Ministry met in trying to address the problem?

_____

_____

_____

5. It is attributed that the major problem of technical education in secondary schools is lack or shortage of teachers and teaching resources.

(a) How were technical subjects funded initially?

_____

_____

_____

(b) What future alternatives were put in place for their sustenance?

_____

_____

_____

(c) What is the current policy with regards funding of technical subjects?

_____

_____

_____

(d) What is the relationship between Ministry of Education and the University of Malawi-The Polytechnic on the lack of technical teachers in secondary schools?

_____

_____

_____

_____

6. (a) What is the deployment policy of teachers in secondary schools?

_____

_____

_____

_____

_____

_____

_____

(a) There are technical teachers deployed to secondary schools that do not offer technical subjects. Why does this happen?

_____

_____

_____

(b) Are technical subjects still relevant today? Why?

_____

_____

_____

_____

_____

_____

7. During the early years of technical education between 1970-80's there was a specific position at the Headquarters to oversee the activities of technical education at secondary schools.

(a) What necessitated the removal of the positions?

_____

_____

8. What do you think are the reasons behind the poor representation of technical education at Headquarters and at other levels such as Divisions and schools?

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

9 The Malawi Institute of Education (MIE) was established with an aim of developing instructional materials and carrying curricula reviews of both primary and secondary school education. To this effect MIE has subject specialists to carry out such tasks as may be required from time to time. However, technical education has never been represented at MIE for such tasks.

(a) Why has technical education been sidelined in this venture?

_____

_____

_____

(b) Are there any plans to incorporate technical education in the activities of MIE with an aim of improving the current status of technical education at secondary schools?

_____

_____

_____

10 What strategies has the Ministry of Education put in place to improve technical education in secondary schools in Malawi?

_____

_____

_____

11. What are your last comments on the issues of technical education in Malawi?

_____

_____

_____

_____

_____

_____

Appendix H

SOUTH EAST EDUCATION DIVISION

IN-DEPTH INTERVIEW GUIDE

DIVISION MANAGERS AND SEMA OFFICERS

1. Technical subjects' enrolment is dwindling in secondary schools.

   (a) What are the causes for this development?

   _____

   _____

   _____

   (b) What is the Division doing about this?

   _____

   _____

   _____

   _____

   (c) Where do you place technical education in the Malawi Education system? Is it still relevant in the current era

2. Does the Division have any special policy for technical subjects?

   _____

   _____

   _____

3. According to Revised Policy and Investment Framework-PIF (2001) the policy on

Technical education in secondary schools was removed.

(a) What factors necessitated this development?

_____

_____

_____

(b) Who is in control of technical education in secondary schools in Malawi?

_____

_____

_____

_____

(c) In what way has the removal of Technical education policy from PIF (2001) improved or affected technical subjects in secondary schools in Malawi?

_____

_____

_____

_____

_____

4. What is your deployment of teachers policy in secondary schools?

_____

_____

_____

_____

5. Currently, there are technical teachers deployed to secondary schools, which do not have technical subjects and yet some secondary schools with technical subjects do not have technical teachers. Why does this happen?

_____

_____

_____

_____

6. What policies are there, if any, that promote the growth and sustenance of dwindling subjects like technical subjects in secondary school in this Division?

_____

_____

_____

_____

_____

_____

7. What financial considerations does this division put in place for secondary schools with technical subjects during financial allocation to various secondary schools?

_____

_____

_____

_____

_____

8. What is the position of this division on the current status of technical education in secondary schools in Malawi?

_____

_____

_____

_____

9. What suggestions would you put forward to help improve the current status of technical subjects in secondary schools?

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

Appendix I

SCHOOLS

NAME OF SCHOOL_____

YEAR_____

PART A: ENROLLMENTS OF STUDENTS IN TECHNICAL SUBJECTS

SUBJECT	FORM			
	1	2	3	4
Woodwork				
Metalwork				
G and O				

PART B: CONDITION OF MACHINES, EQUIPMENT, TOOLS AND MATERIAL AVAILABILIT

SUBJECT	CONDITION																																				
	Metal & wood Lathes			Shapers				Drill. Machines				Grinders				Circular saw				Band saw				General Tools				Books				tb				mt				dp.			
Woodwork	g	s	p	*	g	s	p	g	s			g	s	p		g	s	p		g	s	p		g	s	p		g	s	p		g	s	p		*				*			
Metalwork	g	s	p		p	g	s	p		g	s	p			*					*				g	s	p		g	s	p		*				g	s	p		*			
G and O	*				*				*				*				*				*				g	s	p		g	s	p		*				*				g	s	p

KEY:

g = Good

s = Satisfactory

p = Poor

tb = Timber

mt = Metals

dp = Drawing paper

* = Not applicable

STUDENTS

PART C: FOCUSS GROUP DISCUSSIONS GUIDE

1. How are you allocated to the subjects you take?

_____

_____

_____

2. Are you given a chance to choose technical subjects?

_____

_____

_____

3. At what level are you given the liberty to choose the subjects you want?

_____

_____

_____

4. How do you view the importance of technical subjects for your future?

(a) If relevant, how?

_____

_____

_____

_____

_____

(b) If not, why?

_____

_____

_____

5. What do you think may be the reasons for very few candidates taking technical subjects?

_____

_____

_____

6. How do you view technical subjects in comparison to other subjects

(a) an interesting subject

_____

_____

(b) too difficult

_____

_____

(c) too demanding

_____

_____

_____

_____

_____

7. What suggestions would you wish to improve in the teaching of technical subjects?

TEACHERS

PART D IN-DEPTH INTERVIEW GUIDE

1. Number of teachers teaching technical subjects

_____

2 Do you teach other subjects apart from technical subjects? Yes/No

If yes what subjects? _____

Why?_____

_____

_____

_____

3 What do you think are the major challenges, if any, of teaching technical subjects in relation to the following:

(a) Resource availability

_____

_____

_____

_____

(b) Students' attitudes towards technical subjects

(c) Administrative attitudes and support

(d) Condition of equipment and machines

HEAD TEACHER

PART E IN-DEPTH INTERVIEW GUIDE

1. What are the reasons or factors for the dwindling numbers of candidates in technical subjects?

   _____

   _____

2. How do students value technical subjects?

   _____

   _____

   _____

3. What factors do you consider when distributing financial allocation to various departments in your school?

   _____

   _____

   _____

   _____

4 How much support from division and MoE do you get in promoting technical subjects at your school?

   _____

   _____

   _____

   _____

5 Is there special financial allocation from Ministry of Education (MoE) or Division for technical subjects?

_____

_____

_____

6 How do you, as an individual and Head teacher, value technical subjects? Do you think technical subjects are still relevant today?

_____

_____

_____

7 What suggestions would you give that would promote resumption, growth and increased enrolments of technical subjects in secondary schools in Malawi?

_____

_____

_____

_____

_____

_____

_____

_____

_____