# VOCATIONAL AND TECHNICAL EDUCATION AND TRAINING IN KENYA:

## CASE STUDIES OF TWO EXEMPLARY

YOUTH POLYTECHNICS

By

John Humphreys Gilbert Wanyonyi Simiyu

A Thesis Submitted to the Faculty of Graduate Studies and Research in partial fulfillment of the requirements for the degree of Master of Arts (M.A) in the Department of Administration and Policy Studies in Education

> McGill University Montreal, Quebec, Canada June 1990

C John H.G.W. Simiyu June 1990

#### ABSTRACT

Since 1963, Kenya has undergone extensive upgrading of its educational system. New institutions like the "youth polytechnic" have been created to serve post-elementary school people in need of employment skills. In this study, the case method was used to investigate two, one rural and one urban, reputedly exemplary polytechnics. In particular, this study sought the organizational factors associated with the two exemplary institutions.

Data were collected using observation, interviews, questionnaires, and salient documents.

A number of factors associated with exemplary youth polytechnics were uncovered. The Polytechnics developed training that was suited to the respective areas and to employment. Dedicated principals created an environment conducive to training such as discipline, duty delegations, and a communication network. Committed staff used innovative means of instruction, and a close link to the world of work was adopted. Trainees valued their studies. Management committees had a clear vision of the polytechnics' direction, and they had community support.

1.4

i

#### RÉSUMÉ

Depuis 1963 le Kenya a entrepris de reformer son système éducatif. De nouvelles institutions telle les "polytechniques de la jeunesse" ont été créés pour venir en aide à la population post primaire, pour avoir accés à des emplois qualifiés. Dans cette recherche, la méthode étude de cas a été utilisé, afin d'évaluer deux de ces polytechniques; l'une rurale l'autre urbaine. Tout deux étant considérés comme exemplaire. Cette étude cherchant surtout à déterminer les facteurs d'organisation responsables du succés de ces institutions.

L'information nécessaire à cette étude a été recueilli au moyen de questionnaires, d'interviews, d'observations et de documents pertinents.

Des facteurs se sont avérés étroitement liés à la réussite des polytechniques de la jeunesse. Ces établissements ont développé des scéances de foimations, tout à fait adéquate avec le milieu, et les emplois. L'enthousiasme des administrateurs ont réussi à créer un environement propice à l'apprentissage en renforçant la discipline, en délégant des responsabilités, et en développant un réseau de communication. Un personnel motivé, utilisant de mouvelles méthodes d'enseignements ont par la suite créé un lien étroit avec le monde du travail. Les stagiaires étaient conscients de la valeur de leur formation. Les comités de dire^teurs et de gestions avaient une bonne vision des objectifs des polytechniques et avaient le soutient de la communauté.

ii

#### ACKNOWLEDGEMENTS

The author wishes to express his sincere appreciation to all who assisted, either directly or indirectly, in the completion of this study. He desires particularly to express his deepest appreciation to his advisor, Dr. Geoffrey Isherwood, for his guidance through this endeavor. He was readily available for assistance.

Gratitude is expressed to the principals, instructors, trainees, and parents of both Urukan and Oitogom (pseudonyms) youth polytechnics who allowed the author to share their thoughts, feelings, and experiences which made this study possible.

A large measure of credit is due the author's family for their understanding, encouragement, and patience during his studies away from home.

# TABLE OF CONTENTS

Abstract
Resume
Acknowledgements
Table of contents in
List of Tables
List of Figures
CHAPTER ONE
1.0 STATEMENT OF THE PROBLEM
1.1 Introduction
1.2 Purpose of the study
1.3 Significance of the study
1.4 Definition of key terms and concepts used in the study
1.5 Limitations of the study
CHAPTER TWO
2.0 REVIEW OF RELATED LITERATURE
2.1 Introduction
2.2 An overview of the Kenyan Educational System after Independence
System
Education and Training System
2.3 The Establishment of Youth Polytechnics in Kenya and Examples of other similar programs in
Airica
2.4 A Review of Previous Studies and Findings on Youth Polytechnics in Kenya

-

2.5 Issues arising from Youth Polytechnic Training .	35
2.6 Research Questions	35
CHAPTER THREE	37
3.0 METHODOLOGY	37
3.1 Introduction	37
3.2 Sample	37
3.3 Instruments	41 41 42 44
3.4 Urukan Youth Polytechnic	45
3.5 Oitogom Youth polytechnic	47
CHAPTER FOUR	50
4.0 DATA ANALYSIS AND FINDINGS FOR URUKAN YOUTH (PSEUDONYM) POLYTECHNIC	50
4.1 Introduction	50
4.2 Courses of Study	50
4.3 Relevance of the Courses of Study to Rural and Urban Areas and to Employment	57
4.4 Quality of the training with respect to staff, tools, equipment, and materials	59
4.5 Management	65
4.6 Achievement of Objectives	70
CHAPTER FIVE	74
5.0 DATA ANALYSIS AND FINDINGS FOR OITOGOM (PSEUDONYM) YOUTH POLYTECHNIC	74
5.1 Introduction	74
5.2 Courses of Study	74
5.3 Relevance of the Courses of Study to Rural and Urban Areas and to Employment	79

# Page

5.4	Quality of the training with respect to staff, tools, equipment, and materials	81
5.5	Management	86
5.6	Achievement of Objectives	88
CHAP	TER SIX	93
6.0	SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS	93
6.1	Introduction	93
6.2 6.	Summary of the Findings	95 95
6.	and Urban areas and to Employment 9 2.3 Quality of the training with respect to	97
	staff, tools, equipment, and materials 10	00
6. 6.	2.4 Management	01
	polytechnics	02
6.3	Conclusions	03
6.	preparation for work	03
6	Employment Problem	04
•••	exemplary	06
6.	3.4 Recommendations for practice 11	12
6.	3.5 Recommendations for research 12	14
7.0	BIBLIOGRAPHY	15
LIST	OF APPENDICES	
A - 1	Research Permit for the study by the Office of the President 12	22
<b>B</b> - 1	Research Authorization Letter for the study by the Provincial Youth Officer, Rift Valley	•••
		63
<b>D</b> – 1	Principals Interview Protocol 12	24
<b>E -</b> 3	Principals Questionnaire	29
F - 1	Instructors Interview Protocol 13	34
G - 3	Instructors Questionnaire 13	37

1

Į.

÷,

'ŧ

ļ

1

ſ

And a second

Pag	je
-----	----

H - Trainee Interview Protocol	141
J - Management Committee Members Interview Protocol .	144
K - Education and Training Program Linkages	145
L - Structure of the Youth Polytechnic Program	146
M - Appeal by the Minister of Technical Training and Applied Technology for Financial Credit Scheme for Artisans	147
N - Appeal by the Minister of Technical Training and Applied Technology for more youth polytechnics to be established in Kenya	148
P - Picture showing youth polytechnics receiving grants from the Government of the Republic of Kenya	149
Q - Growth of enrollments in technical institutions at secondary and college levels	150
LIST OF TABLES	
TABLE 2.1 - Growth of schools, pupils, and teachers from 1963-1986 in primary education	13
TABLE 2.2 - Growth of schools, pupils and teachers from 1963-1986 in secondary education .	14
TABLE 2.3 - Primary education curriculum	19
TABLE 2.4 - Student graduates at Kenya Technical Teachers College from its inception in 1979 to July, 1989	26
TABLE 3.1 - Number of people interviewed	43
TABLE 3.2 - Data collection methods	45
TABLE 4.1 - Courses and number of trainees per course at Urukan youth polytechnic in 1989/90 .	51
TABLE 4.2 - Courses offered and number of instructorsper course at Urukan youth polytechnicin 1989/90	60
TABLE 4.3 - Observed youth polytechnic practices of the principal of Urukan youth polytechnic	62

2**~**---

# Page

And a set of the set o

1 AN - ----

- des

TABLE 5.1 - Courses and number of trainees per course at Oitogom youth polytechnic in 1989/90	75
TABLE 5.2 - Courses offered and Humber of instructorsper course at Oitogom youth polytechnicin 1989/90	82
TABLE 5.3 - Summary of Urukan and Oitogom polytechnicssimilarities and differences	91
TABLE 6.1 - Summary of factors that contributed toexemplary standards of the polytechnics	107
LIST OF FIGURES	
FIGURE 2.1 - Graph illustrating real and projected trend of primary enrollments from 1963-1993	16
FIGURE 2.2 - Vocational and technical education and training continua	23
FIGURE 3.1 - Map of Kenya showing the study areas	38
FIGURE 4.1 - Picture illustrating trainees in the tailoring/dressmaking laboratory in Urukan youth polytechnic	53
FIGURE 4.2 - Picture illustrating metal work trainees at work in the laboratory in Urukan youth polytechnic	54
FIGURE 4.3 - Picture illustrating carpentry and joinery class at work in the laboratory in Urukan youth polytechnic	55
FIGURE 5.1 - Picture illustrating trainees in an agricultural farm in Oitogom youth polytechnic	76
FIGURE 5.2 - Picture illustrating trainees in a dress making laboratory in Oitogom youth polytechnic	77
FIGURE 5.3 - Picture illustrating trainees in a weaving (dress making) class in Oitogom youth polytechnic	77

ſ

(

(

#### CHAPTER ONE

#### 1.0 STATEMENT OF THE PROBLEM

#### 1.1 Introduction

In Kenya, as in most African countries, there has been a growing concern to diversify school curriculum (Chapman and Windham, 1985; Thompson, 1981; Osunde, 1988, p. 36; Bogonko, 1986; Lillis and Hogman, 1983; Lauglo and Lillis, 1988; Kerre, 1987, p. 1; Republic of Kenya, 1961; Republic of Kenya, 1988). The reasons most often cited for justifying the adoption of a diversified curriculum include: to generate vocational interest; to improve the negative attitude of young people toward manual work or rural livelihood (Heyneman, 1985, p. 284); to create a better match between school and the world of work (Psacharopoulos, 1985, p. 507); to reduce the urban drift; and, to integrate schools with their communities (Saunders and Vulliamy, 1983, p. 352).

Programs such as national scouting movements, volunteer schemes, brigades, and youth service have been used to "cool down" the aspirations for formal schooling and remove youth from the labour market (Paulston, 1973; Coombs, 1968; Blaug, 1972; Blaug, 1974; Joyner, 1987; Sheffield and Diejomaoh, 1972, p. 65). Nonformal education programs have not been a supplement to formal education but vital contributors to national development in their own right (Nyerere, 1967; Coombs and Ahmed, 1974; Akwenye, 1975; Fuller, 1985; Foster, 1968, p. 416).

After independence in 1963, the major question which faced Kenva's educational system was whether to continue with the aims of colonial education which would likely perpetuate Kenya's dependence on Britain or to devise new aims and priorities to suit a new country (Bogonko, 1986). The two Kenva Education Commission Reports principally known as the Ominde Report in 1964-1965, and the Gachathi Report in 1976, were responsible for surveying the existing educational resources and advising the government in the formulation and implementation of national policies for education (Republic of Kenya, 1964-1965; Republic of Kenya, 1976). Issues such as advocacy for Universal Primary Education were addressed. As time progressed, the increased number of primary school graduates led to an unemployment problem.

Government and church organizations responded to the unemployment crisis by establishing nonformal education and training institutions with a strong vocational bias (Sifuna, 1984; Coombs and Ahmed, 1974; Sheffield, 1973; ICED, 1974). Consequently, the first two decades after independence witnessed the establishment of many multi-skill training institutions including national youth service and youth polytechnics (formerly village polytechnics) (Merrifield, 1986; Godfrey, 1973; Sifuna; 1984; Republic of Kenya, 1987; UNESCO, 1968). The multi-skill training institutions tried to combat student temptations to seek work in the already

Ţ

scarce wage employment sector in the urban areas.

Other similar multi-skill training institutions for the youth that were established included: Christian training Vocational and centres centres, craft training which comprised Young men's/women's Christian associations, and rural training centres (Sifuna, 1984). The multi-skill training institutions were to absorb and train primary school graduates in various vocational skills. The skills would enable the youth to participate fully in the development of their rural areas; that is, to reduce rural-urban migration, and to increase their employment potential (Lauglo and Narman, 1988).

The present study singled out one type of multi-skill training institution, namely, the youth polytechnic, for investigation. In addition, it seemed important to study exemplary youth polytechnics - those institutions that were particularly successful in working with youngsters.

A youth polytechnic was deemed to be exemplary if it:

- a) Produced graduates for self or salaried-employment as well as contributed towards community development.
- b) Had a good reputation within the community.
- c) Offered a wide range of courses with a relative low drop-out rate.
- d) Had qualified staff.
- e) Had a good stock of tools, equipment, and materials.
- f) Ranked high in student performance on national tests.The first criterion, producing graduates for self or

salaried-employment, seemed most important, while the other criteria played a secondary role in selection.

Maundu (1986) in his study of three types of school in less adequate physical resources Kenya indicated that (including tools, equipment and materials) rendered student preparation for national examinations difficult. Resources seemed to play an important role in explaining the wide variations in academic performance among the students. As well, factors including teaching-learning facilities and qualifications and professional of academic teachers correlated highly with scholastic success. However, Maundu argued that more research was required to explicitly detail the way in which facilities affected academic excellence.

Prior to the Coleman Report (1966) in the United States, it was widely believed that the availability of physical resources greatly influenced student achievement. Coleman (1966) found no evidence of direct effects of physical resources on learning in schools. As well, Rutter (1979), in a study of secondary schools in England, found no relationship between resources and student success. In Kenya, however, in a youth polytechnic devoted to training students for vocations, physical resources seemed an important part of the institution.

1.2 Purpose of the Study

The lack of sufficient, up-to-date research on

vocational and technical education and training in Kenya prompted the present study. The purpose of the study was to investigate the factors that contributed to making a youth polytechnic exemplary in Kenya. Two case studies of youth polytechnics, one urban and one rural were undertaken. There was a general notion in Kenya that youth polytechnics should be located in rural areas. Hence, the study was to explore the benefits that might accrue from a youth polytechnic in an urban location.

There were five major aspects which were found to be useful in earlier studies of youth polytechnics in Kenya (Court, 1972; Sheffield and Diejomaoh, 1972; Orwa, 1982; Yambo, 1986; Ndua 1988). The five aspects were deemed to be important and relevant to the present study as well, and were, therefore, to be examined.

It must be noted that there are many complexities inherent in schooling (Logie, 1985, p. 103). The aspects to be examined should provide detailed insight into youth polytechnic operation. The five aspects which formed the focus of the study during data collection were:

- 1) Courses of Study
- Relevance of courses of study to rural/urban needs and employment
- Quality of training with respect to staff, tools, equipment, and materials
- 4) Management of the polytechnics

#### 5) Achievement of the training objectives

#### 1.3 Significance of the Study

The present study should help decipher how the exemplary youth polytechnics in Kenya manage and organize themselves by utilizing the available local resources including tools, equipment, materials, staff, and financial undertakings. The study would also help educators understand how exemplary youth polytechnics best function in their endeavor to impart workable vocational skills and attitudes to graduates.

Case studies of exemplary youth polytechnics in Kenya had not been undertaken before. The findings of the present study would therefore, add empirical data to what successful youth polytechnics do. While findings could not necessarily be generalized to other youth polytechnics, they would enable educators to develop possible solutions to questions which were previously unanswered, hence, adding to and advancing knowledge.

1.4 Definition of Key Terms and Concepts used in the Study

Nonformal education is a broad term covering a diversity of programs that are not provided in the formal school system, where the formal school system includes primary and secondary schools, teacher training colleges, universities, and government operated technical and agricultural institutions. Nonformal education is closer to the concept of "training" for employment than the concept of "education" which often includes broader aspects of personal development. Nonformal education serves several needs:

- 1) As an alternative for those who lack the opportunity to acquire formal schooling
- 2) As an extension of formal schooling for those who need additional training to get into productive employment (or become sel.-employed)
- 3) As a means of up-grading the skills of those already employed
- 4) As a means of exposure to the world of work
- Youth polytechnics (formerly village polytechnics) are low cost community-based post-primary training institutions. They were established by the government of Kenya in 1966 to help alleviate unemployment problems among primary school graduates by imparting vocational and technical skills and attitudes in various trades. Normally, the institutions are initiated by the local communities followed by a take-over by the government.
- <u>National youth service institutions</u> were established by the government after 1963. They serve to expose individuals (mainly elementary and secondary school graduates) to

the world of work as well as to develop appropriate skills, attitudes and initiatives applicable to various trades, vocations and professions. Many projects, including the building of roads and dams, are accomplished by the scheme.

- Harambee is a Swahili term used as a slogan for "pulling together". It is used to refer to a spirit of self-help in performing community based development projects such as raising funds towards building schools, hospitals, and others.
- <u>Urba.1 area</u> is a center with a population of 2,000 or more, as adopted from the definition used by the government of Kenya (Republic of Kenya, 1984-88, p. 176).
- <u>Rural area</u> constitutes an area which is chiefly residential with somewhat sparse population, but where some farming is carried on.

#### 1.5 Limitations of the Study

The researcher collected data for the study over a period of three months, from May through July 1989. Due to the case study method of research and its prescribed

9

parameters, the findings were mainly limited to the two youth polytechnics in question, and they were not necessarily generalizable to other similar institutions in Kenya.

45

#### CHAPTER TWO

#### 2.0 REVIEW OF RELATED LITERATURE AND RESEARCH

#### 2.1 Introduction

The purpose of the present study was to investigate the factors that contributed to making a youth polytechnic exemplary in Kenya. The present chapter reviews related literature and research. The chapter is divided into the following parts:

- An overview of the Kenyan educational system after independence in 1963 with regard to the primary school education and the vocational and technical education and training systems
- The establishment of youth polytechnics in Kenya and examples of similar youth programs in Africa
- A review of previous studies and findings on youth polytechnics in Kenya
- 4) Issues arising from youth polytechnic training
- 5) Research questions

#### 2.2 An Overview of the Kenyan Educational System after Independence

Kenya sought ways to change the inherited educational system on achieving independence. The aim was to make the educational system more supportive and responsive to the newly developed national goals (Merrifield, 1986, p. 66; Sifuna, 1984; Republic of Kenya, 1980, p. 5). According to Coombs (1970, p. 4), educational planning involves "the application of rational systematic analysis to the process of educational development with the aim of making education more effective and efficient in responding to the needs and goals of its students and society." Moreover, Coombs (1971, p. 256) contends that as far as possible, educational planning should try to view the educational system as a whole, from bottom to top, and laterally as well, to include those important training and educational activities which go on outside the formal educational structure. "The technics of planning employed, and the targets and means adopted, must be fitted to the conditions which prevail" (p. 265). This is what Kenya set out to do in the post independence period.

years following independence, two Τn the major commissions (the Ominde Commission in 1964-65 and the Gachathi Commission in 1976) were appointed to review the educational system (Republic of Kenya, 1964-65; Republic of Kenya, 1976) and to plan for its future. The major impact of the 1964-65 commission on Kenya's educational system was the expansion of schooling. The provision of Universal Primary Education was realized as a result of the Ominde The 1976 Commission addressed unemployment among Commission. product of formal education at all levels of education. Manpower requirement issues were also addressed. One major

program of action formulated by the 1976 Commission was to further develop vocational and technical education and training (Merrifield, 1986; Republic of Kenya, 1976).

Table 2.1 illustrates the increased number of schools, pupils, and teachers in primary educatior in the 23 year period from independence in 1963 to 1986. In the 23 years of independence, primary school enrollment expanded greatly from 891,553 students in 1963 to about 4.8 million in 1986 (Republic of Kenya, 1984-88, pp. 138-150). An increase of 443.3% was realized in this period. The number of primary schools increased from 6,058 to 13,392 during the same period. An increase of 121.1% from 1963-1986 was realized. The number of trained primary school teachers increased from 17,682 in 1963 to 99,680 in 1986, an increase of 463.7%. Untrained primary school teachers increased from 5,045 in 1963 to 43,127 in 1986, an increase of 754.9%. The total number of primary teachers increased from 22,727 in 1963 to 142,807 in 1986, an increase of 528.4%.

Secondary education also showed an impressive expansion (as illustrated in Table 2.2) from 30,121 pupils in 1963 to 458,712 in 1986, an increase of 1,422%. Secondary schools increased from 151 in 1963 to 2,485 in 1986, an increase of 1,545.7%. Trained secondary school teachers increased from 1,098 in 1963 to 13,263 in 1986, an increase of 1,107.9%. Untrained secondary teachers increased from 504 in 1963 to 9,033 in 1986, an increase of 1,692.3%.

1

#### TABLE 2.1

PRIMARY EDUCATION: GROWTH OF SCHOOLS, ENROLLMENTS, AND TEACHERS, 1963-1986

VEND	SCHOOLS	PUPTLS	S TEACHERS		
	0010010	101100	TRAINED	UNTRAINED	TOTAL
				_ ~ * _ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~	
1963	6,058	891,553	17,682	5,045	22,727
1964	5,150	1,014,719	19,179	8,649	27,828
1965	5,078	1,020,889	20,112	10,480	30,592
1966	5,699	1,043,416	23,305	10,217	33,522
1967	5,939	1,133,179	25,050	10,622	35,672
1968	6,135	1,209,680	27,485	10,438	37,923
1969	6,111	1,282,297	30,001	8,311	38,312
1970	6,123	1,427,589	32,929	8,550	41,479
1971	6,372	1,525,498	37,617	11,779	49,396
1972	6,657	1,675,919	41,599	11,937	53,536
1973	6,932	1,816,017	43,990	12,553	56,543
1974	7,668	2,705,878	52,132	26,208	78,340
1975	8,161	2,881,155	54,823	31,284	86,107
1976	8,544	2,894,617	56,154	32,929	88,083
1977	8,896	2,974,349	59,640	30,124	89,764
1978	9,243	2,994,892	63,912	28,134	92,046
1979	9,622	3,698,196	68,361	29,401	97,762
1980	10,268	3,926,629	72,029	30,460	102,489
1981	11,127	3,980,763	76,499	34,412	110,921
1982	11,497	4,184,602	80,664	34,430	115,094
1983	11,856	4,323,921	84,036	35,673	119,709
1984	12,539	4,380,232	86,135	36,641	122,776
1985	12,936	4,702,414	96,586	41,799	138,385
1986	13,392	4,843,423	99,680	43,127	142,807

Number of schools dropped in 1964 due to the amalgamation of primary and intermediate schools. Source: Ministry of Education, Kenya.

.

## TABLE 2.2

## SECONDARY EDUCATION: GROWTH OF SCHOOLS, ENROLLMENTS, AND TEACHERS, 1963-1986

YEAR	SCHOOLS	ENROLLMENT	TRAINED	TEACHERS UNTRAINED	TOTAL
1963	151	30,121	1,098	504	1,602
1964	336	35,921	1,490	510	2,000
1965	386	47,976	1,866	628	2,494
1966	400	63,193	2,160	844	3,004
1967	542	88,779	2,470	1,583	4,053
1968	601	101,361	2,742	1,902	4,644
1969	694	115,246	3,721	1,996	5,267
1970	783	126,855	3,681	2,200	5,881
1971	809	140,722	3,907	2,464	6,371
1972	949	162,910	4,469	2,637	7,106
1973	964	174,767	4,750	2,638	7,388
1974	1,019	195,832	4,816	2,753	7,569
1975	1,160	226,835	5,558	3,631	9,189
1976	1,268	280,388	6,460	4,978	11,438
1977	1,473	320,310	6,714	5,967	12,681
1978	1,721	361,622	7,728	6,938	14,666
1979	1,773	384,389	7,908	7,396	15,404
1980	1,785	399,389	7,554	8,090	15,644
1981	1,904	409,850	7,902	9,175	17,077
1982	2,131	438,344	8,277	9,571	17,848
1983	2,230	493,710	8,797	10,163	18,960
1984	2,396	510,943	10,720	8,648	19,368
1985	2,413	401,978	12,552	9,160	21,712
1986	2,485	458,712	13,263	9,033	22,296

Source: Ministry of Education, Kenya.

1

1

. . . . .

1 I The total number of secondary school teachers increased from 1,602 in 1963 to 22,296, an increase of 1,291.8%.

Figure 2.1 illustrates the real and projected trend from 1963-1993 for primary enrollments. The enrollments in the primary schools might be used to predict those in the youth polytechnics and secondary schools as well.

In summary, the Kenyan primary and secondary education systems exhibited steady continued growth after independence in 1963.

The enormous increase in the school enrollments contributed to a large number of children being forced out of the school system each year mainly because of lack of sufficient places and facilities, especially at the primary school level (Indire, 1982; Brownstein, 1972). As well, many graduates were not absorbed into the employment sector, and the general concern at the time was that they had no workable skills (Shiundu, 1986; Anderson, 1968; NCCK, 1966). It was clear that the increased number of primary school graduates along with a number of drop-outs was a main cause of unemployment of the youth in Kenya. The education system had progressed faster than the labour market.

Attempts to alleviate the problems of unemployment among youth, particularly the primary school graduates, were directed toward the establishment of nonformal vocational education and training institutions such as youth polytechnics and the national youth service (Sifuna, 1984; Anderson, 1970; Merrifield, 1986). These programs were to

# Figure 2.1 PRIMARY ENROLLMENT Real and Projected: 1963-1993



• • • Real ---- Projected

C<sup>°</sup>

)

absorb youth for a few years and give them marketable skills (Hoppers, 1985). Formal institutions such as secondary technical schools (now technical training institutes), industrial secondary schools, and "Harambee" institutes of technology were also introduced to provide vocational and technical skills, but for secondary school graduates.

# 2.2.1 An Overview of the Primary School Educational System in Kenya

Primary education was recognized by the government as the minimum basic education which should be provided to all Kenyans. Before children entered primary schools, they were required to have gone through pre-primary education which was the preparatory teaching and learning currently given to children aged between 3-5 years, that is, children who had developed both receptive and expressive language with the capacity to learn and socialize.

Admission to standard one, that is, the beginning class of primary education, was mainly for children who had reached the minimum age of six. Primary education was the stage in which children acquired basic skills, attitudes, and values for life. It also formed the basis for further education, training, and employment. Consequently, the primary school system was important in the present study because it prepared children who entered youth polytechnic training, and it was the main pool or source from which youth polytechnics recruited their individuals for training. Hence, an overview of the primary system provided a picture of the type of individuals the youth polytechnics trained.

In its manifesto at independence in 1963 the ruling party, the Kenya African National Union (KANU), made a declaration that the government would provide Universal Primary Education of eight years duration (Republic of Kenya, 1964-65; Republic of Kenya, 1988, p. 15).

The new system of education commonly known as 8-4-4 was established in 1985. It was based on eight years of primary education, four years of secondary education, and four years of minimum university education.

Since 1985, primary schools were established and managed by local communities and parents through their management committees. The role of parents in the development of primary schools expanded with the formation of Parents Associations for each primary school.

Recently, the government noted the wastage arising from large numbers of forced dropouts and repeaters resulting from lack of sufficient places and facilities within the school system (Republic of Kenya, 1988, p. 12).

Curriculum. The national curriculum for the 8-year primary education was vocationally oriented and practical in its approach. This was in order to develop skills for selfreliance, self-employment, and to prepare children for further education, training or employment (Lauglo and Narman, 1988, p. 235; Bacchus, 1988). (See also Appendix K). Table 2.3 illustrates the primary education curriculum. Vocational

ţ

#### TABLE 2.3

#### SUBJECT LOWER PRIMARY UPPER PRIMARY (STANDARDS 1-3) (STANDARDS 4-8) PERIODS/WEEK PERIODS/WEEK 1. English52. Kiswahili53. Mathematics5 7 4 3. Mathematics 6 4. Science 3 3 5. Agriculture (V) -3 6. Art (V) 7. Craft (V) -3 4 8. Home Science (V) 4 2 9. Music (V) 2 10. Geography) History ) & Civics ) 2 11. Religious Education 4 12. Pastoral Program 1 4 3 12. Pastoral Program113. Physical Education5 1 3 14. Business Education (V) -3 15. Art & Craft (V)316. Mother Tongue5Total40 --50

#### PRIMARY EDUCATION: CURRICULUM

V - Vocational

Each lesson in the Lower Primary is of 30 minutes duration. Each lesson in the Upper Primary is of 35 minutes duration. Source: Ministry of Education, Kenya.

. .

subjects included agriculture, business education, home science, art, craft, and music. The rest of the subjects were academic. It is important to note that vocational subjects were non-existent before the 8-4-4 system of education became operational in 1985. Since 1985, in the upper standards, 19 of 50 periods per week (38%) of the curriculum was classified as vocational.

In art, children learned sketching, drawing, and painting simple objects. In crafts, pupils were involved with artistic skills in making simple objects including wood work and stone carving. Pupils in the upper primary classes learned agriculture and business education, but they had an option to choose an additional vocational subject from home science, art, craft or music based on their interest and aptitude.

It was the government policy to provide an adequate number of qualified primary school teachers, and to ensure adequate facilities as a means of maintaining quality, relevance, and high standards of primary education (Republic of Kenya, 1986 p. 3; Republic of Kenya, 1988, p. 13).

### 2.2.2 An Overview of the Vocational and Technical Education and Training System in Kenya

It is important to note that vocationalization of the education curriculum in Kenya meant that children should be exposed to various skills and attitudes in a vocation that could lead to further training. Hence, as they progressed

they encountered opportunities including artisan training, secondary education, or other types of technical training programs available in the system (Republic of Kenya, 1989; Republic of Kenya, 1986, pp. i-iv). See also, Appendix K. Vocational training was also a way of developing attitudes for self-reliance as well as imparting workable skills (Bacchus, 1988, pp. 31-44).

"Vocational education" is a broad term that is not necessarily universally understood (Bacchus, 1988, p. 31). Swanson (1982) contended that there was a dilemma in defining the term:

It seems incredulous that the search for a definition of vocational education is still underway and there is such a diversity of perception about what it is or should be (p. 36).

UNESCO (1984) defined vocational and technical education as:

...a comprehensive term referring to educational processes when it involves, in addition to general education, the study of technologies and related sciences, and the acquisition of practical skills and knowledge relating to occupations in various sectors of economic and social life (p. 23).

In the present study, the concept "vocational education" implied the preparation of an individual for an occupation or a career. This involved both liberal and technical aspects of education. Liberal aspects included the philosophical, moral, and cultural elements that an individual must have to fit in a given society. Technical aspects included the knowledge and skills required to successfully perform a job.

Two separate continua, illustrated in Figure 2.2, would help one understand the versatility and pervasiveness in defining vocational and technical education and training. The continua also help differentiate between education, which has a theoretical emphasis, and training, which has a practical emphasis.

It can be seen that in the formal school system, vocational and technical education is taught with practical emphasis at the higher level of school, whereas, in the vocational and technical training programs, practical aspects are emphasized at the lower level in the programs. TO achieve vocationalization at all levels of education and training and to fully realize the use of skills and selfthe government Kenya reliance, of strengthened the development of indigenous technology and small scale industries. As well, the government's aim was to support those in the informal sector of the economy, and to promote self-reliance and self-employment entrepreneurship and (Republic of Kenya, 1988, p. 15).

Pre-vocational education was offered as part of the 8year primary and 4-year secondary studies. Vocational training, which included technical and other applied courses, was offered in post school training institutions such as youth polytechnics, technical training institutes, institutes of science and technology, national polytechnics, universities, and other skills training centers in the public

### FIGURE 2.2

#### VOCATIONAL AND TECHNICAL EDUCATION AND TRAINING CONTINUA

(A) Vocational/technical continuum in the formal school system:



(B) Vocational/technical training system continuum:



and private sector. The institutions provided trainees with specific skills related to particular trades or professions. The government (Republic of Kenya, 1988) stipulated the specific objectives of vocational and technical education and training as:

... to lay a foundation in vocational skills required for expose socio-economic development; to students to specific and technological trends, skills and ideas; to develop vocational and entrepreneur skills as a basis for further training or employment; to develop appropriate vocational attitudes, initiative and creative thinking oriented to inculcate skills which to work; are applicable to various trades, vocations and professions and develop an appreciation for the dignity of manual work (p. 17).

The report of the Presidential Working Party on Education and Manpower Training for the Next Decade and Beyond (Republic of Kenya, 1988, pp. 35-44) stipulated the need to:

- a) Expand and streamline vocational and technical training institutions and their training to cater for the training demands of the 8-4-4 system of education.
- b) Provide greater opportunities for training primary and secondary school graduates.
- c) Produce more categories of trained manpower for the economy.

Technical training institutes offered artisan training for primary school graduates only. Courses included masonry, carpentry, and metal work. Youth polytechnics offered artisan courses mainly for primary school graduates. Courses in youth polytechnics included masonry, carpentry, tailoring and dress making, motor mechanics, and agriculture. Institutes of technology were established on self-help basis early 1970s (Godfrey, 1973; Anderson, in 1970). The institutes offered courses in building trades, business studies (commerce), and agriculture, among others, to secondary school graduates. It was anticipated that the training programs of institutes of technology would be diversified and some of them developed to offer technician and diploma courses (see Appendix K). In addition, employers were encouraged to utilize institutes of technology to offer training for local industries. National polytechnics offered technical courses leading to technician and diploma certificates mainly to secondary school graduates.

Training institutions were required to use the national curricula prepared by the Kenya Institute of Education (KIE), and the National Examinations and Certification provided by the Kenya National Examinations Council (KNEC).

The government ensured that training of teachers and instructors for vocational and technical education and training institutions was adequate. An agreement signed in 1973 between the Kenya government and the Canadian International Development Agency (CIDA) saw the birth of Kenya Technical Teachers College (KTTC) in 1976. KTTC was the principal institution for training technical teachers mainly for secondary schools and other vocational and technical training institutions in the country. Run by the board of governors appointed by the Minister of Technical Training and

Applied Technology, the college since its inception had produced graduates as shown in Table 2.4.

TABLE 2.4

STUDENT GRADUATES AT KTTC FROM ITS INCEPTION IN 1979 TO JULY, 1989

Department	Number
Technical Education	703
Industrial Education	251
Business Education	628
Instructor Training	272
TOTAL GRADUATES:	1,854

Source: KTTC 10th. graduation document, August 2, 1989.

Technical education courses included carpentry, joinery, masonry, electrical, technical drawing, automotive, and mechanical. Industrial courses included power metal and wood work. Business education courses included short hand. secretarial duties, business English, and typewriting. Instructor training department offered short term courses (up to five months) to instructors of private and government industries or institutions. KTTC used to in-service youth polytechnic instructors under the instructor training department until early 1980s. Nevertheless, it seems reasonable to mention that more vocational and technical teachers were required in Kenya with more attention given to institutions including primary schools and vouth polytechnics. Most vocational and technical teachers in Kenya were produced from national polytechnics and other

institutions both in private sector and government. The teachers were mostly employed in secondary and higher postschool institutions before the 8-4-4 education system was operational in 1985. Such teachers lacked professional training (Kinyanjui, 1974). Enrollments in technical institutions from 1975-86 at secondary and college level are shown in Appendix Q.

#### 2.3 The Establishment of Youth Polytechnics in Kenya and Examples of Similar Youth Programs in Africa

A youth polytechnic is a low cost community based post primary training institution (Yambo, 1986, p. 16). Youth polytechnics were established to help attack the problems of unemployment of primary school graduates in rural areas; those who were not able to find employment, further training, or education (Wanjala, 1973; Kinyanjui, 1974; King, 1977; Sifuna, 1975; Anderson, 1970). The major objectives of youth polytechnics were to equip young school graduates of postprimary age with relevant vocational skills and attitudes that would lead the young people so trained into gainful self-employment, and to enable the young people during and after training to contribute more competently in the development of their communities by building up the economic strength of those communities (Waithaka, 1989; Kasina, 1987, pp. 22-27).

Youth polytechnics were established in Kenya in 1966 after a conference held at Kericho on Education, Employment,
and Rural Development. The conference observed that only a small portion of primary school graduates received places in secondary schools (Sheffield, 1967). There were limited secondary schools at the time coupled with lack of suitable employment opportunities for such people because they were too young and unskilled to be considered for any modern sector jobs. As well, a study conducted in Kenya by the National Christian Council of Kenya (NCCK) (1966) showed that only about 90,000 of the 150,000 children leaving school each year at the end of the seven-year primary course could hope to obtain further education or employment of any kind. Furthermore, to this number of school completers, there had to be added the very considerable number who dropped out of school before completing the course (NCCK, 1966). See also, Thompson (1981, p. 91). Hence, a recommendation to establish the polytechnics also came from the publication of "After School What?" by the National Christian Council of Kenya (NCCK, 1966; Kipkorir, 1975; ILO, 1972; Weeks, 1972; Ayot, 1987).

Youth polytechnics were seen as part of the assertion that community self-help could alleviate the primary school graduate unemployment problem. The best account of the origins and early development of youth polytechnics is contained in "The Youth Polytechnic Movement" (Anderson, 1970). The youth polytechnics were considered less expensive to run than the costs which would be associated with the problems of unemployed youth (King, 1974). At the same time, youth polytechnics were closely related to the local needs and the absorption capacities of the rural villages (Thompson, 1981, p. 244; Republic of Kenya, 1970-1974, p. 52; ILO/SIDA, 1977). Between 1966 and 1972, more than 53 youth polytechnics were established and the demand for them was expanding (Court, 1973; see also Appendix N). At the end of 1983, there was a total of 287 government aided youth polytechnics in Kenya. 1986, the number of youth By polytechnics was 340 (Republic of Kenya, 1988). There were 545 youth polytechnics with the enrollment of over 30,000 at the time of this study (see Appendices N and P).

The structure (see Appendix L) of the youth polytechnic program at the national level, which was headed by a principal youth officer, included three sections:

- <u>Administration</u> which dealt with management of youth polytechnics and recruitment of staff.
- <u>Training</u> which dealt with assessing training needs of youth polytechnics instructors and conducting relevant training for such staff.
- 3) <u>Research</u> which identified problem areas in youth polytechnics and sought to recommend ways of correcting them. The center, situated at Karen in Nairobi, functioned as the inspectorate arm of the youth polytechnic program and looked into such areas as rural industrial development, village appropriate

technology, curriculum development, occupational surveys, buildings design, and agricultural education.

Provincial and district youth training officers were available in the field. At the project level, there was an elected management committee that dealt with decisions on the operation and development of the youth polytechnic. The principal (project manager) was the executive officer at the institutional level, and served as the link between staff, trainees, the management committee, and the District or Provincial Youth Officer (Waithaka, 1989).

Examples of similar youth programs which were introduced in other African countries compared favorably with youth polytechnics in Kenya. In Nigeria, a youth service scheme was started as a means of promoting rural development as well as of instilling humility among the educated elites. It was introduced to facilitate the transition from education to work (National Youth Service Corps, 1973, p. 12).

Nigeria's ceramic training centres, originally formulated between 1962-1968 in the Western Nigerian Development Plan, were expected to provide employment opportunities for young school graduates as well as other unemployed persons. On completion of the course, graduates were expected to join cooperative production units most of which were located in rural areas (Sheffield and Diejomaoh, 1972, p. 13).

Zambia's national youth service scheme was introduced

in 1965. The program was a means by which "the energy and enthusiasm of a large number of young men and women who had played a prominent role in the emancipation of the country could be harnessed to constructive channels" (Mwanakatwe, 1968, p. 246). Emphasis was placed on rural development and nation building. The school graduates were trained in a variety of technical skills including leatherwork, bricklaying, carpentry, and agriculture.

The Luanshya Youth Self-Help Project in Zambia developed from local enthusiasm and sensitivity to the needs of youth aged 17-24 in the communities. The program aimed at providing training in basic skills to unemployed grade 7 graduates (Sheffield and Diejomaoh, 1972, p. 31). Most of the funding for the project came from locally contracted work.

The Tanzanian national youth service was one of the oldest being established in 1963. The objective of this program was to involve primary and secondary school graduates in rural development projects. While participation was voluntary, it attracted many young people, especially those who did not proceed beyond primary school (Morrison, 1976). "Education for Self Reliance" in Tanzania was created with a similar purpose (Nyerere, 1967).

"Brigades" in Botswana were founded in the late 1950s. They provided vocational skills to primary school graduates at little or no cost to the government by making innovative use of scarce resources (Sheffield and Diejomaoh 1972,

p. 65). Training concentrated on such areas as building, carpentry, farming, handicrafts, mechanics, textiles, and tanning.

In summary, a number of African countries have used similar means to treat problems encountered by young graduates of primary schools.

# 2.4 A Review of Previous Studies and Findings on Youth Polytechnics in Kenya

A number of studies followed the graduates of youth polytechnics to discover and establish what they were doing after they graduated. The studies depended on self-reports of youth polytechnic graduates (Court, 1972; Awuondo, 1975; Orwa, 1982; Ongolo, 1983; Nzioka, 1986). Yet, the studies by Court and Awuondo are already over ten years old and they They focused mainly on employment required an update. prospects of graduates. Orwa's work covered forty youth polytechnics in twenty eight districts across the country. It was concerned with the period 1974-1981. His broad objective focused on youth polytechnic programs in terms of curriculum, teaching methods, management, and staff quality. Ongolo's work focused on twelve youth polytechnics in Western Kenya on the impact of youth polytechnic program on employment. He followed 120 graduates. Exactly how the graduates were selected and traced was not stated, nor was the interview technique delineated (Ongolo, 1983). Yambo (1986) conducted a more extensive study on 26 youth polytechnics. The findings by Court (1972) and Awuondo (1975) constituted a significant, albeit sketchy, baseline for all subsequent studies. Court found that most youth polytechnic graduates stayed in rural areas, and 64% were either wage earners or self-employed. Awuondo found that about 57% of the graduates in his study were in relatively regular wage employment and used acquired skills. Moreover, Court contended that possession of a Trade Test Certificate only increased chances of employment. Lack of hand tools handicapped a relatively small proportion of new graduates (Court, 1972).

Orwa (1982) found that the teaching ability of the instructors in youth polytechnics was good. The supply of tools was inadequate, but the quality of instruction was high. Orwa also established that there was not a significant relationship between having or not having a National Certificate and employability.

Oiro and Waithaka (1982) argued that restricting girls to home economics and tailoring courses limited their chances of employment as compared to boys who had a wider variety of training. Yambo (1986) found that graduates who had been trained in carpentry and masonry were somewhat more rural oriented than those trained in welding, plumbing or tailoring. Yambo contended that many courses would remain economically viable and new courses would eventually be introduced in the youth polytechnics. (See also, Yambo, 1987).

Ndua (1988) completed a study on 16 youth polytechnics in five districts in the Eastern province of Kenya. Some of his major findings included the following:

- Lack of adequate initial capital disadvantaged the graduates to buy tools and equipment for small scale businesses or enterprises.
- 2) Certification was an important factor for trainees in terms of wage employment in the formal sector.
- 3) There was need for coordination of programs in terms of curriculum standardization and staffing.
- There was need for the community to be educated about the importance of youth polytechnic programs in their area.
- 5) There was a cumbersome bureaucracy that made it difficult for principals or management committees to make decisions without consulting Ministry officials.

Ndua noted that the older the institution the more the number of courses, but this was limited by an insufficient number of instructors, and other essential material resources to expand the programs. However, Ndua suggested that research was required on the drop-out rate of the trainees, and the performing of jobs unrelated to the training after graduation. In short, more research was needed on the effectiveness and efficiency of youth polytechnic programs.

## 2.5 Issues Arising From Youth Polytechnic Training

Two issues needed to be addressed with respect to youth polytechnic training:

- If the current enrollment rates persisted (Yambo, 1986; Godfrey, 1973, p. 43) the youth polytechnics would produce more graduates than the labour market could absorb.
- for wage and 2) As competition self-employment opportunities stiffened, one might expect to see trainees preferring to acquire skills in several related areas of training to adapt to "changing (Evaluation Mission, conditions" 1984). For example, trainees might want to combine metal work with gas welding, arc welding, plumbing, and general fitting or others might want to combine dress making with tailoring. In normal study, these combinations were non-existent.

# 2.6 Research Questions

In order to carry out the study and to limit its scope during data collection, the following research questions were formulated:

1) Geographical and historical aspects of the polytechnic:

What factors led to the establishment of the youth

polytechnic in the area?

2) Size of the polytechnic:

A BREAK AND IN I CONTRACTOR AFACTOR

· / 1

- a) What factors have led to the increase in size of the polytechnic?
- b) What is the relationship between the nature of courses offered and the enrollment?
- c) What is the enrollment projection?
- 3) Management, Staff, and Facilities:
  - a) What is the organizational structure of the polytechnic?
  - b) What is the qualifications of the staff?
  - c) How do facilities relate to training?
  - d) How is the institution financed?
- 4) Effectiveness of the program:
  - a) How does enrollment compare with the dropout rate?
  - b) What is the relationship between the graduate's skills and employment?
- 5) Effect of new government policy on the program: How do policies that have developed affect the training or program?

36

#### CHAPTER THREE

#### 3.0 METHODOLOGY

#### 3.1 Introduction

1

The purpose of the present study was to investigate the factors that contributed to making a youth polytechnic exemplary in Kenya. This chapter discusses and highlights the procedures, sources of data, and data collection <u>modus</u> <u>operandi</u>. Sampling and instruments used are also defined. The chapter ends with a description of the two polytechnics.

The researcher obtained permission from the Office of the President of the Republic of Kenya in Nairobi in order to begin collecting data (see Appendices A & B). The study focused on two exemplary youth polytechnics: one in Nakuru, and one in Baringo (see Figure 3.1). Both districts were in the Rift Valley Province of Kenya. The youth polytechnic was the primary unit of analysis.

3.2 Sample

Unlike most vocational and technical training institutions in Kenya, youth polytechnics did not operate from a national curriculum. The curricula were based on the needs of the particular area in which they were located. Kenya is divided into eight provinces for administrative

# FIGURE 3.1





purposes. Each province is further divided into districts. The number of districts in each province ranges between 3 and 10 with a total of 40 in the country at the time of the study. The districts are further subdivided into divisions.

Ministry of Technical Training The and Applied information Technology provided on the top 10 youth polytechnics in the urban and rural areas based on the performance on the Government Trade Test examinations set by the Directorate of Industrial Training for the previous five The test was a nationally recognized examination vears. which determined student proficiency in the training offered at the artisan or craft level. In addition, the reputation of the polytechnics was sought from the ministry headquarters the district level of each of the ten youth and at polytechnics. More importantly, all the informants involved in the study including the principals, instructors, parents, and trainees had to be willing to participate in the study. Based on this data, two youth polytechnics were selected from the Nakuru and Baringo districts in the Rift Valley Province (see Figure 3.1).

The question of ethics was considered by the researcher to ensure reliability and validity of data. For example, pseudonyms were used for the polytechnics. The urban youth polytechnic hereafter, is referred to as Urukan (a pseudonym), while the rural youth polytechnic hereafter, is referred to as Oitogom (a pseudonym). The anonymity of the participants was also respected.

The researcher obtained further permission to be introduced to the principals of the youth polytechnics (see A preliminary visit was made to the youth Appendix B). polytechnics to allow the researcher to examine each, and to gauge their receptiveness to the study as well as to establish rapport with the polytechnic staff. At the initial contact with the principals the research project and its purpose were explained. The researcher informally met and talked with instructors, trainees, and support staff individually and in groups. The researcher also explained which people were to be involved as participants. A time frame for data collection which was convenient for them was agreed upon.

<u>Collecting field data</u>. Caution was taken by the researcher throughout the field work to:

- Emphasize the researcher's role of learner with the purpose of being educated and enlightened by the participants.
- 2) Listen respectively and be interested in all data.
- 3) Establish an equal status between the researcher and participants - this was made easier by the fact that the researcher was in his home country as well as the fact that participants had been exposed to several other studies by other researchers. Hence, they seemed less threatened about volunteering information to an outsider.

- Refrain from giving any advice or moral judgement on what was observed.
- 5) Refrain from interviewing any informants specifically for dissenting views beyond the scope of this study.

#### 3.3 Instruments

Due to the exploratory nature of the two case studies, a single method of gathering data was considered limiting. Three methods, observation, interviews, and questionnaires were chosen because they tapped different types of data critical to the study. Documents, reports and records were also collected. All the methods were used so that data collected by one method were cross-checked with data gathered by another method to ensure accuracy, authenticity, and consistency. This section discusses the three methods of gathering data and the rationale for their selection.

## 3.3.1 Observation

One of the more obvious ways of gathering data was by observing the culture or environment under study. Observation within the social and physical environment allowed for the tapping of first-hand information from information offered current participants who on the environment, and more specifically, on the research questions and aspects under study.

Observational procedures relied on the methodological principles of Spindler (1982) who insisted that "because one is attempting to understanding a system in its own terms, according to its own criteria of meaningfulness, one cannot predict in advance which aspect of the system will have significance" (p. 459). The five aspects under study were focal points of observation and any information on them was documented.

The researcher was given access to each school for several weeks at both youth polytechnics. Observational settings included: polytechnic buildings, laboratories (work shops), staff rooms, principals' offices, play grounds, and polytechnic space. While in laboratories, a seat was made available at the back row to reduce student distraction. Written notes were routinely made, checked and compared everyday in the morning, during class time, and at break time. Parents were observed within the institutions and their conversations with staff and trainees provided added data for further analysis.

# 3.3.2 Interviews

The researcher interviewed key informants in the two institutions. Key informants included the two principals of the institutions, all instructors, and a selected blend of trainees. That is, both male and female trainees, leaders and non-leaders. Second year and first year trainees were

interviewed, although priority was given to second year trainees and trainee leaders. First year trainees had completed only five months at the time of the study. Other key informants interviewed included 3 members from each management committee of the two youth polytechnics. The members were mainly parents from the local communities of the two youth polytechnics. It must be noted here that the principal and one instructors' representative were part of the management committee in each of the two polytechnics. However, management committees (parents) were interviewed in a separate setting. Interview protocols with four types of informants consisted of questions shown in Appendices D, F, H, and J. Table 3.1 illustrates the number of people interviewed in the two youth polytechnics.

#### TABLE 3.1

#### NUMBER OF PEOPLE INTERVIEWED

POLYTECHNIC	PRINCIPALS	INSTRUCTORS	TRAI 1st. Year	NEES 2nd. Year	PARENTS/ MANAGEMENT COMMITTEE
Urukan	1	16	19	31	3
Oitogom	1	13	10	44	3

Interviews with the principals took place in the principals' offices while those with instructors took place in the instructors' offices. Trainees were interviewed in

classrooms, and where space would allow, in the laboratories. The management committees (parents) were interviewed in the principals' offices. All interviews were conducted and organized in such a way as not to disrupt the normal day-today activities in the youth polytechnics.

Informal interviews were impromptu, and were meant to make the informants have a sense of freedom and relaxation without feeling threatened while with the researcher. In this way, the researcher was able to compare and contrast their responses with the formal interviews during break time or after each day's session.

## 3.3.3 Questionnaires

, . , . Two questionnaires (Appendices E and G) for the principals and the instructors respectively were designed.

questionnaires Before introducing the to the respondents, the researcher explained that there were no right or wrong answers, and all the questions should be answered honestly. They were also told that their responses would be treated confidentially. The importance of the exercise was communicated. Sixteen questionnaires were issued to Urukan youth polytechnic instructors while thirteen were issued to Oitogom youth polytechnic instructors. The instructors gathered in their respective staff rooms in order to complete the questionnaires. The principals completed their questionnaires in their respective offices. On

completion, all the questionnaires were collected and analyzed and results documented. Table 3.2 summarizes data collection methods.

#### TABLE 3.2

#### DATA COLLECTION METHODS

Sources	Observation	Interviews	Questionnaires
Principals	Ya	Y	Y
Instructors	Y	Y	Y
Trainees	Y	Y	Nb
Committee members	Y	Y	N
a : Y indicates th	e method was us	sed.	

b : N indicates the method was not used.

In addition, the following items added to data collection: files; records and registers; documents; and, artifacts (pictures). All the methods were chosen with consideration about time span for the study (three months), and in-depth as opposed to superficial research at the polytechnics.

3.4 Urukan youth polytechnic

Established in 1956, the polytechnic was the oldest in the district. Prior to its becoming a youth polytechnic around the mid-1960s, the polytechnic was used for vocational trades training to post-school graduates but on a limited basis (full information on what the polytechnic was used for before the mid-1960s was not available). The polytechnic was situated in the busy Nakuru town center, one of the fast growing towns in Kenya with a population of 93,000 people (1979 census). The polytechnic boasted a three acre square plot.

The polytechnic was surrounded by an old dwelling estate on the North, the department of social services buildings on the West, and a mixed secondary school adjoined the two remaining sides on the East and South. Expansion was limited by the buildings. A road ran between the social services property and the polytechnic. A branch from the road formed the main entrance to the polytechnic from approximately the South-West direction.

Every available space at the compound seemed utilized. Buildings took more space than paths and flower beds. The principal's office and staff room were under one roof. The staff room seemed somewhat congested, a factor which made instructors mostly use their offices. The principal's office was close to the gate.

Laboratories consisted of two old parallel separate buildings with concrete stone and faded asbestos roofs, and one newer isolated building that ran adjacent the end of one of the old laboratories. Laboratories were also used for theory lessons. The newer building housed plumbing and motor mechanics laboratories. Instructors' offices were partitioned in the back of laboratories. Toilets were

attached to laboratories at one end.

The municipal field, a 3-minute walk from the compound, was used for games and sports every Tuesdays from 10 am. to 12.30 pm. During this period, all instructors accompanied the trainees to the field.

There were 180 trainees and 16 instructors. All trainees and instructors commuted daily from their homes. Trainees lived with parents or relatives working in Nakuru town.

Classes started at 8 am. and ended at 4.30 pm. with a one hour and half lunch break each week day. Staff and trainees seemed to have a sense of purpose.

The principal was in his mid-thirties with 3 years of administrative experience, two of which were at a different polytechnic. He had a year of teaching experience prior to principalship. His office was orderly. Visitors freely entered his office with or without appointments.

3.5 Oitogom youth polytechnic

Oitogom, a boarding youth polytechnic was established in 1973. The polytechnic boasted a 100 acre plot in the rural area of Baringo district. The District was largely rural with a high potential for development. The youth polytechnic was situated 39 kilometers from Nakuru town in the North-West direction. The polytechnic was surrounded by large green agricultural farms. The polytechnic's agricultural farm was used for practice by trainees to grow crops and keep animals.

The polytechnic was along the highway joining Nakuru and Kabarnet towns, the district headquarters for Nakuru and Baringo districts respectively (see Figure 3.1). Unlike Urukan, Oitogom's District Youth Office was situated quite some distance from the polytechnic, a factor which made the principal utilize the Nakuru district office for administrative matters.

A five meter murram road branched from the Nakuru-Kabarnet highway to connect to the polytechnic. The gate was mostly under guard by a security officer who kept track of traffic both entering and leaving the compound. A sign post, displaying the words "Oitogom Youth Polytechnic" on either side, conspicuously stood near the gate in a way that one could read it from a distance. The road led directly to the staff room attached to the principal's office.

The compound was fenced and spacious with newer scattered buildings than Urukan's. Boys' dormitories were separated from girls' by an open space about 20 meters. Instructors' houses surrounded the laboratories, the dining hall, and the dormitories.

The principal was in his early thirties and had three years and four months in his present position and institution. He had several years of teaching experience prior to obtaining his present position. The principal's office, partitioned from the staff room, was spacious and

orderly. The staff room was large, full of chairs, and a large table. While inside the staff room, one could have a bird's eye view of the dormitories, the laboratories, and the dining hall. A large master time-table hung on the wall.

A bell marked change-over of activities in the polytechnic. Class time was like Urukan's except classes ended at 5 pm. instead of 4.30 pm. The atmosphere and events seemed predictable. Trainees seemed to have a sense of purpose. A duty roster for both staff on duty and trainees' communal work were clearly displayed on soft boards in the office and laboratories. About half of the 325 trainees in the polytechnic came from outside the community. Eight trainees commuted daily from home.

There were 13 instructors all living on the compound except one who commuted from a nearby shopping center. Two of the thirteen instructors were female.

#### CHAPTER FOUR

#### 4.0 DATA ANALYSIS AND FINDINGS FOR URUKAN (PSEUDONYM) YOUTH POLYTECHNIC

#### 4.1 Introduction

The purpose of the present study was to investigate the factors associated with exemplary youth polytechnics, and to further develop the concept of an exemplary youth polytechnic in Kenya. Two youth polytechnics were selected for the case studies. A variety of data were collected through observation, interviews, and questionnaires. As well, salient documents were collected.

In the present chapter, data collected regarding Urukan, the urban youth polytechnic, are analyzed and study findings are highlighted. The five aspects are used, herein, as the basis for the analysis of data.

# 4.2 Courses of Study

A variety of courses were offered at Urukan youth polytechnic. Table 4.1 illustrates the courses and the enrollment for each course for the year 1989/90. Except in business education and home economics, theory in the rest of the courses took an hour on average at the beginning of each new topic in a course. The rest of the class time was spent in practicals or at work. About three quarters of the

# TABLE 4.1

## COURSES AND NUMBER OF TRAINEES PER COURSE AT URUKAN YOUTH POLYTECHNIC IN 1989/90

Course	1st. year	2nd. year	Male	Female
Carpentry & Joinery	18	21	39	••••
Metal work	25	27	52	•••
Tailoring & Dress making	g 18	14	2	30*
Motor mechanics	17	•••	17	•••
Plumbing	13	9	22	•••
Masonry	3	10	13	•••
Painting & Sign writing	5	• • •	5	•••
Home economics	18	12	•••	30*
Business education	All t	rainees		

TOTAL NUMBER OF TRAINEES: 180

\* The thirty girls who took tailoring and dress making also took home economics. [There were 30 girls and 150 boys in

the polytechnic]. All first year tailoring and dress making trainees were girls.

All courses took 2 years to complete.

Source: Class registers 1989/90 based on regular attendance.

curriculum was practically oriented. This finding was consistent with what Ayot (1987) reported. That is, 70% of the students' time was spent in practicals and/or work.

Girls took tailoring and dress making as a major course while, home economics was taken as a minor course. Boys would take all courses except home economics. Two boys took tailoring and dress making, a course dominated by girls. All trainees took business education. In business education trainees learned book keeping. The business education course was thought to be useful to the graduates when they started small businesses. Home economics and business education were theoretical and were not necessarily nationally examined.

Figure 4.1 depicts trainees in the tailoring and dress making laboratory using sewing machines. The instructor first demonstrated and then assigned projects. He went around to assist the trainees while they worked.

Over 98% of the trainees interviewed in the tailoring course said that they were encouraged by the different type of designs and fashions as well as the increase of customers on the market. This factor seemed to indicate job opportunities after graduation. Various designs and fashions displayed in the shops in town appeared to be an advantage to the urban polytechnic trainees. This factor seemed to make the trainees enthusiastic about the course.

Metal work seemed more marketable in the urban area surrounding the polytechnic. People in the community seemed interested in items such as metal burglar-proof fabricated

\$



Figure 4.I. Tailoring/dress making class at work in Urukan youth polytechnic.

windows, gates and doors, and various types of arc welded items. All trainees interviewed in the course indicated that they were interested in the course because it would be inexpensive to start a small business. As well, an open space was all that was needed for a work shop. This factor coupled with a requirement of relatively fewer and cheaper tools and equipment seemed sufficient to enable one start a metal work business. Arc welding, a branch of metal work, seemed popular because electricity was available in the urban area. Gas welding and sheet metal work, other branches of metal work, appeared to be rural oriented.

Trainees in metal work course were exposed to various metal work activities around town both for individual

enterprises and the government. The exposure seemed to both challenge and motivate them. Figure 4.2 illustrates metal work trainees making knives. They are at the sharpening stage using power grinders. Carpentry and joinery were offered as one course. About 80% of those interviewed in the course were more interested in carpentry. The reason they gave was that carpentry work required fewer and cheaper tools. They indicated that work in carpentry was neither detailed nor demanding. They said that joinery work required a workshop



Figure 4.2. Metal work trainees making knives in Urukan youth polytechnic. Powered equipment speeds up work.

in addition to more and expensive tools as well as a high quality workmanship to attract customers. Moreover, trainees said that joinery work did not generate good income. Figure 4.3 illustrates carpentry and joinery class at work.

Trainees in the carpentry and joinery course expected to start small businesses through carpentry and eventually end up in joinery work after acquiring enough capital.



Figure 4.3. Carpentry class at Urukan youth polytechnic.

The market place seemed too competitive for beginners in masonry. It did not appear to attract many trainees. The nature of job opportunities available in business for masonry work required more experienced people who had already flooded the market, a factor which seemed to discourage the prospective trainees in the course. Only three first year and ten second year trainees were in the 1989/90 masonry program.

Plumbing seemed to be gaining popularity because of many houses that were coming up in the fast growing town of Nakuru. Like in masonry, the nature of jobs available for business in plumbing required experienced people. However, trainees appeared to be optimistic having seen the expanding market.

Painting and sign writing was a relatively newer course introduced in 1989. However, it seemed that its fame in town may contribute to its becoming popular.

Motor mechanics, like painting and sign writing, was introduced in 1989. It seemed to be a marketable skill in the urban area. However, time would tell how well it would do in the youth polytechnic.

In general, a first year course would have enrollments of about 20 per class on average. A first year course enrollment of 10 or less seemed to suggest its low marketability in the area.

In summary, a variety of courses was realized in the polytechnic. The courses were popular in the urban area, and might have been useful in rural areas.

# 4.3 Relevance of the courses of study to rural and urban areas and to employment

<u>Rural and urban relevance</u>. The training at the Urukan, urban youth polytechnic, seemed relevant to an urban development. However, the activities in which graduates were involved including small businesses or entrepreneurship in furniture making, metal work, and tailoring and dress making might also stretch in the rural areas. This factor was supported by one of Kenya's development strategies (Republic of Kenya, 1988, p. 9): "it was important that economic growth should accelerate, but that it should take place as vigorously in rural as in urban areas in order to maintain rural-urban balance as much as possible."

Trainees who specialized in courses that were more urban oriented seemed to prefer to remain in town to establish small businesses. Urban oriented courses included arc welding, motor mechanics, plumbing, and painting and sign writing. Trainees who took gas welding and sheet metal work seemed to be more rural oriented. Carpentry/joinery and masonry appeared to be both rural and urban oriented.

A major factor which seemed to contribute to courses being rural oriented was that electrification was still not adequate in rural areas in the country. Consequently, activities which relied on power did not go on in rural areas. People acquired products from town or rural areas because of this factor. In summary, the courses seemed relevant to the urban area with a possibility of stretching

- **(\* )**-

to the rural areas.

Relevance to employment. Employment essentially meant self or salaried. Over 95% of trainees interviewed indicated they would look for salaried-employment to acquire money in order to start small businesses for self-employment. All trainees interviewed indicated they acquired necessary skills for both salaried jobs and self-employment during training. Interviews with all instructors showed that the training was relevant to both self and salaried-employment in government or private.

Observation of projects the trainees performed suggested that the training was suited to the actual work the graduates would face outside the polytechnic. For example, tailoring and dress making trainees made uniforms for the entire polytechnic. As well, they obtained tenders for neighboring institutions. Carpentry/joinery classes made chairs and tables including repairs.

An interview with the principal indicated that performing some projects in the form of contracts generated income that offset some of the operating costs in the polytechnic. As well, trainees acquired skills while practising in real work situations similar to what they would face after graduation. Summarily, the training seemed relevant to both self and salaried-employment. 4.4 Quality of the training with respect to staff, tools, equipment and materials

Staff. Instructors had the necessary recognized qualifications having attained at least the Government Trade Test Certificate II or equivalent. However, pedagogical skills were mainly acquired on the job. Teachers thought that practical lessons were easier in imparting skills than because practical lessons lessons involved theory demonstrations and actual work in addition to model making. As well, teaching aids seemed to be easily formulated.

The Ministry of Culture and Social Services employed most staff before the Ministry of Technical Training and Applied Technology took over in 1988. The management committee had a mandate to employ some instructors and support staff with consultation from the Ministry of Technical Training and Applied Technology.

The establishment required two instructors per course. However, the number of instructors tended to increase with the increase in class size, especially in practical courses. Table 4.2 illustrates the number of instructors per course. Theoretical courses (home economics and business education) were taught in large combined classes. Female instructors seemed to teach mainly tailoring and dress making. However, they also taught home economics and business education. There was a general notion in the polytechnic that girls took involving less manual training hence, female courses instructors might have taken less manual courses during

# TABLE 4.2

		****
Course	Number of instructors	Male/Female
Metal work	2	M
Tailoring/Dress making	4	1M, 3F
Carpentry/Joinery	2	м
Masonry	2	м
Plumbing	2	м
Motor mechanics	1	М
Home economics	1	F
Business education	1	F
Painting/Sign writing	1	м
	NUMBER O	F INSTRUCTORS: 16

# COURSES OFFERED AND NUMBER OF INSTRUCTORS PER COURSE AT URUKAN YOUTH POLYTECHNIC IN 1989/90

Source: Master time-tables.

their training.

Instructors seemed highly committed to their work. They were observed in various polytechnic environments including, demonstrating in the laboratories, supervising trainees on projects both inside and outside the polytechnic, accompanying trainees to play grounds, and praising and encouraging trainees during morning assemblies to do better.

Interviews with staff members and observations of the polytechnic environment confirmed that the principal seemed to perform diligently specific tasks and practices in order to pursue his primary goal of student academic achievement. He learned most administrative roles and duties on the job. Table 4.3 illustrates and summarizes some of the practices the principal was involved in daily. The fundamental strategy used by the principal to pursue the goal of academic excellence included initiation of in-polytechnic policies, and the maintenance of strong out-of polytechnic links.

The polytechnic's proximity to the District Youth Development Office in town seemed advantageous to the principal to personally handle administrative matters. He entrusted some administrative responsibilities to staff whenever he was outside the youth polytechnic.

The principal established both formal and informal lines of communication. He relied on teachers to supply him with up-to-date data on student and community affairs as well as staff needs. The researcher observed parents coming to the principal's office each day for trainee application forms

# TABLE 4.3

-

ľ

ĩ

OBSERVED YOUTH POLYTECHNIC PRACTICES OF THE PRINCIPAL

IN-POLYTECHNIC	OUT-OF-POLYTECHNIC
<ul> <li>encouraged teachers to give monthly tests and grading and ranking them.</li> <li>coordinated staff meetings.</li> </ul>	<ul> <li>established library book</li> <li>borrowing program</li> <li>(library belonged to other organization, 3-minutes away).</li> </ul>
<ul> <li>arranged end of term parties.</li> </ul>	<ul> <li>established close links with Ministry responsible for training.</li> </ul>
<ul> <li>insisted on productivity.</li> <li>encouraged morning</li> </ul>	- encouraged un-official parents appointments.
assemplies. - encouraged sports and games.	<ul> <li>committed school to community service in spirit of Harambee.</li> </ul>
- monitored classroom activities.	- - encouraged staff and trainees to make project
<ul> <li>insisted on disciplinary system and enforcement of rules and regulations.</li> </ul>	exhibitions in annual national shows.
<ul> <li>encouraged use of common language.</li> </ul>	- encouraged links with established entrepreneurs in town for trainees.
<ul> <li>encouraged informal interactions.</li> </ul>	

well ahead of time, an indication of the polytechnic's excellent reputation within the community. Over 80% of parents who came to obtain application forms for their children were observed mentioning to the principal that the polytechnic needed expansion to take more children.

Discipline. Strict discipline seemed to be encouraged through rules. Rules were prescribed through expectations and values and consequences for individual infractions. A dress code was enforced. Boys wore black leather shoes, grey socks, grey trousers, blue shirt, and a grey pullover. Girls wore black leather shoes, grey socks, grey skirts, blue blouse, and a grey pullover. A complete clean uniform was worn each day. Pullovers, however, were not worn while working on machines in the laboratories. Sports wear was used during games and sports. Rules pertaining to laboratories were specifically related to safety. For example, wearing safety glasses while working on a grinder was a must.

Trainees were not allowed to leave the compound at any time without the permission of the master on duty. As well, trainees were expected to be punctual at all times.

All rules and regulations were posted on notice boards in the principal's office and tuition blocks. Trainees were reminded about some of the rules during assemblies, especially when an individual trainee infringed on one of them.

Most trainees seemed to have a sense of purpose to learn, but corporal punishment was consistently administered
for minor misdemeanors such as lateness, or making noise in class. Major offenses like stealing or leaving the compound without permission was reported to the principal for action. No major offense was observed.

Tools, equipment, and materials. Lack of sufficient tools, equipment and materials was in evidence in courses with large class size. However, instructors seemed to be more innovative in their teaching by using different approaches to instruction:

- a) Tools and equipment were shared among trainees.
- b) Projects were organized around groups performing different projects that needed different tools and materials.
- c) Locally available and reusable materials were encouraged in the laboratories as well as using economically any expendable materials. Instructors used charts and models in demonstrations.

Maintenance of tools and equipment seemed to be routine. An inventory was kept and a check was made before the institution closed for the holidays. Sewing machines were constantly maintained and repaired. All other tools and equipment were cleaned and checked at the end of each day's work. For example, carpentry and masonry tools were wiped with a wet cloth and smeared with oily rags to prevent rust. Trainees were constantly made aware by the instructors about the importance of tool and equipment maintenance. They were told that tools and equipment were their own and should they not look after and make use of them, they were the ones to lose. Trainees were coached on the use of appropriate tools, equipment, and materials as well as appropriate technology which was not demanding in terms of cost and availability.

In summary, the entire community in the polytechnic seemed to know that tools, equipment, and materials were the necessary physical resources for academic excellence. As well, there appeared to be innovative means of teaching when there was a shortage. Instructors and the entire staff seemed to be highly committed to equipment and maintenance in an effort to make trainees learn.

#### 4.5 Management

The management of the polytechnic at the institution level was carried out by the management committee. The management at national level was discussed in the literature review chapter, section 2.5. The management committee interview protocol questions are shown in Appendix J.

The purpose of the management committee in Urukan youth polytechnic was to humanize the polytechnic. The committee took advantage of the local resources including employment of support staff as well as the enthusiasm of the community. The committee encouraged and promoted participation in the polytechnic. As well, it coordinated and fostered parents' collaboration in polytechnic activities including Harambee drives and Open Days. In Open Days, many activities including project displays by trainees were set out.

The committee consisted of:

- a) Parents' representatives who were spokesmen of parents as a whole on matters that were part of the committee's goals.
- b) A teachers' representative (although this was optional) who was spokesman in relation with trainees' parents.
- c) The principal of the institution who was the person in charge of management of the polytechnic and who spoke and acted on behalf of the polytechnic when holding discussions with parents.

The number of committee members varied over time, but during data collection there were eleven with seven forming a addition, the management committee quorum. In had an executive committee of five members responsible for the dayto-day running of the polytechnic. The membership consisted of a chairman, (parent), a secretary (principal), a treasurer (parent), and two other members from the whole committee. Government officers, councillors and the member of parliament of the area were ex-officio members of the committee. The election of the committee was left free to the local community to decide on the best way it saw fit to have a representative committee.

The major duties and responsibilities of the management committee included:

- a) Conducting an annual survey of local work
   opportunities for trainees.
- b) Ensuring proper provision for the budget from fees and donations: tools and rooks of accounts were subject to regular checks by the supply officer in the polytechnic, and occasionally by auditors.
- c) Ensuring proper security to protect tools, equipment, and materials: arrangements included a secure store, ledgers and inventories of tools and equipment, and where possible, insurance cover for theft and damage.
- d) Educating the community about the importance of the program and organizing for local support.
- e) Taking all the vital decisions connected with the operation of the polytechnic.
- f) Deciding on the reasonable fees to be paid by the trainees.
- g) Ensuring all the government decisions and pieces of advice were carried out effectively.

Most duties of the management committee were observed confirmed. and For example, local work opportunities including construction of sheds in the annual national show by masonry class was observed in June 1989. The class constructed the sheds as they gained practical experience. In sheds were used to display the polytechnic fact, the projects. Moreover, the interview with the principal

indicated that the principal relied heavily on local support in terms of trainees recruitment, and soliciting funds towards development of the institution. The principal's proximity to government offices enabled him to deal with administrative matters promptly. This was an advantage that was in line with one of the committee's duties.

The bottom portion of Appendix L illustrates the people who were involved in the youth polytechnic at the institutional level. The principal served as the link between the staff, trainees, and the management committee.

<u>Financial Resources</u>. The institution seemed well managed despite some financial problems. Funds came from different sources, but they were not adequate. Acquiring and maintenance of tools and equipment was the responsibility of the polytechnic as was the buying of materials. Vocational and technical training facilities were relatively more expensive than academic ones (Lauglo and Narman, 1988, p. 236). Nevertheless, the running of the institution was made possible by various sources of funds from:

- a) The Government of Kenya
- b) The community Harambee (self-help)
- c) The fees from trainees

Ş

d) Engaging trainees in contracts that sold.

<u>Government of Kenya funds</u>. The Government of Kenya assisted the youth polytechnic financially by paying instructors' salaries in form of grants-in-aid (see Appendix P). One observation made on the payment through grants was that at times, salaries delayed due to hierachal procedures involved in processing. An informal interview with instructors indicated that they knew their terms of service on employme t hence, they had been used to delay problems. The instructors learned how to cope and accommodate to the problems. The terms and conditions of service for youth polytechnic instructors were currently under review (Republic of Kenya, 1988, p. 18).

The government-assisted youth polytechnics in the country were given 3.6 million shillings (\$200,000 Canadian) in 1988/89 for their development. Out of 545 youth polytechnics in the country, 323 received grants from the government (see Appendix P).

Community Self-Help. Community self-help funds drives were organized to raise money for the institution. Harambee meetings were occasionally organized by the area Member of Parliament or government official in collaboration with the management committee. Funds were solicited from individuals including parents and other well wishers in the community and People brought items including those that could from away. be auctioned for money. At the end of one funds drive enough money would be raised to last a year or so. The community Harambee was heeded by the local people including parents who benefited from it both directly and indirectly. For example, children made and sold items to parents cheaply, and fees was affordable after operating costs of the polytechnic were offset.

Fees. Trainees paid fees which were broken down into different parts: tuition, uniform, and miscellaneous.

Fees charged seemed reasonable and affordable: 800 Kenya shillings per year per trainee (about \$45 Canadian). No trainee was sent away because he or she could not afford to pay.

Income Generating Projects. Trainees were involved in several projects that generated income for the institution. Tailoring and dress making trainees made the uniform for all trainees, a factor which reduced the expenditures of the institution as well as lowering the amount of fees charged. Trainees in building courses (masonry, carpentry, plumbing) constructed and repaired buildings, furniture, and plumbing fixtures.

Trainees were observed repairing faulty toilets in their compound. All the projects in question were organized under the supervision of instructors. The trainees gained useful workable skills, an asset to them. Summarily, the management performed tirelessly towards bringing the entire polytechnic community to work together for a common objective.

## 4.6 Achievement of objectives

Despite the lack of sufficient materials, tools, and equipment the training seemed to impart the essential skills the trainees needed to enable the graduates to work on their

own either as self-employed people or employed by the government, firms or individuals. Thus, the major objective of the youth polytechnic seemed to be achieved.

<u>Certification</u>. Graduates who did not form work groups for partnership in small businesses were more likely employed by firms or the government, unless they dropped out of the programs too early to have mastered any skills. It seemed that with or without a certificate the graduates applied the skills learned. Being easily employable mainly depended on the type of employer and whether the employer needed to see the certificate or the work produced by the individual. (See also, Lauglo and Narman (1988, p. 252). Some employers feared to employ graduates with certificates because they would have to pay them more money. That is, graduates with certificates were normally unionized on employment.

The Leaver's (Graduate's) Document seemed to be a valuable document issued to the graduates by the youth polytechnic. The document certified what the graduate covered during the training. The document seemed to be more recognized by prospective employers than the National Certificate which was normally issued on passing the prepared by the Directorate of Government Trade Test Industrial Training.

Drop outs. The study revealed that the dropout (leaving earlier than specified duration of training) rate in the youth polytechnic was low: 3% in 1989/90 (that is, up to the time of the study). The interview with the principal

indicated the reasons for most drop outs were not necessarily negative. The reasons included:

- a) Early employment due to urban location and job opportunities
- b) Personal problems including, financial ones or illness
- c) Discovering they would rather do something different
- d) Early pregnancies among girls, although this was of very low frequency
- e) Lack of interest, especially if trainees were forcedby parents or guardians to take the training

Job Opportunities. The issue of expansion or increase in enrollments suggested by Yambo (1986) and Godfrey (1973) seemed to be curtailed by geographical factors such as being surrounded by private buildings and lack of sufficient facilities. This appeared to be a major self-limiting factor. Hence, the number of graduates that competed for salaried or self-employment seemed to be relatively small. The labour market seemed to  $\varepsilon$  bsorb the graduates through salaried or self-employment. If this was not possible, the graduates appeared to be at least doing something for a living by applying the knowledge and skills acquired.

<u>Self-reliance</u>. Being knowledgeable in more than one related trades for example, arc and gas welding, seemed to give the graduates more opportunities of obtaining employment; in fact, they became more self-reliant because they did not have to seek more help from another person to

complete a piece of job that required multiple trade areas. The informal sector seemed to absorb such graduates through job opportunities both in rural and urban areas. The main problems in the job market seemed to be those related to competition, lack of initiative by the graduates, and attitude of "can't make it" once the individuals faced problems at the outset. It was noted that having money without an initiative could alone make a graduate not venture into business, or venture into business but not succeed.

Opportunities for loan were available to the Loan. graduates who ventured into business, especially if they formed work groups for partnership. One organization, Small Scale Business Development Agency gave loans to its members who were engaged in small businesses. The businesses were those that generated income of between Kenya shillings 200 to 2,000 (Canadian \$10 to 150) per month, which in fact, was affordable by those engaged in very small businesses and would attract more of the kind. The amount would be increased if needed. The number of shares bought that members determined how much loan they were entitled to boost their small businesses.

The government of Kenya urged individuals with vocational skills to form work groups so as to benefit from loan schemes. (See also, Appendix M). In summary, the objectives of the training in Urukan polytechnic seemed to have been achieved.

#### CHAPTER FIVE

### 5.0 DATA ANALYSIS AND FINDINGS FOR OITOGOM (PSEUDONYM) YOUTH POLYTECHNIC

#### 5.1 Introduction

The present chapter analyzes and highlights study findings for Oitogom, a rural youth polytechnic. As for Urukan youth polytechnic, the five aspects under study form the basis of the analysis.

5.2 Courses of Study

1

The courses offered at Oitogom youth polytechnic were similar to those at Urukan youth polytechnic except for an addition of agriculture and the omission of painting and sign writing at Oitogom. Table 5.1 illustrates the courses of study at Oitogom polytechnic.

The geographical location of Oitogom allowed for a large farm on which agricultural trainees practised. In agriculture, trainees learned how to keep cows and chicken, and till the land for growing maize and beans. Figure 5.1 depicts trainees in an agricultural farm cultivating maize.

Tailoring and dress making was dominated by girls. Most sewing machines were manually operated, but a few were powered by a generator. The generator was the sole source of power for the polytechnic due to rural location. Trainees

# TABLE 5.1

\*

# COURSES AND NUMBER OF TRAINEES PER COURSE AT OITOGOM YOUTH POLYTECHNIC IN 1989/90

Course	1st.	year	2nd.	year	Male	Female
Carpentry & Joinery		14	18	 B	32	
Metal work		42	1'	7	59	•••
Tailoring & Dress making	3	33	2'	7	5	55
Motor mechanics		82	5	6	130	8
Plumbing		8	••	•	8	•••
Masonry		14	1	4	28	•••
Home economics		33	3	0	•••	63
Business education		<b>A</b> 11	traine	es		
Agriculture		A11	traine	es		
	т	OTAL	NUMBER	OF	TRAINEES	3: 325
All courses took 2 years Source: Class registers attendance.	s to 1989	comple /90 ba	ete. ased on	regul	.ar	



Figure 5.I. Trainees cultivating maize in an agricultural farm in Oitogom youth polytechnic.

seemed to prefer manual machines due to their versatility in the rural area. Figures 5.2 and 5.3 depict trainees in a dress making and a weaving class respectively. Sharing of tools (see Figure 5.3) was encouraged to ease the problem of lack of sufficient tools or equipment.

Girls took home economics in which they learned laundry and housekeeping. Business education, like agriculture, was taken by all trainees. Trainees learned book keeping in business education which seemed to be beneficial when they graduated to start businesses.

Motor mechanics seemed to be a popular course because the area was largely arable with agricultural machinery that required maintenance and repair. Hence, motor mechanics



. .

Figure 5.2. Tailoring/dress making class in Oitogom at work - instructor on left.



Figure 5.3. Trainees in a weaving class at Oitogom.

class was the largest. The principal could not reduce the number of new trainees in the course due to parents' pressure coupled with the need to satisfy politicians. The course was taken by eight girls and 130 boys. Trainees repaired agricultural machinery during and after training.

An interview with trainees who took metal work indicated that about 80% were more interested in arc welding because there were more activities involved with arc welding that generated income. Trainees who specialized in sheet metal work, gas welding, and general fitting, all branches of metal work, seemed to be more rural oriented and prepared to venture into business after graduating.

Building courses (carpentry, masonry, and plumbing) appeared to be popular in the area. Building trainees were observed constructing buildings for a neighboring school. As well, trainees procured contracts from individuals in the area. The area was being infested by construction work for the expansion of a shopping center as well as for individuals who wanted houses. Interviews with the principal and the instructors indicated that trainees constructed about three quarters of the buildings in the polytechnic during hands-on projects supervised by instructors.

In summary, the polytechnic seemed to offer courses which covered a wide range. Courses seemed to be popular in the area, and their popularity could extend to other areas. The popularity of the courses seemed to be one of the factors that made the polytechnic famous. Interviews with the

78

i

principal and instructors indicated that about 70% of the trainees came from outside the area.

# 5.3 Relevance of the courses of study to rural and urban areas and to employment

Rural and urban relevance. The courses of study and the nature of training seemed relevant to rural development. However, as in Urukan, graduates engaged in activities which seemed to contribute to urban development as well. For example, tractors were used on the rural farms in the area, but it seemed cheaper to repair the parts which required arc welding in the urban area where electricity was available. Farm produce from the rural area including that from the polytechnic farm seemed to fetch a better market in the urban area. Simple sheet metal work products made by graduates in the rural area seemed to be in high demand in the urban area.

It seemed that it was a matter of interest and preference that trainees chose courses which were rural or urban oriented. Over 80% of the trainees interviewed indicated the reason for their interest in a particular course as marketability.

Relevance to employment. Self-employment for graduates seemed to be curtailed by the means to obtain funds. Most trainees expected to be employed for salary in order to save money for business undertaking. Over 95% of trainees interviewed indicated self-employment as their final goal. Trainees had the notion that business generated better income than salaried-employment. However, the skills and the nature of training seemed appropriate for both self and salariedemployment.

Contracts or projects in which trainees engaged both inside and outside the polytechnic seemed indicative of the type of actual work that they would face when they graduated. Instructors seemed to coach the trainees accordingly. Unlike in Urukan, supervised industrial work experience or attachment was initiated for the trainees. While on attachment, trainees encountered real situations of what it would be when they graduated. Moreover, the attachment provided a closer link between the training offered and the world of work. The attachment seemed to make the graduates better informed about the demands both in characteristic and quantity of work opportunities in the market. During industrial attachment, motor mechanics trainees repaired vehicles under the supervision of industrial instructors. Industrial instructors made reports on trainees' capabilities. The polytechnic instructors got feedback by observing the trainees' progress. After the attachment whose duration ranged between 3-12 months, the 12month attachment trainees graduated, while those with less returned to the polytechnic to complete the training.

An interview with the principal indicated that some firms expressed the need to retain trainees while on attachment or employ them after graduation. Indeed, this seemed to confirm that trainees' skills were employable. In summary, the polytechnic offered courses which seemed to be relevant to the rural area and to employment. The relevance of the courses might extend to the urban area as well.

# 5.4 Quality of training with respect to staff, tools, equipment and materials

Table 5.2 illustrates the number of Staff. instructors per course. As in Urukan, the instructors at Oitogom had attained at least the necessary recognized qualifications of Government Trade Test II or equivalent. The interviews and questionnaires indicated that instructors learned pedagogical skills on the job. Questionnaires also revealed that all instructors had taught in the institution for at least three years. Instructors seemed to have earned enough experience which enabled them to impart the required vocational skills both practical and theoretical. Hands-on laboratory work adopted instructors. The was by carpentry/joinery, plumbing, and metal work laboratories were full of works including chairs, water jugs, and charcoal burners produced by trainees. Charts and models made by both instructors and trainees were displayed in the laboratories, and were used as teaching aids.

Employment of staff was mainly by the Ministry responsible for training unless the management committee made suggestions to the Ministry.

The establishment required two instructors per course,

# TABLE 5.2

# COURSES OFFERED AND NUMBER OF INSTRUCTORS PER COURSE AT OITOGOM YOUTH POLYTECHNIC IN 1989/90

* • • • • • • • • • • • • • • • • • • •		وی چو هو هو جو جو بیو هو هو هو هو هو هو دو هو هو هو هو هو هو هو
Course	Number of instructors	Male/Female
Metal work	2	M
Tailoring/Dress making	3	2M, 1F
Carpentry/Joinery	1	М
Masonry	1	М
Plumbing	1	м
Motor mechanics	1	м
Home economics	2	F
Business education	1	М
Agriculture	1	М
	TOTAL	INSTRUCTORS: 13

Source: Master time-tables.

~ \* \* 1

AL 44640

1, 200<sup>-1</sup>. 1

but instructors would be increased if a practical course had more than 20 first year and more than 20 second year trainees on average. A shortage of instructors was noted in the motor mechanics class. However, the polytechnic devised a way of dealing with the situation by giving the priority of a 12-month supervised industrial work attachment to motor mechanics trainees. Motor mechanics class was the only one with the longest time for attachment.

Interviews with both the principal and the only instructor for the course indicated that there was a general shortage of qualified motor mechanics instructors across the country.

Like in Urukan, home economics and business education were theoretical and it seemed convenient to have trainees taught in large combined classes. Agriculture was also taught in large classes unless it was a practical class.

Instructors were observed preparing and switching for different classes in the staff room. Unlike in Urukan youth polytechnic, a bell marked the change from one activity to another. As soon as the bell rang, instructors moved to different classes and laboratories except those who did not teach prepared in the staff room.

Instructors were housed on the compound because Oitogom being a boarding institution, their services were required in various aspects after sessions in the evenings and weekends. For example, the polytechnic choir practised with the help of an instructor. As well, the master on duty supervised meals in the dining hall, and attended to matters pertinent to general welfare of the trainees. Instructors were observed spending extra time supervising projects for trainees who needed more assistance. Unlike Urukan, the benefits of a public library lacked at Oitogom. However, trainees borrowed books through their class masters (instructors) and read them after classes.

The principal, like that of Urukan learned administrative practices job. principal on the The established in-polytechnic policies and out-of-polytechnic links similar to those practised by the Urukan principal. The principal's distant proximity from the District Youth Office seemed to have placed him in a disadvantageous position for administrative matters. However, he dealt with various matters by appointment to personally meet the people concerned about twice a week. In fact, the distance necessitated the principal's use of the District Youth Office for Urukan for urgent matters. The deputy principal was delegated administrative duties in principal's absence.

In addition to the type of discipline available at Oitogom's disciplinary practices seemed Urukan, to be tighter. For example, to be allowed to leave the compound, permission was given to the trainee by the master on duty who issued a chit to indicate the time he ought to be back. The chit was counter-checked by a security officer at the gate. If the traines went to dispensary or other official destination, the chit was initialled by the officer. On

return, the trainee reported to the master on duty to confirm the return having gone through the security check.

Trainees who misbehaved including making noise in class and being late were consistently punished. Punishments ranged from corporal to performing a piece of manual communal work.

Tools, equipment, and materials. Lack of sufficient tools, equipment, and materials was in evidence, but instructors seemed to be innovative in their teaching methods. That is, instructors used different approaches to instruction similar to those practised at Urukan. Instructors used locally available and reusable materials. Sharing of tools and equipment in group projects was encouraged as well as the economic use of expendable In addition, Oitogom polytechnic initiated the materials. buying of some necessary tools for trainees to keep after they graduated. The system seemed to enable trainees to take great care of the tools since they were their own. Appropriate technology which utilized inexpensive materials and tools was adopted.

Most building materials including sand and bricks for use in the laboratories seemed to be inexpensive in the rural area. Some building materials were made by trainees for example, concrete blocks and bricks. This factor seemed to cut down the costs for materials, tools, and equipment. Training involved coaching on the use of tools, equipment, and materials. That is, the importance of the availability

of tools, equipment, and materials could not be overemphasized.

In summary, the committed staff seemed to employ activities which utilized equipment and materials to assist trainees in their learning.

## 5.5 Management

The management of the institution was carried out by the management committee which consisted of the principal, and selected parents. The number of members was nine. There was an executive committee of five members responsible for the day-to-day running of the polytechnic. The membership included a chairman (parent), a secretary (principal), a treasurer (parent), and two other members from the whole committee. Government officers including councillors and Member of Parliament of the area were ex-officio members of the committee.

The election and duties of the management committee were similar to those of Urukan. However, in addition, the committee conveniently obtained land for expansion. The rural location seemed to be an added advantage to the polytechnic in this respect. It was also important to note that the area Member of Parliament contributed generously towards obtaining the site, and continued development activities of the polytechnic including moral and financial support. The principal was the link between the staff, trainees, and the management committee or parents. The principal reported to the District and Provincial Youth Officer on administrative matters.

<u>Financial resources</u>. Funds came from various sources. In addition to sources similar to Urukan's, that is, government, community Harambee funds, fees, and income generating projects or contracts, a donor organization CARE (Co-operative for American Relief Everywhere) contributed towards the development of the polytechnic.

Trainees constructed over three quarters of the buildings on the compound with the supervision of instructors while they learned valuable skills. Tailoring and dress making classes made the uniforms for all trainees. Funds solicited from the projects in question seemed to offset operating costs of the polytechnic, and enabled items including fees and some tools affordable.

Agricultural classes were taught how to keep hens. The hens laid eggs both for use by trainees and for sale. Farm produce including vegetables and maize were used by the polytechnic while the surplus was sold. The polytechnic practised an element of self-reliance. That is, the management of the polytechnic seemed to be capable of directing the shape of the polytechnic events through the established traditions.

5.6 Achievement of objectives

The major objective of the polytechnic was to impart relevant vocational skills and attitudes. This, it was believed, would lead the youth so trained into gainful self or salaried-employment. As well, the graduates would contribute towards development of the area, and where possible, other communities.

Work groups. Work groups were encouraged by the youth development program. Work groups were initiated for graduates to help those who were not able to establish small businesses on their own. Moreover, work groups served as a follow-up program for the graduates to find out what they were doing skill-wise as well as encouraging self-employment and reliance. The graduates of similar trades joined to work on contracts in the area. The graduates who came from different identified areas those with matching characteristics in the areas. Instructors supervised the groups.

Like in Urukan, the Leaver's Document seemed to be as important as the National Certificate, in some cases more recognized, for employment. For salaried employment, the type of employer or job appeared to be the determining factor. It seemed that a National Examination was not necessarily the best way of determining the proficiency of trainees. A number of trainees graduated without a National Certificate, but they seemed to possess skills similar to or

better than those who had. That is, the training seemed to provide the necessary skills. The National Certificate only made it easier to find a salaried-employment, especially when the employer did not test on what the individual could actually do.

The drop out rate was as low as 1% in 1989/90. Reasons for most drop outs appeared to be similar to those found at Urukan. They were mainly associated with family problems, lack of interest, pregnancies (low), and finding something else to do.

Job opportunities seemed to be available in the rural area, but could be available in the urban area as well depending on the type of courses studied. The labour market seemed to absorb graduates through solaried or selfemployment. Being knowledgeable in more than one related trades seemed to assist graduates in becoming more selfreliant. One individual could perform timber roofing, and fix kitchen shelves or drawers if he specialized in carpentry and joinery.

Loan schemes available applied to graduates as in Urukan. Initiatives and competitiveness of graduates seemed to enable them to use available opportunities and resources. That is, objectives of the training at Oitogom polytechnic seemed to have been achieved. The training seemed to have succeeded not only in imparting the required skills, but also, in transforming the attitudes of the youngsters.

It must be noted that due to complexities inherent

within the polytechnic processes it was impossible to make about all characteristics. Certain similarities and differences were found upon the analysis of the data within the polytechnics under study. However, there were more similarities than differences. Table 5.3 gives an overview of polytechnic similarities and differences by aspects under study.

# TABLE 5.3

\*

and the second se

Ĩ

\* .....

## SUMMARY OF URUKAN AND OITOGOM POLYTECHNICS SIMILARITIES AND DIFFERENCES

SIMILARITIES	DIFFERENCES					
1 COURSES OF STUDY:						
<ul> <li>tailoring/dress making was dominated by girls in both.</li> </ul>	- agriculture was offered at Oitogom.					
<ul> <li>a wide range of courses existed in both.</li> </ul>	- some girls took motor mechanics at Oitogom.					
2 RELEVANCE OF TRAINING/COURSES OF STUDY:						
<ul> <li>training was relevant to rural &amp; urban areas and to employment in both.</li> </ul>	<ul> <li>most buildings were erected at Oitogom by trainees for skills.</li> </ul>					
<ul> <li>trainees expected self- employment on obtaining money through salaried jobs in both.</li> </ul>	<ul> <li>supervised industrial attachment was offered at Oitogom.</li> </ul>					
3 QUALITY OF TRAINING WITH RESPECT TO STAFF, TOOLS, EQUIPMENT & MATERIALS:						
- committed & qualified staff was available in both, pedagogy for instructors and administrative processes for principals were required in	<ul> <li>Urukan had sufficient electricity due to urban location.</li> <li>Oitogom had extra time</li> </ul>					
both.	for study due to boarding facilities.					
<ul> <li>principals influenced polytechnic spirit in both.</li> </ul>						
<ul> <li>facilities were recognized as important in both.</li> </ul>						
- more facilities were required						

#### SIMILARITIES

## DIFFERENCES

graduates were

administrative office.

initiated at Oitogom

reliance/employment.

#### 4 MANAGEMENT:

- management committee (parents') - only Urukan principal duties were similar in both. had close proximity to District Youth
- innovative means of generating funds were used in both.

5 ACHIEVEMENT OF OBJECTIVES:

- trainees acquired workable work groups for skills in both.
- drop-out rate was low in both. to ensure self-
- job opportunities were available for graduates in both.
- Leaver's (Graduate's) Document seemed more valuable than a National Certificate in both.

#### CHAPTER SIX

#### 6.0 SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

6.1 Introduction

1

It was stipulated in the problem statement of this study that after Kenya's independence in 1963, the Ominde Commission was set up in 1964-1965 to survey the existing educational resources, and to advise the government in the formulation and implementation of national policies for education. One major issue that the Ominde Commission addressed was Universal Primary Education (UPE). As time progressed the government learned that the expansion of schooling realized from UPE led to enormous enrollments at all levels of the education system.

The literature review also showed that the increase in the enrollments contributed to a large number of children being forced out of the school system each year because of too few facilities, places, and resources to match the number of children in the schools. As well, some of those who graduated were not employable because they had no workable skills (see also, Shiundu, 1986; Anderson, 1968; NCCK, 1966). The primary school graduates were mostly affected because they were both too young and unskilled to be considered for any modern sector jobs. Consequently, it was clear that the increased number of school graduates along with a number of

drop-outs was a main cause of unemployment in Kenya. A second government study conducted by the Gachathi Commission in 1976 mainly addressed the unemployment problem among the product of formal education at all levels of the educational system, as well as the development of vocational and technical education and training.

The literature review also indicated that to alleviate the unemployment problem, especially at the primary level, the government should respond by establishing multi-skill nonformal education and training institutions including the community-based youth polytechnics and the national youth service, both with a strong vocational bias. The major objectives of the youth polytechnic training were to:

- a) Impart workable skills and attitudes.
- b) Lead individuals to gainful self or salariedemployment.
- c) Enable the youth during and after training to contribute in the development of their communities (see also, Waithaka, 1989; Kasina, 1987, pp. 22-27).

In this study, five aspects of youth polytechnics were examined:

- 1) The courses of study
- The relevance of courses of study to urban/rural areas and to employment
- The quality of training with respect to staff, tools, equipment, and materials
- 4) The management of the polytechnics

5) The achievement of the youth polytechnic objectives.

There was a concern about the relationship between youth polytechnics and preparing young people for work, and helping to resolve the employment problem. As well, at issue was which factors contributed to making youth polytechnics exemplary. The two cases selected for study were judged to be exemplary on both a student performance criterion and a reputational criterion.

The present chapter then, summarizes the findings of the study, and offers concluding comments on:

- a) Exemplary youth polytechnics and preparation for work
- b) Exemplary youth polytechnics and the employment problem
- c) Factors which seemed to make the youth polytechnics exemplary.

As well, recommendations for practice and for research are presented.

6.2 Summary of the Findings

6.2.1 <u>Courses of Study</u>. Both youth polytechnics offered a variety of courses. Ndua (1988, pp. 66-67) and Yambo (1986, pp. 87-91) found that youth polytechnics in Kenya offered only an average of five courses. Both Urukan and Oitogom offered nine courses. The courses were: carpentry and joinery, masonry, plumbing, tailoring and dress making, motor mechanics, metal work, painting and sign writing, home economics, business education, and agriculture. Urukan, the urban youth polytechnic, offered all the courses listed except agriculture while, Oitogom, the rural polytechnic, offered all the courses listed except painting and sign writing.

Expansion of the youth polytechnics to accommodate more students was imited mainly by the cramped location and surroundings in urban Urukan, and by insufficient resources in both cases. This finding was consistent with the study by Yambo (1986, p. 200) who found that courses in youth polytechnics could remain economically viable, but newer courses would be introduced as space and resources permitted. As well, Ndua (1888) found that the older the polytechnic, the greater the number of courses, but this, too, was limited by an insufficient number of instructors coupled with insufficient essential material resources to expand the curriculum.

Course variety enabled a relatively large number of primary school graduates, in some cases secondary students, with different backgrounds and characteristics to join the training. This also helped reduce various categories of unemployed primary and secondary graduates.

In both youth polytechnics, boys would take any course except home economics which was mainly for girls. Laundry and house keeping were some of the areas learned in home economics. It was found in this study that tailoring and

dress making, as also found by Oiro and Waithaka (1982), was dominated by girls in both youth polytechnics. Sex related work roles, it was noted, would likely limit the girls' employment opportunities, a finding also reported by Oiro and Waithaka (1982). Motor mechanics and agriculture appeared to be more popular at rural Oitogom while metal work appeared to be more popular at urban Urukan. This finding was consistent with that by Yambo (1986, p. 200) who stated: "Logic suggested that the demand for motor mechanics and metal work in general should increase in the years ahead."

6.2.2 <u>Relevance of the Courses of Study to Rural/Urban</u> The relevance of the courses in Areas and to Employment. each polytechnic was found to be appropriate to the respective area and technology. However, the technology applicable in the rural area was somewhat different from that the urban area because of the unavailability of in electricity. The techniques adopted for teaching practicals in both youth polytechnics involved coaching, and were inexpensive and easy to follow. Some courses offered in the rural polytechnic would likely make graduates employable mainly in the urban area. Therefore, there was a possibility that the relevance of courses of study would likely extend from either the urban area to the rural area or vice versa. This finding was consistent with one of Kenya's development strategies (Republic of Kenya, 1988, p. 9; Republic of Kenya, 1970-74) which encouraged rural-urban migration to foster

productive economic and social interaction between the rural and urban areas. The strategy promoted the development of an urban system that supported the growth of agriculture and the development of rural areas, as well as, the generation of productive employment opportunities in non-farm activities for rural workers close to where they lived. The strategy began with agriculture because it was where more than 70% of Kenyans were employed, and where 30% of the Gross Domestic Product was produced (Republic of Kenya, 1988, p. 42). Some of the obvious employment-creating linkages between rural (farms) and urban centers included:

- a) The marketing of farm products
- b) The manufacture of simple metal products such as charcoal burners that could be used in both settings
- c) The fabrication of simple capital goods such as gutters, down pipes, and water storage tanks needed in both settings
- d) The building of low-cost housing
- e) The repair and maintenance of vehicles, farm implements or machinery.

Other rural-urban linkages arose with demand or when artisans learned new skills, and entrepreneurs realized new opportunities. The youth polytechnic programs supported the government strategy by offering relevant courses. For example, agriculture was offered at Oitogor, and metal work, motor mechanics, and building courses were offered in both polytechnics.

The Leaver's Document was found to be as useful as the National Certificate in employment, in some cases better. The National Certificate was normally issued on passing Government Trade Test Examinations set by the Directorate of Industrial Training. This finding was consistent with that by Orwa (1982) who found that there was not a significant National Certificate relationship and between а employability. Most employers seemed to be more concerned with what an individual could do than the possession of a National Certificate. The Leaver's Document mainly certified that an individual had undergone training in the youth polytechnic for a particular period of time. However, there need to examine further the recognition of both was certificates by prospective employers.

The courses of study were initially developed in response to identified needs of the respective areas, but could be useful in other areas, too. For example, motor mechanics and agriculture were more popular at Oitogom because of the arable area, while metal work, especially arc welding, was more popular at Urukan. This finding was also supported by Yambo (1986) who noted that arc welding was urban oriented. Suffice it to say that the courses seemed to be relevant to employment opportunities in the respective areas with a possibility of extending to other areas.

T
6.2.3 Quality of the training with respect to staff, tools, equipment, and materials. A lack of sufficient tools, equipment and materials was found in both youth polytechnics. For example, if a particular project was scheduled to take a certain length of time, it would take longer because tools and equipment had to be shared. The situation would be worse if some of the equipment broke down. That is, trainees shared most equipment, and resources did not match the number of trainees. The one exception was in sewing courses where there was at least one machine per student. However, lack of sufficient facilities including tools and equipment did not seem to affect the guality of the training because of the innovative means of instruction which included: supervised industrial work attachment: actual work environments; utilization of appropriate and inexpensive technology; and, encouragement in the use of locally available resources. Projects were organized bearing in mind that the tools would be shared, and where necessary, group projects were assigned. Similarly, Orwa (1982) found that the supply of tools in youth polytechnics was inadequate, but the quality of instruction was high.

Instructors were mainly employed by the Ministry of Technical Training and Applied Technology, but the management committees had the mandate to employ some staff. All instructors in the two youth polytechnics had attained at least Government Trade Test II or equivalent, which was the recognized minimum qualification for a staff member. It was found that instructors were very committed to their work. They were observed in various environments that included demonstrations and coaching during extra time in laboratories and outside the polytechnics. Instructors also accompanied trainees to playgrounds, and during choir practices and communal work. However, it seemed that pedagogy or professional instruction in teaching methods was required for the instructors, while administrative skills were required for the principals. As well, it seemed that the terms and conditions of service for the staff needed some attention.

6.2.4 Management. It was found that the management committees, which largely consisted of parents, "humanized" the polytechnics to a greater extent while taking full advantage of the local resources. For example, most support staff was locally hired. Moreover, the committees involved parents in the polytechnic system. The committees informed parents about life in the polytechnics and the community needs and resources. The committees made suggestions with a view to improving polytechnic life by conveying to the polytechnics, the parents' reactions, needs, and hopes through suggestions, recommendations, opinions, and advice. Management committee activities including Harambee (selfhelp) drives and Open Days were encouraged and coordinated by the same.

Vocational and technical training facilities seemed to be relatively expensive to run and maintain. However, financial problems in the polytechnics seemed to have been alleviated by various sources of funds from the government, Harambee drives, fees, and income generating contracts at Urukan. In addition to these for Oitogom, the donor organization, CARE (Kenya), contributed towards the development of the polytechnic. The management committees appeared to have performed tirelessly towards bringing the entire communities to work together for a common goal.

6.2.5 Achievement of objectives of the youth polytechnics. Despite the lack of sufficient materials, tools, and equipment, the type of training offered in both youth polytechnics seemed to impart the essential skills the trainees needed for self or salaried-employment. This finding supports that by Orwa (1982) who found that most youth polytechnic graduates were usefully employed (63.1%). The programs in both youth polytechnics seemed, therefore, to have lived up to their expectations. This was the major objective of the training. Moreover, "work groups," the working together of graduates of similar skills acquired from training, were initiated at Oitogom for the specific purpose of ensuring graduates were self-employed.

As noted in the findings of this study, possession of a National Certificate did not seem to be more significant than the actual skills the individuals acquired for employment. Court (1972) found that 64% of youth polytechnic graduates were either wage or self-employed using skills acquired.

The possession of a National Certificate could not replace learned skills. As well, Awuondo (1975) found that about 57% of the graduates in his study were in relatively regular wage employment using acquired skills.

Drop-out rates were relatively low in both youth polytechnics. Moreover, the reasons for most drop-outs were genuine in that they were associated mainly with family, financial and illness problems or attaining early employment.

Loan schemes by the government and private organizations were available to aspiring graduates with financial problems to venture into small business. Appendix M elaborates this factor, further.

6.3 Conclusions

6.3.1 The Exemplary Youth Polytechnics and Preparation for Work. It was found in the literature review that vocational education implied the preparation of an individual for an occupation or career. This involved both liberal and technical aspects of education. Technical aspects included the knowledge and skills required to successfully perform a job. As well, it was noted that in the vocational and technical training programs, practical aspects were emphasized at the lower level in the programs. Programs in the lower level included artisan and craft studies which in fact, were the ones undertaken by the youth polytechnics.

One of the findings in this study was that the training

in the youth polytechnics was practically oriented, and about three-quarters of the trainees' time was spent in an actual work environment. Similarly, Ayot (1987) indicated that 70 % of the trainees' time was spent in practicals and/or work. The instructors normally coached the trainees on the use of tools, equipment, and materials while closely relating the projects or assignments to the actual work environment as well as to appropriate technology. This was one reason why the National Certificate, mentioned earlier, did not seem to be any more significant than the Leaver's Document for employment. That is, trainees were prepared for work with or without the National Certificate unless they dropped out of the program too early to have mastered the skills, a finding also reported by Orwa (1982). All these factors were geared towards the preparation of the trainees for work.

6.3.2 <u>The Exemplary Youth Polytechnics and the</u> <u>Employment Problem</u>. It was noted in the literature (Paulston, 1973; Coombs, 1968; Blaug, 1972; Sheffield and Diejomach, 1972) that nonformal education programs such as youth polytechnics were used to "cool down" the aspirations for formal schooling and to remove youth from the labour market. To a large extent, the exemplary youth polytechnics under study seemed to have achieved this goal. For example, most trainees in the youth polytechnics were those who lacked better academic grades for continuation in formal schooling. The aspirations for formal schooling which were associated

with "white collar" jobs were no longer available, as also found by Kinyanjui (1974). Normally, unemployed primary school graduates would pose a political problem as they had the ability to spread dissatisfaction among themselves and others. There would also be a danger that many parents and children might become disillusioned about the value of primary education (Kinyanjui, 1974; Blaug, 1974).

Furthermore. as found by the National Christian Churches of Kenya (NCCK) (1966), there were few secondary schools coupled with lack of suitable employment opportunities for the youth who were too young to be considered for modern "white-collar" sector iobs. The polytechnics had tried to combat student temptations to seek work in the already scarce wage-employment sector by imparting skills that would mostly lead to self-employment. This factor was consistent with the ILO/SIDA (1977) Report:

The village (youth) polytechnic program has been one of the impressive efforts which are being made by the government to counteract the tendencies of the education system inherited from the colonial period... the village polytechnics have become a focal point for the involvement of people in their community... focal point for agricultural extension, rural work programs.

Indeed, the success of the youth polytechnics even at an earlier stage was clearly noticed as the GOK/NORAD (1974) Report stated:

The Mission is satisfied that at its present level of operation, the program contributes significantly to employment and rural development. It justifies the efforts undertaken by Kenyan authorities and external support lent to it (p. 52). Nevertheless, the number of primary and secondary graduates as realized from the enrollments in section 2.2 of the literature review, did not seem to match with the enrollments in the youth polytechnics. Currently, the youth polytechnics could not expand at any faster rate within the limited resources without eroding quality (Republic of Kenya, 1988, p. 18). The demand for qualified instructors in some courses might exceed the supply leading to low quality instruction. In the end, the trainees might not receive the training that they required.

It seemed logical therefore, to suggest that although the youth polytechnics had helped alleviate the problem of unemployment to a large extent, enrollments in the primary and secondary schools far exceeded those in the youth polytechnics. Hence, it appeared that the unemployment problem could possibly be further alleviated by an increase in youth polytechnic enrollments.

6.3.3 Factors which made the youth polytechnics exemplary. It was stated in this study that there were many complexities inherent in schooling. It would not be possible characteristics which made to uncover all the youth major factors polytechnics exemplary. However, which contributed towards the exemplary standards of the youth Table 6.1 summarizes the factors polytechnics were noted. which were found to be associated with exemplary youth polytechnics.

# TABLE 6.1

Auna A

## SUMMARY OF FACTORS THAT CONTRIBUTED TO EXEMPLARY STANDARDS OF THE YOUTH POLYTECHNICS

FACTOR	DETAIL
Committed staff	<ul> <li>coaching trainees.</li> <li>innovative means of instruction including use of models and teaching aids.</li> <li>relating training to world of work.</li> <li>accompanying trainees to extra- curricula activities.</li> <li>assisting trainees over extra time.</li> <li>praising trainees after good work.</li> <li>encouraging trainees to do better.</li> </ul>
High perception for studies by trainees	<ul> <li>sense of purpose to learn.</li> <li>self-organizing during classes, projects, and communal work.</li> <li>obeying rules and regulations (self- discipline) eg. a dress code.</li> </ul>
Creation of environment conducive to training by dedicated principals	<ul> <li>instilling discipline through rules, and normative behavior.</li> <li>formulating informal and formal communication links with staff, trainees, parents, and Youth Officers.</li> <li>delegating responsibilities.</li> <li>encouraging working cooperatively.</li> </ul>
Management committees' vision of polytechnics' direction	<ul> <li>developing courses suited to the development of the areas, and to graduates' employment.</li> <li>developing links between the communities and the polytechnics for strong reputation as well as humanization of the polytechnics.</li> <li>vying for local resources to offset the polytechnics' operation costs eg. local work opportunities for trainees, making own uniforms, selling own products, hiring local support staff.</li> <li>soliciting for funds and moral support from communities.</li> </ul>

As noted in chapter one, Maundu (1986) found in his study on three types of school in Kenya that less adequate resources including tools, equipment, and materials seemed to play an important role in explaining the wide variations in the academic performance among students. However, Maundu suggested that more detailed research was required to determine the way in which facilities affected academic standards. Moreover, Rutter (1979) and Coleman (1966) in their studies of school effectiveness did not find any relationship between resources and student success in schools. In Kenya, in a youth polytechnic, a type of institution devoted to training primary school graduates, resources including tools and equipment seemed important in the training. It was however, further found in this study that the possession of such resources including qualified staff were not by themselves enough to make the polytechnics exemplary. Deal (1985, p. 615) argued that the pathway to educational effectiveness was inside each school; that it existed in the traditions and symbols which made a school special to its students, teachers, administrators, parents, and the community. Although policy makers laid the ground work, the people in each school would determine through words and deeds an individual school's success.

The factors which contributed towards the exemplary standards of the youth polytechnics included:

a) The committed staff

b) The high perception of studies by trainees

- c) The principals' creation of environment conducive to training
- d) The managements' vision of where the polytechnics were going.

The staff was clearly committed and ready to utilize the meagre available local resources. They used innovative means of instruction. For example, the instructors coached the trainees on the use of tools and materials with a close link to the world of work. Teaching aids and models were used.

The projects assigned, including industrial work attachment, were closely supervised by the instructors. Instructors assisted trainees over extra time as well as constantly praising and encouraging them to do better. As well, instructors accompanied trainees in various settings including extra-curricula activities.

The trainees had developed a sense of self-discipline and were ready to learn. They seemed to know the value of the training from the beginning and tried to aim high. This made it easier for the instructors to coach them. Trainees were responsible in organizing themselves in various activities including choir and other group or communal work such as general cleaning in the compound. That is, both the staff and trainees had a sense of purpose.

The principals created an environment conducive to training by utilizing both authoritative and established traditions to dictate the shape of the polytechnic events. Various factors which contributed towards a conducive training environment in the polytechnics included strict discipline such as a dress code. Trainees wore a clean uniform throughout their studies. As well, a number of rules observed. Delegation of were duties or responsibilities to both instructors and trainees was also observed. Masters or mistresses on duty coordinated day-today activities including communal work schedules in the compounds each week. The principals established both informal and formal communication links with the instructors, trainees, and the communities or parents. Open-door policies were adopted whereby instructors, trainees, and parents walked into the principals' offices without the need of making an appointment. The principals knew what activities were going on in the polytechnics and in the communities. Similarly, Lightfoot (1983) argued:

...the principal is the person who must inspire the commitment and energies of his faculty; the respect, if not the admiration of his students; and, trust of parents. He sits on the boundaries between school and community; must negotiate with the superintendent and the school board; must protect teachers from external intrusion and harassment; and, must be the public image maker and spokesman for the school (p. 323).

The links with the Ministry responsible for training through the District and Provincial Youth Offices on administrative matters were routine.

The management committees of the exemplary youth polytechnics had a vision of where the polytechnics were going. Among the important duties they performed included the means to:

- a) Take the vital decisions connected with the operation of the polytechnics.
- b) Solicit for funds to run the youth polytechnics, and to ensure proper provision for budgets.
- c) Ensure proper security to protect the property of the polytechnics.
- d) Educate the communities (parents) about the importance of the youth polytechnic programs.

All these activities were geared towards bringing the entire polytechnic communities to working together for a common goal.

The management committees were aware about which courses were more relevant to their respective areas as well local work opportunities for trainees. In this way, as trainees in various courses performed actual work while acquiring skills as well as generating funds towards the development of their respective polytechnics and areas. This was part of the main objective that led to the establishment of the exemplary youth polytechnics. Essentially, the youth polytechnics attained the exemplary standards by achieving the objectives of the training. The objective was: To equip a school graduate with relevant vocational skills and attitudes that would lead the youngster so trained into gainful self-employment, and to enable him or her during and after training to contribute more competently in the development of his or her community. The youth polytechnics identified the objectives and tried to work towards them. The committees also solicited for community support both morally and financially. For example, parents were involved in the activities that improved polytechnic life such as Harambee drives, Open Days, and local work opportunities for the trainees. Any suggestions from both the committees and parents in view of improving the polytechnic life were conveyed through the committees by noting the parents' reactions, needs, and hopes. That is, the exemplary youth polytechnic communities (principals, instructors, trainees, parents) worked together for a common objective.

It seemed that the four aspects of the study, that is, the courses of study; the relevance of the courses to the areas and to employment; the quality of the training; and, the management altogether contributed to the fifth aspect, the achievement of the objectives of the training.

6.3.4 Recommendations for Practice

The following recommendations were proposed:

- The government should consider taking full responsibility of providing for the following resources in youth polytechnics:
  - Tools, equipment (including maintenance), and materials
  - b) Instructors and principals
  - c) Other miscellaneous facilities necessary for the

day-to-day operations in the youth polytechnics. This will be a vital and inexpensive step in ensuring the necessary resources are available in all youth polytechnics hence, proper functioning in the youth polytechnics.

- 2. Pedagogy or professional training in instruction methods and refresher courses for skills upgrading should be arranged for the instructors to up-date their knowledge and skills. Principals should be given some professional training in administrative processes. These will uplift and/or maintain the standards of the student training.
- 3. Conditions and terms of service for the staff should be given some attention in order to boost their morale.
- 4. More youth polytechnics should be established in favorable areas (rural or urban) in the country in order to increase the required enrollments.
- 5. Contracts and other jobs that generate income in youth polytechnics should be encouraged so that trainees can perform them as they gain practical skills. Moreover, production units should be established for the trainees to assist in making simple hand tools. These are innovative projects that can reduce the costs of training as well as equipping trainees with some essential tools that they may require when they graduate.
- 6. Graduates of youth polytechnics with outstanding academic records should be recruited to teach in primary

ġ.

schools since they have vocational and technical skills that some primary school teachers may not already have. This will ease the shortages of vocational and technical teachers already being experienced in primary schools, and creating employment for the youth polytechnic graduates.

# 6.3.5 Recommendations for Research

Although the present study looked at only two exemplary youth polytechnics, it may provide the initiative for future studies. As Goodlad (1983) noted: "a rich detailed body of data on a small sample of representative schools can shed much light on problems and issues that may be endemic to schooling" (p. 465).

Two exemplary youth polytechnics, one in а rural setting, and, one in an urban setting, were examined. It seems that the next step would be to look at youth polytechnics that were not exemplary. As well, the polytechnics should be studied in the not-so-developed-areas in the country so as to explore how they function in those environments. These studies should focus on the future of youth polytechnics in vocational and technical education and training in Kenya with regard to the 8-4-4 system of education.

#### BIBLIOGRAPHY

Akwenye, O.S. (1975). <u>Education for self-reliance in</u> <u>Tanzania: From theory to practice, 1967-74</u>. Unpublished Masters Thesis, McGill University, Montreal, Canada.

Anderson, J.R. (1968). Primary school leavers in progressive rural areas of Kenya. <u>Teacher Education 8:3</u>, pp. 201-214.

Anderson, J.R. (1970). The village polytechnic movement. <u>IDS/SRDP Evaluation Report No.1</u>. Nairobi: MacMillan.

- Awuondo, C.B. (1975). <u>Rural development opportunities for</u> <u>village polytechnic trained masons and carpenters: The</u> <u>Ndere case study</u>. Undergraduate dissertation, University of Nairobi, Kenya.
- Ayot, H. (1987). "The Harambee approach to vocational education in Kenya," in Twining, J., Nisbet, S., and Megarry, J. (Eds.). <u>World Yearbook of Education, 1987:</u> <u>Vocational education</u>. New York: Nichols Publishing Company, pp. 161-173.
- Bacchus, K. (1988). The political context of vocationalization of education in the developing countries. In Lauglo, J. and Lillis, K. (Eds.), <u>Vocationalizing education: An international</u> <u>perspective</u>. Toronto: Pergamon Press, pp. 31-44.
- Blaug, M. (1972). Economics and educational planning in developing countries. <u>Prospects 2(2)</u>, 431-441.
- Blaug, M. (1974). <u>Education and the employment problem in</u> <u>developing countries</u>. Geneva: ILO.
- Bogonko, S.N. (1986). Aims of education in Kenya considered in the context of independence. <u>Kenya Journal of</u> <u>Education 3(1)</u> 112-137.
- Brownstein, L. (1972). <u>Education and development in rural</u> <u>Kenya: A study of primary school graduates</u>. New York: Praeger Publishers Inc.
- Chapman, D.W. and Windham, D.M. (1985). Academic program "failures" and the vocational school fallacy: Policy issues in secondary education in Somalia. <u>International</u> <u>Journal of Educational Development, 5(4)</u>.
- Coleman, J., Campbell, E., Hobson, C., McPartland, J., Mood, A., Weinfield, F., and York, R. (1966). <u>Equality of</u> <u>educational opportunity</u>. Washington, D.C.: Office of Education, U.S. Department of Health, Education and Welfare.

Coombs, P.H. (1968). <u>The world education crisis: A systems</u> <u>analysis</u>. New York: Oxford University Press.

- Coombs, P.H. (1970). <u>What is education Planning?</u>: <u>Fundamentals of educational planning series No.1</u>. UNESCO, Paris: International Institute for Educational Planning, p.4.
- Coombs, P.H. (1971). The adjustment of educational structure to the requirements of the economic development. In Wykstra, R.A. (Ed.), <u>Education and the economics of</u> <u>human capital</u>. New York: Free Press.
- Coombs, P.H. and Ahmed, M. (1974). <u>Attacking rural poverty</u>: <u>How nonformal education can help</u>. Baltimore: Johns Hopkins University Press.
- Court, D. (1972). <u>Village polytechnic leavers: The Maseno</u> <u>story</u>. Institute for Development Studies Working Paper No.72. IDS, University of Nairobi, Kenya.
- Court, D. (1973). Dilemmas of development in Kenya: The village polytechnic movement as a shadow system of education in Kenya. <u>Comparative Education Review</u>, 30, 321-327.
- Deal, T.E. (1985). The symbolism of effective schools. Elementary School Journal, Vol.85, No.5, pp.601-620.
- Evaluation Mission. (1984). The Kenya village polytechnic program. Nairobi: Government of Kenya and NORAD.
- Foster, P.J. (1968). The vocational school fallacy in development planning. In Blaug, M. (Ed.), <u>Economics of</u> <u>education 1</u>. Baltimore, Maryland: Penguin Books Inc., 396-423.
- Fuller, B. (1985). <u>Raising school quality in developing</u> <u>countries: What investments boost learning</u>? Discussion Paper, The World Bank, Education and Training.
- Godfrey, E.M. (1973). <u>Technical and vocational training in</u> <u>Kenya and the Harambee Institutes of Technology</u>. Discussion Paper No. 169. Institute for Development Studies, University of Nairobi, Kenya.
- Goodlad, J. (1983). A study of schooling: Some findings and hypotheses. <u>Phi Delta Kappan</u>, 64(7), pp. 465-470.
- Government of Kenya (GOK)/NORAD. (1974). <u>The Kenya</u> <u>village polytechnic program</u>. Unpublished Evaluation Report on the Kenya village polytechnic program.

Heyneman, S. (1985). Diversifying secondary school curricula

in developing countries: An implementation history and some policy options. <u>International Journal of</u> <u>Educational Development, 5(4).</u>

Hoppers, W. (1985). From school to work: Youth, nonformal training and employment in Lusaka. The Hague: Centre for the Study of Education in Developing Countries (CESO).

Indire, F. (1982). Education in Kenya. In Fafunwa, A.B. and Aisiku, J.U. (Eds.), <u>Education in Africa: A comparative</u> <u>survey</u>. London: George Allen and Unwin (Publishers) Ltd., pp. 124-127.

International Council for Education Development (ICED). (1974). <u>Attacking rural poverty</u>: <u>How nonformal</u> <u>education can help</u>. Baltimore: Johns Hopkins University Press, p. 8.

International Labour Office (ILO). (1972). <u>Employment</u>, <u>incomes and equality</u>: <u>A strategy for increasing</u> <u>productive employment in Kenya</u>. Geneva, ILO Report.

International Labour Office/Swedish International Development Agency (ILO/SIDA). (1977). RAF/19. Unpublished Report on Eastern and Southern Africa Preparation of Rural Youth Development held in Botswana.

Joyner, C.W. (1987). <u>A case study of Mombasa, Kenya</u>, <u>and Dawson staff development project</u>. Unpublished Masters Thesis, McGill University, Montreal.

Kasina, C. (1987). <u>Relevance of youth polytechnics/Harambee</u> <u>institutes of technology to society today and tomorrow</u>. Proceedings of a seminar held at Silver Springs Hotel, Nairobi, May, 1987, on Technical Training and Work Experience in Kenya. pp. 22-27.

- Kerre, B.W. (1987). <u>Strategies and options for vccational and technical education and training in Kenya</u>. A paper presented at a seminar on future education strategies and options organized by the Presidential Working Party on Education and Manpower Training for the Next Decade and Beyond in collaboration with the World Bank, Eldoret, Kenya.
- King, K. (1974). <u>Productive labour and the school system</u>: <u>Contradictions in the training of artisans in Kenya</u>. Comparative Education 10(3), 181-191.

King, K. (1977). The African artisan. London: Heynemann.

Kinyanjui, K. (1974). Education, training, and employment.

In David, C. and Dharam, G. (Eds.), <u>Education, society</u>, <u>and development</u>: <u>New perspectives from Kenya</u>. Nairobi: OUP.

Kipkorir, B.E. (1975). Kenya: Development and coordination of nonformal program. In Ahmed, M. and Coombs, P.H. (Eds.), <u>Education for rural development</u>: <u>Case studies</u> <u>for planners</u>. New York: Praeger Publishers, pp. 175-215.

÷.,

- Lauglo, J. and Lillis, K. (1988). <u>Vocationalizing education</u>: <u>An international perspective</u>. Toronto: Pergamon Press.
- Lauglo, J. and Narman, A. (1988). Diversified secondary education in Kenya: The status of practical subjects and their uses after school. In Lauglo, J. and Lillis, K. (Eds.), <u>Vocationalizing education: An international</u> perspective. Toronto: Pergamon Press.
- Lightfoot, S.7. (1983). <u>The good high school</u>. New York: Basic Books Inc., p. 323.
- Lillis, K. and Hogan, D. (1983). Dilemmas of diversification: Vocational education in developing countries. <u>Comparative Education, 19(1)</u>.
- Logie, C.A. (1985). <u>School effectiveness: Case studies of</u> <u>four elementary schools in Trinidad</u>. Unpublished M.A Thesis, McGill University, Montreal.
- Maundu, J.N. (1986). <u>Student achievement in science and</u> <u>mathematics</u>: <u>A case study of extra-provincial</u>, <u>provincial</u>, <u>and Harambee secondary schools in Kenya</u>. Ph.D. dissertation, McGill University, Montreal, Canada.
- Merrifield, M.M. (1986). Curriculum reforms in Kenyan primary schools: A comparison of classroom instruction in social studies with Geography, History, and Civics. Kenya Journal of Education, 3(1), pp. 64-84.
- Morrison, D. (1976). <u>Education and politics in Africa: The</u> <u>Tanzania Case</u>. Montreal: McGill-Queens University Press, p. 238
- Mwanakatwe, J.M. (1968). <u>The growth of education in Zambia</u> <u>since independence</u>. Lusaka: OUP, p. 246.
- National Christian Council of Kenya (NCCK). (1966). After school, what? Further education, training, and employment of primary school leavers. Nairobi: East African Publishing House.

National Youth Service Corps. (1973). Decree and amendments.

Lagos: NYSC Directorate No.24, p. 12.

4

ŝ.

- Ndua, E. (1988). <u>Technical education in Kenya</u>: <u>A study of</u> <u>youth polytechnics</u>. M.A. Thesis, McGill University, Montreal, Canada.
- Nyerere, J.K. (1967). <u>Education for self-reliance</u>. Dar es Salaam: Government Printer.
- Nzioka, C.B. (1986). <u>Vocational training and rural</u> <u>employment: An investigation into some factors which</u> <u>influence the local employment of youth polytechnic</u> <u>graduates in Machakos district in Kenya</u>. M.A. Thesis, University of Nairobi, Kenya.
- Oiro, S. and Waithaka, D. (1982). <u>Realizing the potential of</u> <u>village polytechnics</u>. Nairobi: Action Aid, Kenya.
- Ongolo, J. (1983). <u>Impact of the village polytechnic program</u> <u>on employment and rural development</u>. M.B.A. Management Project, University of Nairobi, Kenya.
- Orwa, W.O. (1982). An investigation of vocational education with reference to village polytechnic program. M.Ed. Thesis, Kenyatta University College, Kenya.
- Osunde, E. (1988). Diversifying the secondary school curriculum in Nigeria: Problems and policy options. <u>Canadian and International Education, 17(1)</u>.
- Paulston, R.G. (1973). Nonformal education alternatives. In Brembeck, C.S. and Grandstaff, M. (Eds.), <u>Nonformal</u> <u>education as an alternative to schooling</u>. Discussion Paper No.4. Institute for International Studies in Education, East Lansing.
- Psacharopoulos, G. (1985). Curriculum diversification in Colombia and Tanzania: An evaluation. <u>Comparative</u> <u>Education Review, 29(4)</u>.
- Republic of Kenya, <u>Development Plan, 1970-1974</u>. Nairobi: Government Printer.
- ----- <u>Development Plan, 1984-1988</u>. Nairobi: Government Printer, pp. 138-176.
- ----- <u>Education Act, 1980</u>. Nairobi: Government Printer, p. 5.
- ----- <u>Education Commission Report (Ominde Commission)</u>, <u>1964-1965</u>. Nairobi: Government Printer.
- ------ <u>Education Commission Report (Gachathi Report), 1976</u>. Nairobi: Government Printer.

- ----- <u>Implementation of artisan training programs in youth</u> <u>polytechnics</u>. Discussion Paper, May, 1989. Center for Research and Training, Karen, Nairobi, Kenya.
- ----- <u>Presidential Working Party on Establishment of the</u> <u>Second University in Kenya (MacKay Report), 1981</u>. Nairobi: Government Printer.
- ----- Presidential Working Party on Education and Manpower Training for the Next Decade and Beyond (Kamunge Report), 1988. Nairobi: Government Printer, pp. 35-169.
- ----- <u>Sessional Paper No. 6, 1988 on Education and</u> <u>Manpower Training for the Next Decade and Beyond</u>. Nairobi: Government Printer, pp. 5-61.
- ----- <u>Syllabi and Regulations</u>: <u>Technical Education Project</u> (<u>TEP</u>), <u>Artisan training programs</u>, <u>1986</u>. Nairobi: Kenya Institute of Education (KIA), pp. i-iv.
- ----- <u>Teachers Service Commission, Code of Regulations for</u> <u>Teachers (Revised, 1986)</u>. Nairobi: Government Printer, p. 3.
- ----- <u>Technical Education</u>: <u>Economic Survey, 1987</u>. Nairobi: Government Printer.
- Rutter, M. (1979). <u>Fifteen thousand hours</u>: <u>Secondary schools</u> <u>and their effects on children</u>. Cambridge, Mass.: Harvard University Press.
- Saunders, M. and Vulliamy, G. (1983). The implementation of curriculum reform: Tanzania and Papua, New Guinea. <u>Comparative Education Review, 27(3)</u>, 351-373.
- Sheffield, J.R. (1967). <u>Education, employment, and rural</u> <u>development. Nairobi</u>: East African Publishing House.
- Sheffield, J.R. (1973). Education in Kenya: An historical study. New York: Teachers' College, Columbia, University Press.
- Sheffield, J.R. and Diejomach, V.P. (1972). <u>Nonformal</u> <u>education in African development</u>. Report of a survey conducted by the African-American Institute with financial support from the United States Agency for International Development. New York: African American Institute.
- Shiundu, J.O. (1986). <u>Self-employment efforts among primary</u> <u>school leavers in rural Kenya and their implications</u> <u>for the curriculum: The case of Suna</u>. Unpublished

doctoral dissertation, University of Nairobi, Kenya.

- Sifuna, D.N. (1975). Observation of some aspects of nonformal education in Kenya. <u>Education in Eastern Africa</u>, 6, 95-102.
- Sifuna, D.N. (1984). Technical and vocational education in Kenya. <u>Kenya Journal of Education</u>, 1(1), pp. 22-45.
- Spindler, G. (1982). <u>Doing the ethnography of schooling</u>. New York: Holt, Rinehart and Winston.
- Swanson, G.I. (1982). Vocational education patterns in the United States. In <u>The eighty-first yearbook of the</u> <u>National Society for the Study of Education, Part 2</u>. Chicago: The National Society for the Study of Education, pp. 15-48.
- Thompson, A.R. (1981). <u>Education and development in Africa</u>. New York: St. Martin's Press.
- United Nations Educational, Scientific, and Cultural Organization (UNESCO). (1968). <u>Manpower aspects of</u> <u>educational planning</u>. Place de Fontenoy. 75 Paris-7e.
- United Nations Educational, Scientific, and Cultural Organization (UNESCO). (1984). <u>Terminology of technical</u> <u>and vocational education, Revised Edition</u>. Paris: UNESCO.
- Waithaka, J.K. (1989). <u>Development of youth polytechnics in</u> <u>Kenya</u>. Discussion Paper, Youth Development Program, Nairobi, Kenya.
- Wanjala, E.A. (1973). The village polytechnic movement in Kenya. <u>Prospects</u>, 5(3), 414-417.
- Weeks, S.G. (1972). Plight or blessing? Fact and fantasy on school leavers in Uganda. A position paper for policy makers. <u>Manpower and Employment Research Newsletter</u>, 5:1, pp. 38-48.
- Yambo, M. (1986). <u>Technical training and work experience in</u> <u>Kenya: A national tracer study of the leavers of the</u> <u>Harambee Institutes of Technology and Youth</u> <u>Polytechnics</u>. Report funded by Danish International Development Agency, Nairobi, Kenya.
- Yambo, M. (1987). (Ed.) Proceedings of a seminar held at Silver Spring Hotel, Nairobi, May 21-22, 1987: Executive summary on Technical Training and Work Experience in Kenya.

# APPENDIX D

±∿; ▲

-,**₽**,

PRINCIPALS' INTERVIEW PROTOCOL QUESTIONS:								
[A] Geographical/Historical Aspect of the Polytechnic:								
1. When was this polytechnic started? 19								
2. Why was the polytechnic started in this particular area?								
i)ii) iii) iii) iv)								
3. Which competitive institutions are in the vicinity?								
i)ii)ii)iii)								
4. Is the community supportive of this institution?								
Yes No								
Why/Why not?								
· · · · · · · · · · · · · · · · · · ·								
[B] Size of the Institution:								
5. How many instructors are employed with respect to:								
Male   Female   Citizen-								
6. What is the current enrollment? 1989/90								
<ul> <li>6. What is the current enrollment? 1989/90</li> <li>(Can I look at your registers for the last five years please?). [Make a note]</li> </ul>								
<ul> <li>6. What is the current enrollment? 1989/90</li> <li>(Can I look at your registers for the last five years please?). [Make a note]</li> <li>7. What are the projections of the enrollment at this polytechnic?</li> </ul>								
6. What is the current enrollment? 1989/90 (Can I look at your registers for the last five years please?). [Make a note] 7. What are the projections of the enrollment at this polytechnic?								

(Can I look at your curriculum, please?) [Note]..... Fill in Table:

	Male	Female
Course	trainees (no.)	trainees (no.)
ک بی کہ ہے جب پی کے جب جہ جہ چنے جب جب جب جب جب جب جے جب		ی میں عنہ بیل میں بند بیل میں عند میں وہ می بی می میں اور
1		• • • • • • • • • • • • • • • • • • • •
2	• • • • • • • • • • • • • • •	•••••
3	• • • • • • • • • • • • • • • •	• • • • • • • • • • • • • • • • • • •
4	• • • • • • • • • • • • • • • •	•••••
5	• • • • • • • • • • • • • • • • • • • •	• • • • • • • • • • • • • • • • • • •
6	• • • • • • • • • • • • • • • •	•••••
7	• • • • • • • • • • • • • • • • • • • •	• • • • • • • • • • • • • • • • • • •
8	• • • • • • • • • • • • • • • • •	••••••
9		••••••
10		•••••
9. What factors have led polytechnic, if any?	to the increase i	n size of this
i)		•••••••••••••••••••••
iii)iv)	· · · · · · · · · · · · · · · · · · ·	•••••••••••••••••••••
v)		••••••
[C] Administrative struct	ure:	
10. Can I look at your or please?	rganogram (organiz	ational chart)
(sketch the structure	e on paper):	

11. How is the staffing of this institution accomplished? iv)..... 12. How is the curriculum formulated? i)...... 13. (a) What is the the procedure of student recruitment? i)........... iv)..... v)..... (b) Does certification (if any) have any influence on ease of employment of the graduates (self/salaried)? Yes..... No ..... Why/Why not? ..... Type of certification..... 14. What is the board of governors composed of? i).....ii)....ii).....ii).....iii).....iii).....iii iv).....vi).....vi).....vi).....vi).....vi 15. What role does the government play in this institution? 

126

16. What do you think is the future of this institution? [C] Financial Undertakings: 17. (a) How is the institutin financed? i)........................ (b) Are there any particular financial problems? Yes..... No..... (c) Which ones?...... 18. Do trainees engage in projects that sell? Yes..... No..... Explain..... 19. Do trainees pay fees? Yes.... No.... If yes, are there any financial constraints? 20. Are there any donors for this institution? Yes.... No..... Who? i)..... iii).....iv)...... [D] General: 21. What do you think has led to the success of this institution? i)........................ ii)......

3

Ţ

22. What in your opinion, is the future of youth polytechnics in this courtry?

23. Do you have any further questions?

1

and a standard and a

•	•	٠	•	•	•	•	•	•	•		• •	• •	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	• •	•	•	•	•	•	•	•	•	•	•	•	•	• •	•	•	•	•	• •	• •	• •	•	• •		•
•	٠	٠	•	•	•	•	•	•	•	•	• •	•	•	•	•	•	•	•	•	•	٠	٠	٠	•	•	•	•	•	• •	• •	•	•	•	•	٠	•	•	•	•	•	•	•	•	•	• •		•	• (	• •	•		• •	•	
•	٠	٠	•	•	•	•	•	•	•	•	•	•		•	•	•	•	•	•	•	•	٠	•	٠	•	•	•	•		• •	•	•	٠	•	•	•	•		•	•	•	•		•	•		•	• •		• •	• •	• •	•	•

### \*\*\* END \*\*\*

That is the end of the interview. Thank you so much for your time.

#### APPENDIX E

#### PRINCIPALS' QUESTIONNAIRE:

#### [A] BACKGROUND:

**مېرم** ۲

- 1. For how long have you been in principal position in this institution? Years ..... Months .....
- 2. Did you have any professional training before the present job?
  - Yes ..... No.....
- 3. What areas in your field (as principal) would you have wished to go for further training?

- 4. What specific jobs or duties do you perform?

i)	••••••	••••••••••••••••••••••••••••
11)		• • • • • • • • • • • • • • • • • • • •
iv)	•••••••	• • • • • • • • • • • • • • • • • • • •

#### [B] EFFECTIVENESS OF PROGRAM/INSTITUTION:

5. List the objectives of this institution (please, be detailed, concise, and precise)

i)	 	• • • • • • • • • • • • • • • •	
ii)	 		
iii)	 		•••
iv)	 		••
v)	 		• •
vi)	 		••
vii)	 		• •
•	 		

<del>ي</del>م. ري

6. (a) Which objectives have be	een achieved?
i) ii) iii) iv) v) vi) vi) vi)	
(b) Which objectives have no	ot been achieved?
i) ii) iii) iv) v)	· · · · · · · · · · · · · · · · · · ·
(c) Why have the objectives	in (b) not been achieved?
i) ii) iii) iv)	· · · · · · · · · · · · · · · · · · ·
(d) What led to the formula above?	tion of the objectives in (a)
<ul> <li>i)</li> <li>ii)</li> <li>iii)</li> <li>iv)</li> <li>(e) Do you think these obje</li> <li>the initial objectives</li> <li>were started?</li> </ul>	ctives are in line with what for which youth polytechnics
Yes. Why yes?	No. Why not?
i) ii) iii) iii)	i) ii) iii)
7. What in your opinion are the principal of a youth polyte	e qualities of an effective chnic?
i) ii) iii) iv) v)	· · · · · · · · · · · · · · · · · · ·

Which of these qualities do you think you possess? 8. What in your opinion is a successful youth polytechnic? i)..... ii).......... iii)..... iv).......... 9. Is there any certification for the graduates? Yes.... No.... 10. Does certification have any effect on obtaining employment for the graduates? Yes..... No..... Explain: ..... 11. How does the graduate with this certificate (if any) compete with the graduate of both similar/different institutions? i).......... 12. What is the current % dropout rate of this institution? or .....out of .....trainees. 1985..... 1986..... or .....out of .....trainees. or ......out of .....trainees. 1987..... or .....out of .....trainees. 1988....% 1989..... or .....out of .....trainees. 13. How does the current dropout rate compare with the previous years? Greater ..... Less..... 14. What are the causes of the dropouts? i)..... 

iii).....Next Page Please.

131

ia,

vi)...... vii)....... viii)...... ix)......... 15. What is the nature of skills offered? i)........... ii)........... vi)...... 16. (a) What are the major difficulties that the graduates encounter after graduating from this institution? i)........... ii)........ iii)...... iv)........... v)..... (b) Suggest solutions for these difficulties: iv).......... v)...... 17. (a) Do graduates work in rural or urban areas or both? Urban..... Rural..... Both.... (b) Do graduates' occupations make use of skills acquired during training? Yes..... No..... Why?/Why not?.. 18 (a) Do graduates work for an employer or are selfemployed? Work for employer ..... Self-employed..... Other... (b) Is there a reason for answer in (a)? 19. How adequate are the training facilities (tools, books, equipment, workshops, etc.)? 

.<del>.....</del>

For QUESTIONS 20-23 give your opinion concisely and precisely:

20. What are the MAJOR reasons that have led to the success of this youth polytechnic? (please be detailed)?

i) ii) iii) iv) v) vi) vii) vii)	
21.	What in your opinion, is the future of this youth polytechnic?
	What about the future of a youth polytechnic graduate in
	this country?
22.	Were there any threatening questions? Yes No Explain
23.	Do you know of any persons who would also have been resource people for this questionnaire? Yes No
	Please give their addresses: Name Address
	Name Address

\*\*\*\*END\*\*\*\* Thank you for your time.

# APPENDIX F

₹ 4

- S Sadarahan

ŀ

,

î

5**7**.c

INS	TRUCTORS' INTERVIEW PROTOCOL QUESTIONS:
1.	What courses do you offer instruction in?
	i) ii)
ii	i)iv)
2.	Are there any difficulties you encounter while offering the courses that you think hinder the progress of the training in general?
	Yes No
	Reasons: i) ii) iii) iii)
3.	Do you think graduates are capable of using their skills when they leave this institution?
	Yes No
	Reasons: i) ii) iii)
4.	How do you think the graduates can further their studies/training after successfully completing in this institution? i)ii) ii)ii) iv)
5.	Do you think the trainees in youth polytechnics in general are better/worse placed than their counterparts in similar training institutions?
	<pre>a) [Better] Reasons: i) ii) iii) iii). iv) v)</pre>
	<pre>b) [Worse] Reasons: i)ii) iii)iii)</pre>

6. Which are the main competing institutions of this polytechnic? i)ii)ii)ii)
In what ways? i) ii) iii) iii) iv)
7 (a) What are the major objectives of this youth polytechnic?
i)ii)iv)
(b) To what extent has the institution met these objectives?
i) ii) iii) iii) iv)
8. Do you think the community is supportive of this institution?
Yes No
Why? i) Why not? i) ii) iii) iii) iii)
9. What do you think about the management of this institution in general?
i) ii) iii) iv)
10. About how many trainees drop out of this institution each year before completing the training?
······································
Reasons: i) ii) iii) iv) v) vi) vi) vi)

N.

11. Has the current enrollment incresased or declined?

515

Increased	Declined
Reasons: i) ii) iii) iv) v)	Reasons: i) ii) iii) iv) v)
12. What main contributions do institution?	es the government give to this
i)	
ii)	* * * * * * * * * * * * * * * * * * * *
iii)	
iv)	
v)	
vi)	
* _ , * * * * * * * * * * * * * * *	
13. What in your opinion, is t	he future of this institution?
i)	
ii)	
iii)	•••••••••••••••••••••••••••••••••••••••
14. What in your opinion, is t this institution?	he future of the graduates of
÷	
エノ・・・・・・・・・・・・・・・・・・・・・・・・・・・・・・・・・・・・	• • • • • • • • • • • • • • • • • • • •
	• • • • • • • • • • • • • • • • • • • •
111)	

\*\*\* END \*\*\*

Thank you for your time

#### APPENDIX G

**INSTRUCTORS!** QUESTIONNAIRE:

# [A] BACKGROUND: 1. Do you come from the vicinity of this institution? Yes ..... No ..... 2. What made you get interested in your present job? 3. For how long have you been working in this institution? ..... years ..... months 4. What made you have interest in this institution? i).......... 5. Did you train (a) on the job or (b) in an institution or (c) No training ? ..... 6. What courses do you offer training in? i).....ii).....ii).....ii).....iii).....iii)..... iv).....vi).....v).....vi).....vi 7 (a) Do you feel overloaded in your work? Yes ..... No ..... (b) If yes, why?..... [B] OBJECTIVES OF THE INSTITUTITON: 8. What are the major objectives of this institution? i)........... iii)......... iv)..........

v).....
i).....ii)......iii)......iv).....v)......

10. Which trades or skills are in increasing demand in this area?

Trade/skill	Female/Male/Both   F/M/B			
i) ii) iii) iv) v)				
vi)vii)	•••••••••••••••••••••••••••••••••••••••			
Reasons:i)				
For guestions 11-17 rate your attitud from 1-5, 5 being used for the strong	<u>des in numerical terms</u> gest reactions. Thus,			
5 - Strongly Agree 4 - Agree 3 - Undecided 2 - Disagree 1 - Strongly Disagree				
Please, indicate by circling.				
11. The community is supportive of the	his institution.			
1 2 3 4 5				
12. Graduates of this institution ge	t employed easily.			
1 2 3 4 5				
13. The dropout rate in this institu	tion is high.			
1 2 3 4 5				
14. The enrollment of trainees increa	ases every year?			

1 2 3 4 5

.

15. Training facilities (eg. tools, equipment, books, materials, etc.) are adequate. 5 1 2 3 4 16. There is need for expansion of this institution. 3 5 1 2 4 17. Most trainees come from around this community. 1 2 5 3 4 For guestions 18-22 indicate your opinion by giving specific details only. 18. Why do you think this institution is more successful than the others that you know in the vicinity? 19. How do you think graduates of this institution can best further their training? 20. What in your opinion is the future of: a) this polytechnic?..... b) the graduates?..... 

139

22. Do you think there were any threatening questions? Yes ...... No ......

Specify (give reason).....

Please, indicate names and addresses of two persons that would also have been resource people:

21. Other comments about this institution:

Name...... address......
 Name...... address......

### \*\*\* END \*\*\*

Thank you for your time

# APPENDIX H

ł

ł

Sec.

TRAINEE INTERVIEW PROTOCOL QUESTIONS:													
1.	(a)	Do	you	come	e from	ar	ound	this	area?	Y Y	es	••	No
	(b)	How	fai	: awa	w?	•••	• • • •		(km.)				
2.	Why	are	ε γοι	ı tak	ting t	his	tra:	ining	(cour	se)	?		
i ii i	i). li). li). lv).	• • • • •	• • • • •			• • • • • • • • •	• • • • • •	• • • • • • • • • • • •	• • • • • • •		• • • • • • • • • • • •	• • • • •	
3.	Is thi	ther s tr	e an ain:	nothe ing f	er ins from? Yes	stit:	ution	n you N	wish o	you	would	d ha	ave taken
	Why yes	; i; ii; iv	-) • • • -) • • • -) • • •				• • • • • •	• • •	Why no} i ii i	i). i). i). v).	• • • • • •	• • • •	· · · · · · · · · ·
4.	Wha thi	t do s ti	you ain:	ı exp ing?	bect t	:o d	o aft	ter s	uccess	sful	ly co	mple	eting
i i	i). Li). Li). Lv).	• • • •		· · · · · ·		• • • •	• • • • •	• • • • • •	• • • • • • •	· · · · ·	• • • • • •	• • • • •	· · · · · · · · · ·
5.	If abl	you e to	wou: use	ld be e the	e empl e skil	loye lls	d af you a	ter t are a	he tra cquiri	aini Ing	ng, w now?	ould	l you be
	Yes	•••		. 1	10	• • •	• • • •						
6.	(a)	Wha	nt tl	nings	s do y	you	like	abou	t the	tra	ining	in	general?
	i	i) ii) ii)	• • • •	• • • • • •		• • • •	• • • • •	• • • • • • • • • • • •	• • • • • • •	• • • • • • • •	•••••	••••	· • • • • • • • • •
	(b)	Rea	isons (i) ii iii	5:   		· • • •	• • • • •	••••	• • • • • • •	• • • •	• • • • • •	••••	
7.	(a)	Wha ger	nt tl nera:	nings L?	s don'	t y	ou 1:	ike a	bout t	his:	trai	ning	, in
		i).				• • •							

. ·~ .7

۰**,** ۲

ii) iii)
(b) Reasons: i) ii) iii) iii)
8. Do you have any financial problems for fees (or other facilities required by the institution)? YesNo
Which ones? i) ii) iii) iii)
9 (a) Do you know of other graduates from this institution who are doing something useful (a job or other work related to what they trained in) in a rural or urban area?
Yes No How many?
Work Place
Work Place
(b) Are they self-emloyed? or
Any particular problems they have? i) ii) iii) iv)
<pre>10. In your view, what type of courses and skills are in increasing demand in this area (in order of preference)? Courses:</pre>

Reasons for increase in demand: i)..... 

11. Which trades and skills are declining in demand? Trade: Skills: i) ..... i)...... ii)..... ii).....

iii) iv)v)	iii) iv) v)
Reasons for decrease in demand:	
i)	• • • • • • • • • • • • • • • • • • • •
iii)	• • • • • • • • • • • • • • • • • • • •
10)	

{

(

4

\*\*\* END \*\*\* Thank you for your time

# APPENDIX J

MANAGEMENT COMMITTEE INTERVIEW PROTOCOL QUESTIONS:

1. What is the management committee composed of?

....

- 2. What is the purpose of the management committee?
- 3. What are the duties of the management committee?
- 4. How does the committee strive to achieve its objectives?
- 5. To what extent has the committee achieved its objectives?

\*\*\* END \*\*\*

## APPENDIX K

# EDUCATION AND TRAINING PROGRAMS LINKAGES



Source: Report of the Presidential Working Party on Education and Manpower Training for the next Decade and Beyond, March 1988, p.168.

**₩** 14

. The second se

T

# APPENDIX L

# STRUCTURE OF YOUTH POLYTECHNIC PROGRAM





**ب**مر

Appendix M

# KEŃYA TIMES, FRIDAY, APRIL 21, 1989

**BUSSINESS TIMES** 

# BOOST FOR JUA By SIDNEY QUNTAI A FINANCIAL CREdit



8

Prof Ongeri: "Both rural and urban centres." A FINANCIAL credit scheme to assist Jua Kah artisans acquire loans and establish businesses will soon be launched, the Minister for Technical Training and Applied Sciences, Professor Sam Ongeri has announced

The Jua Kali development programme will provide loans to the artisans and enable them venture into meaningful self-employment

In a speech read on his behalf by an Assis-tant Minister in the Ministry, Mr Okiku Amayo, during a graduation ceremony on Wednesday at Isenya Youth Polytechnic in Kajiado, Prof Ongen said that while the Government advocated for self-employment in the private sector it was up to the graduates of technical institutions to meaningfully apply' the skills they have acquired from their training

Credit scheme

the pipeline

acquired from their training The Minister said it was the aim of the Government to establish Jua Kali sheds in both the urban and rural centres, where the need for skilled labour was in high demand

Prof Ongen thanked the National Christian Council of Kenya (NCCK) and the Maasai Training Centre for establishing four youth polytechnics in Kajiado District and pledged to assist in their expansion programmes Kajiado Central Member

Kajiado Central Member of Parliament, Mr Geolfrey Parsaoti said that since the establishment of the polytechnics in the distinct, a lot of the local youth had benefitted and were now in a position to contribute to national development self--reliance

147

APPENDIX N

# 2 THE STANDARD, Wednesday, April 12, 1989.

# More village polys needed, says Ongeri

ABOUT 200,000 primary school children missed places in secondary schools last year, and the number is expected to increase this year, the Minister for Technical Training and Applied Technology, PROFESSOR SAM ONGERI, said yesterday.

ð,

He said out of the 300,000 primary school children who sat for KCPE last year, only 150,000 were admitted to various secondary schools.

Prof Ongeri urged MPs to make sure that at least each location in their constituencies had a youth polytechnic to absorb the increasing number of children left out in secondary schools selection.

He said the construction of youth polytechnics would con-



### Prof Ongeri

tinue to be the responsibility of the community At the moment, there are 545 youth polytechnics, with an enrolment of 30,000 children, he said

The Government, he said, planned to increase the number to 946 so that each location can have at least one

Prof Ongen said the country had 18 institute of technology which will be used for students who have completed secondary level of education However, he said, students from primary schools who succeeded in Youth Polytechnic would also be given an opportunity to join middle class institutes.

He said last year, about 150,000 students qualified for University education, but only 30,000 got places, while 120,000 were left out. That made the Government expand the existing middle colleges, so that more students could continue training for the good of the country

The Minister praised students at youth polytechnics and institute of technology for doing commendable work, noting that some institutes have invented new type of technology He stressed that training should be used to transform the needed technology

Prof Ongern praised President Moi for initiating Jua Kah sheds at Gikomba, which he said had created employment for many Kenyans He urged financial institutions to support Jua Kahi people start their industnes and create employment

The minister urged the Goveroment to ease the system of Jua Kali licensing observing that

 at the moment, it took artisans months to obtain trading licences

# APPENDIX P



# Sh2.4 m grant for 120 polys

**N** 

The Minister for Technical Training and Applied Technology, Professor Sam Ongeri, an Assistant Minister, Mr Okiki Amayo, and the Permanent Secretary, Mr W. E. Hiribae, examine 120 cheques for Sh20,000 each, which the Ministry issued in Nairobi yesterday as grants to youth polytechnics throughout the country. The polytechnics are expected to use the money to buy equipment and tools and pay instructors' salaries. Prof Ongeri urged Kenyans to start more youth polytechnics on the Harambee basis so that each location could have at least one by 1993. The polytechnics, he said, trained 30,000 primary school leavers in skills so that they could be self-employed or easy to employ. Government-assisted polytechnics have been give Sh3.6 million in 1988/89 for their development. Out of the 545 youth polytechnics in the country, 323 receive grants from the Ministry.

# APPENDIX Q

# TECHNICAL INSTITUTIONS: GROWTH OF ENROLLMENTS

YEAR	STS	HIT	NAT. POLY	JKCAT	кттс	TOTAL
75/76	5468 (13)*	191 (3)	5181 (2)		(1)	10,840 (19)
76/77	6121 (15)	317 (5)	2517 (2)		74 (1)	9,029 (23)
77/78	6333 (13)	516 (8)	2511 (2)		220 (1)	9,580 (24)
78/79	7170 (14)	719 (8)	5281 (2)		272 (1)	13,442 (25)
79/80	7607 (15)	1513 (9)	3253 (2)		411 (1)	12,784 (27)
80/81	8575 (15)	1852 (10)	3651 (2)		459 (1)	14,537 (28)
81/82	8983 (15)	2443 (11)	3445 (2)	198 (1)	419 (1)	15,488 (30)
82/83	9183 (16)	2924 (11)	4803 (2)	197 (1)	442 (1)	17,549 (31)
83/84	8644 (17)	3896 (14)	5398 (2)	190 (1)	511 (1)	18,639 (35)
84/85	8827 (18)	4186 (15)	5646 (2)	196 (1)	479 (1)	19,334 (37)
85/86	9988 (18)	4680 (15)	5270 (2)	198 (1)	449 (1)	20,585 (37)
86/87	6325 (18)	4680 (15)	5514 (2)	198 (1)	594 (1)	17,311 (37)

\* Those in paranthesis are number of institutions in each category. STS - Secondary Technical Schools; HIT - Harambee Institutes of Technology; NAT.POLY - National Polytechnics; JKCAT - Jomo Kenyatta College of Agriculture and Technology; KTTC - Kenya Technical Teachers College. Source: Ministry of Education Science and Technology.