

TANZANIA: EDUCATION SECTOR DEVELOPMENT PROGRAMME
ANALYSIS OF LABOR MARKET LINKAGE AND EXTERNAL EFFICIENCY
OF POST-PRIMARY EDUCATION AND TRAINING

A Report

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November, 2003

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Acronyms

ERB	-	Economic Research Bureau
ESDP	-	Education Sector Development Programme
PRS	-	Poverty Reduction Strategy
PEDP	-	Primary Education Development Programme
GDP	-	Gross Domestic Product
URT	-	United Republic of Tanzania
LFS	-	Labor Force Survey
ILO	-	International Labor Organization
UNESCO	-	United Nations Economic, Social and Cultural Organization
FDI	-	Foreign Direct Investment
LEC	-	Labor Exchange Centre
TANESA	-	Tanzania Essential Strategies Against AIDS
VETA	-	Vocational Education and Training Authority
VTC	-	Vocational Training Centre
SSA	-	Sub-Saharan Africa
ETP	-	Education and Training Policy
TIE	-	Tanzania Institute of Education
UEC	-	University Entrepreneurship Centre
WB	-	World Bank
TIC	-	Tanzania Investment Centre
UDSM	-	University of Dar es Salaam
SUA	-	Sokoine University of Agriculture

EXECUTIVE SUMMARY

Introduction

The main objectives of this report were twofold. The first was to identify and analyze the main problems, constraints and issues in post-primary education and training with respect to labor market linkages and external efficiency. The second was to recommend public interventions for dealing with the identified problems.

Small Employment Growth due to Slow Growth of the Economy

The various reforms that Tanzania has been implementing for almost two decades since the mid 1980s have affected all sectors of the economy. They are also influencing greatly the labor market conditions including the supply and demand of the output of post-primary education and training. The reforms have, for instance, helped the country to recover from very low, stagnant and even negative growth rates of the late 1970s to the mid 1980s period and achieved positive and relatively high real GDP growth rates. However, relatively high the achieved GDP growth rate of 3.8 per cent for the 1995-1998 period and 5.6 per cent for 2001, are still far below the required PRS growth rate targets (of between 8 and 10%) that would be able to reduce poverty and create many employment opportunities.

The inadequate output growth with the rapidly growing (at 3 per cent per annum) of the labor force, which stood at 17.8 million by 2000/01, have resulted into a situation whereby the formal sector of the Tanzanian economy is absorbing less than 4 per cent only of the 0.7 million entrants joining the labor market each year. Further, only 8.5% of the country's labor force has post-primary education or training. Thus, the majority of the people in the Tanzanian labor force do not have education and skills that would enable them compete effectively for formal wage employment. The private sector that has not grown sufficiently to create many employment opportunities. At the same time direct employment in the parastatals has almost been phased out with the implementation of reform policy (liberalization) and privatization measures. The process of globalization together with the rapid development of technology are intensifying the competition for employment and putting more demand for more and better qualifications from education and training.

Trends and Characteristics of the Tanzania's Labor Market

The characteristics of the Tanzanian labor market for the school leavers and ex-trainees in the post-primary education and training are thus summarized as follows:

- (i) Small and stagnant formal sector employment: The inadequate output growth is generating only little formal employment growth, which has failed to keep pace with the growth of the labor force. Government employment still dominates while the share of the private sector is still small.
- (ii) Increasing informal sector employment

- (iii) Rising unemployment: resulting mainly from the low growth of the economy. Unemployment in the country increased from 3.6% in 1990/91 to 5.1% in 2000/01. Women and youth (15-24 years) are more affected to men and other age groups, respectively.
- (iv) Unemployment is relatively high for the less educated e.g. secondary school graduates (11%) compared to university graduates (3.7%).

The government efforts and the increasing private sector participation have increased the number of secondary schools and other post-primary training institutions. Despite these efforts, only 5% of adult Tanzanians have secondary education and only about 1% have tertiary education. Given the pressures and demand brought about by the globalization process many Tanzanians are, therefore, unable to enter the modern labor market. This observation is confirmed by the statistics from the Labor Exchange Centre (LEC).

According to the records of the LEC, only 155 people or less than 9% of the 1810 job openings registered by the Centre or of the 1812 referrals made by the Centre, were actually hired by 2001. The mismatch in this case is due to lack of relevant qualifications amongst job seekers, particularly in the mining and oil prospecting occupations. It is also caused by lack of experience in specific occupations as well as the small ability of the economy to create many employment opportunities.

Views of the Employers, School leavers and Ex-trainees

Analysis of the information and data gathered from a mini survey of 22 enterprises and interviews of 112 school leavers and ex-trainees of the post-primary education and training reveal that:

- (i) The HIV/AIDS problem (reported by 13 enterprises) is affecting different workers in different categories of occupations. Few enterprises are sensitizing their workers on HIV/AIDS.
- (ii) Labor market information is not easily and readily available to both job seekers and employers. This is despite the improved services of mass media, radio and television. Many job seekers and employers do still not know the LEC and hence the recruitment method of personal approach or word of mouth is still common. This is not a very efficient way of linking employers and qualified job seekers.
- (iii) Employers continue facing difficult to recruit skilled persons especially for managers and professionals from the Tanzanian labor market. Most job seekers in these areas lack the type of skills and knowledge needed as well as adequate experience. This indicates that tertiary education and training in the country is not adequately producing qualified (skilled) people. As a result there is stiff competition amongst enterprises for the few existing qualified and experienced workers.
- (iv) Employers prefer least job seekers with secondary education only. Job seekers with some post-secondary education and training are most preferred as are job seekers with

some training after formal vocational training. Employers also prefer fixed skills or fully trained candidates particularly for managers, professionals and professional technicians, artisans, mechanics and knowledge generating professionals/technicians. For other employment categories such as foremen/supervisors and casual and unskilled employment, they prefer flexible or trainable candidates. Finally, employers value practical skills and personal initiatives.

(v) In-house training is also being provided by many enterprises. This confirms the desire by employers to have workers with the relevant practical in addition to the theoretical skills obtained through formal education and training. Some enterprises also give financial support and time allowance to workers taking relevant training or upgrading courses. In certain cases education and training institutions providing specialized courses receive some support from employers who deem them to be quite important to their labor requirements.

(vi) School leavers and ex-trainees also noted the existence of the problem of mismatch between work on one hand and education and training skills and knowledge on the other hand. This is reflected by the difficulty faced by job seekers to find employment relevant to their types of education and training. And even those already employed may be lacking experience and some specific skills. Thus post formal school training including in-house training is recognized to be extremely important. A significant number of the surveyed institutions provide in-house training to their workers.

Improving the Match between Education and Training and the Labor Market

Besides the need to improve substantially the overall growth of the economy, the match between work and education and training could be improved through the following ways:

(i) Designing, updating and strengthening the various regulations and incentives that encourage many stakeholders including the private sector to further provide more and quality (high standards) education and training.

(ii) Reviewing and updating the curriculum of various levels of education and training. Specifically, updating the curriculum of post-primary education so as to focus on entrepreneurship and skills development taking into account the new realities of the labor market demands. The curriculum should also cover issues of HIV/AIDS to deal and hence reduce workers lost through this disease.

(iii) Improving availability of labor market information

(iv) Upgrading the informal sector

Private and Social Returns to Education

Investing in education and training is believed to be beneficial to individuals and societies. Returns to education are generally higher for higher than lower education

implying that graduates of higher education have opportunity to earn higher income than graduates with lower education and training. In Tanzania, however, some estimates show, for instance, that returns to vocational education and training are low compared to returns to secondary education. These results indicate in this case that public provision of and financing of training is not cost-effective. However, this is due to the low economic growth in the country and the subsequent failure to expand employment rapidly in the formal sector. This implies that if the economy is growing fast and creating many employment opportunities especially in the formal sector investment in higher education and training is quite beneficial with high returns.

Projection of Employment Growth

In Tanzania employment is projected to grow in most sectors and decline in some few sectors including the public administration and other services. Employment is projected to grow in agriculture, manufacturing and financial services. Thus, the demand for skilled labor will also increase. As employment expands then returns to investment in education and training will be enhanced and ultimately requiring education and training institutions to expand their capacities for producing increased and quality output.

Recommendations

Efforts to increase the quantity and improve the quality of the post-primary education and training output are needed. They will ultimately improve the match between education and training and work. The following recommendations are made:

- (i) Promote more investment in post-primary education and training by updating and strengthening various regulations and incentives to both public and private investors. This will reduce the problem of a mismatch (in terms of quantity) between supply of and demand for post-primary education and training graduates.
- (ii) Encourage and undertake sensitization (educational) programmes to contain the spread of HIV/AIDS in schools and training institutions including teacher colleges and in work places. This will improve the supply of both quantity and quality of post-primary education and training output
- (iii) Adopt strategies to ensure that the informal sector can continue to absorb more people. These include (see Johnson, 2001):
 - Solving infrastructural problems of the informal sector by allocating workshop plots, improving electricity supplies, and constructing feeder roads and transport.
 - Ensuring continuity of good macro-economic policy framework
 - Ensuring educational, training, and technology policies suitable for Small and Medium Enterprises (SMEs) development.
 - Further simplifying licensing and tax procedures, disseminate relevant information to SMEs and support provision of micro-credit.

- (iv) Review and update the curriculum of various levels of education and training and concentrate on provision of general skills so that respective graduates become flexible and trainable. This is important for further training in the formal education, in-house training and in informal sector training.
- (v) Encourage provision of various forms of enterprise based training, in particular traditional apprenticeship training that prepared individuals to work in high productivity and high income activities in the informal sector (See also Johanson, 2001). Accordingly, traditional apprenticeship is cost effective and it also caters to trainees who lack the educational requirements for formal training.
- (vi) Strengthen vocational training by providing technical skills training and combining it with business skills development. This will prepare better the graduates of vocational training institutions to engage in self-employment and income generation in the informal sector. Thus, vocational training needs to be demand driven and flexible (see also Haan, 2001).
- (vii) Strengthen the labor market information system e.g. the LEC so as to improve information availability to both jobseekers and employers. This should involve more efforts to publicize the existence and activities of the Centre as well as reduction of taxes on advertisement for job openings in the mass media, radio and television.
- (viii) Advocate for increased linkages between schools and training institutions and the world of work. This can be done by encouraging the participation of the employers in updating curriculum as well as sensitizing employers to allow students and trainees to do practical training in their business enterprises
- (ix) Encourage inter-enterprise cooperation in training through trade or sectoral associations (Johanson, 2001). This will help enterprises to share costs and experiences.

PART ONE

INTRODUCTION

1.1 Background

During a period of about two decades, from the mid 1960s to the mid 1980s, Tanzania pursued policies for socio-economic growth and development based on restrictions and controls, and direct state investments in all sectors of the economy (World Bank, 1991). The state was, therefore, both the main supplier and employer of educated people. This approach resulted in a situation whereby most of the educated were being absorbed, almost automatically by the public sector. During this period it was thought that planning could solve the problem of coordination between the education system and the labor market. However, with time this approach of developing human resources was rendered unsustainable. The sluggish economic growth and overall poor performance of the economy made Tanzania fail to create enough employment opportunities for educated people while over-employment, which was now common in most sectors, was only worsening the low and declining productivity and real wages. At the same time the education and training that was being provided by the post-primary institutions in the country was deteriorating, in terms of quality, mainly due to the poor socio-economic performance.

In response to the poor performance of the economy, Tanzania has, since 1986, been implementing various far-reaching reforms that are helping the country move from a command to a market economy. The incentive system has been restructured and the restrictive and pervasive state control regime has been largely phased out. Most of the parastatals have been privatized and reformed while the private sector is being encouraged to expand and assume the role of being the engine of growth and a leading employer. The private sector is also actively participating in the provision of social services including post-primary education and training. Likewise the private sector is expected to be increasing its role of creating many employment opportunities for the output of the post-primary education and training.

In line with the new socio-economic realities of Tanzania and the contemporary world, therefore, the Government of Tanzania has changed its approach to the development of human resources in the country. The Government realizes the various demands of a market-oriented economy put on the nation. One such demand is that citizens compete for jobs in employment on the basis of their skills and work experience or their own ingenuity. This approach is based on the new policy objectives, that is, to reflect the increasing significance of the private sector, to give greater attention to manpower requirements at the sectoral and organizational level and finally to leave the market

forces to play a bigger role in order to link manpower planning efforts to social demand for manpower. In addition, Government policy is also focusing on ensuring that the training and education offered by the post-primary education and training institutions at all levels become more relevant to the basic needs of the labor market in terms of the practical application of the knowledge and skills acquired from these institutions. This means that, in their provision of education and training, post-primary institutions must be responding to the new social and private demand. This notion is also contained in the National Development Vision 2025, which among others state that:

“Tanzania be a nation with high quality of education at all levels, a nation which produces the quantity and quality of educated people sufficiently equipped with the requisite knowledge to solve the society’s problems, meet the challenges of development and attain competitiveness at regional and global levels” *Vision 2025, pp.4-5.*

Thus, the United Republic of Tanzania realizes that quality education is the pillar of national development, for it is through education that the nation obtains skilled manpower to serve in various sectors of the nation’s economy. It is through quality education that Tanzania will be able to create a strong and competitive economy that can confidently adapt to the changing market and technological conditions in the region and global economy.

The Government of Tanzania is also implementing the Education Sector Development Program (ESDP), which is one of the most important parts of the overall poverty reduction strategies as stated in the Poverty Reduction Strategy (PRS). With Primary Education Development Program (PEDP) under way, the Government has committed to put more effort and resources for the further development of post-primary education and training. All these efforts rest on the recognition that one of the main constraints of development in Tanzania is low achievement in the education sector, especially at post-primary education and training levels. It is against this background that the study analyzing labor market linkage and external efficiency of post-primary education and training is being carried out. The output of this study will feed into the overall post-primary sub-sector study, which aims at providing an analytical basis for the development of a sub-sector action plan and investment programs.

1.2 Study Objectives, Scope and Main Issues to be addressed

1.2.1 Objectives

The objectives of the study are:

- (i) To identify and analyze the main problems, constraints and issues in post-primary education and training with respect to labor market linkages and external efficiency; and
- (ii) To outline strategic directions; recommend further public interventions with potential investment programs in the sub-sector in relation to identified problems and issues.

1.2.2 Scope

The post-primary education and training includes the following three sub-sectors:

- Secondary Education
- Vocational Education and Training, and
- Higher Education

The analysis will cover labor market linkage issues within and across all the three sub-sectors.

1.2.3 Main Issues

The specific questions to be addressed by this study include the following:

- (i) Evolution of economic production and employment by sector, including both formal and informal sectors
- (ii) Assessment of the match between output of the post-primary education and training system and the demand for educated labor, including tracer studies data.
- (iii) Estimation of the private and social rates of return to education by level and type of education.
- (iv) Improving the match between education and the labor market: the role of regulating and incentives and curriculum content issues.
- (v) Projection of employment growth by sectors and key industries.

1.3 Methodology

Detailed questionnaire has been used to collect information from a number of large-scale enterprises. The information collected includes basic information giving profiles of specific enterprises, the type, classification and values of products produced by the enterprises. Other information includes employment by level and occupation and by age, sex and whether nationals and non-nationals. Information about labor turnover (wastage and recruitment), impact of HIV/AIDS on labor force and labor utilization has been collected. Information about recruitment methods and sources of workers recruited as well as workers lost to other companies has also been collected. The respondents were also requested to comment on the functioning of labor market, their preferences (with respect to institutions) when recruiting and whether they provide any training or give support to employees taking training or upgrading courses. A small tracer survey has been conducted for the post-primary education and training output, that is ex-trainees and school leavers. Further information was collected through interviews with informed stakeholders or interested people both in the private sector and public sector.

Data collected has been processed and analyzed using relevant computer programmes.

1.4 Organization of the Report

This report is organized into seven main parts. Apart from this Introduction, the second part analyzes the evolution of economic production and employment by sector. The third part addresses the match between output of the post-primary education and training system and the demand for educated labor while the fourth part provides an analysis of the surveyed enterprises and interviews of school leavers and ex-trainees. Part five considers and suggests ways for improving the match between education and the labor market. The sixth part presents estimation of the private and social rates of return to education by level and type of education and the seventh part deals with projections of employment growth by sectors and key industries. The last part provides some conclusions and recommendations.

PART TWO

EVOLUTION OF ECONOMIC PRODUCTION AND EMPLOYMENT BY SECTOR

2.1 Preamble

In general, sustained economic growth may lead to increase in incomes and to reduction in poverty through growth in wage employment. Dabalen (2000), for instance, notes that countries that record persistent poor growth achieve poor employment outcomes. This is arguably because adjustments in labor demand and supply naturally follow any expansion or contraction of output. When fluctuations in output are frequent, the depth of the adjustment in the labor market would depend on the size of output changes, the skill composition of the labor force and existing labor market institutions.

There is also ample empirical evidence that supports the existence of a positive relationship between employment and growth, though the strength of the relationship depends on the level of development of the country. Grill and Zanalda (1995) as quoted in Wangwe and Tsikata (1999) find that employment growth in developing countries is systematically and significantly related to growth of real output. This, however, partly reflects the fact that higher real output in developing countries is obtained through use of more factor inputs than through productivity gains.

Gelb and Tidrick (2000) point out that in African and other labor surplus economies output growth, especially, that concentrated in labor-intensive sectors, may lead to faster employment growth. The authors, however, note also that as labor becomes scarce, output growth will tend to raise wages as well as, or instead of, employment

In Tanzania, the evidence on the employment-growth relationship must be carefully interpreted. Wangwe and Tsikata (1999) point out that up to the early eighties, formally recorded employment tended to increase with booms in the economy but not consistently. And that employment increased even during periods when economy was contracting. This trend reflected the tendency of the state to use the public sector to create employment irrespective of domestic economic conditions or performance.

2.2 Overview of Recent Economic Growth Trends in Tanzania

The various reforms implemented in Tanzania since the mid 1980s have resulted into a turn-around in growth performance. They have reversed the very low, stagnant and even negative growth rates, which characterized the pre-reform period of the late 1970s to the

mid 1980s and achieved positive and relatively high real (1992 prices) Gross Domestic Product (GDP) growth rates. An average of 4.4% real GDP growth per annum was recorded in the 1988-1990 period (Shitundu 1999 and 2000). The GDP growth rates by sector during the 1990s are summarized in the following Table.

Table 2.1: Gross Domestic Product by Sector: Percentage Growth Rates (1992 prices).

Sector	1990	1991 - 1994	1995	1996	1997	1998	1999	2000	2001	1995- 2001
1. Agriculture	5.5	2.5	5.8	3.9	2.4	1.9	4.1	3.4	5.5	3.9
2. Mining & Quarrying	16.5	10.7	11.7	9.6	17.1	27.4	9.1	13.9	13.5	14.6
3. Manufacturing	4.1	-0.4	1.6	4.8	5.0	8.0	3.6	4.8	5.0	4.7
4. Electricity & Water	7.9	3.2	6.1	11.1	2.2	5.5	3.9	5.9	3.0	5.4
5. Construction	30.5	-3.6	-14.7	7.6	8.2	9.9	8.7	8.4	6.7	5.0
6. Trade, Hotels & Restaurants	7.4	0.6	3.5	3.5	5.0	4.7	6.0	6.5	6.7	5.1
7. Transport and Communication	0.5	4.5	5.9	1.1	4.9	6.2	5.8	6.1	6.3	5.2
8. Financial and Business Services	1.7	3.2	0.6	0.4	7.7	5.6	4.1	4.7	3.3	3.8
9. Public Administration and other services	3.0	1.7	-2.7	1.6	3.2	2.7	3.5	3.6	3.5	2.2
TOTAL	6.2	1.6	3.6	4.2	3.3	4.0	4.7	4.9	5.6	4.3

Source: Economic Survey for 2001.

In general, the relatively good record of economic growth continued during the 1990s although there were some declines and stagnations in some sectors during the first half of the decade. All sectors, except Transport and Communication and Financial and Business Services, recorded decline in economic growth during the 1991-1994 period compared to their respective growth registered in 1990. During the 1991-1994 period economic growth decelerated to an annual average growth rate of 1.6 percent compared to 6.2 percent in 1990. The decline in growth was mainly due to poor performance of agriculture, which is the largest sector in Tanzania contributing around 50 percent share to national GDP. In particular, bad weather (drought) in 1991/92 and 1993/94 led to big drop in agricultural growth, which in turn resulted, in overall decline of the growth of the country's GDP. The real GDP growth rates improved again to 3.6 percent in 1995 and further to an average of 3.8 percent during the 1995-1998 period. In 2001 a higher average growth rate of 5.6 percent was achieved. These growth rates are, however, still far below the PRS growth rates targets (put at between 8 and 10%) that would be able to reduce poverty and create many employment opportunities.

The relatively high output growth achieved in the country during the 1990s has, however, not been matched by substantial and sustained employment growth. It is observed that even during reforms Tanzania has not been able to absorb all those who enter into the labor force. Between 1986 and 1987, for instance, only 7,300 new wage jobs were

created compared to an estimated number of 200,000 individuals who were seeking wage employment. The URT (1999) estimated that about 700,000 people were joining the labor market annually, while the formal sector could absorb not more than 22,000 to 25,000 people each year. Thus, the economy's ability to absorb new job seekers slightly declined from 3.7 percent in 1986/87 to between 3.1 and 3.5 percent in 1999 (Shitundu, 2000). As a result unemployment continued to be quite high in the country. Official data, for instance, URT (1998) put the unemployment rate at nearly 30 percent.

2.3 Trends in the Tanzania's Labor Force: Size, Gender, Education and Geographical Distribution

2.3.1 Size and Trends of the Labor Force

Tanzania, which is a poor or a low-income country with a per capita income estimated at around US\$ 260 only (based on Household Surveys), has rapid growth of both the population size and labor force. Growing by 2.8 percent annually since 1978 and based on the 1988 population census, the country's population was estimated at 33.9 million people by 2001 (32.9 million people being for Tanzania Mainland and the rest, 1 million, being for Zanzibar Islands). The provisional results of the Population Census carried out in 2002 shows that Tanzania's population is around 34 million people. Using previous data it is shown that out of the total population, 49 percent were males and 51 percent females. About 47 percent of them comprised children of less than 15 years of age implying that about half of the population was below 18 years. Those aged above 65 years old are less than 5 percent. Further estimates show that urban population increased from 6 percent (according to 1967 Population Census) to 18.4 percent (according to 1988 Population Census). The Table below presents the country's labor force structure.

Table 2.2: Changing Structure of the Tanzanian Labor Market (In millions)

Item	1990/91		2000/01		Sector Growth %	Sector Share increase, %
	Number	%	Number	%		
1. Total Labor Force	11.3	100.	17.8	100	4.7	100
2. Unemployed	0.4	3.5	0.9	5.1	8.5	7.8
3. Employed:	10.9	96.5	16.9	94.9	4.5	92.2
3.1 Agriculture	9.1	83.4	13.7	81.0	4.2	75.8
3.2 Central/Local Government	0.3	2.8	0.3	1.8	0.7	0.4
3.3 Public Enterprises (Parastatal)	0.2	1.8	0.1	0.6	-7.5	-1.7
3.4 Private Sector	0.3	2.8	0.8	4.7	9.2	7.4
3.5 Informal Sector	1.0	9.2	1.4	8.3	4.2	8.0
3.6 Housework	-	-	0.6	3.6		10.1

Source: 1990/91 LFS and 2000/01 LFS.

Labor force has been growing by an average of 3 percent per annum. In 1999, it was estimated to be 16.0 million people. Over half of the labor force was in the age group 15-29 years and around 80 percent was living in the rural areas. Only about 8.5 percent of the labor force had post-primary education or training. Women represented slightly less than half of the Labor force. The formally educated workforce is small in number and is

concentrated in urban areas. In general, it is estimated that about 0.7 million new entrants join the labor market each year, most of whom are youth.

According to Labor Force Survey 2000/01, Tanzania's labor force (10 years and above) stands at 17.8 million people. This is an increase of 6.5 million people or 57.8 percent for a period of 10 years since 1990/91. Thus, more than 0.6 million people are joining the labor force every year. Out of 17.8 million people, those employed are 16.9 million or 15.5 million people (according to Tanzania's definition). Generally, the proportion of employed persons in the labor force has decreased by 1% from 96% in 1990/91 to 95% in 2000/01. Out of those employed in 2000/01 (16.9 million people), 13.7 million or 81% were employed in agriculture sector, 1.4 million people in the informal sector, 0.7 million people in the private sector, 0.6 million people being domestic employees and over 0.3 million being government employees while about 0.1 million are employed in parastatals.¹ In general, therefore, the agriculture sector continues to employ most (over 80%) of the country's labor force. Comparing between 1990/91 and 2000/01, the proportion of employed people to the country's labor force declined for the case of parastatal (from 1.7% to 0.5%), central/local government (from 2.9% to 2.0%) and informal sector (from 8.8% to 8.5%). On the other hand, more people are being employed in the private sector (from 2.9% to 4.5%). In general, therefore, with a labor force growth of almost 3% and little job creation in the formal sector, most jobs are necessarily created in the informal sector and in low-productivity agriculture.

2.3.2 Employment Trends in the Formal and Informal Sector.

Like in other Sub-Sahara African countries, the labor market in Tanzania can be categorized into three groups, namely formal employment, agricultural employment and informal employment.

2.3.2.1 Small and Stagnant Formal Sector Employment

Table 2.3: Formal Employment by Main Sector, 1991, 1995 and 1998 (In 000')

Sector	1991		1995		1998
	Number	Sector Share, %	Number	Sector Share, %	Number
Agriculture	38.9	4.6	90.0	12.7	NA
Mining & Quarrying	3.2	0.4	8.9	1.3	NA
Manufacturing	112.0	13.1	99.6	14.1	137.8
Transport and Communications	81.2	9.5	42.0	5.9	14.5
Construction	61.3	7.2	41.7	5.9	22.2
Trade, hotels and restaurants	135.9	15.9	59.7	8.4	43.7
Electricity and Water	12.3	1.4	39.7	5.6	NA
Financial and Business Services	25.0	2.9	26.0	3.7	NA
Public Administration and other services	384.2	45.0	300.0	42.4	NA

¹ The informal sector is hard to define. However, self-employed individuals in both urban and rural areas characterize the sector. The sector is generally unregulated, wages and job security are low, and fringe benefits like health insurance, life insurance, or pension, are generally nonexistent. Union activity is rare, legal minimum wages do not apply and wages are flexible. High under-employment exist in the sector.

Total	854.0	100.0	707.6	100.0	NA
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Source: 1990/91 LFS for 1991 and Wangwe and Tsikata (1999) for 1995 and 1998.

Time series on employment is not sufficiently available for the nineties. However, the few available data indicate that formal employment growth has failed to keep pace with the growth of the labor force. According to Table 2.3 the Government remains the main employer in the formal wage sector, employing over 60% of formal employees. The other leading sectors are agriculture, manufacturing and service sector (See also Education Sector Report, 2001).

The Table also shows that there was an overall decline by 17.2% of formal employment between 1991 and 1995. The decline was brought about by the poor economic performance in sectors like manufacturing; construction; trade, hotels and restaurants; transport and communications and public administration and other services. Except for the manufacturing sector, the decline continued in these other sectors in the late 1990s. By 1998 formal employment levels in the construction and trade, hotels and restaurants sectors were roughly a third of the levels in 1991. In transport and communications the 1998 levels were less than a quarter of the corresponding levels in 1991. These trends are generally a reflection of the slow growth of the Tanzanian economy (See Table 2.1 above), which is therefore failing to create many employment opportunities. The more than doubling of employment creation in mining and quarrying and public utilities sectors has little impact given their small shares in national economy. Formal sector in the country absorbs less than 30,000 people per annum. The economy's ability to absorb new job seekers in the formal sector declined from 3.7% in 1986/87 to between 3.1% and 3.5% in 1999 (Shitundu, 2000). The formal sector continues to remain small (less than 10% of the country's labor force size) and with an almost stagnating growth during the 1990s.

The 2000/01 labor force survey, distinguished six different employment sectors, namely Government; Parastatals; Traditional Agriculture; Informal sector; Other private and Housework. The 1990/91 survey had similar distinction except the housework sector. Accordingly, employment in the Government and parastatal sectors declined from 3% to 2% and from 1.7% to 0.5% in 2000/01, respectively. It also shows that, employment in the formal sector increased from approximately 3% to 5% in 2000/01. The results also show that employment in the informal sector has declined only marginally. While employment in traditional agriculture sector remain the highest, it declined from approximately 84% to 81% in 2000/01.

Formal sector employment can, however, be improved in sectors especially the agricultural (which has high potential) and manufacturing (currently with fluctuating trends) sectors if factors constraining faster growth are removed. Data from Tanzania Investment Center (See Appendix 1) show that the potential for further formal employment creation is great as reflected by the increasing number of approved projects that investors would like to undertake and their related employment opportunities. Further, formal private sector employment can increase faster in future if the investment climate improves and constraints to growth in various sectors are removed. The general

constraints in almost all sectors include poor technology; lack of adequate skilled human resources; lack of credit facilities especially to small and medium enterprises; poor, inadequate and expensive infrastructural facilities such as water and electricity; too many and high taxes and an infant and inexperienced private sector.

2.3.2.2 Increasing Informal Sector Employment

The ILO's World Employment Report 1998/99 reveals that, in developing countries, lack of jobs in the formal sector and lack of skills in a large part of the labor force results in the growth of a substantial informal sector in which most workers are in low-paid employment under unregulated and poor working conditions. The Report also shows that the informal sector is a major provider of urban jobs. Accordingly, informal employment accounts for over 60% of total urban employment in Africa as a whole and 56% in Tanzania.

The informal sector has been growing rapidly in Tanzania due to restructuring of the economy and retrenchment in the government and parastatal sector. Wangwe and Tsikata (1999) points out that the increased importance of the informal sector in Tanzania is a result of the faster growth of the country's labor force and the failure of the formal sector to create adequate job opportunities.

Table 2.4: Employment in the Informal Sector by Status by Main and Secondary Activity (Numbers in millions)

Employment Status	1990/91			2000/01		
	Total No.	Main Sector, %	Secondary Sector, %	Total No.	Main Sector, %	Secondary Sector, %
Paid Employees	0.2	79.5	20.5	0.1	54.1	45.9
Self Employees	0.1	60.1	39.9	0.2	64.1	35.9
Self-no employees	1.4	48.2	51.8	2.4	49.6	50.4
Unpaid Helpers	0.1	72.8	27.2	0.1	68.2	31.8
Total	1.8	53.0	47.0	2.8	51.4	48.6

Source: LFS 1990/91 and LFS 2000/01.

According to Table 2.4, informal sector employment grew by around 56% from 1.8 million people in 1990/91 to 2.8 million people in 2000/01. More people are participating in secondary informal sector compared to the main informal sector. And the proportion of those participating as paid employees is declining while more people are increasingly participating in other categories of the informal sector.

It is also observed in Table 2.5 below that the proportion of females participating in the main informal sector has generally increased.

Table 2.5: Employment in the Informal Sector by Gender (Share, %)

Employment Status	1990/91				2000/01			
	Main Sector		Secondary Sector		Main Sector		Secondary Sector	
	Male %	Female %	Male %	Female %	Male %	Female %	Male %	Female %
Paid Employees	66.6	33.4	99.7	0.3	72.4	27.6	69.4	30.6
Self Employees	76.3	23.7	79.2	20.8	67.3	32.7	72.5	27.5
Self-no Employees	63.8	36.2	47.9	52.1	50.8	49.2	51.7	48.3
Unpaid Helpers	51.0	49.0	47.7	52.3	40.3	59.7	27.4	72.6
Total	64.4	35.6	51.7	48.3	52.9	47.1	53.1	46.9

Source: LFS 1990/91 and LFS 2000/01.

Information contained in Table 2.5 shows further that there is a slight fall in the female participation in the secondary activities of the informal sector. Yet the participation of unpaid female helpers in secondary activities of the informal sector has risen considerably.

2.3.3 Employment by Gender, Education and Geographical Distribution

2.3.3.1 Employment by Gender

The gender distribution of employment is presented on Table 2.6 below.

Table 2.6: Employed Persons by Main Status by Sex (Numbers in millions)

Employment Status	1990/01			2000/01		
	Total (No)	Male, %	Female, %	Total (No)	Male, %	Female, %
Paid Employees	0.9	6.5	2.1	1.2	4.8	2.0
Self-employees	0.1	0.6	0.2	0.2	0.7	0.3
Self-no employees	0.7	4.2	2.4	1.3	3.8	3.6
Unpaid Helpers	0.1	0.3	0.2	0.6	1.5	2.4
Agriculture	9.1	38.5	45.0	13.7	38.6	42.3
TOTAL	10.9	50.1	49.9	17.0	49.4	50.6

Source: LFS 1990/91 and LFS 2000/01.

Table 2.6 shows that more females are participating in the country's labor force than was the case at the beginning of the 1990s. The proportion of females in the labor force increased from 49.9% in 1990/91 to 50.6% in 2000/01. And throughout the period, proportionally, more women than men are participating in agricultural activities. Compared to men, too, more women are participating as unpaid helpers.

2.3.3.2 Employment by Geographical Distribution

More than 82% of the labor force in Tanzania is employed in the rural sector and mainly the agricultural sector. Table 2.7 below presents the geographical distribution of employment in the country.

Table 2.7: Employment by Urban/Rural by Main Sector (Numbers in millions)

	1990/01			2000/01		
	Total (No)	Urban, %	Rural, %	Total (No)	Urban, %	Rural, %
Government	0.3	56.0	44.0	0.3	52.0	48.0
Parastatal	0.2	89.0	11.0	0.1	82.1	17.9
Traditional Agriculture	9.1	7.0	93.0	13.7	7.8	92.2
Informal	1.0	55.0	45.0	1.4	66.9	33.1
Other Private	0.3	63.0	37.0	0.8	63.0	37.0
Housework	-	-	-	0.6	27.8	72.2
TOTAL	10.9	16.0	84.0	16.9	17.3	82.7

Source: LFS 1990/91 and LFS 2000/01.

According to Table 2.7, while agricultural employment is concentrated in rural areas, private sector employment (which almost doubled during the 1990s) is more dominant in urban areas (63%). Informal sector activities are important in both urban and rural areas but of course clearly by far in urban areas. Informal sector activities in rural areas include pottery, brick making, basket laying, bicycle repair, radio repair, local beer brewing and charcoal making. Activities in the urban informal sector include small trading, brick laying, tailoring, hair cutting, transport (taxi), food vending, mining and quarrying, repair and domestic services.

2.3.3.3 Employment by Education Levels

In general a person without education or skills has difficulty in finding work, and when he or she finds a job, it is likely to be low paying and of uncertain duration (Shitundu, 2000). A summary of the employment situation with respect to education levels in Tanzania is presented in Table 2.8 below.

Table 2.8: Employment by Education level by Main Status, 2000/01 (Numbers in millions)

Education Level	Employment Status					
	Total	Paid Employees	Self Employed		Unpaid Helpers	Traditional Agriculture
			With Employees	Without Employees		
Total (No)	17.0	1.2	0.2	1.3	0.6	13.7
None %	26.3	9.0	5.0	11.0	13.0	30.0
Primary not Complete %	26.3	10.0	10.0	16.0	65.0	27.0
Primary Complete %	42.8	52.0	58.0	65.0	17.0	41.0
Secondary and Over %	4.7	29.0	27.0	8.0	5.0	2.0

Source: LFS 1990/91 and 2000/01.

Information presented in Table 2.8 show that people with no formal education at most with primary education only, are participating mainly in sectors with low paying activities. Such sectors include Self Employment (without employees) where 92% of its participants have primary or no education. The other sectors with corresponding percentages in brackets include traditional agriculture (98%) and unpaid helpers (95%). In all these sectors only less than 10% of participants have secondary (and above) education compared to 29% and 27% of the paid employees and self-employed (with employees), respectively².

2.4 Rising Unemployment

2.4.1 Overall Unemployment Trends

Unemployment is a phenomenon, which is increasingly growing day by day and thus exacerbating the situation of poverty in the country. Tanzania's labor force is estimated at over 17 million people with 75% of them living in rural areas. It is also estimated that around 700,000 people join the labor market every year. Out of these only 25,000 to 30,000 are able to obtain employment in the formal sector, while the informal sector raises employment opportunities by 50,000 to 60,000 jobs a year. In addition due to low productivity in the rural areas the youth flock into urban areas to look for employment opportunities, where also jobs are scarce.

To a large extent the main source of the scarcity of employment opportunities is the low growth rate of the economy of less than 6% per year in environment of high population growth rate of 2.8%. The pace and pattern of economic growth and job creation has resulted in a rise of the rate of unemployment. The relatively impressive performance at the macro level during the 1990s has not been matched in two crucial areas, namely, employment creation and poverty reduction. Table 2.2 above indicates that overall unemployment in the country has increased from 3.6% in 1990/91 to 5.1% in 2000/01 (using standard definition).

2.4.2 Gender, Age and Geographical Distribution of Unemployment

The information summarizing the distribution of unemployment by gender, age and location is presented in Table 2.9 below.

² According to Household Budget Survey, 2000/01 more educated individuals have higher average earnings than the least educated. For instance, tertiary education graduates earn 3.9 times what individuals with no education earn.

Table 2.9: Unemployed Persons by Rural/Urban, Age and Gender (Numbers in 000' and rates, %)

Geographic and Age Groups	1990/91				2000/01			
	Total No.	Total Un/rate, %	Male Un/rate, %	Female, Un/rate, %	Total, No.	Total Un/rate, %	Male, Un/rate, %	Female, Un/rate, %
Total	405.7	3.6	2.9	4.2	388.4	4.4	5.8	5.1
10-14	40.7	5.7	6.2	5.3	68.4	5.8	5.6	5.7
15-19	144.9	8.7	8.7	8.8	113.0	8.2	10.1	9.2
20-24	91.1	5.6	4.7	6.3	81.1	7.8	9.5	8.7
25-34	78.7	2.6	1.6	3.6	68.7	4.1	6.1	5.2
35-54	38.7	1.3	0.7	2.0	34.4	2.0	2.6	2.3
55+	11.6	0.9	0.7	1.1	22.8	2.0	1.5	1.8
Urban	200.6	10.6	6.7	15.5	187.4	11.3	18.0	14.8
10-14	10.4	27.0	23.4	31.4	9.1	8.7	7.9	8.3
15-19	73.7	31.9	30.0	33.8	58.3	27.3	31.9	29.9
20-24	59.9	19.7	13.5	25.7	53.8	22.5	29.6	26.4
25-34	41.9	6.4	2.6	11.3	47.6	12.7	19.0	16.3
35-54	13.6	2.6	0.5	5.7	10.3	1.9	8.3	5.0
55+	1.1	0.8	0.6	1.2	8.3	4.4	3.7	4.2
Rural	205.1	2.2	2.1	2.3	201.0	2.8	2.8	2.8
10-14	30.3	4.5	5.1	3.9	59.2	5.4	5.4	5.4
15-19	71.2	5.0	5.1	4.8	54.8	4.7	4.6	4.6
20-24	31.2	2.3	2.4	2.3	27.3	3.4	3.4	3.4
25-34	36.8	1.6	1.3	1.8	21.1	1.7	2.4	2.1
35-54	25.1	1.0	0.7	1.3	24.1	1.3	1.1	1.3
55+	10.5	0.9	0.8	1.1	14.5	1.5	1.3	1.4

Source: 1990/91 LFS and 2000/01 LFS.

Table 2.9 above reveals a number of features that characterize unemployment situation in Tanzania. The features include:

- (i) According to the 2000/01 LFS, almost half of the unemployed live in urban areas. In Dar-es-Salaam City alone 46.5% of the labor force was unemployed. Other major towns have high unemployment rates averaging at 25.5% compared to 8.4% of the rural areas.
- (ii) Unemployment rate is particularly high for the youth aged between 15 and 24 years, especially those living in urban areas. Youth of this age category are usually primary and secondary school leavers as well as higher education graduates. The youth comprise nearly half of all the unemployed in the country. These results compare well with the findings obtained by Dabalen (2000) study for Sub-Saharan Africa. These are mainly new entrants to the labor market. Females are more affected. Failure of most of the new entrants to get employment point to existence of a problem of insufficient growth of the economy particularly in sectors which have high potentials for employment creation. It may also reflect a possible existence of mismatch between labor supply and labor market demand particularly in terms of lack of relevant skills demanded for by the labor market.
- (iii) Unemployment in rural areas remained more or less unchanged during the 1990s.
- (iv) Growing numbers of unemployed are females.

2.4.3 Unemployment by Training and Education Levels

According to ILO World Employment Report (1998/99) education and skills have become increasingly important in determining the employability of the individual, and at the macro level, the competitiveness of the country.

Table 2.10: Distribution of Economically active Persons (Employed and Unemployed) by Level of Education (Numbers in 000')

Education Level	Employed		Unemployed		Total	
	No.	%	No.	%	No.	%
Never Attended	4,489.3	95.9	191.8	4.1	4,681.1	26.3
Primary not complete	4,399.5	96.4	166.0	3.64	4,565.5	25.6
Primary complete	7,211.2	94.0	459.8	5.99	7,671.0	43
Form I-VI-Not Complete	76.4	93.3	5.5	6.7	81.9	0.5
Form I-VI-Complete	708.3	88.9	88.6	11.1	796.9	4.5
Degree+ Not Complete	2.0	100.0	0	0	2.0	0
Degree+ Complete	28.1	96.3	1.1	3.67	29.2	0.2
Total	16,914.8	94.9	912.8	5.12	17,827.6	100

Source: 2000/01 Integrated Labor Force Survey.

Accordingly, unemployment is relatively high the less educated a person is. For instance, unemployment rate for secondary graduates stands at 11% compared to 3.7% for the university degree holders. Further information from the 2000/01 Integrated LFS shows that unemployment is highest for those with primary education and less living in Dar-es-Salaam. In other urban areas, unemployment is higher for those who have completed primary and secondary education and above. In rural areas education levels do not appear to influence the rate of unemployment. Most rural dwellers including new labor force find employment of some sort in the agriculture sector.

Table 2.11: Distribution of Economically active Persons (Employed and Unemployed) by Type of Training (Numbers in 000')

Type of Training	Current Employment Status				Total	
	Employed		Unemployed			
	No.	%	No.	%	No.	%
None	15,246.1	94.8	834.5	5.2	16,080.6	90
On the job	338.2	95.4	16.4	4.6	354.6	2
Certificate 1 or less than 2 years	349.9	92.9	26.7	7.1	376.6	2
Certificate 2 or more years	319.3	95.6	14.5	4.4	333.8	2
Formal Apprenticeship	28.1	93.0	2.1	7.0	30.2	0
Informal Apprenticeship	387.7	97.6	9.3	2.4	397.0	2
Diploma 2 or more years	54.7	95.6	2.5	4.4	57.2	0
University	20.1	98.0	0.4	2.0	20.5	0
Other Courses after University	3.4	100.0	0	0.0	3.4	0
Other Courses	167.3	96.4	6.3	3.6	173.6	1
Total	16,914.8	94.9	912.7	5.1	17,827.5	100

Source: 2000/01 Integrated Labor Force Survey.

Information presented in Table 2.11 show that highly trained people especially at university and other courses after university face less unemployment problem compared to those with little or no training. Despite the fact that unemployment of university graduates is comparatively less severe, concern on this problem is widespread. Given that considerable public and private investments are made in higher education in the hope that they will yield sound returns, any graduate unemployment and insecure employment conditions need to be viewed seriously. In addition with the process of globalization and increased competition a mismatch is felt to be on the rise between certain fields of study and the demand for graduates of certain profiles.

Unemployment is also relatively high for people with training at secondary school certificate and formal apprenticeship levels. Thus, training at higher levels is important to combat unemployment. What is needed, however, with an increasingly competitive labor market is to train such people with relevant and quality skills, which can help graduates to take up jobs being created by a liberalized and globalized economy.

PART THREE

THE MATCH BETWEEN OUTPUT OF THE POST-PRIMARY EDUCATION AND TRAINING SYSTEM AND THE DEMAND FOR EDUCATED LABOR

3.1 Preamble

The mismatch between supply of and demand for post-primary education graduates can occur when growth of the economy is too low, when poor macro-economic policies especially high inflation scare away potential investors and when the skills of the graduates are irrelevant to the requirements of the labor market demand. This chapter deals mainly with the latter issue.

The concern about the social relevance of post-primary education and in particular higher education has gained momentum in both developing and developed world beginning the end of the 20th century. Teichler (1998) cites a number of studies that have dwelt on this issue. These include UNESCO (1995, 1997a, 1997b), World Bank (1995) and ILO (1997). The World Bank report points out the tensions between higher education and employment while the ILO study notes the major challenges for all areas of education and training due to the globalization of the economy. Teichler (1998) also discusses this problem in developing countries. For example, it is pointed out in the study that in addition to the cost and financing of higher education, the connections between higher education and the world of work have elicited very keen interest within African universities. In general, in the literature, there are claims of shortages of skills, oversupplies, the qualifications expected, mismatches between the competencies of graduates and the needs of employment systems.

In Tanzania, since independence, education has been considered as the main means for better employment and raising socio-economic status. However, recently there have been indications that formal education systems (schools, colleges and universities) are not keeping pace with the skills needs of a changing labor market in a liberalizing Tanzanian economy and increasingly global economy.

At the same time information and communication technologies are changing both the type of skills that are required and the ways that skills can be acquired.

3.2 Recent Trends in the Supply and Demand for Educated Labor in Tanzania.

The contribution of education to economic development is well documented in development literature. Analysis of the East Asian economic miracle (World Bank, 1993), for instance, identifies education to be an important determinant of economic growth.

Tanzania started at independence with a severe shortage of skilled local manpower. For instance, local employees in the senior and middle grade posts in civil service were as

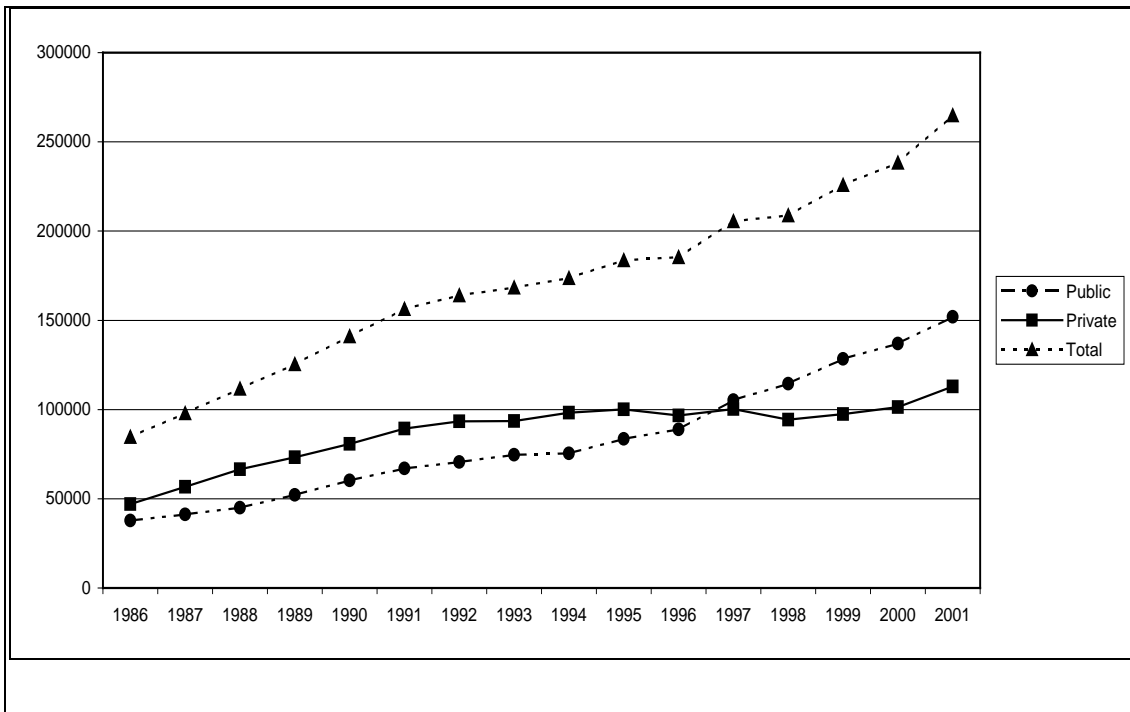
low as 32.7% while the corresponding level of self-sufficiency was 26.4% (Bank of Tanzania, 1981). The shortage proved to be one of the most important constraints to Tanzania's development at independence and years after. Since independence, school enrolment at all levels has increased considerably in response to social demand and manpower constraints, and the policy goal of education for all. The government abolished school fees at primary, secondary, and tertiary level in the 1960s to mid 1980s to enable many Tanzanians have access to education.

Adoption of the education policy in 1995 that allowed the private sector to participate in provision of education has contributed to the increase in the number of schools in the country. Already by 1997 there were more private secondary schools than public schools. Out of 721 total number of secondary schools, 371 were private and 350 were public schools. Government efforts to expand the education sector through construction of more schools have continued alongside the private sector. The total number of schools increased by 8 percent between 1997 and 2001, from 721 schools in 1997 to 937 schools in the year 2001 of which 528 were public and 409 private (Appendix 1). The government's commitment to expanding the education sector is indicated by the increase in the number of public schools, which by the year 2001 exceeded the number of private schools. However the increase in the number of schools in the country has not gone hand in hand with efforts to increase the teacher training colleges. The teacher training colleges has more or less remained the same. The implication of these phenomena is an increase in the teacher-student ratio in the education system. If this trend continues unchecked it may lead to a decrease in the quality of the teaching process.

The number of students in secondary schools generally shows an increasing trend as indicated in the Figures 3.1. Human capital in terms of adequate number of qualified teachers is important in order to cope with the increasing number of schools and students enrolment rate. The number of trained teachers at degree and grade A level, however, decreased in the last few years. On the other hand there has been an increase in the number of teachers receiving in-service training. (Figure3.2). Furthermore, trends show that there has been an increase in the enrolment of students at the tertiary institutions.

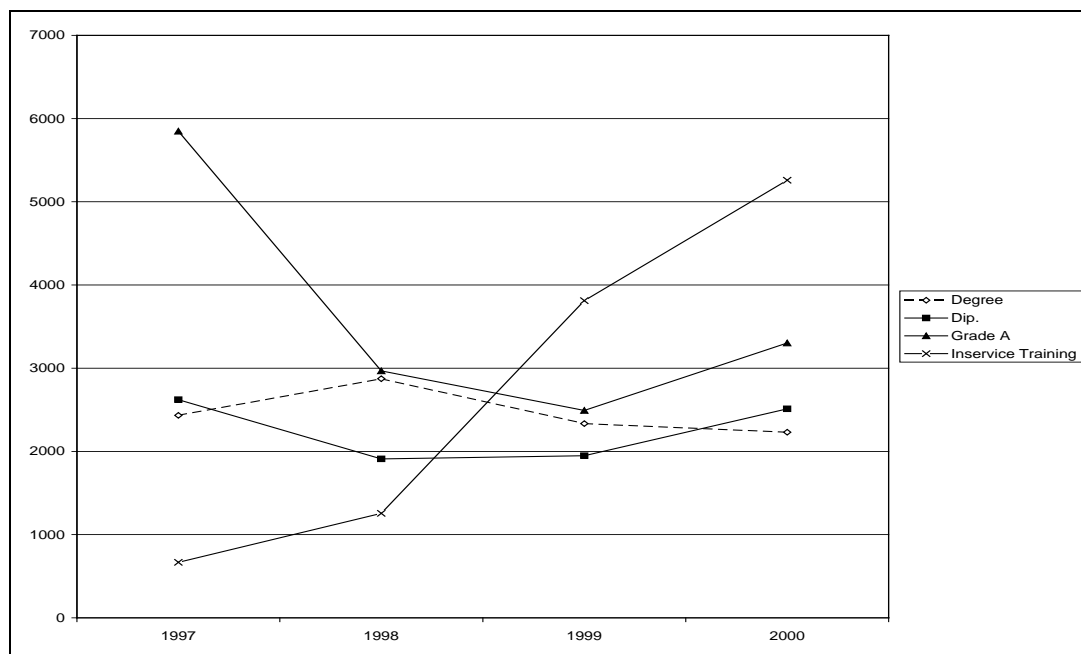
Despite these achievements, there is a mismatch between the number of students completing primary education and availability of opportunities for secondary, tertiary and other forms of training. This could be observed from the number of Tanzanians who have only completed primary education (more than 50%), and those who have completed secondary education (5% of which 4.6% form four and 0.6% high school), Tertiary education (0.4%) and other forms of post school training (1.6%) (Table 3.1). The mismatch points to the inadequacies in the provision of post primary education opportunities in the economy, as well as opportunities for other forms of training.

Figure 3.1 Number of Form I-VI Students in Public and Private Secondary Schools



Source: Appendix 3a.

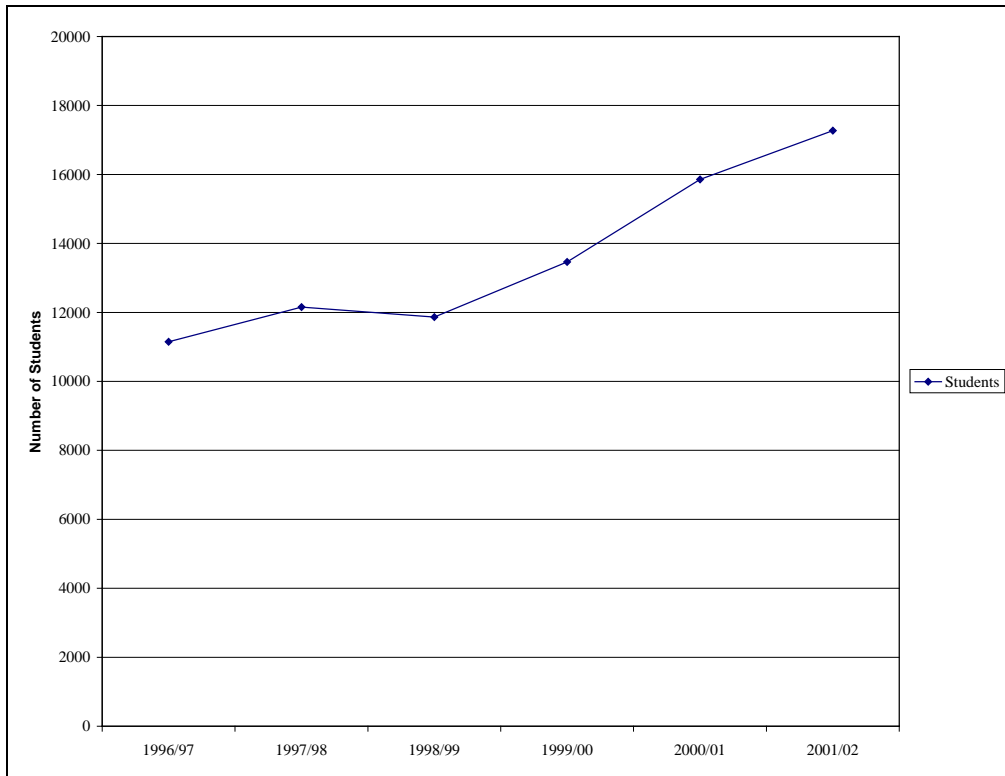
Figure 3.2. Number of Trained Teachers by Level of Training



Source: Appendix 3b.

The decrease in the number of degree teachers could be explained by the shift of graduate teachers from the teaching profession to more lucrative employment opportunities in the private sector.

Figure 3.3. Number of Students in Tertiary Learning Institutions



Source: Appendix 4

Despite these efforts and educational achievements in the country so far, still the level of education of the Tanzanian labor force is low. The 2000/01 Household Budget Survey shows that one quarter of adults in Tanzania have no education. The survey shows that only 5% percent of adult Tanzanians have received secondary education; and about 1% have received tertiary education (Table 3.1). This implies that more than 90% of Tanzanians do not have at least secondary education. Given the globalization pattern of knowledge-based development, the level and quality of education of Tanzanians may hinder them from entering the modern labor market.

Table 3.1 Highest Level of Education Achieved by Adults in Tanzania (%)

Level Achieved	Dar es Salaam		Other Urban areas		Rural areas		Mainland Tanzania	
	91/92	00/01	91/92	00/01	91/92	00/01	91/92	00/01
No education	9.0	7.6	13.0	13.1	28.0	29.0	24.9	25.2
Adult education only	1.2	0.9	1.3	1.1	3.7	2.3	3.3	2.1
Primary 1-4	8.6	6.4	14.3	9.8	15.8	12.8	15.2	11.9
Primary 5-8	57.0	60.6	58.8	57.6	49.0	52.5	50.7	53.8
Form 1-4	17.4	14.9	8.9	12.7	2.1	2.2	3.9	4.6
Form 5-6	1.4	1.7	1.0	0.9	0.1	0.2	0.3	0.4
Diploma/University	1.6	2.9	0.4	0.7	0.0	0.1	0.2	0.4
Course after primary	0.2	1.6	1.1	1.4	0.8	0.4	0.8	0.6
Course after Secondary	2.3	2.7	0.6	2.2	0.2	0.2	0.4	0.7
Other certificates	1.3	0.8	0.6	0.6	0.2	0.2	0.3	0.3
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Source: National Bureau of Statistics, Household Budget Survey 2000/01.

The implication of these statistics in terms of employment is existence of a mismatch between qualifications required in the modern labor market and the level of education and qualification among Tanzanians. This is mainly because the emerging new technologies have led to shift in the composition of factors of production, with a considerable decline in raw materials, energy and labor inputs and an increase in knowledge intensity (Semboja, Mwapachu and Jansen, 2002, p.69).

The process of mass schooling started at the time when Tanzania was also experiencing economic and fiscal crisis in the 1970s towards the mid 1980s. In the 1970s Tanzania enacted the policy of education for self-reliance. This aimed at providing relevant education in the formal schools that would enable graduates to be self-employed after schooling. In the early 1980s the government embarked on the Universal Primary Education (UPE) that was geared towards increased enrollment at the primary school level. This aimed at ensuring that all the school eligible children get the opportunity to receive formal education. However, economic difficulties made it difficult for the government to provide opportunities for secondary and higher education to the majority of Tanzanians. This is evident from the education statistics that shows a surplus of students in relation to trained teachers at all education levels. Most students who finish one level in the system are unable to continue to further studies (i.e. primary to secondary and secondary to tertiary). This concurrence has contributed to the growing mismatch between the labor supply from the education system and labor demand in the economy (Table 2.11).

Furthermore, the economy is at present unable to absorb all the output from the expanding education system (Table 2.10). Unemployment is especially high among the youth who had completed only primary and secondary education. Unemployment is, however, relatively low and not a big problem among those who have completed tertiary education.

However, it is noted that reforms and new Foreign Direct Investment (FDI) are changing the labor market requirements rapidly. That is, the more capital-intensive and technology-intensive the economy is becoming, the larger the demand for skilled labor that is needed

for running advanced technological operations, including therefore increased demand for quality technical and managerial experts. This is evident from the fact that e-technologies e.g. cell-phones are now in use even in the remotest parts of Tanzania; automated machines e.g. ATMs are becoming common in country's banking system; car repairers now need some knowledge of electronics as most cars are fitted with these gadgets and computers are finding wide use in most activities including business. Thus, poor quality post-primary output may face greater unemployment unless the issue of quality education and training is addressed.

3.3: Information from the Labor Exchange Centre

The Labor Exchange Centre (LEC) started operations in July 2001 and was officially inaugurated in August 2001. The primary objectives of the LEC is to match the skills, experience, education and other qualifications of job seekers with job qualification requirements of employers. The Centre is a place where employers and job seekers can be connected and hence it helps job seekers to get employment and employers to get qualified workers. The performance of the Centre since its inception is summarized in the Table below.

Table 3.2: Performance of the LEC from July 2001 to January 2003

S / n	Performance Item	Cum. Up to Sep. 01	Cum up to Dec. 01	Cum up to Mar 02	Cum up to June 02	Cum up to Sept 02	Cum up to Dec 02	Cum up to Jan 03
1	Job Seeker registration	1,238	1,922	2,496	2,782	3,341	3,893	4,027
2	Job Vacancies, order received	63	177	285	545	817	1,042	-
3	No. of job openings	165	365	590	899	1,140	1,810	1,899
4	No. of referrals made	218	589	904	1,165	1,514	1,812	1,904
5	No. of hires (placements)	24	74	84	97	152	155	160
6	Individuals counseled	24	43	65	89	121	129	129
7	No. of job seekers attended job search workshop	-	8	183	361	423	423	423
8	Employer visits	-	81	198	319	473	616	646

Source: Labor Exchange Centre Files.

Up to January 2003 a total of 4,027 job seekers had been registered by the Centre, compared to 1,238 job seekers registered during the first quarter of July-September 2001. Using cumulative data of up to December 2002, out of the registered 3,893 job seekers, 70.5% were males while females constituted only 29.5%. However, it is clear from the table that the placement rates are still very low i.e. less than 0.5% of the number of job seekers, around 9% of the referrals made and 15% of the registered number of job

openings. The same data shows that the registered job seekers had different educational and training qualifications with a variety of skills as presented herein below:

- (i) 23.6% have University Bachelors, Masters, PhD degrees and other post-graduate qualifications
- (ii) 10.7% have Advanced Diplomas,
- (iii) 10.6% have Ordinary College Diplomas,
- (iv) 16.6% have Certificate level qualifications,
- (v) 24.2% have Secondary education,
- (vi) The remaining 14.3% have primary education

The registered job seekers qualify for a wide range of jobs in various occupational categories in the following Table.

Table 3.3: Occupational Categories for Job Seekers Registered at the LEC, July 2001 to December 2002

S/n	Occupational Category	Number	Percentage
1	Legislators, Administrators, Managers	162	4.2
2	Professionals	1,094	28.1
3	Technicians and Associate Professionals	594	15.3
4	Office Clerks	740	19.0
5	Services and Shop Sales Workers	501	12.9
6	Agriculture and Fishery Workers	19	0.5
7	Extraction and building trade Workers	194	5.0
8	Operators/Assemblers	329	8.5
9	Elementary Occupations	260	6.7
10	Total	3,893	100

Source: Labor Exchange Centre Files.

According to Table 3.3 a large number of job seekers (28.1%) qualify for professional jobs, followed by those who qualify for office clerical jobs (19%) and technician or associate professional jobs (15.3%).

Other data from the Centre show that out of the job openings registered at the Centre, the largest percentage of them are in the professional occupation category (24.2%) followed by the service and sales workers category (22.3%), technicians and administrative associate professional category (15.1%) and clerical occupations (11.5%).

It is also noted that during the period from July 2001 to December, 2002 a total of 1,812 (or 46.6% of the total registered) job seekers were referred to employers for job interviews. For some of the jobs the available job seekers registered at the Centre do not have the qualifications required by the employers. Some of these qualifications are technical especially those in the mining and oil prospecting occupations as well as some general qualifications and years of experience in specific occupations. This implies existence of mismatch between the output of education and training institutions and work. The mismatch is also due to the limited ability of the economy to create many employment opportunities and hence only few job seekers manage to secure employment leave alone employment related to their education and training qualifications.

PART FOUR

ANALYSIS OF THE LABOR MARKETS: BASED ON FIELD WORK FINDINGS

4.1 Coverage and Basic Characteristics of the Surveyed Enterprises

In conducting this study, data and information were gathered through a literature survey and secondary sources. A mini survey was conducted through two structured questionnaires to collect primary data required to examine the relationship between education and training and employment. The consultant and two experienced research assistants through visits to the institutions and to individual ex-trainees and school leavers administered the questionnaires. The lists of the surveyed institutions and interviewed individuals are presented in Appendices 5 and 6.

The first questionnaire was used in a survey that was conducted among 22 institutions of which 12 (or 54.6% of the total) being in Dar-es-Salaam, 5 (or 22.7%) in Arusha, 3 (or 13.6%) in Iringa and 2 (or 9.1%) in Mwanza. In Morogoro none of the contacted institutions and individuals provided us with the information that was being sought. The survey covered a total employment strength of about 3,356 workers involving 1,013 (or 30.2%) females.

The surveyed institutions are also from a range of many sectors in the Tanzanian economy. These are presented in the following Table.

Table 4.1: Regional and Sectoral Distribution of the Surveyed Institutions

S/N	Sector	Service	Location	Number of institutions	Number of Employees
1.	Agriculture	Tea Growing and manufacture	Njombe-Iringa	1	257 (128)
2.	Forestry	Forestry, wattle extraction	Njombe-Iringa	1	NA
3.	Manufacturing (including fish and fish processing and Garage)	ISIC: 3113, 3114, 3521, 3522, 3710, 3819,	Dar, Iringa, Mwanza and Arusha	10	2102 (542)
4.	Service Enterprise	Finance, Trade, Communication	Dar-es-Salaam	1 Trade and 3 Finance=4	291 (47)
5.	Tourism	Hotels and Tour Operators	Arusha	2 Hotels and 2 Tour Operators=4	526 (241)
6.	Training Institutions	Schools	Dar-es-Salaam	2	180 (55)
	TOTAL			22	3356 (1013)

Source: Field Survey, 2003.

According to Table 4.1 most (45.5%) of the surveyed institutions are manufacturing firms followed by institutions in the service and tourism sectors (each with 18.2% share of the coverage) and agriculture and forestry sectors (each with a 4.5% share of the coverage).

The distribution does not in any way reflect the importance of the particular sector in the Tanzanian economy rather it was greatly influenced by time and resource limitations.

The second questionnaire was for individual school leavers and ex-trainees. The interviewees were randomly sampled from the surveyed institutions and from the informal sector. Some unemployed school leavers and ex-trainees were also randomly sampled. A total of 112 individuals were interviewed (See Appendix 6). The questionnaire dwelt on such issues as the profile of interviewed persons, the relationship between their employment and education and training and usefulness of education and training in getting employment and time taken to get first employment. They were also asked to explain how they found their present employment and their satisfaction with the present employment.

4.2 Analysis of Employment Levels by Occupation

Table 4.2: Employment levels by occupation in the Surveyed Enterprises (N=22)

S/n	Level/Occupation	Manager		Professional		Technician		Formal Supervisor		Skilled Workers		Unskilled Workers	
		Total	F	Total	F	Total	F	Total	F	Total	F	Total	F
1.	Management	95	38	42	2	7	1	0	0	7	0	0	0
2.	Production	39	3	191	174	24	0	79	2	557	71	766	184
3.	Marketing	12	1	36	3	12	1	1	0	57	14	84	0
4.	Sales	4	0	42	27	8	0	2	0	5	5	0	2
5.	Maintenance	9	0	10	1	56	1	14	0	43	1	32	1
6.	Administration	14	0	32	8	3	0	9	0	42	25	18	1
7.	Accountant	10	0	40	5	19	12	7	0	34	6	0	0
8.	Security	0	0	18	2	22	0	5	0	50	4	21	0
9	Cleaning	0	0	4	13	0	0	0	0	2	5	87	23
10.	Others	3	0	81	6	5	0	2	0	49	12	59	9
	Total	186	42	496	241	156	15	119	2	846	143	1067	220

Source: Field Survey, 2003.

According to Table 4.2 managers and professionals deal mainly with the management of enterprises, production, marketing, administration, accounts and sales while unskilled workers are involved also in the production as well as in cleaning and security maintenance.

On the other hand only 5 enterprises reported that they had seasonal employment while 17 said they had no seasonal employment. The reasons for seasonality (in terms of seasons with high and low labor utilization) include:

- (i) Use of many unskilled labor, for instance, during tea picking seasons (may-September=800 people) and only 200 people during low labor utilization season (October-April) for Kibena Tea Growing and Processing. Nothing can be done to remove seasonal employment as the sector is weather dependent.
- (ii) Use of casual or unskilled labor, for example, during high tourism season utilization of such labor at Impala Hotel service and Novotel Hotel is 100% compared to 50% during low tourism season. The problem can be reduced to

some extent through better marketing strategies, service improvement and new tools and equipments. Complete solution to the problem is not possible because of the fact that this is also a problem related to high tourism seasons.

- (iii) The variation in the use of casual or unskilled labor, for example, in the production activities at Metal Products Ltd is due to market forces which the industry has little or no control.

4.3 Analysis of Labor Turnover

4.3.1 Labor Attrition

Information about labor attrition in the surveyed enterprises is summarized below.

Table 4.3: Labor attrition in the Surveyed Enterprises, 2001

S/n	Employment Level	Death	Cause of Death			Retire ment	Resign ation	Dismis sal/Ret rench ment	Total
			HIV	Other Diseases	Accide nt				
1	Managers	1	0	2	1	3	3	4	14
2	Professionals	8	0	5	2	0	15	15	45
3	Technicians	1	0	1	0	2	13	6	23
4	Foremen/supervisors	1	0	0	1	0	3	3	8
5	Skilled Workers	16	2	10	1	2	7	6	44
6	Unskilled Workers	0	0	1	0	0	4	62	67
7	Secretaries/Drivers	0	2	0	0	0	0	0	2
	TOTAL	27	4	19	5	7	45	96	203

Source: Field Survey, 2003.

Overall 7 (or 32%) enterprises did not report any labor wastage in 2001. But 15 or 68% enterprises reported a total of 203 (or 6.1% of total employees in the surveyed firms) labor wastes. Out of these 55 (or 27%) were lost through death, HIV/AIDS, other diseases and accidents. The rest, 148 people or 78% were lost through retirement, resignation and dismissal or retrenchment. Note that the information was only for a single year and hence few (only 4) people lost through HIV/AIDS should not imply that this problem is minor. It takes many years for those infected with HIV to come down with AIDS, and then many years of illness before death. This is a figure for deaths and not for the sick whose numbers may be substantial.

4.3.2 Dealing with the Problem of HIV/AIDS

HIV/AIDS is currently a major health problem as well as a serious impediment to socio-economic development through its impact in the reduction of the active labor force, in particular the human capital that underpins economic transformation, higher productivity and competitiveness. Thus, employers were asked on how they were dealing with the HIV/AIDS problem.

Nine institutions reported that their workers were not affected by HIV/AIDS in 2001. The rest, 13 institutions, reported that some of their workers were affected by HIV/AIDS and hence they were dealing with this problem using various methods:

(i) Four institutions revealed that they were merely *filling in vacancies* created by resigning sick workers and deaths caused by HIV/AIDS. However, some companies like Tanganyika Wattle Company makes health check ups for its labor force and affected workers are only replaced when they decide to stop working

(ii) Ten or more than three quarters of the 13 institutions reported that their main method in dealing with this problem is *education*. Overall, therefore, education is considered to be the main method of dealing with the HIV/AIDS problem. Some companies are, thus, doing a lot in this area. For instance, each department at Tanganyika Wattle Company has a peer health educator. In addition, each of the 17 villages that surround the Company has a peer health educator who has been trained through the company programme.

Some other companies like the Shelly's Pharmaceutical, Shaaban Robert Sec. School and Novotel Mount Meru Hotel Ltd invite, frequently, professionals and NGOs (TANESA) to conduct seminars on HIV/AIDS. In some cases such awareness training or public education on HIV/AIDS is also conducted to staff families. Workers are also educated about HIV/AIDS during staff meeting (as one of the agendas) e.g. At Impala Hotel Ltd.

(iii) Six institutions mentioned a method of *counseling* the sick. Doctors do the counseling. However sometimes counselors trained by the Company e.g. Tanganyika Wattle Coy do the counseling.

(iv) Five institutions reported that they were *assisting the sick* in many other ways. These include allowing the sick to continue working, contributing to treatment costs and giving them all benefits when they decide to resign (e.g. Tanganyika Wattle Company) and providing life prolonging drugs to all sick employees (Novotel Mount Meru Hotel Ltd).

(v) Four institutions mentioned *other programmes* such as home basic care, where Company hospital worker visit households with HIV/AIDS patients and teaches them how to care of their sick (e.g. Tanganyika Wattle Company). The Company also has a magazine "Si Mchezo" HIV issue after each month. In addition a Cultural Art group is used to educate or sensitize about HIV/AIDS.

(vi) The other method that was mentioned is the "*multi-skilling*" or training employees to do more than one job so as that it is easier to fill vacancies.

Finally, employers were asked about their experience of HIV/AIDS in 2002. The overall response revealed that, in 2002, both the size of the labor force and the labor productivity were not seriously affected by the HIV/AIDS problem. Only 5 or about 23% of the total surveyed enterprises were affected by the HIV/AIDS problem in 2002. And this involved very few workers e.g. only 2 staff died of this disease at Tanganyika Wattle Company

and the vacancies/gaps were filled immediately partly because the affected were workers of low levels of employment who are not difficult to recruit. The low impact of HIV/AIDS should, however, not be translated as a warrant to reduce the focus or efforts in dealing with the problem because this may lead to facing more disastrous impact in the future. Moreover, labor productivity could in the long run be seriously affected particularly as more and more time is lost for treating and caring the sick. Further, more institutions can also be affected in addition to the current two that reported that HIV/AIDS is affecting their labor productivity.

4.4 Analysis of Recruitment Methods and Skill Requirements

4.4.1 Recruitment Methods

In recruiting new workers the interviewed employers reported that they were using various methods, which are summarized in the Table below.

Table 4.4: Number of Reported Methods of Recruitment for Different Occupations

S/n	Occupation	Adver tising	Labor Exchange Centre	Recruit ment Agency	Personal Approach/Word of mouth	Internal Promotion	Contact by Training Institution	Total
1	Managers	15	2	3	8	5	2	35
2	Professional	16	1	2	7	7	6	39
3	Technicians	10	1	2	7	6	4	30
4	Foremen/Supervisor	9	0	1	5	10	3	28
5	Skilled Workers	10	1	5	7	6	3	32
6	Unskilled Workers	5	0	0	13	4	1	23
	TOTAL	65	5	13	47	38	19	187

Sources: Field Survey, 2003.

21 Enterprises mentioned six methods that they are using in recruiting new workers. The most common methods were advertisements, personal approach or word of mouth and internal promotion. Some recruitment is through contact with training institutions and use of recruitment agency. The labor exchange centre is currently not used extensively partly because it is new and thus not known by many employers. Training institutions (19) contact employers to establish the possibility of employing their graduates.

Further analysis was made on the number of applications enterprises get from job seekers. This information is summarized in the Table below.

Table 4.5: Applications the Enterprises get for each Skilled Job requirement

S/n	Employment Level	1-20	21-50	51-80	81-100	101-200	Over 200	Total
1	Managers	17	3	1	0	0	0	21
2	Professional	9	4	2	3	2	0	20
3	Technicians	10	4	4	0	0	1	19
4	Foremen/Supervisors	6	2	2	0	0	0	10
5	Skilled Workers	7	3	4	2	0	2	18
6	Unskilled Workers	2	1	2	1	0	7	13
	TOTALS	51	17	15	6	2	10	101

Source: Field Survey, 2003.

According to Table 4.5 only few applications (ranging between 1 and 20) were being received by employers for high employment levels compared to many applications (ranging between 101 and 200 and over 200) for employment requiring unskilled labor.

4.4.2 Easiness of Getting Skilled Workers, Sources of Recruitment and Workers lost to other Institutions

Difficulty in Getting Skilled Workers

Table 4.6: Reported cases of difficulty/easiness in recruiting various categories of Skilled Persons in the Surveyed Institutions

S/n	Employment Category	Difficulty		Easy		Total
		Number	%	Number	%	Number
1	Managers	11	47.8	12	52.2	23
2	Professionals	10	45.5	12	55.5	22
3	Technicians	3	15.0	17	85.0	20
4	Foremen/Supervisors	2	10.5	17	89.5	19
5	Skilled Workers	3	15.0	17	85.0	20
6	Unskilled Workers	1	5.3	18	94.7	19
	TOTAL	30	24.4	93	75.6	123

Source: Field Survey, 2003.

Looking at Table 4.6 one can say that generally it is easy (75.6%) for employers to recruit the workers they need. However, it is more difficult to recruit skilled persons for managers and professionals while it is clearly easy to get persons for the rest of the categories, technicians, foremen/supervisors, and skilled and unskilled workers.

The difficulty arises because most job seekers lack adequate experience. They also lack the type of skills and knowledge that is required by the labor market. This is partly because some of the job seekers studied whatever was available without focusing on what skills are required in the labor market.

On the other hand the easiness is mainly due to the fact that job seekers have fundamental or basic skills or training that is required for performing simple and general activities (e.g. agricultural related activities at the Tanganyika Wattle Company). Some few others find it easy to recruit workers who have the type of training or profession required e.g. accounts and financial management demanded by the various financial institutions including private banks.

In general, 17 or 77.3% of the surveyed enterprises revealed that recruited workers had to some extent (50% and above) the type of training they would like to see (education background and experience); 5 enterprises or 22.7%, however, reported that workers did not have the type of training they would like to see.

Given the noted difficulty in getting skilled workers and the shortfall in the availability of workers with the type of training required by some enterprises a number of solutions are being attempted. These are:

- (i) Offering higher wages/salaries to attract skilled persons from other institutions/firms. This solution is applied by 7 (or 31.8%) enterprises and it reflects existence of stiff competition for the few available/employed skilled workers. In turn this indicates that training institutions in particular tertiary education institutions are not supplying adequate and competent skilled people.
- (ii) Offering higher wages/better conditions to attract new graduates. Four (or 18.2%) institutions were using this solution
- (iii) Offering more fringe benefits. Few, 2 (or 9.1%) institutions reported that using this solution.
- (iv) Three (or 13.6%) institutions tended to accept less qualified candidates as alternatives or with the intention of giving them some further training.
- (v) Eleven or half (50%) of the surveyed enterprises reported that they offer in-house training.

Sources of Recruitment

Employers revealed the various sources from where they recruit workers. These are presented in the Table below.

Table 4.7: Number of Sources of Workers Recruited by Level of Workers as mentioned by Enterprises (n=21)

S/n	Employment Level	Direct from Educ./ Training	From GOT/ Parastatal	From Abroad	From other TZ Private Enterprises	From Self Employed	From Unemployed Persons	Total
1	Managers	8	9	11	10	1	2	41
2	Professionals	12	8	9	11	1	2	43
3	Technicians	10	8	3	10	5	4	40
4	Foremen/Supervisors	8	2	0	7	4	2	23

5	Skilled Workers	13	6	0	11	3	6	39
6	Unskilled Workers	2	0	0	0	8	13	23
	TOTAL	53	33	23	49	22	29	209

Source: Field Survey, 2003.

According to Table 4.7 most workers were being recruited directly from education and training institutions, from other private enterprises, from government and parastatals, from self-employment and the unemployed. Some workers such as managers, professionals and technicians are recruited from abroad. The tertiary education and training institutions are not producing enough and adequately qualified people for these jobs.

The surveyed enterprises were also asked to if and where they had lost workers. A summary of their response is provided below.

Table 4.8: Number of Enterprises Reporting Losing Workers to other Enterprises (n=18)

S/ n	Employment Level	Same Sector	Other Sectors	Public Sectors	Private Sectors	Companies Abroad	Total
1	Managers	5	1	3	6	4	19
2	Professionals	3	3	5	9	3	23
3	Technicians	3	3	2	8	0	16
4	Foremen/Supervisors	3	0	1	2	0	6
5	Skilled Workers	7	2	5	7	2	23
6	Unskilled Workers	4	2	1	2	1	10
	TOTAL	25	11	17	34	10	97

Source: Field Survey, 2003.

The information presented in Table 4.8 show that 4 enterprises (TZ Fish, Novotel, Fortes and Banana) did not lose any worker to other companies. Except for the Novotel Hotel which is waiting to be privatized, the remaining three institutions were a little specialized and reducing the chances for their workers to easily move to other companies. Thus, 18 enterprises reported losing workers mainly to private companies, same sectors, public sector and other sectors. Some enterprises lost workers to abroad companies.

4.4.3 Qualifications Sought by Employers when Recruiting New Employers

Employers were also asked on their preferences for the different graduates. This information is presented in the Table below.

Table 4.9: Institutions Preferred by Employers When Recruiting Graduates for Different Occupations

S/n	Employment Level	Preference for Graduates or Graduates with							
		TOTAL	Vocation al Training	Vocational + 1 year Training	Sec. School Certificate only	Sec. Educ. + Other Training	University Degree	Trade test Certificate	Train ed on Job
1	Managers	27	0	1	0	1	22	1	2
2	Professionals	27	2	1	0	4	17	2	1
3	Technicians	37	3	11	1	7	6	7	2
4	Foremen/Supervisors	25	0	3	1	6	6	4	5
5	Skilled Workers	36	4	7	2	8	8	4	3
6	Unskilled Workers	17	1	1	5	1	0	1	8
	TOTAL	169	10	24	9	27	59	19	21

Source: Field Survey, 2003

Information presented on Table 4.9 show that employers prefer particular institutions for different employment levels or occupations. For instance, for managers, professionals, technicians and skilled workers university graduates were most preferred. The other relatively more preferred include secondary education leavers with other training, vocational training graduates with at least one year training. Those with secondary education only are least preferred as is the case for those with vocational training only. This shows that secondary education and vocational training do not, according to many employers, provide graduates who have adequate skills that are directly and immediately demanded by the labor market.

Further, it was revealed that, generally, during recruitment employers (about 19 of them out of a total of 22) prefer more fixed skills or fully trained candidates than flexible or generally trained, particularly for managers, professionals and professional technicians as well as workshop artisans, mechanics, drivers, knowledge generating professionals/technicians, fully trained teachers and specialized profession such as graduates in fish technology. They point out that recruiting such people can reduce costs for further training.

At the same time 19 enterprises showed preference for more flexible or trainable candidates for employment levels of foremen/supervisors, unskilled workers including, messengers, cleaners and casual workers. The main reasons for the preference include easy to manage and hence possible to increase, through training, the ability to do various jobs. The kinds of training undertaken are also noted to be less expensive.

Employers were also asked to rank their preferences according to the aspects they were considering when recruiting. The results produced the following ranking:

Table 4.10: The Ranking of Aspects Preferred by Employers when Recruiting

S/n	Preference	Rank	S/n	Preference	Rank
1	More Theoretical Knowledge	8	6	Can Advance Faster	6
2	More Practical Skills	3	7	More Reliable	5
3	More theoretical Knowledge/ Practical Skills	1	8	Follow Instructions better	7
4	More Initiatives	2	9	Starting salary/Remuneration is low	9
5	More Productive Immediately	4	-	-	-

Source: Field Survey, 2003.

According to Table 4.10 employers, in general, most (First rank) preferred workers with more theoretical knowledge combined with practical skills than those with theoretical knowledge alone. Practical skills as well as initiatives ranked much more highly than theoretical knowledge alone. This reflects the fact that employers valued the theoretical knowledge provided by formal schooling and training only as much as it enabled graduates to have initiatives and be practical. Students could obtain practical experience through, among other ways, a strong linkage between schools and work (i.e. offering practical training opportunities). School and training institutions need, therefore, to have curriculum, which will also train candidates to build or strengthen their ability to initiate ideas and activities and take into account the need to build practical experience.

4.4.4 Training Employees and Support given by Employers

The enterprises were asked on whether they provide some in-house training and if so in which areas. Twenty out of twenty two surveyed enterprises revealed that they were providing in-house training to their workers. The following is a summary of the areas in which they provide such training.

In-house Training

Table 4.11: Areas where in-house training is provided in the Surveyed enterprises

S/n	Enterprise/Institution	Areas of in-house training
1	Tanganyika Wattle Coy Ltd	Also training the unskilled and education for environmental awareness, safety consciousness and HIV/AIDS awareness
2	Kibena Tea Ltd	Field & factory supervisors, clerical staff, factory operators
3	Dabaga Vegetable. & Fruit Canning	Labeling, Washing and Production
4	The Impala Hotel	Managerial, sales, accounts at various departments
5	Novotel Hotel	Housekeeping, cooking and computer
6	Wilderson Safaris & Tours	Workshop, Fire fighting, First Aid
7	Fortes Safaris Ltd	Tour guiding, driving and Mechanics
8	Banana Investment	Wine brewing, bottling and wine handling
9	Nile Perch Fisheries	Personal hygiene, maintaining fish quality, health training
10	Tanzania Fish Processors	On MACCP and GMP.
11	Metal Products Ltd	Workshop training & collaboration with other institutions
12	Tommy Dairy Farm	Milk production training and dairy technology
13	Super Doll Trailer Manufacturing	Practical exposure
14	Incar	Customer care training
15	Shelly's Pharmaceutical	GNT training, transactional analysis, house-keeping training and fire fighting training
16	Akiba Commercial Bank	Customer care training
17	CRDB	Technical skills, interpersonal skills and in-service training
18	Standard Chartered	On job training depending on job requirements
19	Imalaseko Investment Ltd	Merchandise identification and operations
20	Shaaban/R. Sec school	Staff seminars for professional training
21	St Anthony Sec School.	Workshop and training by professional staff from e.g. University of Dar, Uppsala and Bologna

Source: Field Survey, 2003.

The information presented in Table 4.11 show that all enterprises were providing some in-house training. This confirms the desire by employers to have workers with the needed practical skills in addition to the theoretical skills obtained through formal education and training.

Supporting Individual Staff and Training Institutions

Given the workers' need to train and the importance attached to training by enterprises, employers were asked on whether they were supporting employees taking training or upgrading courses. They were also asked about the cost sharing mechanisms that they were applying.

Nineteen enterprises reported that they were supporting employees taking training or upgrading courses while only 3 said they were not giving such support. The cost sharing mechanisms employed by various enterprises include:

(i) Allowing staff to attend training using some of the work hours and offering salaries, allowances, study loans (in certain cases the loans are interest free) and leave.

(ii) Full training cost being paid for by enterprises (e.g. Akiba Commercial Bank paying for staff taking courses offered by the Tanzania Institute of Bankers). In most cases employers fully pay for the training costs for courses that are believed to be very important to the respective enterprises. The Impala Hotel in particular takes full responsibility of paying training costs for its workers. For enterprises like the Super Doll Trailer Manufacture full payment of training costs is given to deserving or promising employees who have to sign contractual binding agreements to obtain such support.

(iii) In some cases costs are partly accepted if the candidates show good performance during training e.g. Tanzania Fish Processors Ltd.

(iv) Some enterprises, such as Wildersun Safaris & Tours (T) Ltd, pay 50% of the training costs for employee initiated courses and 100% if the enterprise initiated the course.

On the other hand only 7 enterprises reported that they were giving support (in terms of funds and expertise) to training institutions while 15 enterprises were not giving any support to training institutions. A summary of support given by various enterprises to training institutions is presented below.

Table 4.12: The support given by employers to Training Institutions

S/n	Enterprise	The support offered
1	Shelly's Pharmaceutical	Supports Muhimbili University College and individuals studying chemistry
2	Standard Chartered Bank	Annual subscriptions to the Tanzania Institute of Bankers
3	Metal Products Ltd	Gives support (expertise) to DIT, University of Dar and VETA Chang'ombe.
4	Nile Perch Fisheries	Supports VETA and Universities
5	Fortes Safaris Ltd	Supports Arusha Technical College (allowing fieldwork in its garage). It also supports Mweka Wildlife College.

Source: Field Survey, 2003.

Some employers, although few of them (5 or 23% of the 22 surveyed enterprises), were providing their support to the institutions providing specialized courses (tertiary and vocational training institutions) that were deemed to be quite important to their labor requirements. For the purpose of strengthening the linkage between education and training and work such support need to be enhanced and extended to other institutions.

4.5 Employers Views on the Constraints and Prospects for Improving the Match

Eighteen enterprises gave their comments on the labor market conditions in Tanzania. Nearly half of these reported that availability of labor market information continues to be poor despite the establishment of the labor exchange center and allowing private magazines, newspapers, radios and television stations. The labor exchange center, in particular, is still new and not known adequately that a lot of publicizing is required about

its role. More or less similar number of enterprises noted that advertising expenses were quite high partly because of the high taxes

The interviewed employers also noted that the Tanzanian labor market for educated persons was weak because labor supply, though small, exceeded by far the demand for labor. This was in addition to the problems of poor quality education (or lack of required skills) and lack of experience among those coming directly from schools and training institutions. These problems indicate existence of weak linkages or mismatch between education and training institutions and changing labor market requirements or work.

Further, several suggestions were made by employers for improving the match between education and training and work. These include:

- (i) The Government should formulate and implement policies to create and expand employment opportunities.
- (ii) Improve quality of education and training including teaching students to be creative and apply knowledge
- (iii) Publicize the activities of the Labor Exchange Center
- (iv) Reduce tax levels so as to minimize the costs of advertising

4.6 Analysis of the Characteristics and Views of Ex-trainees and School Leavers

4.6.1 Age, Education and Employment status

Out of the 112-interviewed school leavers and ex-trainees twenty-four (or 21.2%) of them are females. Most (about 90.3%) of the interviewed individuals are, generally, of a young age ranging between 21 and 44 years and averaging at 32 years. Only 11 (or 9.7%) of them are 45 years and above, averaging at 49 years.

In general 105 interviewees provided information. Generally, about one fourth had degrees, one fourth had diplomas and one fourth had vocational training and one fourth with secondary school qualifications. More specifically, 27 or 25.7% of them were secondary school leavers with some training including on job training while the other 27 persons or 25.7% were ex trainees from Vocational Training Centre (VTC) some of them owned by the Vocational Education and Training Authority (VETA) and others by private institutions including religious organizations. Further, 25 persons or 23.8% of the interviewees had diplomas in various fields and 26 persons or 24.8% were university graduates with degrees ranging from first to second degrees.

With regard to employment, 92 interviewees (or 87.6% of the 105 respondents) were employed. Out of them 87 (or about 94.6% of the 92 people) and 5 or 5.4% were employed in the private and public sectors, respectively. 10 or 9.4% were in self-employment activities and 3 or 2.8% were not employed.

The distribution, by education, of those employed shows that 27 respondents had secondary education and some of them with some training e.g. on job training, secretarial, store keeping, driving (at the National Institute of Training), computer and

banking (at Bank training institutions). The other 25 employed respondents were diploma holders in various areas including accounts, bank, teaching, nursing and technical studies while 26 were degree holders including BA General, BA Education, B Com.(some with post graduate training in CPA and other diplomas from IFM), BSc, BSc Education, B Law, MA and MSc. In addition 27 of the interviewees had secondary (Forms IV or VI) education with vocational training. 25 of them were employed while 3 were not employed.

Finally, out of the 9 people involved in self-employment activities only 3 were diploma holders in the fields of education, engineering telecommunication and transport management. These three were engaged in activities that gave them opportunities to apply what they had acquired in their training. Other three people were also doing activities that were related to their training. For instance, a form six leaver with secretarial training had, for 10 years, been providing secretarial services with an average earning of Tshs 250,000 per month. A form four leaver with vocational training was doing a tie and dye business while a form four leaver and ex-trainee of the National Institute of Transport was a driver. The rest four were doing activities not directly related to the education or training qualifications. These had not undertaken any training beyond their school education. A form six leaver was a trader while a form four leaver was a shopkeeper and another form leaver was selling kerosene. In general the diploma holders who comparatively had more training and were doing activities related to their training had, on average, higher earnings. This implies that secondary education alone does not help much in enabling a person into a successful self-employment activity unless some post-secondary school training is undertaken. Training skills provided at tertiary level as well as vocational training helps individuals to establish their own employment activities.

Generally, it is not easy to get accurate information about people's incomes. Nevertheless, the information gathered gives an indication of a relationship between one's education and training and earnings. Overall it is indicated that a person with a higher education level earns more than the one with a lower level of education. At the same time a person with further training than formal schooling alone improves incomes significantly. This collaborates with the findings discussed above using LFS information.

4.6.2 Views on the Relationship between Training and Occupation or Work

One reason why people pursue higher levels of education or training is its anticipated benefits in the labor market, not only in terms of the ability to find employment, remain employed and receive at least a living wage. The greater the labor market's rewards the greater the incentive to continue with higher education or training.

School leavers and ex-trainees were asked a number of questions with regard to the benefits and relationship between their school education and training and work or labor market requirements.

Relation between Education and Training and Work

The interviewees were also asked on whether their current occupation was related to the training they had undertaken. Out of the 112 interviewed people 92 or 81.4% pointed out that their employment was related to the kind of training they had undertaken. Only 21 people or 18.6% said they were engaged in activities not related to their training. 20 or 95.2% of them said they were engaging in such activities because they didn't find work in the occupation for which they had trained. In turn this may either be a problem of the small ability of the economy to create adequate employment opportunities or it is simply a problem of a mismatch between education and training and labor market requirements. Only one worker revealed that he simply did not wish to work in the occupation related to the training undertaken.

Out of 112 respondents, 96 or 85% of them explained that theory and experience were needed to increase efficiency in performing work. Other important type of skills and knowledge needed for this purpose include practical and experience (cited by 87% of respondents), theory (by 75%) and practical (by 90%).

To establish the linkage between education and training and work interviewees were asked to explain whether they were applying what they have learnt in schools and during training. 79 people or 69.9% said they were applying a lot of the skills and knowledge acquired in schools or training. However, 22 people or 19.5% people said that they were applying very little of their educational and training skills and knowledge. This indicates existence of some mismatch between education and training and work. The response of 9 people who said they were not applying the skills and knowledge they had acquired in schools and training partly confirms existence of the mismatch. Looking at the distribution of the 9 respondents it is noted that the mismatch between education and training and work exist for all levels of education including secondary education (Ordinary and Advanced), vocational training and tertiary education (e.g. B.Com finance, IFM diploma accounts).

Further, 83 people or 73.5% of the total interviewees reported that in their work they were using similar equipments they had used during training. However, 28 people (or 24.8%) said that they were not using equipments they had used during training.

Benefits from Training

Ninety-three (or 82.4%) interviewees revealed that the type of training they had undertaken has paid. Out of them 80.6% explained that training had opened opportunities for employment while others pointed out that training has helped them have good jobs (8%) and earn more money (5.3%). However, 13 people (or 11.5%) said that training had not helped them. This was probably a result of limited employment opportunities in the country or a question of mismatch between education and training and work.

Efficiency of the Labor Market in terms of Information Availability

Asked on how they got their jobs, 37 interviewees (or 32.7%) said they did so through friends while 36 (or 31.9%) of them got jobs through advertisement and 28 (or 24.8%) people used other means including friends/applications. These statistics though not exhaustive indicates that the labor market for post primary education output is still weak. Only about a quarter of the job seekers secure employment through formal competitive means (advertisement). More than half of the people interviewed rely on information from friends, relatives and word of mouth to know about existence of employment opportunities. Very few of them, only 8 or about 7% were getting jobs through placement by the institutions. This partly is the result of the collapse of the parastatal economy in which job placement by institutions was quite common. However, an important development is the establishment of employment agency or the Labor Exchange Centre, which is connecting job seekers and employers. Thus, information availability about employment opportunities as well existence of qualified people has been improved. The Centre is however still unknown to many job seekers and employers resulting in only few of the interviewed people, 4 (3.5%), who have secured employment through employment agency.

Satisfaction with the Training and Current Employment

The majority (85% of the 112 respondents) of the interviewees expressed that they would recommend similar training to their friends or relatives. On the contrary, 14 people (or 12.4% of the interviewees) said they would not recommend their relatives or friends to undertake similar training. These include ex form four leavers, form four leavers with vocational training, form six leavers, form six leavers with secretarial training, diploma holders in teaching and university graduates particularly in science subjects (e.g. BSc and MSc). Difficulties in finding jobs that are appropriate to their qualifications made them judge that their training was worthless and friends and relatives should not fall in the same situation. The problem is partly due to the inability of the economy to create adequate scientific and technical jobs, competition from foreigners with such skills and knowledge, problem of mismatch between acquired skills and knowledge and lack of information for alternative employment opportunities. It is also a result of low earnings for those with such education levels and training background compared to those with, say, training in commercial subjects including accounts and finance, who are mainly employed by financial institutions that offer better packages.

The interviewees also responded to the question requiring them to explain how they were satisfied with their current jobs. Only 22 (or 19.2%) respondents said they were very satisfied with their current jobs. Most (74 people or 67.4%) of the respondents noted that they were only somehow satisfied with their current jobs. Thirteen or 11.5% of the respondents, however, said they were completely not satisfied with their current jobs. These again include forms IV and VI leavers (some of them with secretarial training and vocational training), diploma holders in fish and in science subjects as well university graduates in education and law.

PART FIVE

IMPROVING THE MATCH BETWEEN EDUCATION AND THE LABOR MARKET

5.1 Introduction

Improving the educational level of a nation is a long and difficult process. The syllabus must be changed and the effective implementation of new curricula takes a long time because teachers must be trained.

Training must be relevant to the needs of business and industry. The East Asian economies directed their skill development programmes to the critical areas of industry where competitiveness could improve.

Improvement in the general education and technical and managerial skills is now recognized as a necessary condition for successful long-run development even in Sub-Saharan Africa (SSA) including Tanzania (see “Vocational Education and Training in Tanzania and Zimbabwe in the Context of Economic Reform” Education Research Paper No. 28 (1999) in <http://www.dfid.gov.uk>).

5.2 The Role of Regulations and Incentives

According to an OECD (1997) report developing countries including Tanzania face a common set of challenges in education, including:

- (i) Low, albeit increasing, enrolment ratios;
- (ii) Significant disparities in educational access between girls and boys, urban and rural and rich and poor;
- (iii) Poor internal and external efficiency, including high repeat and dropout rates and high unit costs of delivery;
- (iv) High population growth rates/ increasingly urban; and
- (v) Low quality of public education.

Given these challenges governments in developing countries have a number of objectives in education. Broadly these include lifting the quality of education, increasing efficiency, improving access and eliminating disparities.

Alongside the implementation of reforms in the country the government of Tanzania has, in the 1980s and 1990s to-date, been implementing education reforms, which have liberalized the entry of providers into the education market. This has led to a sizeable expansion of the private sector in the country's education sector and hence some improvement in access to education.

There is, however, a general concern that the private market, on its own, will not ensure the achievement of the above stated objectives in education. This is mainly due to information problems, capital market failures and equity concern. There is need therefore to have a regulatory framework for education. This will present the rules of the game for not only the private sector but also other stakeholders such as parents, students, teachers, schools, higher education institutions and the government itself.

Broadly, the regulatory framework refers to legislations and rules that govern stakeholders in the education sector on:

- (i) How providers are established;
- (ii) The level and manner in which providers are subsidized;
- (iii) The taxation and customs treatment of providers;
- (iv) How providers are governed and managed;
- (v) The operational flexibility that providers have, e.g. to set tuition and other fees;
- (vi) Disclosure of information requirements on providers;
- (vii) Regulation of the teacher labor market, including teacher regulation;
- (viii) The process of review and quality assurance of providers.

Through regulations, therefore, governments can mandate or require firms or individuals to do or not to do certain things. This can include putting in place health and safety requirements for schools, limiting fees that can be charged by schools and requiring particular governance structures for schools. Tanzania like other African countries has instituted some regulatory framework for education. It is only noted here that a well designed framework can foster the achievement of the above stated objectives in education, while, a poorly designed one can frustrate them.

It should be noted that for a well-designed regulatory framework to enhance the performance of the education sector, incentives to students, trainees and providers of education and training are crucially important. For instance, governments can provide tax and customs exemptions to schools and training institutions and provide subsidies to recognized providers so as to augment government efforts. Governments can also sponsor students to attend public as well as private schools and training institutions, can establish a scholarship scheme for needy children e.g. children whose parents have died of HIV/AIDS or children from very poor families. At the same time curriculum can be reviewed and hence have enterprise education system so that schools and training institutions be able to provide job creators and not merely job seekers. This will be a strong incentive for attracting youths to undertake such studies or training. Ultimately, incentives can contribute in the task of bringing a match between education and training and work.

Specifically, in Tanzania, regulations in the post-primary education sector are guided by two major policies in the human resources development in the country. The first is the Education and Training Policy (1995), which is administered by the Ministry of Education and Culture. This policy is a framework for guiding formal, non-formal, vocational, tertiary and higher education and training as well as promoting science and

technology in the country for equitable and sustainable development. The second policy is the National Higher Education Policy (1999), which is administered by the Ministry of Science, Technology and Higher Education. This policy provides guidelines to the provision of higher education particularly curricula orientations and concentration, financing, governance, coordination and linkage with the external world of international education.

5.3 Curriculum Content Issues

The present school curriculum in Tanzania translates and implements the Education and Training Policy (ETP) of 1995. The responsibility for designing, developing, monitoring and evaluating the curriculum in pre-primary, primary and secondary schools and teacher education rests with the Tanzania Institute of Education (TIE). Efforts are underway to review the curriculum.

The new curriculum content is to focus on skills development: A new national curriculum framework which is being proposed will focus on equipping primary and secondary school leavers in Tanzania with entrepreneurial skills. This follows the recognition that education prepares pupils and students for the labor market and must provide opportunities to acquire useful knowledge and skills for employment and self-employment

The Education Sector Country Status Report (2001) further notes that secondary school curriculum in Tanzania aims also at addressing some issues of education that are expected in the job market. This includes introducing practical or occupational subjects like agriculture, commercial studies, technical studies and home economics over and above academic programmes. However, given the current trends in the labor markets it is also important for the curriculum to cover other relevant issues such as the problem of HIV/AIDS, issues of human rights and democracies, environment, introduction to computer literacy and issues related to enhancing entrepreneurship.

It is also noted in the Education Sector Country Status Report that technical and vocational schools need to be more effective by providing the training that encourage self-employment, individual initiatives and cooperation. Thus, stronger linkages should be encouraged between training institutions and employers so as to constantly review and update curriculum and also provide opportunities for students to acquire some work experience.

Finally, the university and other tertiary curriculum should be updated to take into account the new realities of the labor market. The Faculty of Commerce of the University has established the University Entrepreneurship Centre (UEC), for instance, that is providing training to enhance entrepreneurship and equip students, e.g. those studying commercial or technical studies, with usable skills and bankable plans of action that can lead to self-employment upon graduation. The curriculum for the UEC comprises four main areas including realities of the Tanzanian job market, developing job-seeking skills, developing employment-enhancing skills and developing self-employment option skills.

5.4 Role of Information Availability

Lack of information between employers and job seekers on the availability of employment opportunities and qualified jobseekers has started being addressed with the establishment of the Labor Exchange Centre (LEC). The Centre continues to collect and analyze various labor market data. It has built a pool of information on employers, job openings and job seekers. Such information is quite important to job seekers, employers, training institutions and government. To disseminate such information the Centre also publicizes its services through workshops, mass media including newspapers, radios and television.

5.5 Upgrading the Informal Sector

Given the lack of adequate wage job creation and existence of high labor force growth, growth in informal sector employment is inevitable as has been noted above. However, most opportunities in informal sector are likely to be unstable and small scale, have low productivity and low returns to labor. Important measures are needed to enhance opportunities by raising the skills, productivity and incomes of people in the informal sector. Such measures include developing lending tools which can meet the credit needs for operators who are often without collateral; improving accessibility to product and input markets; providing entrepreneurs with basic business skills, and streamlining the institutional environment.

PART SIX

ESTIMATION OF THE PRIVATE AND SOCIAL RATES OF RETURN TO EDUCATION BY LEVEL AND TYPE OF EDUCATION

6.1 Introduction

Investment in the promotion and enhancement of human resources, particularly in education and training is a key element in the development process of every country. Its importance is reflected in the growing recognition that investing in both formal and informal education and training provides and enhances skills, knowledge, attitudes and motivation of the labor force necessary for economic and social development. There is however a lot of complexity in designing educational policies and investment strategies to make the maximum contribution to a country's development of human resources for the alleviation of poverty and the rise in income and employment.

According to Pritchett and Filmer (1997) there is a broad consensus that expenses in the skills, knowledge and capacities of individuals (increasing human capital) are a key element in economic progress and raising living standards. Links have been established between education and numerous outcomes, adoption of new technologies, one's own health, nutrition and fertility, among others.

The traditional approach to examining the economic rationale to investments in education uses two approaches: One line of thinking is that education makes a significant contribution to the economic prosperity of individuals and hence the development of a country. The second approach is anchored in the cost-benefit analysis but is popularly known as the rate of return analysis. Accordingly, returns from investments in education are just as good as investments in other sector. Proponents of this view adduce evidence to show that the social returns are greatest at primary education level, decreasing progressively with the level of education while the private returns to such investments increases dramatically with the level of education (Omari in Galabawa, 1999). In general and according to Appleton, Bigsten and Manda (1999), conventional estimates to returns to education at the micro-economic level have been used to support calls for governments, particularly in developing countries, to priorities educational spending.

6.2 Methods for Estimating the Returns to Education

Three methods are commonly used: the elaborate method, the earnings method and the short-cut method (For details see Appendix 7). The elaborate method follows the generic definition of the rate of return to an investment, which is the discount rate that equalizes the sum of the discounted stream of costs of the investment, to the sum of the discounted stream of benefits that it generates. An investment in say, higher education involves direct costs (which would be incurred by the individual student or by the government in the form of subsidies to the student), as well as forgone earnings while the student is in school. The benefits from the investment materialize in the form of increased earnings relative to those with less schooling.

To compute the private rate of return the relevant costs are those borne by the individual student, and the relevant earnings refer to post-tax earnings. For the social rate of return the direct costs include those borne by individual students as well as by other entities, notably the government, which is a main source of subsidies for education. The benefit streams include pre-tax earnings as well as any externalities. Externalities are difficult to estimate and hence the calculation relies only on the wage rate

6.3 Results from Previous Studies

There are a number of studies that have estimated returns to education in Tanzania. A World Bank Study (WB, 1996) estimated returns to education by use of an earnings function, which controlled for human capital characteristics (education and training) along with individual, regional and labor market characteristics. The results are presented in the Table below.

Table 6.1: Private and Social Returns to Education in Tanzania

Education Level	Private Rates			Social Rates
	All	Male	Female	All
Primary	3.6	1.9	10.8	3.6
Secondary	6.9	6.6	9.0	1.5
Vocational Training	19.4	17.8	20.2	0.0
On the job Training	35.2	33.0	35.0	-
University	9.0	9.9	11.4	-

Source: MOEC (2001) "Education Sector Country Status Report".

Although the estimations were undertaken with a number of drawbacks, including the sample being small, limited to formal and public employment, they are consistent with other international findings. The overall private rate of returns to an additional year of schooling is estimated at 3.6%. The gender rate of return is 1.9% for males and 10.8% for females. The significantly higher rates of return for females may be attributed to the flatter earnings profile for females. Their earnings do not rise with age as fast as they do for males, due *inter alia* to such factors as static jobs, less experience and concentration in certain jobs.

The returns by main educational level displayed in Table 6.1 also show that the rates of return are lowest for secondary education, compared to vocational and on the job training and the University level. These results suggest that vocational and on the job training graduates had the opportunity to enter highly remunerative positions during the period before 1996.

A recent study by van de Werf (2000) enables us to get comparable estimates of rates of return by level of education in 1996 and 2000. The findings of the two studies are summarized below.

Table 6.2: Return to Education in Tanzania, 1996 and 2000

Education Level	1996		2000	
	Private	Social	Private	Social
Primary	3.6	3.1	6.2	4.8
Secondary	6.9	1.5	4.8	2.2
Vocational Training	19.4	0.0	4.6	3.3
On the job Training	35.2	0.0	9.9	-
University	9.0	0.0	21.0	1.8

Source: van de Werf (2000)) and MOEC (2001).

A number of observations can be made from Table 6.2. First, is the increase in returns to primary education, second is the social rates of return to secondary education remained to be the lowest apart from declining and third is the sharp decline in the private returns to vocational and on the job training by more than 50% and 60%, respectively. Private returns to university education have more than doubled between 1996 and 2000. In both studies the rates of return were computed by estimating an earnings function, which controls for human capital characteristics (education and training) along with individual, regional and labor market characteristics. The results obtained are comparable with international experience that indicates that public provision of and financing of training is only cost-effective when employment is expanding rapidly, especially in the formal wage sector. Given the low rate of economic growth in Tanzania it is not surprising that the returns to vocational education and training are low.

Part of the decline in rates of return of vocational and on the job training for school leavers reflects to a great extent the expansion in the demand for unskilled and semiskilled labor, largely with primary education as reflected by the increase in returns to primary education from 3.6% to 9.4% between 1996 and 2000.

The rapid expansion in output of secondary school graduates which resulted in the filtering down process in the labor market whereby educational requirements for any particular job increase with time is another explanation.

The relatively high private returns to higher education help to explain the high demand for education among Tanzanians. Recent studies have shown the existence of strong social demand for higher education and employers opinion rated them good (Galabawa and Mbelle, 2000). The structure of rewards is such that higher education clearly gives a greater change to an individual to attain a relatively high income. University graduates have the opportunity to enter highly remunerative supervisory and managerial positions (in trade, banks, government and semi-governmental organizations), which are not usually available to technical school graduates.

6.4 Findings from the Current Study

In this section we present results of regression analysis (as detailed in Appendix 7) only. The short cut method has been dropped because of the poor estimation of unit costs of post-primary education.

6.4.1 Regression Analysis for Returns from Separate levels of Post-Primary Education and Training

Regression analysis has been attempted at two levels, first for each level of post-primary education and training, namely vocational education and training, secondary education, tertiary education and training (non-degree) and university level. Secondly, at aggregate level using pooled data of the different levels of post-primary education and training. In both cases linear regression models and Tobit models have been used.

Results from linear regression analysis on the separate levels are poor with very low R^2 (almost zero). Both variables (education and experience) are not significant. Attempt to use Tobit model has not improved the results, except for the experience variable which appear to be significant with correct (anticipated) sign, indicating that experience exert a positive influence on earnings. However, this result should not be taken seriously because one single outlier influenced it. A possible explanation for education not being significant is that within each level years of education do not vary very much. They are almost constant and hence they cannot explain the variation in earnings. Further, a possible reason for experience not being a significant variable is that with reforms the new employees with skills required for the modern technologies receive relatively higher wages compared to old employees with long experience but suffering from their low or outdated skills that do not match the demand and pressure imposed by new technologies.

6.4.2 Regression Analysis of Returns from Education Using Pooled data for All levels of Post-Primary Education and Training

In addition to the two explanatory variables, years of education, and experience, another variable, namely, level of education for Vocational Education and Training (VET), secondary education, higher education (non-degree tertiary) and university is introduced. The level of education is proxied by Dummies; that is D1 for VET, D2 for secondary education, D3 for degree tertiary education and training and D4 for university.

Both linear regression and Tobit models, give relatively good results than those from separate levels of education and training. The results are presented in Tables 6.3 and 6.4.

Table 6.3 Results from Linear Regression Analysis

Lin	Coefficient	Std.Error	T
Sch	0.074	0.037	1.99
Ex ²	-0.015	0.028	-0.55
Ex	0.001	0.001	0.43
D1	-0.949	0.237	-4.00
D2	-0.750	0.223	-3.36
D3	-0.550	0.156	-3.53
D4	(dropped)		
Cons	11.156	0.638	17.49

N = 97 R² = 0.51
F (6,90) = 15.65 R = 0.48

The independent variables in Table 6.3 are: The number of years in school (SCH); years of experience (EX); Years of Experience squared (EX²) and Dummies including D1 (Dummy 1 if VET, 0 otherwise); D2 (dummy 1 if secondary education, 0 otherwise); D3 (dummy 1 if tertiary non degree, 0 otherwise) and D4 (dummy 1 if university, 0 otherwise).

Table 6.4: Results using Tobit Model

Lin	Coefficient	Std-Error	T
Sch	0.061	0.034	1.80
Ex	-0.25	0.026	-0.96
Ex ²	0.001	0.001	0.79
D1	-1.004	0.231	-4.35
D2	-0.799	0.219	-3.65
D3	-0.608	0.166	-3.66
Cons	11.394	0.592	19.26

N = 97
LR Chi 2 (6) = 70.87
Pseudo R² = 0.37

Results in the two Tables (6.3 and 6.4) are generally good. The R², almost 0.5, is quite high for cross section analysis. The number of years in school and level of education are significant (using t-statistics) variables with expected signs.

In the pooled regression years of school is significant. This is because by pooling the observations the variable years of school is allowed to vary substantially, from for instance 8 years to 18 years (up to non degree tertiary or university level) and hence explain the wide variations in earnings.

Apart from years of school, the level of education is an important variable. Education level exerts a positive influence on earnings. The higher education one gets the greater the potential for (7 years of primary school plus 1 year for say VET) earning higher income than is the case for the less educated. However, experience continues to be not significant for reasons explained above.

PART SEVEN

PROJECTION OF EMPLOYMENT GROWTH BY SECTORS

7.1 Introduction

Manpower analysis and education planning process has for decades been confronted by the question of how to determine future training needs of the labor market. Several techniques have been accepted as being proper methods for assessing manpower needs.

The dominant model of manpower planning is known as the “manpower requirements” approach or model. The three major steps in manpower forecasting are:

- (i) Projecting the demand for educated manpower
- (ii) Projecting the supply of educated manpower, and
- (iii) Balancing supply and demand for manpower

An assessment of the number of workers by education level over time uses five major variables and follows five steps:

- (i) Estimates of the future level of GDP or output (X)
- (ii) Estimates of the structural transformation of the economy as expressed by the distribution of output by economic sector (X_i/X as it evolves over time
- (iii) Estimates of labor productivity by economic sector (L_i/X_i) and its evolution over time
- (iv) Estimates of the occupational structure of the labor force within economic sectors and its evolution over time (L_{ij}/L_j)
- (v) Estimates of the educational structure of the labor force in given occupations within economic sectors over time (L_{ijk}/L_{ij})

The demand function for educated labor becomes:

$$L_{ijk} = f(X, X_i/X, L_i/X_i, L_{ij}/L_i, L_{ijk}/L_{ij})$$

Where i = economic sector, j = occupation, k = educational level

There are eight steps in the manpower requirements approach:

- (i) List the numbers of workers by sector of industry, occupation and educational class for the base year
- (ii) Forecast the size of the total labor force (total supply of manpower) in the target year
- (iii) Forecast the total employment by sector of industry in the target year
- (iv) Allocate this employment by industry among the different occupational classes, aggregate over the sectors of industry to obtain the forecast of employment by occupation
- (v) Forecast the requirements by education type by converting the forecast of the occupational structure of employment
- (vi) Estimate the future labor supply by type of education

- (vii) Compute the required change in annual outflow from the several types of education distinguished, given the results of steps vi and vii.
- (viii) Compute the required enrolments in each type of education to achieve the result of (vii).

Projections of labor demand by key sectors and industry as shown in step (iii) of the manpower requirement planning. The most well known method consists of combining the economic targets for the gross domestic product, broken down by major sector and a projection of labor productivity.

$$\left\langle d \right\rangle_{I,t} = \frac{1}{b} . Y_{it}$$

where

$$\left\langle d \right\rangle_{I,t} = \text{total labor demand in sector } i \text{ at time } t.$$

$$b_{i,t} = \text{average productivity in sector } i \text{ at time } t,$$

$$Y_{it} = \text{(targeted) level of production in sector } i \text{ at time } t.$$

7.2 Analysis of Projected Employment Growth

As stated elsewhere in this study employment data in Tanzania is not easily available. The little available information is not update and on several accounts it is not consistent. Appendix 7 presents employment data by sector for years 1991, 1995 and 1998 (which however is incomplete). The appendix also presents output data by sector, both actual and projected, for the period 1991 to 2006. The employment-output ratios are computed for years and subsequently used to project employment growth for the given output (GDP data obtained from National Bureau Statistics) of the respective sectors

The computed employment growth projections are presented in Table 7.1 below.

Table 7.1: Projected Employment Levels and Growth by Sector for the period 2000-2006
(Levels in 000' numbers)

Sector	Employment-Output Ratio		Projected Employment					
	1991	1995	Level, 2000	Growth, 1995-2000	Level, 2003	Growth, 2000-2003	Level, 2006	Growth, 2003-2006
Agriculture	0.12	0.24	191.2	1.12	107.1	-0.44	262.1	1.45
Mining	0.26	0.47	17.9	1.01	13.9	-0.23	33.8	1.44
Manufacturing	1.03	0.93	128.6	0.29	167.9	0.31	192.4	0.15
Transport & Communications	1.38	0.59	16.7	-0.60	15.2	-0.09	83.6	4.50
Construction	1.53	1.56	120.1	1.88	140.6	0.17	174.9	0.24
Trade, Hotels & Restaurants	0.67	0.28	76.6	0.28	225.8	1.95	128.6	-0.43
Electricity & Water	0.61	1.84	164.7	3.15	20.7	-0.87	77.6	2.74
Financial & Business Services	0.37	0.34	58.6	1.25	73.4	0.25	83.5	0.14
Public Administration & others services	5.19	3.9	493.6	0.65	736.5	0.49	628.7	-0.15
TOTAL (Less imputed bank services)	0.92	0.73	1,268.0	0.61	1,501.1	0.18	1,665.1	0.11

Source: Own Computation using data in Appendix 7.

Results presented on Table 7.1 are only tentative and should be interpreted cautiously particularly because of difficulties in getting accurate and reliable employment data in the country. In addition the use of constant employment-output ratios, which are more than seven years old could have influenced the results. Nevertheless, these results are indicative and give a general picture of future employment growth amongst various sectors of the Tanzanian economy.

In general, employment is, according to Table 7.1, projected to grow in most sectors and decline in some few sectors including the Public Administration and other Services. Key sectors like Agriculture, Manufacturing, and financial business services show that employment will increase in these sectors. Thus demand for skilled labor in such sectors will increase and hence giving some signals that education and training institutions should consider increasing their supply to meet such demand.

PART EIGHT

CONCLUSIONS AND RECOMMENDATIONS

8.1 Conclusions

The main objectives of this report are two-fold. The first is to identify and analyze the main problems, constraints and issues in post-primary education and training with respect to labor market linkages and external efficiency. The second is to recommend public interventions for dealing with the identified problems.

The labor market conditions in Tanzania have been changing significantly especially since the 1990s. The overall socio-economic reforms that are being implemented in the country for about two decades now have contributed to the changing labor market conditions. Formal public employment has declined substantially from the pre-reform levels while formal private sector employment is still small due to the smallness and infancy of the private sector. Overall the wage sector is unable to generate growth to absorb more than 5-6% of about 0.7 million new entrants to the labor market annually. Unemployment has, therefore, been growing in the country. It grew from 3.6% in 1990/91 to 5.1% in 2000/01. This implies that massive expansion is inevitable in the informal sector and in rural subsistence agriculture. In this case informal sector employment, for instance, grew by around 56% from around 1.8 million people in 1990/91 to 2.8 million people in 2000/01. Agriculture sector too, continues to be the largest employer of the country's labor force estimate at about 17.8 million.

In general unemployment is relatively high the less educated a person is. For instance, unemployment rate for secondary graduates stands at 11% compared to 3.7% for the university degree holders. Youths with have primary education only or less (including who never attended school) are worst affected by unemployment. They are mostly engaged in low productivity and low paying activities in the agricultural sector and informal sector. The overall implication for this is that post-primary education is important for enhancing high productivity employment and consequently in earning higher incomes. Given the fact that demand for formal sector jobs far exceeds the supply, skills development for the informal sector as well as entrepreneurship training for self-employment is particularly important. This in turn poses special challenges for the post-primary education systems to produce many graduates who are flexible enough to undertake such training.

There has been a notable increase in the enrolment of post-primary students in the country due to increasing public and private investment in education. However, at all levels, Tanzania's education faces several problems including a surplus of students in relation to trained teachers. Most students who finish one level in the system are unable to continue for further studies due to shortage of vacancies (few schools and post-primary training institutions). Tanzania however, continues to have one of the lowest enrolment of

students in post-primary education in Africa. Out of those who complete primary education less than 6% join secondary schools while only around 0.4% join tertiary education and 1.6% join other forms of post-primary training. Thus more than 90% of Tanzanians do not have at least secondary education. Given the increasing competition pressures from globalization and other reform measures there is need to enhance both the quantity and quality of post-primary education and training in the country so that more Tanzanians especially youth can enter the modern labor with confidence.

Further, there is evidence that the majority of job seekers in the country lack qualifications that are required by employers.

Information from the Labor Exchange Centre indicate that out of 3,893 accumulated job seekers (up to December 2002) less than 1% only got placement. This indicates existence of mismatch between the quality of output of education and training and work in addition to the mismatch between the small supply of and demand for graduates. Thus, further investment in education is crucial to improve both the quantity and quality of graduates so as to reduce the mismatch between education and work. This is important because there is, generally, evidence that returns (including in terms of incomes) to education are higher for those with higher education relative to those with less.

In Tanzania employment is projected to grow in most sectors and decline in some few sectors including public administration and other services. Employment is projected to grow in agriculture, manufacturing and financial services. A large number of approved projects (by TIC) indicate existence of a potential for future growth in employment opportunities as long as constraints are removed. This will increase the number of approved and actually implemented projects and hence creating employment effectively. Thus, the demand for skilled labor will also increase. As employment expands the returns to investment in education and training will be enhanced and ultimately requiring education and training institutions to expand their capacities for producing increased and quality output.

The threat for the potential growth in employment is the increasing problem of HIV/AIDS. Employers are losing employees due to deaths from HIV/AIDS. The disease is also affecting schools and training institutions including teacher colleges. This problem is reducing the supply of both quantity and quality output of post-primary education and training institutions.

Several other features characterize the Tanzanian labor market for post-primary education and training. These include that:

- (i) Personal approach or word of mouth and advertisements are most common approaches of recruitment in Tanzania. There is need therefore to strength further the labor market information system e.g. the LEC so as to improve information availability to both job seekers and employers.
- (ii) There are few employees and job seekers with the relevant type of skills and knowledge that is required by the labor market. As a result employers attempt a number of solutions to face the competition for the few skilled people that

are available. One of the most common solutions is for employers to offer in-house training for their employees. The other solutions include offering of higher wages and more incentives and the acceptance of less qualified candidates as alternatives. The shortage of skilled labor is due to insufficient supply of quality and adequate graduates from the country's post primary education and training institutions.

- (iii) Losing workers by some employers mainly to private sectors in the same sectors is also common.
- (iv) In recruiting new workers some employers prefer, on one hand, more fixed skills or fully trained candidates than flexible or generally trained for professional and specialized occupations. The main reason is to avoid the high costs that would be incurred for further training of such workers. On the other hand, other employers prefer more flexible or trainable candidates for low-level occupations including foremen/supervisors up to cleaners and messengers. It is less expensive to train such workers for them to perform several functions
- (v) In-house training for workers, as noted, is quite common in many enterprises. However, such training is generally enterprise-based and there is no coordination or sharing of experiences even where such training could be sector specific, involving many enterprises.
- (vi) Employers offer support for further formal training to their workers, through various cost-sharing mechanisms. However, this is only to the extent that employers find some benefits in terms of making the workers more productive. In addition, some employers do provide support to the training institutions that have relevance to their activities.
- (vii) Only few post-primary education and training graduates are engaged in self-employment activities that earn them high incomes. This is mainly in the case where graduates are doing activities that are relevant to what they had schooled or trained for. In particular some, graduates who studied in the fields of education, engineering, telecommunication and transport management manage to engage in productive and high income self employment. However, the majority of post-primary education and training graduates are involved in low productivity and low paying activities most of which are not related to their education and training background.
- (viii) Secondary education alone does not enable a person to be engaged in self-employment with high productivity and high incomes. Post-secondary school training (including vocational training) has a potential to assist graduates engage in such beneficial self-employment activities.
- (ix) At all levels of post-primary education and training there is a need to update the contents of curriculum to take into account the impact of HIV/AIDS and employment enhancing skills especially self-employment option skills.
- (x) The informal sector should be upgraded through training, streamlining the legal and institutional environment and enhancing the availability of credits.

8.2 Recommendations

Efforts to increase the quantity and improve the quality of the post-primary education and training output are needed. They will ultimately improve the match between education and training and work. The following recommendations are made:

- (iii) Promote more investment in post-primary education and training by updating and strengthening various regulations and incentives to both public and private investors. This will reduce the problem of a mismatch (in terms of quantity) between supply of and demand for post-primary education and training graduates.
- (iv) Encourage and undertake sensitization (educational) programmes to contain the spread of HIV/AIDS in schools and training institutions including teacher colleges and in work places. This will improve the supply of both quantity and quality of post-primary education and training output.
- (iii) Adopt strategies to ensure that the informal sector can continue to absorb more people. These include (see Johanson, 2001):
 - Solving infrastructural problems of the informal sector by allocating workshop plots, improving electricity supplies, and constructing feeder roads and transport.
 - Ensuring continuity of good macro-economic policy framework
 - Ensuring that educational, training, and technology policies suitable for Small and Medium Enterprises (SMEs) development are put in place.
 - Further simplifying licensing and tax procedures, disseminate relevant information to SMEs and support provision of micro-credit.
- (x) Review and update the curriculum of various levels of education and training and concentrate on provision of general skills so that respective graduates become flexible and trainable. This is important for further training in the formal education, in-house training and in informal sector training.
- (xi) Encourage provision of various forms of enterprise based training, in particular traditional apprenticeship training that prepared individuals to work in high productivity and high income activities in the informal sector (See also Johanson, 2001). Accordingly, traditional apprenticeship is cost effective and it also caters to trainees who lack the educational requirements for formal training.
- (xii) Strengthen vocational training by providing technical skills training and combining it with business skills development. This will prepare better the

graduates of vocational training institutions to engage in self-employment and income generation in the informal sector. Thus, vocational training needs to be demand driven and flexible (see also Haan, 2001).

- (xiii) Strengthen the labor market information system e.g. the LEC so as to improve information availability to both jobseekers and employers. This should involve more efforts to publicize the existence and activities of the Centre as well as reduction of taxes on advertisement for job openings in the mass media, radio and television.
- (xiv) Advocate for increased linkages between schools and training institutions and the world of work. This can be done by encouraging the participation of the employers in updating curriculum as well as sensitizing employers to allow students and trainees to do practical training in their business enterprises
- (xv) Encourage inter-enterprise cooperation in training through trade or sectoral associations (Johanson, 2001). This will help enterprises to share costs and experiences.

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APPENDICES

Appendix 1: TIC Approved Projects: Investment and Employment by Sectors, 1995, 1997 and 2000.
(Employment in numbers and Investment in Million Tshs)

Sector/Year	1995		1997		2000	
	Employment	Investment	Employment	Investment	Employment	Investment
Agriculture	1,328	662.0	2,077	16,319.0	41,935	273,446.0
Natural Resources	883	12,876.0	12,213	124,108.0	24,073	339,517.0
Tourism	300	6,671.0	3,044	41,049.0	21,612	282,619.0
Manufacturing	6,165	71,463.0	13,885	180,614.0	112,181	1,238,953.0
Petroleum	0	0	2,248	173,353.0	9,076	417,600.0
Construction	1,322	75,901.0	684	20,720.0	9,040	1,161,529.0
Transport	833	4,783.0	237	12,694.0	7,057	140,203.0
Services	315	1,234.0	2,093	32,249.0	12,970	129,368.0
Computer	0	0	0	0	81	1,393.0
Financial	35	685.0	20	1,536.0	1,315	349,436.0
Communications	123	6,554.0	0	0	1,410	483,532.0
Human Resources	0	0	0	0	410	41,888.0
Energy	0	0	0	0	90	97,800.0
Total	11,304	186,829.0	37,311	602,642.0	241,250	4,957,288.0

Source: TIC Data.

Appendix 2: NUMBER OF EDUCATIONAL INSTITUTIONS

TYPE	1997			1998			1999			2000			2001		
	Public	Private	Total	Public	Private	Total	Public	Private	Total	Public	Private	Total	Public	Private	Total
Secondary Schools	350	371	721	406	375	781	450	414	864	527	400	927	528	409	937
Teachers Training Colleges (for Primary & Secondary)	35	6	41	35	6	41	35	6	41	34	7	41	34	6	40
Total	385	377	762	441	381	822	485	420	905	671	407	768	562	415	977

Source: Ministry of Education and Culture

Appendix 3(a): NUMBER OF STUDENTS IN SECONDARY SCHOOLS, BY GENDER

	1997			1998			1999			2000			2001		
	M	F	Total	M	F	Total	M	F	Total	M	F	Total	M	F	Total
Form I-VI (Public Schools)	64523	52033	116556	66029	58301	124330	74503	65461	139964	80510	69252	149762	89710	76090	165800
Form I-VI (Private Schools)	60634	48417	109051	55400	47173	102573	58951	48664	107615	61138	50996	112134	66077	57822	123899
Total	125157	100450	225607	121429	105474	226903	133454	114125	247579	141648	120248	261896	155787	133912	289699

Source: MOEC.

Appendix 3(b): TEACHERS TRAINING IN TEACHER'S COLLEGES

Degree	1997			1998			1999			2000			2001		
	M	F	Total	M	F	Total	M	F	Total	M	F	Total	M	F	Total
Degree	1937	497	2434	2287	587	2874	1858	477	2335	1682	548	2230	-	-	-
Dip.	1658	963	2621	1133	777	1910	1185	763	1948	1631	880	2511	2318	1282	3600
Grade A	2726	3122	5848	1385	1583	2968	1182	1310	2492	1791	1512	3303	4352	4554	8906
Grade B	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Mafunzo Kazini	420	247	667	659	597	1256	2589	1223	3812	3193	2066	5259	1860	1195	3055
Total	6741	4829	11570	5464	3544	9008	6814	3773	10587	6691	4409	11000	11676	13830	15985

Source: Ministry of Education and Culture.

Appendix 4: NUMBER OF STUDENTS IN HIGHER LEARNING INSTITUTIONS: BY GENDER

Institution	1996/97			1997/98			1998/99			1999/2000			2000/2001			2001/2002		
	M	F	Total	M	F	Total	M	F	Total	M	F	Total	M	F	Total	M	F	Total
UDSM	3226	566	3792	3356	725	4081	3209	919	4128	3595	1229	4824	3748	1443	5191	4427	1690	6117
MUCHS	273	95	368	299	122	421	398	130	528	477	201	678	522	199	721	638	260	898
SUA	735	246	981	447	164	611	900	254	1154	1205	244	1449	1346	434	1780	1473	578	2051
OUT (Chuo Kikuu Huria)	3326	362	3688	4251	558	4809	3824	515	4339	3660	681	4341	4266	874	5304	4212	983	5195
UCLAS	352	72	424	327	47	374	437	64	501	624	89	713	614	69	683	705	81	786
DIT	797	43	840	763	38	801	2452	27	269	465	59	524	1152	99	1251	1157	109	1266
TCA	440	50	490	418	57	475	422	52	474	414	46	460	379	53	432	399	36	435
MTC	544	21	565	563	20	583	453	17	470	466	8	474	428	67	495	509	13	522

Source: UDSM, SUA, Ministry of Science, Technology and Higher Education.

Appendix 5: List of Surveyed Enterprises

S/N	Name of Enterprise	Category of Product or Service	Location
1.	Imalaseco Investments Ltd.	Service: Trading	Dar-es-Salaam
2.	Standard Chartered Bank	Service: Banking	Dar-es-Salaam
3.	CRDB Bank LTD	Service: Banking	Dar-es-Salaam
4.	Akiba Commercial Bank	Service: Banking	Dar-es-Salaam
5.	Shelly's Pharmaceutical Ltd	Manufacturing, Distribution/Marketing	Dar-es-Salaam
6.	Kibena Tea Ltd	Growing, Processing Black Tea	Njombe-Iringa
7.	Tanganyika Wattle Co. Ltd.	Forestry, Wattle extraction & Electricity production	Njombe-Iringa
8.	Dabaga Vegetable & Fruit Canning Co. Ltd.	Food, Vegetable and Fruit processing	Iringa Urban
9.	Tommy Diary Farm Products	Milk product processing	Dar-es-Salaam
10.	Super Doll Trailer Manufacture Co. (T) Ltd.	Manufacture of Trailers	Dar-es-Salaam
11.	Metal Products Ltd	Manufacture of Metal Products	Dar-es-Salaam
12.	Incar (T) Ltd.	Garage Works	Dar-es-Salaam
13.	Sadolin Paints (T) Ltd.	Paints and Chemical Products	Dar-es-Salaam
14.	Tanzania Fish Processor Ltd.	Fish Processing	Mwanza
15.	Nile Perch Fisheries Ltd.	Fish Processing	Mwanza
16.	Novotel Mount Meru Hotel	Tourist Hotel	Arusha
17.	The Impala Hotel Ltd.	Tourist Hotel	Arusha
18.	Fortes Safaris Ltd	Tourist: Tour Services	Arusha
19.	Wildersun Safaris and Tours (T) Ltd.	Tourist: Tour Services	Arusha
20.	Banana Investments Ltd.	Banana wine & Beverages	Arusha
21.	St. Anthony Secondary School	School	Dar-es-Salaam
22.	Shaaban Robert Secondary School	School	Dar-es-Salaam

Appendix 6: List of Interviewed School Leavers and Ex-Trainees

S/N	Name	Employed at or Not Employed	S/N	Name	Employed at or Not Employed
1.	Lujula Paul	Imalaseco Investm. Ltd	58.	Aimtonga Godbless	Muhimbili Med. Centre
2.	Pili Mmanga	Std. Chartered Bank	59.	Rabia Kastory	“ “
3.	Godfrey Msemakweli	Std. Chartered Bank	60.	Nicolaus Lufupi	St Anthony Sec School
4.	Gerlad Kessy	Std. Chartered Bank	61.	Anastasia John	“ “
5.	Angela Msoma	Std. Chartered Bank	62.	Mohamed Rashid	“ “
6.	Renatus Sylvester	Imalaseco Investm. Ltd	63.	Laizer Benard	Matena Inv.
7.	Edwin Lupili	“ “	64.	John Kuwuye	Institute for Materials Management
8.	Abel Costantine	Price Water Coopers	65.	Francis Kombe	Incar (T) Ltd
9.	Eva John	Mukesh Catering	66.	Casmir Moris	“ “
10.	Happy Godson Mollel	Wildersun Safaris T. Ltd	67.	Eliud Baraka	Super Doll trailer Mfc T. Ltd
11.	Asbery Kibwera	“ “	68.	Timoth Msechu	“ “
12.	Raymond Aweda	“ “	69.	Sadik Mohamed	“ “
13.	Ambrose	Akiba Commercial Bank	70.	Malimi Masanja	Aluminium Africa Ltd
14.	Stella Urrio	“ “	71.	Raithony Mwakyomo	“ “
15.	Anthony, V.	“ “	72.	Charles V. Meena	“ “
16.	M.J. Karama	“ “	73.	Mohamed Ng’ombo	“ “
17.	Baltazar Boniface	“ “	74.	Jovin M. Lubuva	“ “
18.	Jonathan Shauri	Shaaban R. S. School	75.	Kelvin Mushumbusi	Cargo Star
19.	Lucy Msoffe	“ “	76.	Apolinary Sallenga	Metal Products Ltd
20.	Werema, S. J.	“ “	77.	Johnson Msilu	“ “
21.	Daniel Elinafika	“ “	78.	Fanuel Mkumbi	“ “
22.	Aulery Mlepela	“ “	79.	Ernest Ladslaus	“ “
23.	Grace E. Urasa	Novotel M.M. Hotel	80.	Joyce Steven	TPDF
24.	Hashim Mbelwa	“ “	81.	Diana Kassian	Shelly’s Pharmaceutical
25.	Patrick Chuwa	“ “	82.	Hamis Salum	“ “
26.	Msigala, D. J.	“ “	83.	August Mramba	Upanga Christian Cent.
27.	Issa Ramadhani	Banana Inv.	84.	Norbert Basenga	Kasanda Entrp.
28.	Steven Mutahunjuka	Banana Inv.	85.	Geofrey Makundi	Tilia Transport Co.
29.	Ibrahim Shigela	“ “	86.	Agness Mjato	Kibena Tea Ltd

30.	Joseph Million	“ “	87.	Rehema Raphael	St. Mary's Academy
31.	Sia Kiwelu	“ “	88.	Edwin Swalle	TWCO Ltd
32.	Gaudence Olomy	“ “	89.	Lois Mwakatika	“ “
33.	Dereck Simon	Forters Safaris Ltd	90.	Francis C. Kombe	“ “
34.	Ally Venance	Impala Hotel	91.	Vitus T. Swale	“ “
35.	John B. Kimario	“ “	92.	Frank Kigodi	Dabaga Veg. & Fruit Canning Co.
36.	Linda S. Tomito	“ “	93.	Peter Kigomba	“ “
37.	James Lyakurwa	“ “	94.	Angela Mramba	“ “
38.	A. N. Shayo	CRDB	95.	Nemes Jacoves	Employed
39.	Israel Elimisafi	“ “	96.	Simon Seni	Family Business
40.	Tumainin Mung'ong'o	Tanganyika Wattle Co Ltd	97.	Demba, H.	Self Employment
41.	Aswile Kibanga	Kibena Tea Ltd	98.	Jesca Mrisho	“ “
42.	Raphael Mwashilindi	“ “	99.	Jamila Munisi	“ “
43.	Tadeus Mbata	“ “	100.	Minja, L.	“ “
44.	Edson Mwaibindi	“ “	101.	Masabo Mabiligi	“ “
45.	Francis Mgina	“ “	102.	Said Ally	“ “
46.	Mambile, E. M.	Sadolin Paints	103.	Sungu Mbila	“ “
47.	Magreth Mwaikambo	“ “	104.	Bruno Theodory	“ “
48.	Lima	“ “	105.	Salum J. Kanga	“ “
49.	Rama, R.		106.	Adam Msenga	“ “
50.	Colman Pantaleo	“ “	107.	Evelyn Zagwi	Philips Co Ltd
51.	Kolimba	Tommy Diary Product Farm	108.	Veronica Nicalous	Not Employed
52.	Malaki Obed	“ “	109.	Zakaria Minja	Not Employed
53.	Boniface Temu	“ “	110.	Theophiry Elijah	“ “
54.	Davis Mchacky	“ “	111.	William Sylvester	“ “
55.	Gervas Ngowi	“ “	112.	Catherine Wasuka	“ “
56.	Gasto Msoffe	Muhimbili Univ. College			
57.	Doris Shayo	CCBRT			

Appendix 7: Notes on Methods for Estimating Rates of Return to Education

The elaborate method requires data on costs. On the benefit side the requisite data relate to age-earnings profiles by single years of age and by education level. The first step is to estimate age-earnings profiles for workers grouped separately by level of education by use of regression analysis.

The second approach, the earnings function method also involves estimating a regression equation,

$$\ln E = a + b.SCH + c.EX + d.EX^2 \dots\dots\dots(1)$$

Where E refers to annual earnings, SCH refers to years of schooling, EX refers to year of labor market experience.

The earnings function is used to estimate rates of return to schooling. The regression coefficient on the schooling variable is interpreted as the average private rate of return to an extra year of schooling.

It has been shown that the relation between the coefficient estimate, b , and the rate of return to schooling, r , is more precisely as

$$R = \frac{b}{k} \dots\dots\dots(2)$$

Where k is defined as the ratio between the two items: the total cost for the “average” year of schooling, including direct costs and foregone earnings, and the foregone earnings from a full year of work had the person been in the labor market instead of school.

Equating the regression coefficient with the private rate of return ignores all the direct costs of schooling, and assumes that while attending school a student receives no earnings from part time work, and therefore foregoes a whole year’s worth of potential earnings lender these assumptions.

$$K = 1_c$$

Under the more general formulation both private and social rates of return can be calculated by entering the relevant cost data in equation (1)

Returns by level of education

The basic earnings function can be modified in several ways to facilitate estimation of the returns to schooling by level of education. One way is simply to add a new term, $e \cdot SCH^2$ to the basic earnings regression equation (1), where SCH^2 is the square of years of schooling, and “ e ” is its regression coefficient.

The rate of return to schooling investments over SCH years would then be given by:

$$r_s = \frac{b + 2 \cdot e \cdot SCH}{k_{sch}} \dots\dots\dots(3)$$

Where k_{sch} has the same definition as k above, but would be computed with data corresponding to the relevant block of SCH years of schooling instead of the “average” year. The rate of return for a given level of education can be computed by substituting into the formula above the relevant value (e.g. $SCH = 7$ for primary education, $SCH = 12$ for secondary education and $SCH = 16$ for higher education).

In the short-cut method, the rate of return by level of education is computed using the equation:

$$R_i = \frac{A_{ei} - A_{ej}}{K_i \cdot S_i \cdot A_{ej}} \dots\dots\dots(4)$$

Where R_i is the rate of return to investments in schooling level I , A_{ei} is average annual earnings of workers with the i^{th} level of schooling, and A_{ej} is the corresponding earnings for workers with the next lower level of schooling.

Using secondary education as an example we can rewrite equation (4) as

$$r_s = \frac{I_n AE_s - I_n Ae_p}{S_s \cdot k_s} \dots\dots\dots(5)$$

Where AE_s and A_{ep} are the mean earnings of workers with primary and secondary schooling, respectively.

The short-cut method required much less data than the other two methods. Since the formula assumes that earnings are independent of age.

The other two methods require data on costs. On the benefit side the requisite data relate to age-earnings profiles by single years of age and by education level. There is wide labor market or other survey available that could provide such data, given the time frame of the assignment. Use was made of available estimated regression equations from the Education Sector Status Report.

Appendix 8:Employment and GDP data by Sector

Sector	Employment (000')		GDP (Tshs million)				
	1991	1995	1991	1995	2000	2003	2006
Agriculture	38.9	90.0	337,617	381,140	796,513	929,082	1,092,068
Mining&Quarrying	3.2	89.1	12,536	18,768	38,144	54,316	71,907
Manufacturing	112.0	99.6	109,002	106,750	137,809	163,369	206,151
Transp.&Communic	81.2	42.0	58,725	71,784	28,454	109,885	142,840
Construction	61.3	41.7	40,196	26,644	76,818	92,185	111,855
Trade, Hotels & Restaurants	135.9	59.7	203,576	210,813	270,567	338,298	453,996
Electricity & Water	12.3	39.7	20,026	21,578	89,515	33,744	42,151
Financial and Business Services	25.0	26.0	68,201	75,961	172,291	200,337	245,449
Public Admin. And Other Services	384.0	300.0	73,974	76,963	126,567	141,880	161,212
Imputed Bank Service	-	-	-54,431	-65,090	-82,359	-94,968	-116,353
TOTAL	853.8	787.8	920,422	970,604	1,654,319	1,968,098	2,411,272

Source: National Bureau of Statistics.