3. TVET as Viewed From the Education Sector

3-1 Trends in Educational Development

In this section, the authors will present results from the 3 field surveys conducted in Ghana and Uganda, where JICA has TVET projects, and Malawi, where the demand for TVET assistance is growing. The TVET systems of these three countries are presented as a part of the education sector. Based on descriptions of thereby-related situations, the chapter will introduce some issues to be considered in extending Japan’s assistance to TVET in Africa.

As will be seen in the examples of Uganda and Malawi, TVET administration in Africa is now increasingly being moved from the jurisdiction of the Ministries of Labor or Manpower Development to the Ministry of Education. And because of advancing aid harmonization in the Ministry of Education, TVET has also come to be squarely cast within education sector development plans. In other words, though by its very nature the entirety of TVET may not fit within the frame of the education sector, in view of the powerful trends at work placing it administratively within the jurisdiction of the Education Ministry, the authors would like to touch upon the following 6 policy concerns which set the condition of educational development as a whole.

(1) The Expansion of Primary Education and Its Graduates

From the late 1980s, a move towards recognizing anew the importance of basic education as a fundamental human right gained momentum and, in 1990, a consensus was reached at the World Conference on Education For All held in Jomtien, Thailand, as led by UNESCO. This consensus stated that the international community, along with developing nations, would work together cooperatively to provide ‘Education for All’. Subsequently, access to primary education in numerous countries and regions dramatically expanded. In recent years, improvements to the quality of primary education, along with the expansion of post-primary education are being given as the next logical steps to follow primary education’s quantitative expansion.

(2) Aid Harmonization

As was mentioned in Chapter 1, one current trend in the international aid community is to promote aid harmonization, which includes increasing developing nations’ ownership over policy and administrative procedures while strengthening partnerships between governments, aid agencies, and other stakeholders. In particular, the Paris Declaration on Aid Effectiveness was enacted in March 2005 at the High-Level Forum on Aid Effectiveness, which galvanized the move towards aid harmonization and alignment, and since then Sector Wide Approach (SWAp) has been introduced predominantly into
sectors such as education, health, and agriculture where the donors’ commitments are stronger than in other sectors. A growing number of countries in Africa have been working out comprehensive Sector Development Plans in the education sector as an essential component of their SWAp. Table 3-1 shows the countries that have had, or are expected to have, their education sector plans endorsed by the Fast Track Initiative (FTI), an international cooperative framework for supporting universal primary education.

Incidentally Japan’s efforts in aid harmonization have basically not gone much further than the level of policy coordination, and as far as financial (e.g. sector pool funds, sectoral financial support, general financial support, and on-budget support) or procedural coordination (e.g. procurement and financial report harmonization) are concerned, it has been extremely limited.

Table 3-1: Countries endorsed and expected to be endorsed by FTI

<table>
<thead>
<tr>
<th>Countries with education sector plans already endorsed by the FTI</th>
<th>Countries that are expected to have their already formulated education sector plans endorsed by the FTI</th>
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<td>Uganda</td>
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(3) Secondary Education as Vocational Preparation

The African government has historically paid great attention to the expansion of TVET at upper secondary and post-secondary levels. Underlying this was the belief held by developing nations that economic development was industrialization per se, and the definitive cause of the gap between themselves and advanced nations was a lack of human resources with technical and professional knowledge. Also, as has particularly been evident in recent years, the tremendous shift in ICT-centered

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service industries employment from the United States and Europe to countries such as China and India, where the cultivation of human resources with high technical skills has become quite advanced, African nations have shown growing interest in TVET as a means to ride the wave of globalization.

Also, it has been demonstrated that the expansion of TVET at the secondary level (including post-secondary vocational institutions) also meets the political demand for making secondary education terminal; that is, allowing graduates to move on into the world of work without proceeding on into tertiary education. In other words, due to intense competitiveness to get limited white collar employment opportunities in the formal sector at foreign enterprises or government, college graduates are most often sought and, thus, the demand for continuing schooling is high. Also, as the primary education continues to expand and the pressure for access to secondary and tertiary education intensifies accordingly, the government will have to respond to the people’s expectations for continuing education. However, on the other hand, tertiary education institutions tend to become strongholds for anti-government movements and an increase in the number of college graduates may not directly link itself to an expansion of employment opportunities in modern-day sectors and, conversely, may just invite a rise in employment instability. Thus, the government is faced with the dilemma that although there are high demands for more education, expansion of tertiary education has side effects which are politically undesirable. Furthermore, in addition to the fact that an expansion of tertiary education could increase financial burdens owing to its high unit costs, the problem of brain drains has also grown more severe; visualizing secondary education as terminal is a matter of deep significance in the eyes of the government and the expansion of TVET in the post-primary field can be seen as one measure towards realizing this option.

(4) Reaffirming the Role of Tertiary Education

In Africa in the 1960s, polytechnic schools and the TVET sector were placed in the spotlight for their ability to cultivate technicians able to support economic growth, but this focus was tamed with the introduction of structural adjustment plans and the emphasis on basic education. However, since the late 1990s, major donors including the World Bank began to affirmatively reevaluate the role of tertiary education. In 1998, the importance of tertiary education in resolving multitudinous issues faced upon entry into the 21st century was discussed at the World Conference on Higher Education, convened by UNESCO in Paris. Also, the World Bank released a report\textsuperscript{94} in 1990 that referenced the gravity of mathematics, science, and engineering fields in view of the need to catch up with the global knowledge economy while the UNESCO Task Force put out a paper\textsuperscript{95} in 2000 stating that tertiary education is indispensable for the economic growth of developing countries. Moreover, in its 2005 Africa Action Plan, the World Bank declared that it would expand support for secondary, technical, and tertiary education.

\textsuperscript{94} World Bank (1999).
\textsuperscript{95} Task Force on Higher Education and Society (2000).
education in Africa’s less-developed countries. These developments together share footholds in the need to enhance research development capabilities in the science and technology fields in light of the rapid globalization of society and the communications revolution, as well as to enhance teacher training universities in light of the need to improve the quality of primary and secondary education.

JICA has raised 4 principal development strategies, i.e. improvements in educational services, improvements in research, furthering social contributions, and management, to guide renewed assistance strategy in the field of tertiary education. Furthermore, for countries where the expansion of basic education is delayed (standards set the Net Enrollment Rate at 70% for primary education), JICA suggests that, first and foremost, the focus of development should be placed on basic education and, therefore, in order not to increase the tertiary education budgets borne by the host government, large scale aid projects involving major financial burdens should be avoided. When it develops a new project in tertiary education, JICA would limit the purpose and scale of the projects to areas such as teacher education and distance learning.

(5) Cultivating Artisan Level Skills through Non-Formal Training

The Dakar Framework for Action states as one of its goals that the learning needs of all young people and adults must be met through equitable access to learning and life skills programs. Also, upon deciding to respond to the skills development needs of youth and adults unable to receive school education, UNESCO, one agency leading EFA, classified the skills required for one’s survival as ‘life skills’ and the part therein that lead to improving one’s income as ‘skills development’ – both of which were seen as belonging to the non-formal sector. Furthermore, the World Bank in its 2007 World Development Report focused on youth between the ages of 12-24 as crucial age-group for the prosperity of the country and provided that the expansion of opportunity, the provision of second chances, and the improvement of technical skills, among other things, had to be part of policy designed to contribute to economic development through the self-motivated efforts of the younger generations; what is notable in recent discussion about skills development through training in non-formal education is the trend of seeing non-formal education as not only an alternative means to provide the chance for an education to children and youth unable to attend school, but also as part of providing youth and adults alike with lifelong education. In a series of discussion papers released by the Working Group for International Cooperation in Skills Development, an informal gathering established in 1996 by agencies engaged in the field of TVET, it is becoming popular to include non-formal education as a component within assistance projects, especially in those for comprehensive rural development. In such non-formal education, the acquisition of literacy and numeracy – core elements within basic education.

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97 JICA (2003a) p.18.
98 ibid. pp.35-56.
– as well as practical skills for making a living are centrally positioned.

(6) The Introduction of the CBT System

As was discussed in Chapter 2, after reflecting on past practices of supply-driven TVET, a multitude of countries, including the 3 visited for the field survey herein, have been applying the new method of CBT\textsuperscript{100}. At the same time, it is necessary to recognize that CBT has as its objective the acquisition of competency in specified fields of work, and does not neatly correspond to any existing school curricula or education levels.

\textsuperscript{100} In Ghana it is referred to as CBT; in Uganda and Malawi, it is referred to as Competence-Based Education and Training (CBET).
Column: What is the difference between conventional TVET and CBT?

- **Determining the pace of learning**
  Within conventional school-based TVET, since school terms are set within a specific time frame, the pacing for a variety of subjects is determined by finely subdividing material into class-length units, which instructors must then work in line with. In other words, despite the fact that the working and learning speeds of students are not uniform, classes were carried out by the instructor’s speed based on instructor guidelines (i.e. time-based training). On the other hand, with CBT, the progress of the class or training is determined not by instructor’s guidelines, or instructors themselves, but rather on the point of whether each student is acquiring the knowledge or skill being demanded of her or him within the module (i.e. competency-based training).

- **Principal elements within CBT**
  - That the skill to be acquired in each module is carefully decided and made known to students and industries beforehand.
  - That the standards for and terms by which each module will be assessed are made known beforehand in a clear and easy-to-understand format.
  - That an instructor training is implemented for each skill area.
  - That when assessing students’ competency, while also considering their knowledge and attitude, the highest priority is placed on the student’s ability to actually perform the required task.
  - That students will continue training in each skill at their own pace.

- **An approach towards employment**
  It has become evident that conventional TVET often created mismatches between skills taught and those desired by industry, since curricula were internally drafted by TVET institutions. However, with CBT, training curricula (in modules) and assessment standards are fixed based on the development of occupational profiles and subsequent compilation of competencies required at the workplace as determined in company with employers from every industry.

- **The certification of skills acquired before the introduction of CBT**
  Since in CBT the competency skill itself is tied to certification and not the number of hours in training, this system includes a process by which students may also gain official certification for competency skills and knowledge they had acquired prior to training (i.e. recognition of prior learning).

Source: Drafted by the authors based on Sullivan (1995).
3-2 Case Studies of TVET within Education Sector Plans

3-2-1 Ghana

The Ghana Ministry of Education, Science, and Sports (hereinafter referred to as the Education Ministry) placed the achievement of Education for All as the highest priority concern within its comprehensive sector development plan, i.e. the Education Strategic Plan (ESP) 2003-2015. Also, priority areas included increasing access, improving quality, making management more efficient, and promoting TVET in science and technology. The Education Ministry named giving non-enrolled and drop-out youth increased opportunity to enter TVET as an objective to be accomplished by increasing the number of TVET schools and polytechnics, in addition to diversifying TVET curricula so that they meet actual needs within society.

Prior to the drafting of the ESP, the Free Compulsory Universal Basic Education (FCUBE) program (started in 1996 and integrated into ESP later) existed as a development plan with a specialized focus on expanding basic education, but as the ESP was being orchestrated around it, an additional objective for ‘the promotion of TVET in science and technology’ was added. Also, the national development plan set forth in 1995, Vision 2020, put forth that increasing opportunity for TVET and strengthening collaboration between TVET and industry would stand among its goals to be achieved. This commitment of the government to TVET was reflected in the Ghana Poverty Reduction Strategy 2003-2005 (GPRS I), formulated in 2003, as well as in today’s ESP. Meanwhile, JICA has been a leading donor in the promotion of TVET in science and industry for its continued assistance in policy design and implementation support.

Among TVET institutions in Ghana, there are polytechnics at the tertiary level (e.g. Higher National Diploma, partial baccalaureate) and technical institutes at the senior-secondary level under the jurisdiction of the Education Ministry, but other TVET institutions such as the ones under the Ministry of Manpower, Youth, and Employment do not provide students with a path to higher education due to their concentration in vocational training instead of academic knowledge. Also, as far as teacher training for TVET is concerned, other than the Manpong Teacher Training College, which develops instructors at the junior secondary level in technical subjects (e.g. metal-smithing and carpentry), instructors may receive a Higher National Diploma from polytechnics in order to qualify for non-professional work as instructors at technical institutions, or receive a master’s degree at universities in order to qualify for work as professional instructors at a polytechnics; since the salary given to technical instructors and teachers is generally low across the board, the tendency among graduates to avoid taking up positions at TVET institutions is strong. Because of difficulty in securing the necessary number of qualified teachers and instructors, qualification prerequisites are not strictly adhered to by the government, meaning that the career path for TVET instructors/teachers is in fact not firmly

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Moreover, in fall 2007 a new education reform will be enacted based on the 2004 White Paper on Education and the Education Ministry is currently drafting a revision to the education sector plan. This document stipulates that two-year nursery schools will be made free and compulsory within the FCUBE program, senior secondary schools will be extended for 1 year so as to put them on a four-year system, workplace training will be incorporated into the curriculum, a one-year extended course will be implemented at polytechnics making the acquisition of full baccalaureates possible, and a four-year practical training course geared towards junior secondary school graduates will be made part of the system.

(1) TVET for Students Who Have Completed Basic Education

To date, basic education in Ghana has been defined as 6 years of primary school and 3 years of junior secondary school and the FCUBE program has targeted the whole nine-year course thereof. The expansion of access to primary education has been dramatic and the enrolment rate which was 86.3% in 2003 increased to 87.5% in 2004, and up to 92.1% in 2005. In tandem with this, enrollment rates at junior secondary schools have also grown from 70.2% in 2003, to 72.8% in 2004 and 74.7% in 2005. Also, since 2005 a special capitation grant system for abolishing school fees has been installed within basic education institutions and reports have declared that the number of children entering school has dramatically risen because of that.

Figure 3-1 shows changes in the composition of the enrolled population in Ghana between 1990/91 and 2002/03 as drafted from UNESCO’s statistics. The statistical values are not all necessarily consistent with those in the Education Ministry’s reports due to the fact that within Ghana the necessary statistics on enrollment populations are not often accurate and/or not compiled at the national level in statistic reports.

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105 ibid. p.36.
106 ibid. p.28.
It has been estimated that the number of people who have completed basic education will continue to increase, and therefore placement of graduates in either schools or the workplace has become a substantial political concern. One can consider that the fact that a plan to introduce a new in-service training system was announced within the 2004 White Paper also stems from this concern.
Currently the Education Ministry has been drafting its revisions to the education sector plan so as to incorporate the terms of the White Paper, and has therein included plans for a projected 40% gross enrollment rates at general senior secondary programs by 2015, a projected 15% at TVET (technical, vocational and agricultural) senior secondary schools and, upon incorporating into the system in 2008 a four-year practical training geared for graduates of junior secondary school, a projected 20% gross enrollment rate at these TVET schools by 2015\(^{108}\).

(2) Secondary Education as Vocational Preparation

Ghana’s government undertook a far-reaching educational reform in 1987 at the same time as a structural adjustment policy for rebuilding the economy, which lasted throughout the 1980s. By this reform, past emphasis on academic instruction was diverted in favor of heightening the practical application of education, and the education system itself was radically reassessed. The structure of the education system was reworked so that the 17 years of schooling formerly required for entry into university was reduced to 12 years, and therein, in view of the importance of technical and vocational education, vocational subjects were included as electives within junior secondary school curriculum and, in senior secondary education as well, special Senior Secondary Technical Schools with vocational subjects were established alongside already-present general course Senior Secondary Schools. Furthermore, in the new educational reform plan to be implemented from fall 2007, senior secondary schools will undergo a one-year extension, thereby putting them on a four-year system, and workplace trainings will be incorporated into the school curricula.

(3) Higher Education for Survival in a Knowledge-Based Economy

The promotion of science and technology occupies a position of priority within the 2006-2009 Growth and Poverty Reduction Strategy (GPRS II), and for this purpose the Education Ministry has declared that, in order to develop the appropriate human resources, it wishes to increase the proportion of students enrolled in science and technology university courses, so that ultimately the ratio would stand at 60:40, respectively representing humanities courses and science and technology courses. At the point of 2004, the ratio was 65:35, within which the proportion of humanity enrollment is still higher than had been aimed for\(^{109}\).

(4) Non-Formal Education

As defined in the education sector plan, non-formal education targeting youth and adults not...
attending school is managed under the jurisdiction of the Education Ministry’s Non-Formal Education Division. Among activities implemented under this category includes the Ghana Functional Skills and Literacy Project.

(5) CBT System

It has been pointed out that the fact that several ministries, local authorities, private sector institutions and NGOs each implement TVET independently has acted as a sizable impediment to TVET’s effective implementation, while mutual connectivity between these actors, and the recognized schematic placement of TVET programs in national plans, have been very weak. In the early-1990s the National Coordinating Committee for TVET (NACVET) was formed as a subordinate agency to the Education Ministry, and from 1997, owing to World Bank support for the Vocational Skills and Informal Sector Support Project (1996-2001), they started drafting a TVET policy framework; however, the process of orchestrating matters transpiring between numerous ministries and industry representatives proved to be a most difficult voyage, while, in a turn of events, the World Bank changed its policy for assistance and decided not to continue support to the TVET sub-sector after the project reached its end – thereby stalling work drafting a new national TVET policy. During this process, in 2002, JICA took up work on its Study for Development of a Master Plan to Strengthen Technical Education in the Republic of Ghana as it contributed to a series of processes via advice on how to introduce CBT modules into polytechnics.

After discussion at the May 2004 National Consultative Forum on Policy for TVET, held under the name of President Kufor with JICA support, in August 2006, a TVET bill which gave legal basis for a national CBT system was passed in the Diet. From here on, full-scale preparations were underway for the formation of the national CBT system’s Council for Technical and Vocational Education and Training (COTVET), under the order of the Education Ministry, and as part of those efforts, approved CBT certification levels will be evaluated. Moreover, these approved certification levels were designed to include not only polytechnic and technical institutes under the Education Ministry, but also the National Vocational Training Institute (NVTI) under the Ministry of Manpower, Youth, and Employment. Also, despite the fact that the establishment of TVET funds was recommended repeatedly upon opportunities such as the Master Plan to Strengthen Technical Education and the National Consultative Forum on Policy for TVET, this failed to take shape within the Ghanaian government; the procurement of resources became an issue that called for budget allocations disbursed with priority to TVET from GETFund – an education trust fund – and other sources.

Within its current Education Sector Project 2004-2009 the World Bank, in order to support both the improvement of quality in instruction and the extension of intellectual support to communities as a major function of tertiary education institutions, has developed a component, i.e. a tertiary education reform fund, and provided that “CBT programs, embodying the terms of JICA’s Master Plan, at
polytechnics”\textsuperscript{110} have been made subject to this aid.

(6) Donors’ Assistance for TVET, with Focus on Pre-Service Education and Training

Since non-school-based TVET has mostly been out of the jurisdiction of the Education Ministry until very recently, pre-service school-based education and training are often recognized as foreign assistance for TVET.

• Japan/JICA

Japan and JICA worked out a Master Plan to Strengthen Technical Education through a development survey in 2002 and devised recommendations thereafter for the introduction of a national CBT system and the installation of CBT modules into polytechnics, in addition to supporting the National Consultative Forum on Policy for TVET in 2004 where TVET policy framework was discussed. In September 2006, TVET law was put into effect and currently Japan and JICA are preparing to set up the Technical and Vocational Education and Training Support Project so as to establish a CBT implementation structure through trial runs of CBT-style technical education and training programs in Accra, and simultaneous enhancement of the technical and organizational capacities of CBT system implementation agencies. In addition, JICA has dispatched senior volunteers and JOCV (Japan Overseas Cooperation Volunteers) to provide technical assistance in the area of TVET.

• Other Donors

In addition to the Netherlands’ technical assistance in skills to operate polytechnic agricultural machinery, the Netherlands and England are together supporting private TVET institutions in Tema. Also, Deutsche Gesellschaft für Technische Zusammenarbeit (GTZ) has been supporting NVTI under the Ministry of Manpower, Youth, and Employment in the Upper West state.

(7) Labor Market Analysis

Labor market analyses have not been conducted within Ghana to date and the need for them has been pointed out repeatedly within the Education Ministry’s annual report. A move from within the Ministry of Manpower, Youth, and Employment towards starting a labor market analysis with the cooperation of DANIDA was announced at an education sector yearly review meeting in June 2006. It is desirable that this initiative be carried out collaboratively with the newly established COTVET, the CBT management body.

(8) Aid Harmonization

With regard to aid harmonization, in Ghana, the health sector experienced its most radical shifts in aid modalities, during which there was actually a period where some donors including JICA were prevented from participating in official meetings for not being members to pooled funds. Aid harmonization began in earnest in the education sector following the drafting of the 2003-2015 Education Strategic Plan in 2003, but up to now, pooled funds had not been established at the education sector level and discussions of aid harmonization had not gone farther than the alignment of aid from different donors, regardless of its modality, with the policy direction of Education Ministry.

3-2-2 Uganda

In 1997, the Ugandan government hoisted its Universal Primary Education (UPE) Initiative and, in response, the Ministry of Education and Sports (hereinafter referred to as Education Ministry) threw itself into meeting its new objective of UPE in its 1st education sector development plan, the Education Strategy Investment Plan 1998-2003. As a result, the net enrolment rate at primary schools for 2003 exceeded 90%, which stimulated increasing demand for preparation of a post-primary route for graduates to follow. It was by this process that post-primary education training, inclusive of TVET, became a focal policy concern in the second education sector development plan, i.e. the Education Sector Strategic Plan (ESSP) 2004-2015.

Meanwhile, from 1999 Germany was developing assistance in the TVET field on a massive scale by what was known as the Programme of Employment-Oriented Vocational Training (PEVOT) (for further details, see Case Study 3 in Chapter 4). This program is comprised of: 1) assistance in policy-making so as to enable the introduction of a national CBT framework, and 2) assistance in the operation of community-based polytechnics; the former acts as a follow up to proposals given subsequent to several EU-assisted survey researches in the TVET field, while the latter
was to assist President Museveni’s initiative of a community polytechnics program for improving skills among the ‘forgotten majority’.

TVET institutions in Uganda fall into the following categories: 1) the Uganda Technical (Two-Year) College providing diplomas at the tertiary-education level, 2) technical institutes and vocational training institutes at the upper secondary level and 3) technical schools, farm schools, vocational training centers (schools), and community polytechnics, among others, at the lower secondary level. However, traditionally, at the secondary education level there had been craftsman certificate exams at the technical institutes under the Education Ministry, and trade certificate exams offered at vocational training institutes and vocational training centers under the Ministry of Labor and Social Welfare. Yet when the latter was brought under the Education Ministry in 1998, while CBT was additionally introduced as a new certification system for certain other courses, several systems formerly run independently of and/or incompatible to each other became intermixed; currently the Education Ministry has set its aim to achieve uniformity by the year 2011 by way of a CBT system called the Uganda Vocational Qualification Framework (UVQF).

Among TVET teacher training institutions, there are Community Polytechnics Instructors College and Kyambogo University; those who obtain diplomas from these institutions are then able to teach TVET schools at the lower secondary level, while those who obtain Kyambogo University’s Higher Diplomas are able to become professional instructors in TVET at the upper secondary level. However, the teacher qualification system is neither firmly established nor applied seriously at the school level\(^\text{113}\); interviews that the authors conducted with government officials reveal that there are many voices demanding improvements in both the quantity and quality of TVET instructors.

(1) **TVET for Students Who Have Completed Basic Education**

As a result of the Ugandan government’s 1997 Universal Primary Education Initiative and the Education Ministry’s subsequent commitment to achieve UPE expressed in the Education Strategy Investment Plan 1998-2003, the number of children in primary school grew from 3,000,000 in 1996 to 5,300,000 in 1997 and as high as 7,600,000 by 2004\(^\text{114}\). In terms of gross enrollment rates, growth went from 127% in 2003 to 112% in 2006\(^\text{115}\). In response to this rise in primary enrollment, the Ugandan government expressed a new aim, to universalize secondary education by 2015, and within its second education sector plan, the ESSP, post-primary education training, inclusive of the TVET field, was cast as a focal policy concern.

In regard to the direction taken by students after completion of primary school, the data for 2004 show that of the 430,000 students that had taken the primary leaving exam, 51% (220,000 students) went on to secondary school, 1% (5,000 students) went on to government-affiliated TVET schools, and

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\(^{113}\) Yoshikawa (2005) p.36.

\(^{114}\) ibid. p.20.

Figure 3-2: Uganda’s education pyramid

1990/1991

Age

18
17
Senior secondary

3%
3%

16
15
14
13
Secondary school

11%
14%

12
11
10
9
8
7
6
Primary school

35%

101 senior secondary students for every 100,000 inhabitants

2002/2003

Age

18
17
Senior secondary

6%
5%

16
15
14
13
Secondary school

16%
25%

12
11
10
9
8
7
6
Primary school

64%

295 senior secondary students for every 100,000 inhabitants

TVET enrollees: 5% of the whole

4.6% (30,000 students) went on to private TVET schools. As far as after completion of secondary school is concerned, of the 150,000 students that were in their final (4th) year at secondary school, 33% (50,000 students) went on to senior secondary school, 8.6% (130,000 students) went on to school for primary school teachers, 4.6% (7,000 students) went on to government-affiliated TVET schools, and 6.6% (10,000 students) went on to private TVET schools\textsuperscript{116}.

UNESCO’s figures on the shift in enrollment in Uganda are given in Figure 3-2. The sharp increase in the number of students completing primary school stands out visibly.

(2) Secondary Education as Vocational Preparation

Uganda’s educational development is unique in that it was only after achieving UPE through concentrated effort that earnest work began in expanding secondary education. The Ugandan government has expressed its aim to completely expand lower secondary education as well by 2015, and as such has begun gradually reducing secondary school fees.

Moreover, according to its Poverty Eradication Action Plan 2004-2007 (PEAP III), the Ugandan government plans to increase the transition rate – that is, the percentage of students moving on to secondary school after completing primary school – to 80%. For the graduates of lower secondary schools, the government wishes to direct the course so that 40% move on to upper secondary, 50% move on to TVET schools, and 10% would enter the labor market. In light of the PEAP III, the Education Ministry plans to increase the transition rate between primary and lower secondary to 90%, from the current 50%, and allow for the remaining 10% to be absorbed by the TVET sector – however, increasing the TVET sector’s capacity for taking in students will prove to be a challenge given the current situation.

(3) Higher Education for Survival in a Knowledge-Based Economy

The Ugandan government has been pressing for a transformation of Ugandan society, turning it from one where information is passively received to a knowledge-based society, and within this vision not only reading and writing, but also computer competency skills are seen as fundamental technical skills meant to be acquired through schooling. Also, the government recognizes the urgent need to develop legislation for copyright protection, among other things, in order to effectively put ICT to use for education\textsuperscript{117}.

The PEAP III discusses strengthening the agricultural sector (e.g. improving productivity, conferring added-value onto agricultural products, diversification of export products, etc.), which accounts for 40% of the GDP and 80% of all exported products, as well as placing greater weight on

\textsuperscript{116} Yoshikawa (2005) p.38.
\textsuperscript{117} Ministry of Education and Sports, Uganda (2006).
science and technology in the tertiary education as a way to develop human resources capable of supporting growth. Based on Uganda’s wish to take part in the modern economic sector by conferring high-added value onto the nation’s products, the Education Ministry has expressed its belief in the crucial need for promoting science and technology, as well as developing human resources with strong capabilities in abstract thought, analysis and communication; in order to meet these challenges, the Education Ministry has stated its intent to implement a labor market survey, first targeting college graduates, so as to draft curricula heavy in science and technology, while additionally assigning 75% of the national tertiary education scholarships to students in the sciences\textsuperscript{118}.

(4) Non-Formal Education

In Uganda, the opportunity for basic education is seen under the premise that general education courses offered at primary schools are the standard – yet non-formal education is offered as an alternative to those who have reached their 3rd year of primary school or above but, under certain circumstances, are no longer able to attend school. In addition, non-formal education is also seen as a form of temporary education to absorb students of schooling age until general education can be extended to the whole applicable population. Department for International Development (DFID), United States Agency for International Development (USAID), GTZ and other bilateral donors, in addition to international agencies such as UNICEF and international NGOs such as Save the Children and Action Aid carry out aid in this field, and the number of non-formal education centers has reached 648 schools hosting over 70,000 students\textsuperscript{119}.

(5) CBT System

The UVQF office, which was set within the Education Ministry in 2004, developed vocational profiles, tests and training modules with German technical assistance. CBT modules have already been executed in pilot projects at certain private TVET schools and community polytechnics and,

<table>
<thead>
<tr>
<th>Legal framework for national CBT system</th>
<th>None</th>
</tr>
</thead>
<tbody>
<tr>
<td>CBT management body</td>
<td>UVQF office established in the Education Ministry</td>
</tr>
<tr>
<td>TVET funds</td>
<td>None</td>
</tr>
<tr>
<td>Implementation stage</td>
<td>Pilot Implementation/Assessment</td>
</tr>
<tr>
<td>Primary donors</td>
<td>Germany (KFW, GTZ, ded, etc.), JICA</td>
</tr>
</tbody>
</table>

Source: Drafted by the authors based on field survey results.

\textsuperscript{118} Ministry of Education and Sports, Uganda (2006).
\textsuperscript{119} Yoshikawa (2005) p.23.
Furthermore, at the time of the authors’ field survey in June 2006, the Education Ministry was assessing a CBT module for the training of nurses. They are planning to begin the full-fledged installment of CBT in all TVET programs shortly.120

Meanwhile, Uganda’s national CBT framework has no legal basis and moreover, funds for the promotion of TVET have not been established. A substantial number of stakeholders are calling for UVQF to be put into law. But in order to do so Uganda must 1st revise elements of the past law inconsistent with the current status of TVET, which was unified under the jurisdiction of the Education Ministry in 1998, but was divided under the authority of several ministries until then.

(6) Donors’ Assistance for TVET, with Focus on Pre-Service Education and Training

• Japan/JICA

To date, Japan and JICA have assisted activities based in the Nakawa Vocational Training Institute (an upper secondary vocational training institute currently under the Education Ministry, but under the jurisdiction of the Ministry of Labor and Social Welfare until 1998). In addition, JICA is about to start the Project for Instructors and Managers Training for Vocational Education and Training as well as plan to dispatch JOCV into the vocational training field, for which a survey on demand is underway. All of them are situated as components of PEVOT, a sub-sectoral program for comprehensively developing the TVET field. The Nakawa Vocational Training Institute has also been successful in sharing its experience and giving advice as a Centre of Excellence to teachers and government officials involved in TVET, which is one form of South-South cooperation. Other than this, preparations are being made for the dispatch of short-term volunteers to the German-assisted NGO, the Uganda Association of Private Vocational Institutes, which oversees and technically supports a network of private TVET schools.

• Other Donors

Germany is providing comprehensive assistance to establish policy and structure for the promotion of the TVET sector in Uganda. This German-initiated program called PEVOT provides the basic framework for governmental and donor intervention in this field. In addition, the African Development Bank and the Islamic Development Bank, among others, are currently providing aid to individual TVET schools.

(7) Labor Market Analysis

Now that a plan for reassessing the university curriculum stands with the aim of expanding the science and technology field, first of all, the government feels that there is a need to implement a labor

market analysis at the university graduate level\textsuperscript{121}.

\textbf{(8) Aid Harmonization}

Uganda was the first country to have a sector-wide approach introduced, and as such it tends to gain attention as a showcase for this method of policy and aid management. Aid harmonization in the education sector began in earnest upon the occasion of the first education sector plan in 1998, inspiring discussion on aligning aid to the policy direction of the Ugandan government, standardizing procedures of different donor organizations, promoting the modality of budget support, and including all aided funds (both budget and project supports) in the estimation of national revenue and financial plan called Medium Term Expenditure Framework (MTEF). As a modality for support, budget support has come to be seen as more desirable, and though on-going assistance in the form of projects are not to be done away with, it is becoming difficult to set up new projects\textsuperscript{122}.

Also, 2 unique features of Uganda’s MTEF are the ceiling set on expenditures in each sector and the fact that it lays out terms for refusing supplementary foreign aid not listed in MTEF, the three-year rolling plan of public finance. As regards the FTI, the global partnership for achieving universal primary education, despite the fact that the formal application for FTI Catalytic Funds submitted by the Ugandan Education Ministry and regionally active donors was approved by FTI Secretariat, Uganda’s Ministry of Finance refused to concede to their terms since, even though the FTI Catalytic Funds are grants free from any repayment obligation, they were neither included in the MTEF nor within the budgetary ceiling allocated to education sector\textsuperscript{123}. Although it is said to be less strict in operation than stated, this atmosphere of tight aid harmonization and policy alignment must be taken into consideration when any donor organization plans to launch new assistance projects or programs.

TVET assistance given by Japan and Germany in Uganda has often been criticized by donors active in education field for not being consistent with the government’s priorities, i.e. making expansion of primary education as outlined in the first Education Sector Development Plan 1998-2003 a principal concern. However, JICA and Germany have accumulated good results in assisting TVET, linking them with the President’s initiative of community development. Meanwhile, the issue of post-primary education was brought to the fore as a result of UPE. Because of that, in the second Education Sector Development Plan 2004-2015, TVET has also come to be seen as a central policy concern.

\textbf{3-2-3 Malawi}

Former president Bakili Muluzi immediately took up the expansion of primary education after being elected in Malawi’s first democratic elections following the country’s independence. After the

\begin{footnotesize}
\textsuperscript{121} Ministry of Education and Sports, Uganda (2006).
\textsuperscript{122} Yoshikawa (2006) p.3.
\textsuperscript{123} National Graduate Institute for Policy Studies (2006) pp.5-6.
\end{footnotesize}
abolition of school fees for primary education in 1994, primary enrollment increased dramatically from 1,900,000 students in 1994 to 2,790,000 students in 1998, and again to 3,160,000 students in 2004. However, even as late as 2004, when comparing enrollment in the 1st year of primary school to that in the 8th and final year of schooling – 870,000 and no more than 150,000 students respectively\(^\text{124}\) – it would seem that both the drop-out and repetition rates were posing problems just as serious as before. Though sufficient data has not been available, the education pyramid for 1999/2000 based on rough estimates is given in Figure 3-3.

The Ministry of Education reviewed issues concerning education and formulated the Education Sector Policy and Investment Framework (PIF) to set the objective of educational development by 2012, which subsequently gained approval in the National Diet in 2002. In 2004, in response to growing demand for strategic action so as to implement PIF development objectives, the Ministry of Education began drafting an education sector plan. Also, whereas the initial education sector plan had covered primary and secondary education exclusively, thus not making any mention of tertiary education other than in the context of its relation to developing primary and secondary school teachers, from 2006 there was a rising awareness of the need to include the entirety of tertiary education within the sector plan. Also, during a sudden restructuring of the ministries in June, it was announced that the vocational training division and the labor division would be transferred from the Ministry of Labour and Vocational Training to, respectively, the Ministry of Education and the Ministry of Labour and Social Development. In light of this change the necessity for including TVET, in addition to tertiary

\[^\text{124}\] Nakayama (2005) p.11.
education, was brought to the fore in view of comprehensive education sector planning.

Meanwhile, it is estimated that 300 TVET schools (both public and private) are operating in Malawi, but this would include schools which exist on paper but are not operating. This fact implies that the overall true state of the TVET field is yet unknown\textsuperscript{125}. Also, due to the compound effect of problems such as power struggles between political parties, the laxness of the bureaucracy, insufficient budgets, and the spread of AIDS, the lack of both teachers and staff at the Ministry of Education is a grave problem and in the authors’ field survey, without exception, there were pronounced vacancies in teachers and instructors’ posts in TVET schools.

\textbf{(1) CBT System}

The Technical, Entrepreneurial and Vocational Education and Training (TEVET) Act was enacted in 1999, wherein the TEVET Authority, the controlling administration for the national CBT, was established under the direct control of the president and a fund was provided for by subjecting private industry to a TEVET levy. One characteristic of Malawi’s CBT system is how it has been developed to maintain mutual compatibility with the skill standards of the Southern African Development Community (SADC). Meanwhile, the TEVET levy is a tax imposed on private enterprises equal to 1% of their previous year’s profits, and in 2003 total revenue from TEVET Levy were estimated at MK 217,766,655 (roughly two hundred million yen or $1,700,000 USD)\textsuperscript{126}.

Also, at the time that the TEVET Authority was established, both Danish International Development Agency (DANIDA) and GTZ were providing technical assistance for technical and vocational education and training; yet in 2002 DANIDA withdrew from Malawi altogether and GTZ as well ended its involvement in this field in August 2005 so as to focus aid more to the 3 fields of basic education, agriculture, and governance.

\textbf{Table 3-4: The implementation of CBT in Malawi}

<table>
<thead>
<tr>
<th>Legal framework for national CBT system</th>
<th>Established</th>
</tr>
</thead>
<tbody>
<tr>
<td>CBT Management body</td>
<td>The TEVET authority established as an independent organ under direct control of the president (Operational expenses are covered by the TEVET levy)</td>
</tr>
<tr>
<td>TVET funds</td>
<td>Established</td>
</tr>
<tr>
<td>Implementation stage</td>
<td>In 2002 the TEVET Authority ran pilots programs at private TVET institutions and a portion of government-run TVET schools after developing its CBT modules and assessment tools for several vocational fields; from 2006 full-scale enforcement of the programs began.</td>
</tr>
<tr>
<td>Primary donors</td>
<td>None</td>
</tr>
</tbody>
</table>

Source: Drafted by the authors based on field survey results.

\textsuperscript{125} Nakahara (2005) p.5.
\textsuperscript{126} TEVETA (2005) p.9.
(2) Donors’ Assistance for TVET, with Focus on Pre-Service Education and Training

• Japan/JICA
  JICA is sending JOCV, as well as senior volunteers.

• Other Donors
  Taiwan has been providing equipment and sending experts and volunteers to some TVET schools, while CIDA has been providing assistance to prepare teachers for the introduction of CBT through in-service teacher training.

3-3 Summary: Points to Consider for Future TVET Assistance

This chapter has given a general outline of TVET as viewed from the education sector. Below, the authors have summarized issues of consideration for future TVET assistance, based on especially the cases of Ghana and Uganda where TVET has already been cast within education sector plans. Reference to Malawi will have to be limited, since to date there has not yet been a comprehensive development plan relating to TVET and the broadly-encompassing development plans for the education sector are only now under development.

(1) Technical Skill Levels for Pre-Employment Training

Skill levels covered by the education sector plans and CBT systems found in Ghana, Malawi, and Uganda are provided in Figure 3-4. Skill levels relating to pre-employment training are given by JICA in Assisting Middle-Income Countries in Industrial Human Resource Development divided into four stages – that is, ‘artisan’ at the single-skilled worker level, ‘trades’ at the middle technical skills level, ‘technician’ at the technical expert (incl. multi-skilled worker and supervisory) level, and ‘professional’ at the engineer level. For the purpose of this study, the authors have applied the same classifications and, in response to recent trends that have drawn attention to transitioning to knowledge-based societies, the authors have also included the promotion of science and technology within tertiary education as part of skills development through formal schooling.

1) Artisan

Within Ghana, artisan-level TVET is implemented through vocational training schools under the Ministry of Manpower, Youth and Employment as well as through traditional apprenticeship training. Though these artisan trainings are not given concretely within education sector plans, efforts will surely be made to incorporate them into the process of developing a CBT qualification system, given that the

127 JICA (2005a) p.5.
new education reform of 2007 will lead to a one-year extension of senior secondary schools with curricula inclusive of workplace training, and that there will be a four-year practical training course geared towards middle school graduates.

In Uganda, where all TVET institutions were transferred to the Education Ministry in 1998, artisan-level vocational training schools have come to be cast within education sector plans. A pilot project rooted in CBT for the improvement of livelihoods is being executed in agriculture and woodworking in the form of non-formal education and traditional apprenticeship, with technical assistance from GTZ. At the time of the authors’ field survey in June 2006, GTZ held a report conference on this project, wherein it revealed that of the 400 persons involved and divided into 20 groups, roughly one-third of them developed the ability to take part in the value chain (i.e. a sequence of activities that produce value-added outputs)\(^{128}\) and future developments would be worth monitoring.

2) Trades Level

According to the category presented in Figure 2-9, which explored ‘the relationship between human resources and industrial development’, the three countries covered in this case study are all understood to be at the 1st level of development. There are many countries which had achieved economic development at this stage by improving the quality of trades workers and cultivating trustworthy supporting industries, acting as a foundation for attracting and retaining foreign direct investment.

In the cases of Ghana and Uganda, the education sector plans as well as the CBT systems direct the government’s commitment to developing trades workers. Also, a great deal of the TVET assistance that Japan has delivered to Africa to date has been at this level, as was seen in the examples of Uganda’s and Senegal’s vocational training institutes. In the interviews with staff at these training institutions, the authors were told that the employment rates for graduates is 80-90% for both institutes in Uganda and Senegal, and that the quality of trainings at the vocational training institutes supported by Japan, including equipment and facilities, are much higher than other domestic training schools. Thus, these institutes receive high regard in the society.

Uganda’s Nakawa Vocational Training Institute has gained particular attention for the fact that it accepts orders for products from the outside and then actively uses this as an opportunity for the students to gain OJT. As a result of Japan’s assistance in the maintenance of machinery and technical skills improvements for instructors for all 7 courses at the Institute, increasing numbers of orders have reached each course and the system now allows for all students above 2nd year to be involved in the production of merchandise. One problem often given as characteristic of those faced by vocational training schools in Africa is the lack of instruction materials for exercises due to insufficient funding, but through the income-generating activities at the Nakawa Vocational Training Institute, students have the opportunity to apply their knowledge technically based on the needs and materials before them, while the surplus of income generated above what is needed to run the school can be used for employing good instructors. Moreover, the high-quality products delivered by the Institute stand on their own as testimony to the students’ technical ability and thus lead to securing employment. Also, through third country trainings targeting such countries as Zambia, Tanzania, and Eritrea, among others, the Institute’s technical ability has come to be known widely both within and beyond Uganda; for example, the Sasakawa Foundation orders threshing machines, enterprises from Denmark have asked to give technical expert trainings, and the JICA office in Uganda also submits orders for the manufacturing tests and actual manufacture of well fixtures as a means to follow up its grant aid.

However, on the other hand, in order for employees to be promoted to management positions at foreign enterprises in Africa, oft-times a bachelor’s degree is required, meaning that no matter how extensive a worker’s technical skills are, once employed many face the harsh reality of a plateau in career advancement due to the barrier created by academic background and may thus suffer from morale lost and leave work. On the one hand, it is desirable that domestic industrial accumulation will be enhanced by having trades workers, who have links with large enterprises, engage in entrepreneurships of their own; On the other hand, many people have also voiced concern that the hard-earned and valuable skills of these trades workers would waste away when, as entrepreneurs, they could not procure the heavy machinery necessary to produce materials of the quality demanded by large enterprises, and this would not facilitate the formation of supporting industries.

3) Technician & Engineer Levels

In Ghana and Uganda, the education sector plan and the CBT system only cover as far as the
technician level, and no plan has been set to expand on the engineer level. With this as background, as was also mentioned in Chapter 1, there is a high dependency in Africa on in-service enterprise-based trainings for the development of higher level industrial human resources. A majority of graduates who have completed the technician level are likely to move on to large enterprises such as foreign corporations. Therefore in Ghana, the government announced a strategy that practical trainings for technical students are to be organized at facilities owned by corporations wherever possible. While certain practical problems have been indicated, including whether a sufficient number of enterprises can be involved to secure training facilities and how the quality of trainings can be controlled, academic-industrial collaboration in training has the potential to increase the responsiveness of training to labor demands while minimizing waste caused by aging or outdated machinery set up at educational institutions like polytechnics.

4) The Promotion of Science and Technology

In Ghana, the Teaching and Learning Innovation Fund, a proposal-based funding system for tertiary education institutions, was established based on World Bank support and, while reforms at universities and polytechnics are being advanced on the one hand, concrete project proposals at the tertiary education level have not yet been issued despite repeated referrals to the importance of the promotion of science and technology in GRPSII and ESP documents.

In Uganda, the PEAP III discusses strengthening the agricultural sector, which accounts for 40% of the GDP and 80% of all exported products, as well as placing greater weight on science and technology in the tertiary education curriculum as a way to develop human resources capable of supporting growth in the agricultural sector. In order to take part in the modern economic sector by conferring high-added value onto the nation’s products, the Education Ministry has expressed its intent to implement a labor market survey, first targeting college graduates, so as to draft curricula heavy in science and technology, while additionally assigning 75% of the national tertiary education scholarships to students in the sciences based on its belief in the crucial need for promoting science and technology.

(2) Limitations of TVET Covered by Education Sector Plans

The education pyramids (Figures 3-1, 2, 3) drawn for each of Ghana, Malawi, and Uganda show that the proportion of students attending TVET schools make up no more than 2-5% of all enrollees. Also, it is necessary to recognize that TVET covered by education sectors plans is extremely limited in reflection of the fact that students and youth who cannot attend school, or are forced to discontinue their education, are quite numerous. A conceptual diagram of areas covered by TVET in the education

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sector in the case of Ghana is shown below.

Non-formal education, as provided for in Ghana’s education sector plan, consists mainly of alternative education for youth who have left school and adult literacy programs. For example, Ghana has not yet advanced to include non-formal training programs for income generation, such as the pilot project GTZ implements in Uganda, or traditional apprenticeship, in the education sector plan. In other words, in spite of the fact that a great number of youth are being left behind by missed opportunities of schooling and employment, the current framework for public education has not sufficiently provided means to cope with the problems these youth face.