

# DIFID-WB Collaboration on Knowledge and Skills in the New Economy

## Jordan: Country Report

### I. INTRODUCTION

#### **Scope and method of work**

The European Training Foundation, together with the World Bank, is conducting a regional review of technical-vocational education and training (TVET) in the Middle East- North Africa region. Five country cases are being prepared, including Jordan, Lebanon, Egypt, Tunisia and Algeria. The country cases are divided into two aspects – training for the formal sector and training for the informal sector. This report covers training for the formal sector in Jordan.

The terms of reference (Annex 1) call for a comprehensive review of the TVET system. The study seeks to do the following: (1) describe the main features of the TVET system, (2) highlight recent innovations in the system, (3) identify the main problems and issues, (4) recommend actions and measures to address the problems, and (5) indicate areas in need of further study. The review devotes special attention to the management and financing of the system.

The plan of work included the following three parts: (a) review of available documentation, (b) analysis of key statistical information about TVET provision, (c) visits to key agencies, institutions and persons representing both the demand and supply side of skills development. The field work took place from August 14 to August 31, 2003.

It would not have been possible to conduct this review within the time allowed were it not for the generous time and thought given by the myriad persons and experts contacted by the mission, for which the author expresses his sincere thanks. (See Annex 2 for list of persons met and institutions visited.) Special thanks goes to Dr. Tayseer Nahar, Vice President of the NCHRD for his superb assistance on the assignment, including review of earlier drafts. However, the views expressed herein are those of the author alone, who takes full responsibility for any errors, omissions and misunderstandings, and not necessarily those of the European Training Foundation.

After an introduction to the Jordanian economy and implications for training in Chapter I, the report describes the current system of TVET in Chapter II, followed by an evaluation of the TVET system in Chapter III that emphasizes innovations and reforms undertaken. Chapter IV presents recommendations. Readers familiar with the TVET system in Jordan may wish to go directly to chapter III after Chapter I. The Appendices provide more detail about various segments of the system.

#### **Socio-economic background.<sup>1</sup>**

**Social and economic characteristics and development.** Jordan's population of 5.3 million is growing at a rapid rate of about 3 percent per annum (1996-2002). At present more than 40% of the population is under the age of 15. Only about 4 percent of the land is arable, which accounts for the exceedingly small contribution of agriculture to GDP (only 2%). Almost 80% of the population lives in urban areas, and the greater Amman area accommodates about half the population. Jordan is characterized by weak natural resources, such as inadequate supplies of water and oil, but relatively strong human resources. Jordan has achieved major

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<sup>1</sup> This section is based on World Bank statistics ("Jordan at a glance", 2003); HRD Indicators for 2002, Abacci Atlas and ETF, 2000.

strides in education and health care of its population. Illiteracy, which stood at 68% in 1961, is now estimated to be under 10%. Almost all children, boys and girls, attend school through grade 10.

The size of the labour force, 1.2 million in Jordan plus about 350,000 Jordanians working abroad (mainly in Gulf States), is growing even faster than the population growth rate, at 4 percent per year. The female participation rate is relatively low at 12% compared with the male participation rate of 64%. Jordan employs about 300-500,000 foreign workers (Egyptians, Syrians and Iraqis) mainly in construction and services for which no Jordanian labour can be found. For example, a large percentage of all jobs in bakeries and restaurants are occupied by Egyptians; most semi-skilled and skilled jobs in small and medium sized clothing companies are occupied by workers from Egypt and Syria. In 1998 Jordan earned US\$ 1.5 billion in remittances from Jordanians working abroad. In contrast, foreigners in Jordan created US\$ 240 million in remittance outflows. Unemployment officially is pegged at about 15%, but actually may be in the range of 25-30%. The unemployment rate for those between the ages of 20-24 is almost 40% and is 36% for those between ages 25 and 39.

The industrial sector makes up 23.4% of GDP and the service sector a surprisingly dominant share of 74.6%. Large scale industries include phosphate mining, petroleum refining, cement, potash, and light manufacturing. The structure of enterprises is decidedly skewed to small and medium enterprises: about 95% of all firms employ less than 10 persons. Only 10 companies have more than 10,000 employees and only 50 firms have more than 1000 employees.

Gross national income per person stood at US\$1760 in 2003 and about 12 percent of the population lived below the poverty line. Jordan traditionally depended heavily on external assistance (mainly Arab Gulf States) and worker remittances from abroad to finance its deficits. However, Arab aid provided to the state, although seeking to develop the economic base, actually helped to build mainly the public sector rather than the private sector. Worker remittances contributed mainly to increased consumer spending (land, buildings and imported durable consumer goods) rather than being invested in productive assets in manufacturing.

The government has made major progress in limiting deficits. The budget fiscal deficit reached 21.6% in 1988, but has been cut to about 3-4 % since 1997. The balance of payments deficit stood at 14.2% in 1988. That, too, was cut -- to 1.7% in 1997. The amount of foreign debt, while declining as a percentage of GNP from 114% in 1995 to 85% in 2001, remains sizeable at US\$ 8 billion with annual servicing of US \$ 585 million.

Economic growth was relatively strong between 2000-02 at 4.7% p.a., compared with 3.2% from 1996-98. Exports jumped 21 percent in 2001 after growth of 0.8% in 1996-2000. Inflation has been less than 2 percent. The economy has also shown resilience in the face of the escalating regional tensions, the events of September 11, 2001 and the Iraq war. The resilience is based in part on the Government's broad, decade-long programme of structural reform, including privatization of some state-owned enterprises. Recent regional events have caused severe disruption to the tourism industry. Rising exports of wearing apparel have been a positive outcome of industrial development zones, e.g. Qualified Industrial Zones with privileged access to the US market.

Jordan's enterprises will be subject to increasing pressures of an open market in the future with the EU initiative to build a Euro-Mediterranean Free Trade Zone, bilateral free trade agreements with several Arab states and Jordan's entry into the WTO in January, 2000. Import duties earlier were halved from 85% to 40% and now are a maximum of 30%. The transition has been a shock to Jordanian enterprises. Training of human resources within firms becomes a much more important factor in a competitive environment.

Jordan faces continued challenges in managing its balance of payments and external debt; reducing poverty and unemployment; and addressing resource constraints, particularly water. New challenges include achieving more competitive industrial growth and improving the quality and efficiency of public services.

To meet these challenges in late 2001, the government announced a poverty strategy and a multi-year (2002–05) Programme for Social and Economic Transformation, aimed at:

- Combating poverty through qualitative improvement in education, health, rural and community development, and social productivity.
- Attracting more private capital through acceleration of the privatization programme, promoting private investment in large infrastructure projects, and further improving the environment for private investment.
- Improving the efficiency and effectiveness of government institutions, and delivery of basic public services through public sector reform programmes.
- Adopting a results-based budget that maintains fiscal stability.
- Creating the institutions, incentives, and infrastructure necessary for information and communication technologies (ICT) and knowledge-based development.

Priorities for future economic development include expansion of exports and manufacturing leading to a transition to a knowledge-based economy (KBE). Productivity improvements and increased value added should be the foremost concerns, rather than import substitution.

#### **Implications for education and training.**

Jordan's most valuable resource is its comparatively high level of human resources. This resource will become even more important as trade barriers are lowered, competition increases and technological change accelerates.

Overall, the country has made significant progress in meeting the Millennium Development Goals of universal basic education. However, the cost in terms of public expenditures has been relatively high. Given demographic pressure, the significant gains made on human development to date cannot be sustained without major improvements in the quality and efficiency of education and training.

The literature<sup>2</sup> and experiences in other countries suggest that achieving these priorities will require major changes in skills provision in Jordan. Trade openness causes a shift in demand for skills through induced capital deepening or technological change. Increased competition and the introduction of new technologies, particularly ICT, have prompted fundamental changes in work organization and practices. New forms of work organization, in turn, require greater responsibility and skills from the workforce, including problem-solving and communications skills as well as multi-tasking. The skill level of the workforce increasingly has to provide the cutting edge for Jordan's successful competition in the global economy.

Given that capital and the new technologies are skill intensive, training for workers takes on special significance in a globalizing, rapidly changing economy. The training has to be recurrent to update the skills of workers enabling them to stay current with new technologies. Some of these skills will be provided through the workplace, but general skills will have to be enhanced through formal education and training. Training must not be too narrow because

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<sup>2</sup> See ILO (1999) "Employability in the Global Economy: How Training Matters." World Employment Report 1998/99, and David O'Connor and Maria Rosa Lunati (June 1999). "Economic Opening and the Demand for Skills in Developing Countries: A Review of Theory and Evidence."

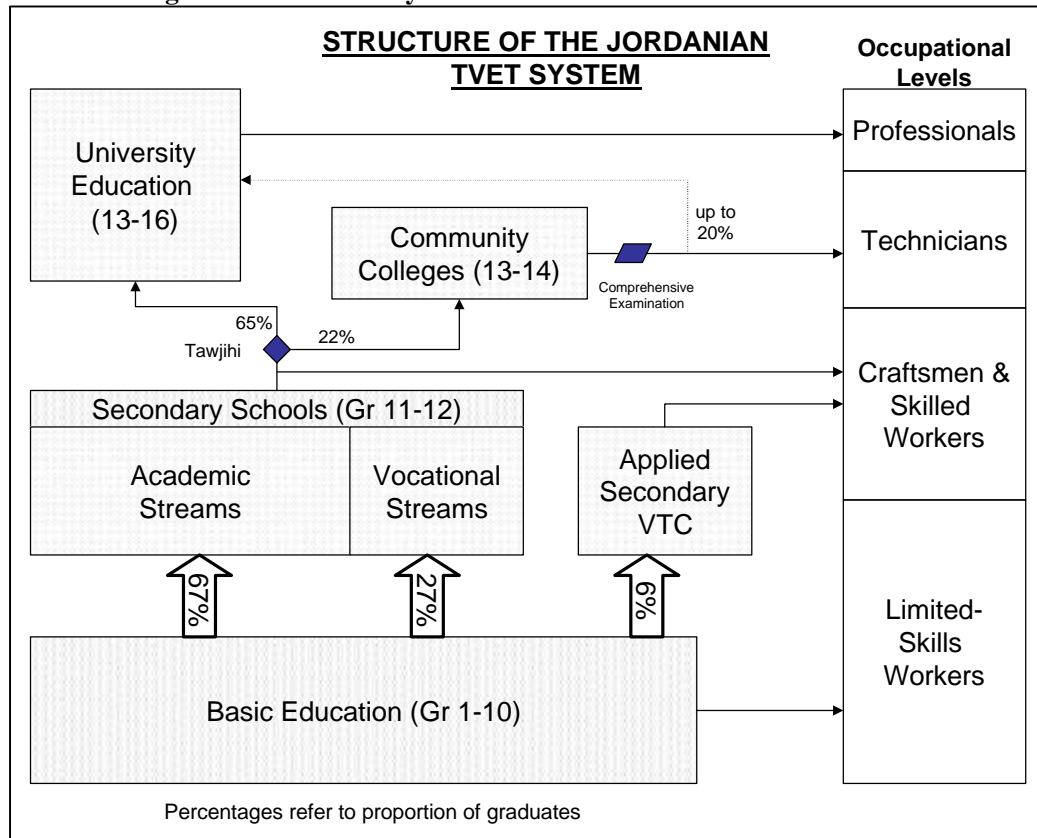
adaptability is another key to success in the modern world. Supporting this process will be market information on trends and changes ahead to help institutions and workers plan.

Recurrent education and training become highly important in a KBE. Most of the demands for skills in the KBE come at the level of higher education, particularly in engineering and technician training. However, lower level vocational education and training must also play an important supporting role by (a) expanding the kinds of training given beyond the traditional trades to include skills in demand in a KBE; (b) upgrading eventually the training to deal more with ICT-based technologies, and (c) providing opportunities for recurrent training as technologies evolve.

## II. OVERVIEW OF THE TVET SYSTEM IN JORDAN

### Structure of TVET.

Chart 1: Diagram of the TVET System in Jordan



Source: Adapted from Masri, 21.

Education is compulsory in Jordan through grade 10. Enrolment ratios are high. In 2000 the gross enrolment ratio for basic education was 89% of the age group 6-15. Secondary education is not compulsory, but also accommodates a high proportion of the age group. Gross secondary enrolment is estimated to be 71% of the population (age 16-17). A slightly higher proportion of females are enrolled in secondary education (74% of the age group compared with 70% for males). The net enrolment ratio (excluding overage students) is about 63 percent for both genders.

Prevocational education is provided in general education in grades 1-10. Students in grades 8-10 can select two subjects from industrial subjects, health, business, agriculture and home economics. This absorbs four hours per week. The purpose is to acquaint students with, and interest them in, pursuing vocational studies after basic education, and to impart some basic skills, such as to make repairs in the house.

Most descriptions of the TVET system in Jordan identify three major parts<sup>3</sup> in the system—MOE vocational streams as part of comprehensive schools; VTC training centres; and community colleges. However, there is a fourth: private TVET providers are not often

<sup>3</sup> Also, the UNWRA system is often described as part of the system. It is excluded here because it is externally financed and managed.

mentioned. Each of these sub-systems is described in the sections below and in more detail in Annexes 3 to 6, respectively.

Almost all students continue their education beyond Grade 10. Based on performance in grades 8-10, students are allocated to academic streams of secondary schools, vocational streams in secondary schools or applied secondary education (now called skilled worker programs) under the Vocational Training Corporation. About a third of the Gr. 10 graduates are channelled into the vocational options.

The transition rate from basic education (grade 10) to the first year of secondary is extraordinarily high, almost 98% according to one indication of student flows. For example, grade 10 enrolment in 1998/99 was 94,500 students and grade 11 enrolments the following year (1999/00) were 86,600 (92% of 98/99) secondary students, of whom 23,500 were enrolled in vocational streams (27% of Grade 11) and 63,100 were in arts and sciences. An additional 5900 students enrolled in the first year of vocational centres of the VTC and 300 in UNRWA vocational training. By these statistics only 1700 students did not continue beyond Grade 10<sup>4</sup>. The comprehensive vocational stream in the MOE secondary schools and the applied stream in the VTC together took about 34% of the Gr. 10 graduates in 1999/2000.

### **1. Ministry of Education.<sup>5</sup>**

Secondary schools enrolled about 34,000 students in 2002/03 in six vocational streams: industrial, nursing, agriculture, hotels, commerce<sup>6</sup> and home economics. The vocational streams in 2002/03 made up about 27% of total secondary enrolments. Chart 2 shows total enrolment in vocational streams by gender. Enrolments have increased modestly by 4,000 students from 30,000 to 34,000 over the past six years (compared with an increase of 21,000 students in academic stream over the same period). Males made up about 55% of the enrolment in 2002/03. Chart 3 shows the enrolment distribution by type of programme. Three programmes account for the bulk of the enrolments: commerce, industrial occupations and home economics. Chart 4 shows the enrolment by occupational stream and gender. Two specializations are exclusively or mainly male: industrial, agriculture and hotelliery (the latter for cultural reasons.) Females dominate in home economics and nursing.

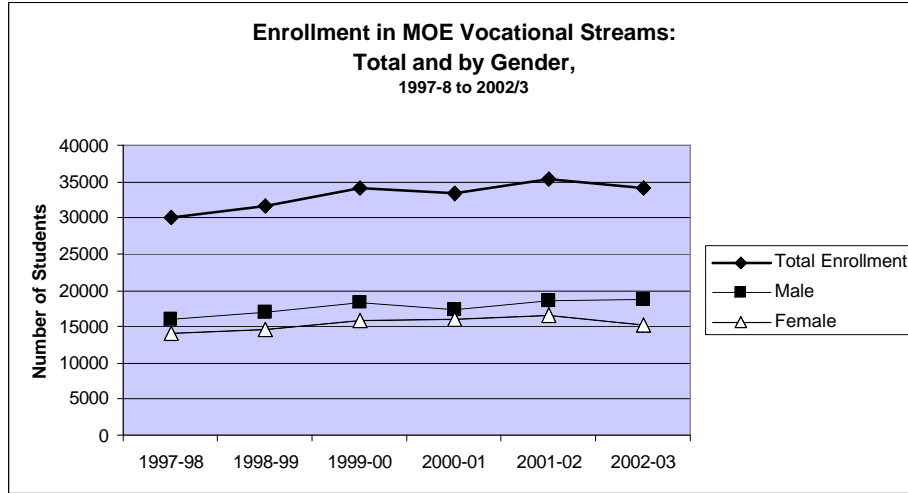
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<sup>4</sup> Source: MOE statistics. The numbers include UNRWA enrolments at both Grade 10, and 1<sup>st</sup> year of secondary and 1<sup>st</sup> year in vocational centres in Grade 11. They do not identify the output of graduates from Gr. 10.

<sup>5</sup> See Appendix 3 for details about the organization and delivery of vocational education under the MOE.

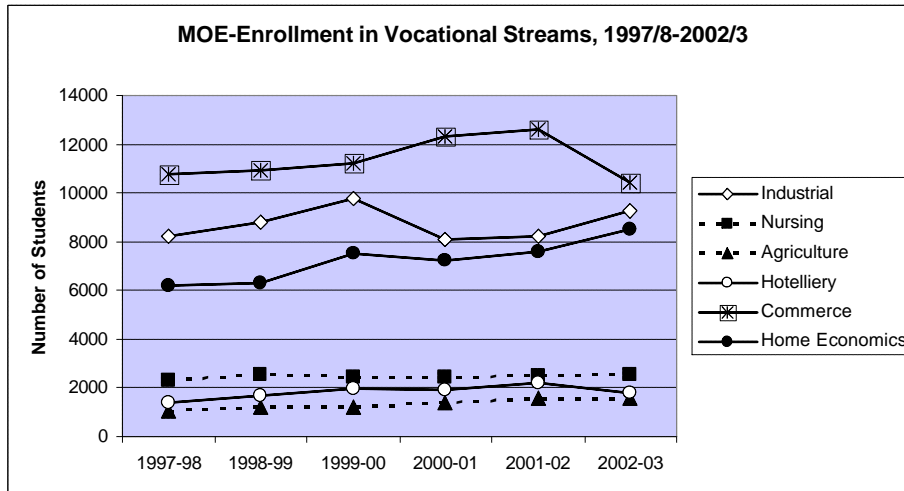
<sup>6</sup> In 2003/04 commerce was converted to information technology and transferred to the academic stream.

**Chart 2: Enrolment in MOE Vocational Streams: Total and by Gender**



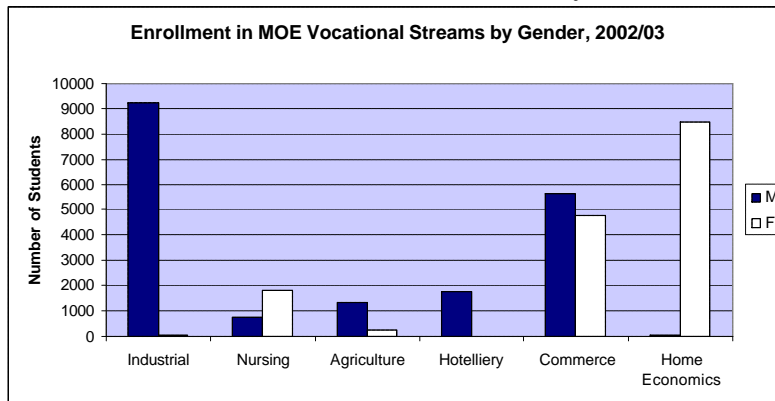
Source: MOE

**Chart 3: Enrolment in MOE Vocational Streams**



Source: MOE

**Chart 4: Enrolment in MOE Vocational Streams by Gender, 2002/03**



Source: MOE

Vocational streams are followed in two types of schools: comprehensive schools (including both academic and vocational streams) and vocational schools. Currently, a total of 190 schools out of 987 offer vocational streams, including 153 comprehensive schools that accommodate about 21,700 students in vocational streams and 37 vocational schools that enrol 12,300 students in vocational subjects.

Teacher: student ratios have remained fairly even over the past six years, fluctuating slightly from 1:15 to 1:18. Only 48% of the teaching staff has a degree, the current requirement for hiring new teaching staff.

The objectives of vocational education are twofold: prepare students for employment in the labour market and also for higher education. At the end of secondary education students may sit for the General Secondary Education Certificate (GSEC), the *Tawjihi*, a requirement for entry into tertiary education. About 40% of the applicants from vocational streams received passing marks for entrance to community colleges and 4% received sufficiently high marks for entrance to university. Students who do not pass the *Tawjihi* receive a certificate of secondary completion from the school. (See Appendix 3 for details about MOE vocational streams.) An estimated 25% of secondary school graduates (those with the GSC) enrol subsequently in community colleges; and the majority enters the labour market.

## 2. The Vocational Training Corporation.<sup>7</sup>

The Vocational Training Corporation, a semi-autonomous agency established in 1976 under the MOL, owns and operates a network of 35 vocational training centres. An additional 12 centres are under construction. Its main purpose is to provide workforce training, both pre-service and upgrading, at different occupational levels. Table 1 shows the VTCs menu of skills training.

**Table 1: VTC Training Programmes**

<b>A. Vocational Preparation</b>	<b>Entrance Requirements</b>	<b>Duration</b>
1. Training for semi-skilled* level	Literacy, 16 years old	150-700 hours
2. Training for skilled level	Gr. 10 graduate, 16 years	2-4 terms; 1400-2800 hrs.
3. Training for craftsman level	SSC (Gr. 12 graduate)	2-4 terms; 1400-2800 hrs.
4. Applied Secondary Education Programme	Gr. 10 graduate, 16 years	2 years
5. Safety supervisors programme	SSC (Gr. 12 graduate)	2 terms
<b>B. Upgrading Programmes</b>		
1. Technical upgrading		Short term
2. Instructor training		
3. Supervisory training		
4. Occupational safety and health training		

Now termed, "limited-skill"

Source: VTC 2002, 4-5.

As shown in Table 2, the flagship training programme of the VTC is for skilled workers. This programme caters mainly to fresh graduates from basic education who have completed Gr. 10, but whose performance did not warrant placement in secondary schools. Until recently

<sup>7</sup> See Appendix 4 for details about organization and activities of the Vocational Training Corporation.



the duration of the skilled worker programme was three years (two years of “dual”<sup>8</sup> training plus one year of supervised apprenticeship), but was reduced to two years, then to 2-4 semesters of “dual” training without the extended apprenticeship period at the end of training. Some 54 specializations are offered. Most of the trainees in this programme are male.

**Table 2: VTC Enrolments by Programme, 2002**

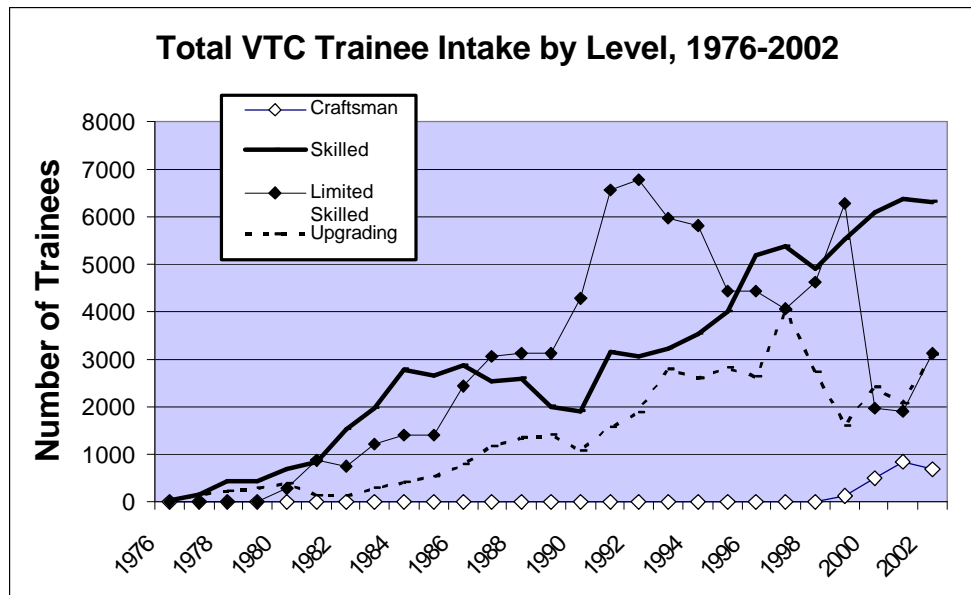
Programme	Trainees Enrolled			Graduates
	Intake	Continuing	Total	
Craftsman	699	232	931	685
Skilled	6250	3511	9761	2938
Semi-skilled	3125	-	3125	519
Applied Secondary*	73	167	240	543
Upgrading	3098	-	3098	3098
Total	13245	3910	17155	7783

\*Note: being discontinued. See Appendix 4 for details.

Source: Calculated from VTC Annual Report, 2002, p.10.

The VTC recently introduced craftsman training in 24 specializations, mainly to cater to more highly educated Jordanians – those with at least a full secondary education. Skills taught include traditional occupations such as auto mechanics metal working, pipe fitter as well as emerging fields such as CNC, website design and network PC support. Short term training is also given for people without formal educational qualifications (but who are literate) in 34 specializations. Examples include barber, machine sewing, food production, carpentry, metalworking and PC applications. Upgrading training enrolls a substantial number of trainees, but about 40% of the total take driver’s courses and 24% take occupational safety and health courses. Chart 5 shows the growth of VTC intake by main programme level.

**Chart 5: VTC Trainee Intake by Level, 1976-2002**



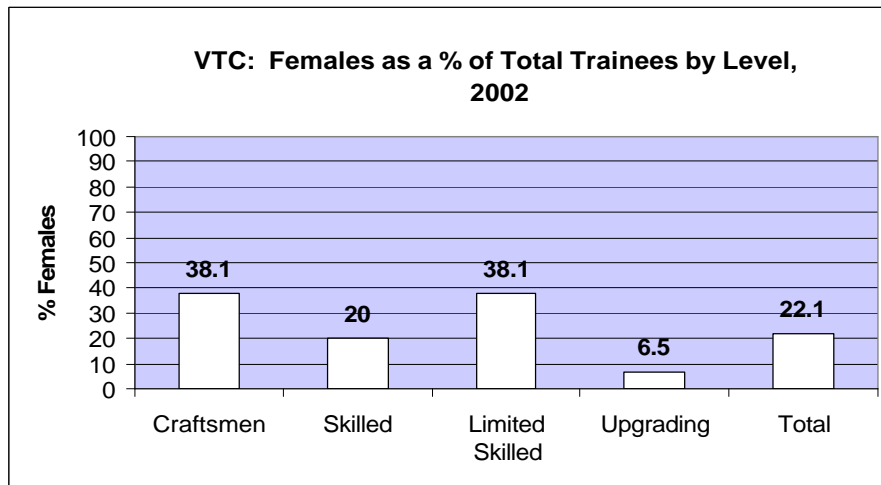
Source: Calculated from VTC statistics.

<sup>8</sup> The training is “dual” by including both in-centre training and workplace apprenticeships. Originally this meant three days of centre-based training and three days of work practice each week. This has now been changed in most centres to alternating one week of centre-based training followed by one week of supervised work practice.

In addition to its regular programmes, the VTC sponsors various ad hoc training, often on a project basis. These include training for Qualified Industrial Zones, mainly in machine sewing. In addition, the country launched a “National Training Programme” in 2002 to train unemployed people for available jobs and to replace foreign workers. To date the programme has enrolled almost 6000 trainees and graduated 3050 trainees, about 60% females.

The VTC has made major efforts lately to increase the proportion of women enrolled in its regular programmes. One means has been to establish new training centres devoted exclusively to female occupations. Chart 6 shows the proportion of female trainees in VTCs by level. Females make up almost 40% of total enrolments in craftsman and limited skill programmes, but just 20% in skilled worker programmes.

**Chart 6: Proportion of Female Trainees in VTC by Level, 2002**



Source: Calculated from VTC statistics.

The VTC has also been given responsibility for regulating the labour force by classifying workplaces and workers as stipulated in the Occupational Work Regulation Law No. 27 of 1999. The Law calls for the classification of all workers according to a skills ladder (limited skills, skilled, craftsman, technician and professional) and classification of all workshops according to a variety of standards. The objectives of the Law are to improve and sustain the quality of products and services given by Jordanian enterprises. The VTC is tasked with classification of workers, that is, testing, certifying and licensing workers. The following occupations are being covered initially: vehicle maintenance, carpentry and ornamental decoration, beauty and hair dressing and metal fabrication and general mechanical maintenance. Stiff fines are stipulated for firms without the proper certificate, for employing unclassified workers and for individuals for practicing an occupation without a license. Implementation of the Law is expected to increase the demand for VTC training programmes, and to place a heavy administrative burden on the Corporation.

Plans for the Government include establishment of a “vocational university” patterned after the *fachhochschule* in Germany.

### **3. Community Colleges<sup>9</sup>**

Community colleges were created from amongst teacher training colleges previously under the MOE. Their main function traditionally was to prepare students for careers in teaching in basic education. However, the education reforms of 1988 raised the level of qualifications

<sup>9</sup> See Appendix 5 for details about organization and activities of the Community Colleges.

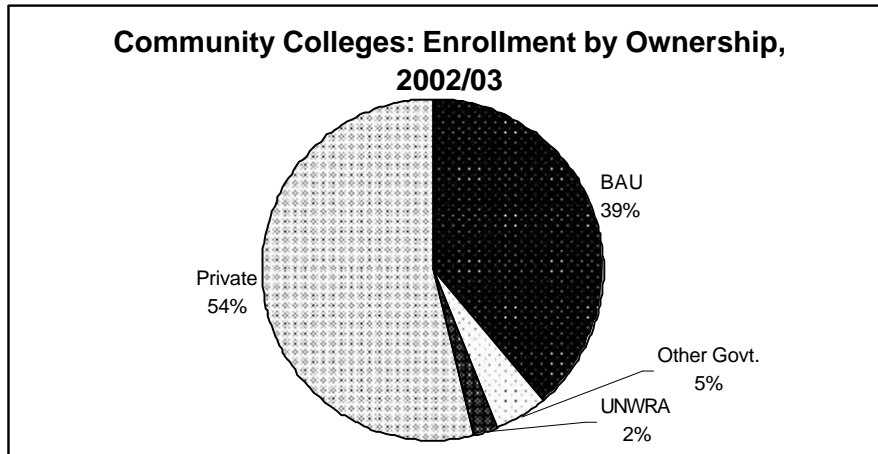
required for teaching in basic and secondary schools to a full degree. This led to a major change in teaching programmes out of education, and provided a stimulus to diversify programmes. The objectives of community colleges are two fold: (a) to serve as terminal education in practical fields, preparing students for entry to the labour market, and (b) preparation for entry to university degree level studies for a minority of the students. In 1996 the government established Al Balqa' Applied University (BAU) for the purpose of coordinating all community colleges in the country, public (17) and private (35 colleges). The BAU later itself began to offer university degree programmes, but retains overall coordinating responsibilities (technical, financial and administrative supervision) for community colleges. Table 3 and Chart 7 show the distribution of enrolments in community colleges by ownership. Over half of the enrolment is in private institutions, and 63% of the total enrolment is female.

**Table 3: Community College Enrolment by Owner and Gender, 2002/03**

Owner	T. Enrolment		Females	%Female
BAU	10497	39%	7364	70%
Other Govt.	1323	5%	810	61%
UNWRA	638	2%	470	74%
Private	14509	54%	8475	58%
Total	26967	100%	17119	63%

Source: MOHE

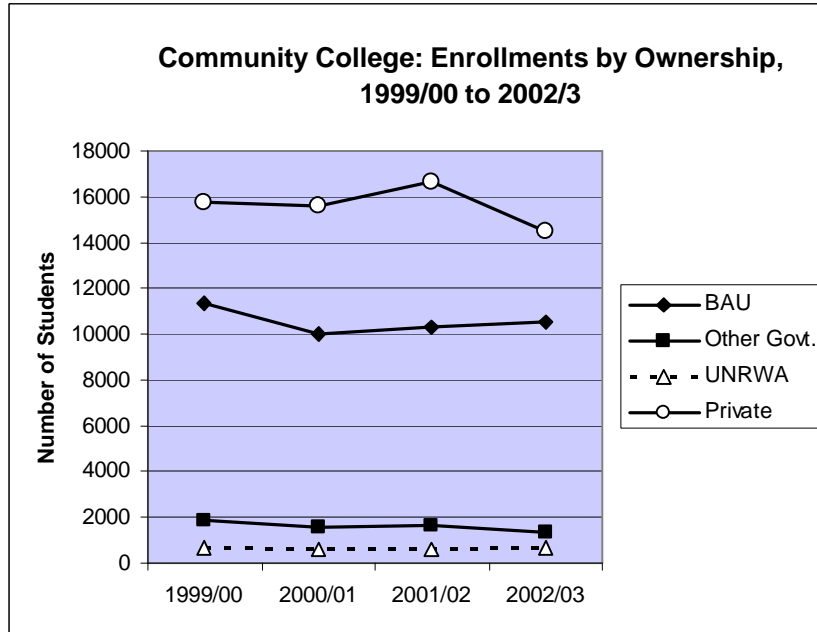
**Chart 7: Total Community College Enrolment by Ownership, 2002/03**



Source: MOHE

Enrolment in all types of community colleges was less in 2002/03 than in 1999/00, as shown in Chart 8, in part because of the emergence of private universities that siphoned students away from community colleges.

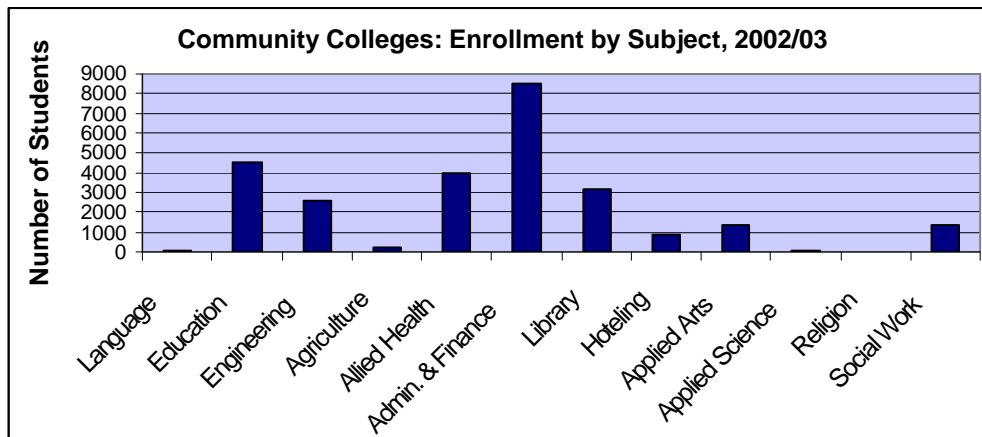
**Chart 8: Total Community College Enrolment by Ownership, over 4 years**



Source: Derived from MOHE data.

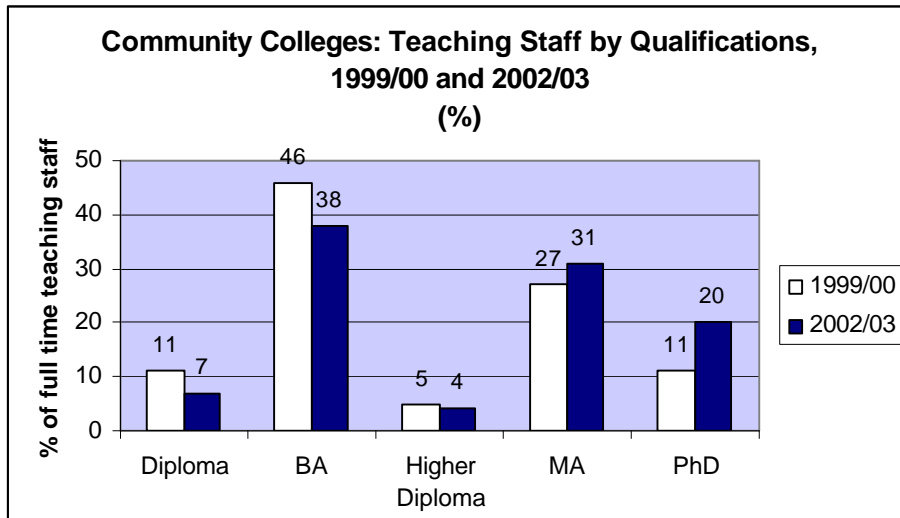
Community colleges offer two-year programmes. In 1999/00 academic programmes enrolled 7,000 students in community colleges. These academic programmes have been phased out in public institutions. At present five subjects account for over 85% of the enrolments, namely: education, engineering, allied health, administration and finance, and library science (Chart 9). Teaching is residential, usually without internships or job attachments.

**Chart 9: Community College: Total Enrolment by Subject, 2002/03**



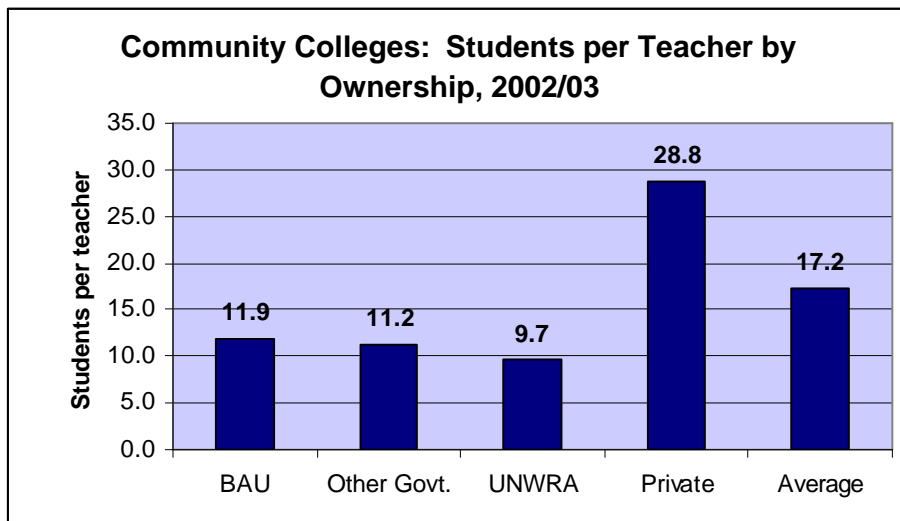
Source: MOHE

Overall, teacher qualifications have improved considerably over the past four years, as shown in the following comparison (Chart 10):

**Chart 10: Community Colleges: Full-Time Teacher Qualifications, 1999/00 and 2002/03**

Source: Calculated from MOHE data.

The staff: student ratio varies greatly between the public and private sector, as shown in Chart 5-8. In fact, the number of students per full-time instructor in private community colleges is more than twice that of the BAU (Chart 11).

**Chart 11: Community College Students per Teacher, 2002/03**

Source: Derived from MOHE data.

Students must pass a comprehensive examination to obtain their diploma after two years. The overall pass rate is about 65% (those getting at least 60% of the marks on the examination). As established by the Higher Education Council, 20 percent of those who obtain a diploma can continue to degree programmes, i.e. those generally with 75% pass on the common examination. However, for financial reasons, less than half those eligible continue. For example, of the 7000 graduates last year, fewer than 1000 are expected to continue with degree studies this year, even though at least 1400 would qualify.

#### 4. Private vocational training providers<sup>10</sup>

Information about the scope of non-government training provision is hazy. However, two sources give some indication of orders of magnitude: MOE statistics from the early 1990s and a survey of short-term training providers in 2000.

Private training providers (PTPs) at the vocational<sup>11</sup> level do not attempt to duplicate programmes offered in the public sector. Instead they seek to provide marketable qualifications to trainees through short courses (typically less than one year).

The Ministry of Education controls registration and accreditation of institutions, and accredits the certificates of graduates. It does not require that national curricula be taught, but does review and approve the proposed training programme. It does not specify entry requirements for the training, but will not issue certificates if the prior qualifications of a trainee do not match the level of the course. It does require that qualified instructors (defined as at least diploma level) teach the courses. It does not place any restrictions on tuition fee levels or other charges, or rates of increase, or how increases will be allocated.

It is difficult to know the scope of private training provision even though registration is required. The MOE has not compiled up to date statistics about the institutions it registers. The training centres traditionally have been called “Cultural Centres,” owned mainly by individuals. The number of trainees enrolled in PTPs up to 1994 is presented in Table 4. Unfortunately, the data do not show the number of training providers. Reportedly there are 600, two thirds of which operate in Amman. According to these figures from the MOE, the numbers of trainees was impressive in 1994 – about 23,000 in total, of which two thirds were female. This exceeded the annual enrolments by the VTC. Almost half the trainees were enrolled in computer courses, and the rest mainly in office occupations and traditional female occupations, except for males in English language training.

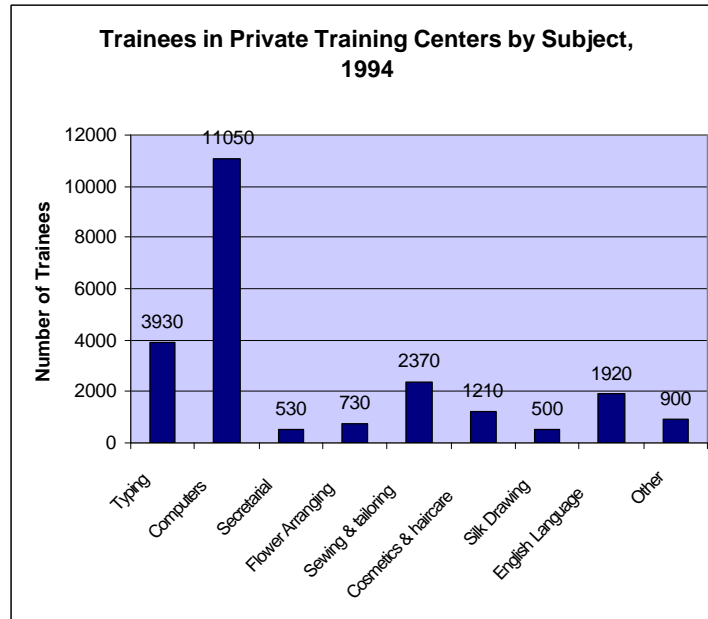
**Table 4: Enrolments in Vocational Courses at Private Training Providers (“Cultural Centres”), 1994**

2 FFXSDMRQ	F	M	T	%T
Typing	3108	825	3933	17.0%
Computers	6322	4723	11045	47.7%
Secretarial	525	3	528	2.3%
Flower Arranging	722	6	728	3.1%
Sewing & tailoring	2303	63	2366	10.2%
Cosmetics & Hair care	1084	125	1209	5.2%
Silk Drawing	503		503	2.2%
English Language	522	1397	1919	8.3%
Other	285	618	903	3.9%
Total	15,374	7,760	23,134	100.0%

Source: MOE

<sup>10</sup> See Appendix 6 for more information about private training providers.

<sup>11</sup> At the technician level, private community colleges do offer some of the same types of training programmes as in public community colleges, and must follow identical curricula by field of study.

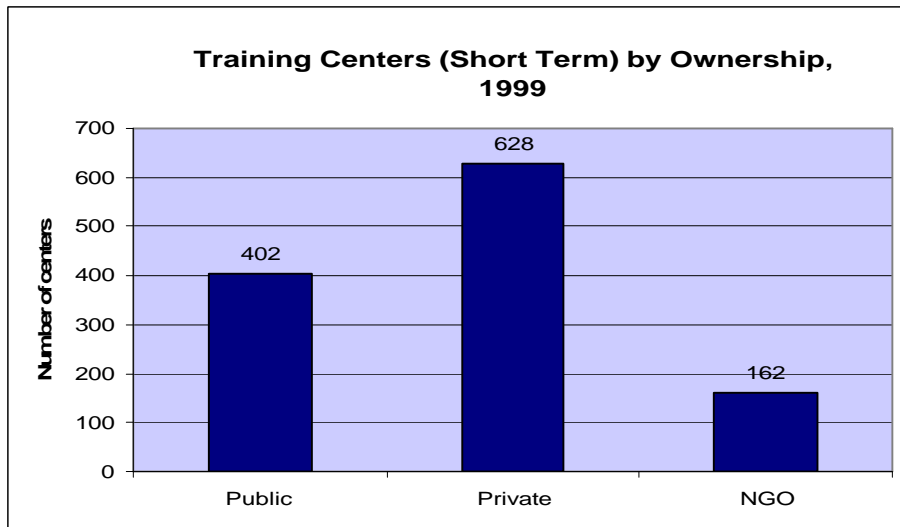
**Chart 12: Trainees in Private Training Centres by Subject, 1994**

Source: MOE

The private training providers consulted as part of this review did not feel that the government was over-regulating private training. It took only from three weeks to two months to get approval for new courses, but someone had to be actively managing the process. Their main concerns were: (1) the limited ability of potential trainees to pay the fees because of the economic situation, and (2) unfair competition. Unfair competition stemmed from two sources – public universities which are subsidized and have equipment and facilities provided by the government offering courses that are certified by the Ministry of Higher Education. These courses, mainly in IT, are naturally quite attractive to the public. Another source is uncertified centres which operate illegally without MOE approval. If identified, registered training providers notify the MOE about such centres. The MOE, in turn, notifies the respective governorates which take action. At least three such operators have been closed due to this action. (The illegal operators are not fined. Rather, they are given the option to close or go through the registration/accreditation process.)

Another data set on private training providers, those with courses up to six months in duration, was prepared by a German firm as part of the Training and Employment Support Project (TESP). The data base prepared includes 1074 training providers, *public and private*, offering 4490 training programmes with 2720 trainers. However, only 21 training institutes out of the 1074 provided more than 10 courses per institute. Non-government training institutes make up two thirds of the total (private-53% and NGOs 14%), as shown in Chart 13.

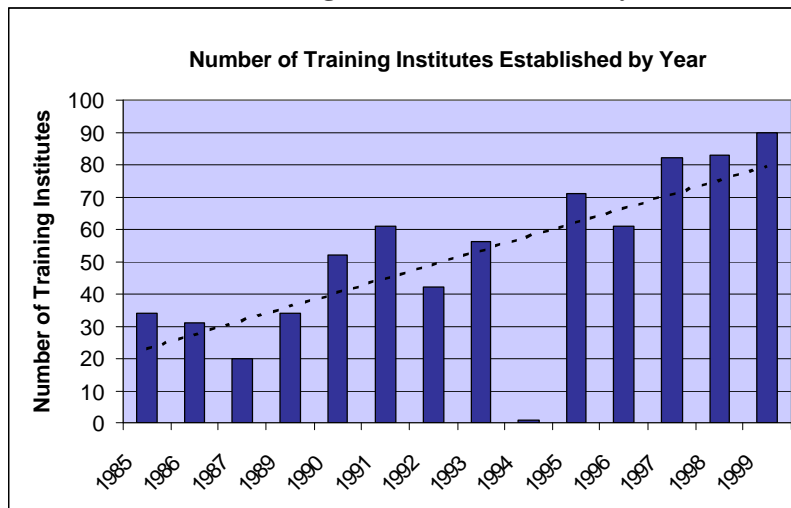
**Chart 13: Providers of Short Term Training Programmes by Ownership and Region, 2000.**



Source: Calculated from Dorsch Consult, 8.

The establishment of new training institutes, stagnant up to 1988, has grown since then from 40 new establishments to more than 80 per year. Chart 14 shows the number of training institutes established per year:

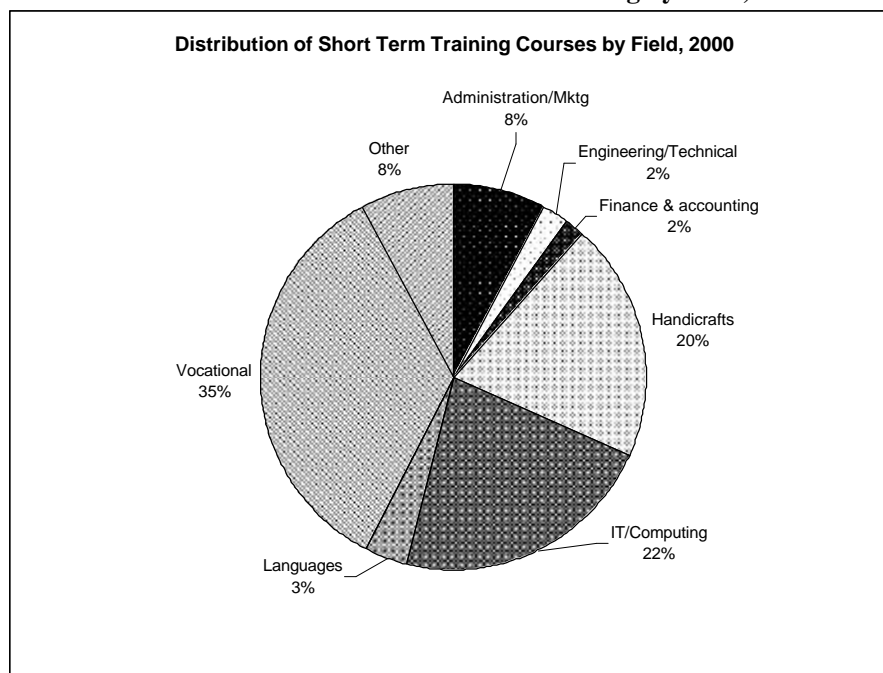
**Chart 14: Number of Training Institutes Established by Year, 1985-1999.**



Source: Ibid.

The courses tended to be concentrated on just three categories of training, i.e. IT/computing (22%), vocational training (35% of the total), and handicrafts (20%). Less than one percent of the courses was offered in tourism, a major growth sector for Jordan. Private institutes offered 1350 training courses out of 4490 (apparently 30% of the total), including 6% of the IT training courses and 51% of the courses in vocational training and handicrafts.



**Chart 15: Distribution of Short Term Training by Field, 2000.**

Source: Derived from Dorsch Consult database. (Note: includes both public and private training.)

### Summary of Training Provision

Table 5 summarizes the available information on the major TVET providers:

**Table 5: TVET Institutions, Resources and Performance**

Item	1. MOE	2. VTC	3. Community Colleges		4. Private Training Providers
			BAU	Private	
No. of institutions	190	35	17	35	600-800***
Total enrolments	34,000	17,160**	11,800	14,500	23,100**
% Females enrolled	45	22	70	58	67
Students/Trainees per Teacher	15	22	12	29	n.a.
Number of specializations	43	59	66	n.a.	n.a.
Completion rates (%)	44-52***	32	58	n.a.	n.a.
Utilization of capacity (%)	90	63	69	n.a.	n.a.
Cost per trainee (JD) 2001	500	430	1295	n.a.	n.a.
Cost per graduate (JD)	1400	1720	3500	n.a.	n.a.

\* 600+ for private institutions and <200 for non-governmental organizations

\*\* not full time equivalent, as the number includes short courses.

\*\*\* 44% for vocational schools; 52% for vocational streams of comprehensive schools

Note: data are mainly for 2001; completion, utilization and cost data are for mid to late 1990s.

Source: Based on Evans, 2002, p. 100 and Rostron 1999.

### 5. National Centre for Human Resource Development (NCHRD).

NCHRD plays an important role in the development of TVET in Jordan. It coordinates education reform activities, including appraisal of subprojects in sector loans and monitoring of project implementation. It conducts analyses of various aspects of the TVET system, such

as financing and performance and effectiveness of vocational institutions. Its third major role is to coordinate external assistance to the sector in close coordination with the Ministry of Planning. At present it houses the Canadian SETVET programme of technical assistance for community colleges and VTC. The Centre has a small staff of about 30 people, and contracts out most research to local or foreign experts. Together with a small number of external policy advisors the Centre has produced over 90 studies on the education system including TVET. The Centre also has responsibility for organizing and operating a labour market information system.

### **Governance**

**Public provision.** At present all the main public providers own and operate their own training institutions. As stated above, the MOE operates vocational streams through 153 comprehensive schools and 37 vocational schools; the VTC has 35 training centres (soon to be 47) and the BAU manages 16 public community colleges. Almost all of the costs of these institutions are financed by government. Thus, the government both finances and provides virtually all public TVET. No autonomously operated training institutions are financed by government; no service contracts exist between government authorities and training institutions.

**Coordination.** The BAU was established with the expressed purpose of coordinating both public and private education at the community college level. However, until recently the TVET system could be considered fragmented, its separate parts administered separately and going off on separate trajectories. “The current system seems to be evolving in the absence of strong leadership from a central source and according to distinctive and separate organizational mandates ... without strong supportive linkages amongst the major providers.” (Evans, 122) Also, as indicated in the ETF Country Report of 2000, “One of the major gaps in Jordan’s vocational education and training system is the absence of structured communication between social partners and vocational education and training providers.” (ETF, p. 24)

However, that changed with the establishment of the TVET Council in 2001. (See Appendix 7) The establishment of the TVET Council is potentially a *major innovation* in the system. The TVET Council fills the major gap in the system of the lack of an overall coordinating body representing both the supply of and demand for training. The purpose of the Council is to “advance vocational and technical education and training levels in order to develop human resources in a way that meets the comprehensive development requirements in the Kingdom.” The Council is chaired by the Prime Minister and includes 18 members, 12 from the public sector and six from the private sector (employers and unions). The Council has an extensive set of tasks, including establishing policies, standards and guidelines for development of the TVET system, monitoring of developments and supervising the Training Fund (see below.) Similar organizations in other countries in the region have not worked well. The key to success of the Council will be how effective it is operationally. It is too early to assess the performance of the Council; however, initial developments are promising. It has been difficult for such a high-level group to meet often in view of busy schedules for the Prime Minister and other ministers. To compensate, an Executive Committee was formed to meet more frequently and conduct the business of the Council. A full-time Executive Secretary has been appointed to administer the work of the Council. Canada is sharing its experiences and expertise with the Council. It is not clear yet how the TVET Council will affect the governance of the three existing governing structures that oversee, inter alia, various parts of the public TVET system, i.e. the Board of the VTC, the Board of Education and the Higher Education Council. However, if it is active, inevitably it will encroach on some of their traditional responsibilities of policy making.

**Strategies and Objectives.** An overall strategic framework exists for human resource development covering all levels and types of education and training.<sup>12</sup> This strategic framework sets out various principles and objectives for development of human resources. It calls for an improved level of coordination and complementarity amongst the concerned agencies and institutions (10). It advocates diversification in labour force supply while at the same time avoiding duplication and scattering of efforts (13). Enhancing women's participation is established as a priority. In terms of occupational classification and standards it foresaw the stipulations in the Occupational Work Regulation Law of 1999 in terms of the five major categories of occupations (limited skills, skilled worker, craftsman and technician) and the need to develop a comprehensive system for occupational tests for granting licenses to practice a job as well as standards for enterprises. (19) The HRD Strategy notes that the role of the private sector is below the required level in Jordan, and calls for increasing the participation of the private and non-governmental sector through legislation, tax and other incentives, and by encouraging economic sector approaches. (22-24) In terms of general and vocational education, the Strategy calls for enhancing the relevance of the outputs to social and economic development requirements, continued development of schools, qualitative improvements and greater efficiency in resource use. (25-26) Related policies are universalizing the comprehensive school patterns, expanding vocational services for the unemployed, and for those in rural areas and low income groups. (27-28) Improved guidance and counselling, nurturing positive attitudes towards work in the occupational fields are also recommended. (29) The Strategy also recommends enhancing decentralization, expanding the schools' administrative and financial mandate and activating accountability in the education system. (Ibid.) In terms of higher education, the Strategy advocates greater self financing through student fees in higher education; better application of scholarships to those in need; better use of government resources through accountability and auditing mechanisms; the development of intermediary institutions (community colleges) through accreditation and rationalizing the fields of specialization in light of labour market requirements together with highlighting practical and applied courses, along with reinforcing their autonomy. (33-34) The Strategy notes the low contribution of employers towards supporting HRD directly or indirectly and calls for employer financing of non-formal training programmes for upgrading the competencies of their workers as well as developing the self financing capabilities of agencies concerned with HRD (39-42).

The strategy of the MOE over the past decade has been to increase the proportion of students selecting vocational options with an eventual target of enrolling (together with the VTC) 50% of male, and 35% of female, grade 10 graduates<sup>13</sup>. Its strategic objective is to "keep pace with the developments and requirements of the labour market, and to train skilled, knowledgeable human cadres for life in general and work in particular."<sup>14</sup> Mechanism to realize the objective include building institutional capacity for the management of vocational education; developing curricula and programmes in accordance with the requirements of the 'Knowledge Economy'; updating workshops in line with ICT requirements; developing vocational counselling and guidance programmes; and building partnership with all stakeholders in vocational education.

The mission of the VTC is to "...collaborate with employers in the development of a skilled national workforce, and to serve as a resource in the field of enterprise development. This is achieved through the design and delivery of responsive training programmes and advisory services, characterized by excellence and relevance."<sup>15</sup> The VTC's first objective is to ensure

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<sup>12</sup> Munter W. Masri, "Human Resources Development Strategy in Jordan," 1999.

<sup>13</sup> The current rates of transition reportedly are 45% for males and 27% for females.

<sup>14</sup> Ministry of Education, 2002. "Towards a Vision for a New Education System." Vision Forum for the future of Education in Jordan, 55.

<sup>15</sup> Based on "VTC Mission Statement and Strategic Plan," n. d.

that its training profile reflects labour market demands. The strategy to achieve this centres on establishing partnerships with private sector enterprises and agencies to understand their labour needs. The second objective of the VTC is to achieve excellence and entrepreneurialism in all its activities. Means to achieve this include greater autonomy, re-engineered organizational structure built around devolved and distributed management efficiency control, accountability and a motivation of staff. A specific target is to achieve greater financial autonomy by increasing own-generated income by at least 10% per year. This will require the adoption of internationally recognized management practices, rigorous capacity building and extensive organizational development. A third objective is to improve the performance of workplaces and the labour force through managing the implementation of the Occupational Work Organizing Law, including the certification of workers and workplaces.

The BAU has prepared its own strategic plan with Canadian assistance. “The mission of the BAU is to prepare graduates capable of making a productive contribution to the economic and social development of the nation. This is to be achieved through strong collaborative initiatives with employers resulting in the design and delivery of diploma, degree and continuing education programmes, characterized by excellence and relevance to the world of work.”<sup>16</sup> The main goals from its ambitious operational plan, 2002-2005 are as follows: the BAU will have:

- (1) an effective management framework in place to achieve its vision;
- (2) an education profile responsive to the social and economic development requirements of the country and region, and its graduates have skills consistent with international standards;
- (3) established itself as a source of expertise on applied research relevant to individual enterprises and society at large;
- (4) high-speed broadband Internet access and exploits ICT for both learning effectiveness and management efficiency; and
- (5) student services operating to support the student learning environment, e.g. guidance and counselling.

Doubtless one of the priority functions of the new TVET Council will be to update and forge these individual strategies into a coherent and mutually supporting national framework for TVET. In so doing it will want to eliminate duplication and overlap and to ensure synergy amongst the various parts of the system.

**Centralization.** Government administration as a whole is highly centralized in Jordan and TVET is no exception. The managers of training institutions have relatively little freedom to make decisions. Students are allocated to the MOE schools and VTC centres<sup>17</sup>. Training programmes are decided centrally. Teachers and instructors are recruited through the Civil Service Bureau and are allocated to the schools/centres without participation by the school/centre managers. Budgets are kept centrally and funds are allocated to institutions as they apply for them. Rules and regulations are binding. School administrators do not have the freedom to purchase equipment or change the content of teaching programmes as needed. To a limited extent the creation by the VTC of Area Directorates could be interpreted as a move towards decentralization. However, the Area Directors are given little authority to manage the affairs of training centres in their respective regions. Managers of public community colleges have greater freedom to act, such as participating in the admission of students and hiring of teachers, but not complete autonomy. In contrast with secondary schools and vocational training centres, the public community college has its own budget, but

<sup>16</sup> Al-Balqa’ Applied University. 2002. “Strategic Plan.” BAU Strategic Planning Committee, Salt.

<sup>17</sup> The MOE allocates students to different secondary streams based on their cumulative grade point averages in grades 8, 9 and 10. Those with the lowest cumulative scores usually go to the VTCs.

most is kept by the BAU and must be applied for separately. The only funds available at the college are student fees.

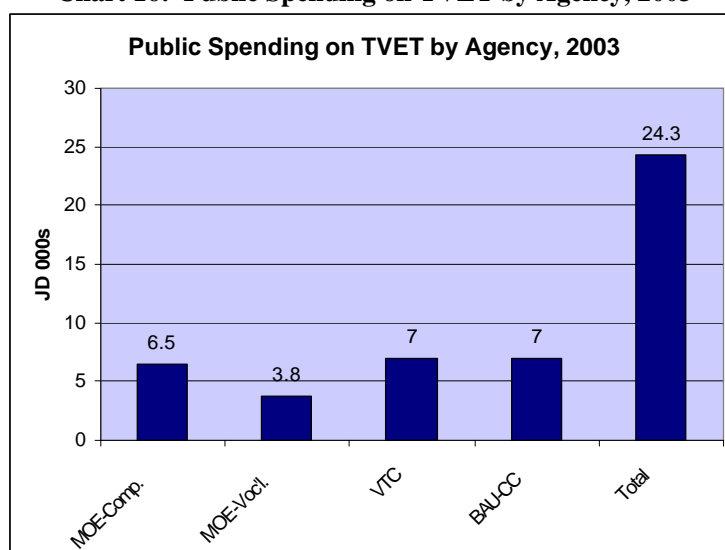
The Training and Employment Support Project (TESP – see Appendix 8), completed in 2002, stands out as an *innovation* in terms of market-based mechanisms for provision of training services. Under this project, employers identified the training needs of unemployed people they wanted to hire, proposed a training programme for them and either organized on the job training or hired public training institutions to provide the training. This demand-driven approach contrasts with the traditional supply orientation of training in Jordan. The amount and scope of training was decided by employers, not training providers.

**Accountability.** Thus far public training providers in Jordan have not been specifically held accountable for results. The mechanisms for resource allocation to public training institutions rely heavily on historical precedent, i.e. last year's budget plus a small percentage increase. Budgets are not based on outputs measured against targets, or even directly on inputs, such as number of trainees enrolled.

### Finance

**Sources.** Government finances the vast majority of the costs of public TVET, including virtually all costs of MOE vocational streams (except for textbooks), about 88% of VTC costs and 82% of public community colleges. No comprehensive statistics are kept, but Chart 16 estimates the amounts spent by the three main public TVET providers.

**Chart 16: Public Spending on TVET by Agency, 2003**



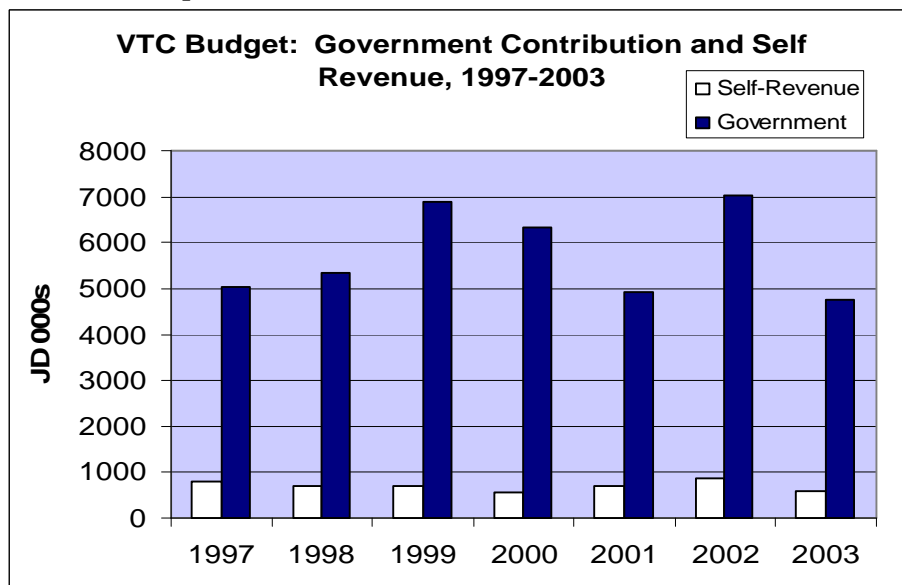
Note: Spending on students in vocational streams of MOE comprehensive schools is estimated based on unit cost of JD 300/student.

Source: Author's data based on budgets and interviews

Tuition fees are minimal or non-existent. Students in vocational streams of secondary schools pay no tuition fees, but do pay JD 24-30 for books. Trainees in VTC centres are expected to pay a minimal tuition fee of JD 20-30 per year. Students in community colleges pay only JD 5-12 per credit hour (about JD 60 in total per semester), substantially less than the costs of JD 20-60 per credit hour at universities. Firms pay for the costs of training their own employees at VTCs, such as in supervisory training or occupational safety and health, but the numbers trained and amounts received are negligible.

Some minimal production is also done to raise outside income. MOE schools engage in production projects that raise JD 50,000 per year, half of which is kept by the MOE for educational purposes. The VTCs also generated JD 850,000 (2002) in revenue from tuition and production work. However, all outside income only amounts to 12-14% of the VTC budget each year. (Chart 17).

**Chart 17: Comparison of Self-Revenue with Public Subsidies, VTC, 1997-2003**



Source: VTC

A significant *innovation* in financing for training was the recent establishment of an employer-financed Training Fund (See Appendix 9 for details.) The salient point about governance of the Fund is that five of the eight governing members represent the private sector. The financing for the Fund is to be drawn from a 1% tax on enterprise profits. No exceptions are allowed; every firm that must report to the tax authorities and has a profit must pay the tax. The use of a profits tax to finance skills development is unique in the world<sup>18</sup>. Reportedly, enterprises were canvassed on whether they preferred a profits tax or the more common levy on payroll. Reportedly employers preferred payment from profits and avoidance of a levy based on payroll so they would only have to pay when making profits. However, “profits” are also more difficult to identify than payroll levels, and basing the tax on profits may give company accountants extra incentive to hide profits. The Fund is estimated to have annual revenue potential of JD 6-7 million per year, and already about JD 4 million has been collected. This level of revenue would represent an increase of 25-30% over present public spending on TVET. Details for operation of the fund are currently being worked out, in part with Canadian assistance.

External donors have been occasionally been substantial contributors to development of TVET. World Bank and JBIC assistance helped to construct new secondary schools and add vocational streams over the past several years. In addition, two phases of Canadian technical assistance has been helping the BAU and VTC to develop strategic plans, develop management structures and revise curricula. The assistance *inter alia* has provided base line studies, evaluations of the TVET system and a set of key performance indicators. In addition, the EU-supported EJADA programme is providing support for a vocational-HRD component, including the establishment of a National Training of Trainers Institute, support for

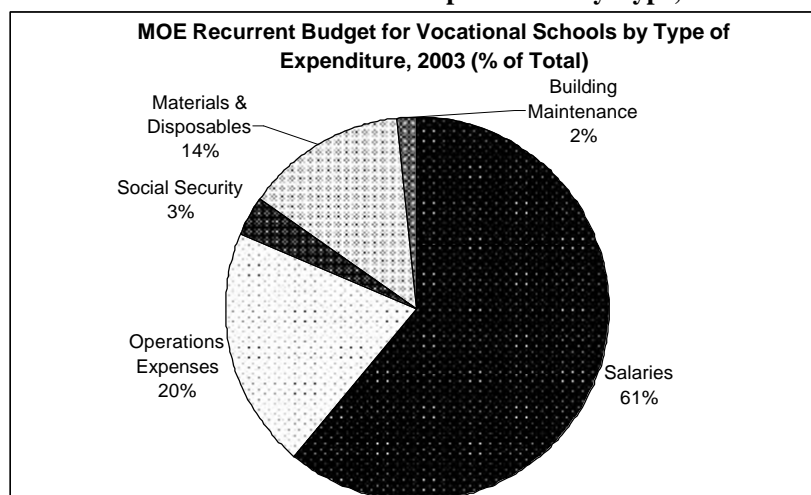
<sup>18</sup> The typical patterns are levies on payrolls or on production.

establishment of the Euro-Jordanian Management Development Institute, and support for sectoral TVET centres of excellence. Appendix 10 presents a more complete list of donor-assisted projects.

### Uses.

As stated previously, virtually all the costs of publicly-provided TVET are financed by the central government. The breakdown of MOE expenditures on vocational schools shows a reasonable balance between the main components, as shown in Chart 18:

**Chart 18: MOE Recurrent Expenditures by Type, 2003**

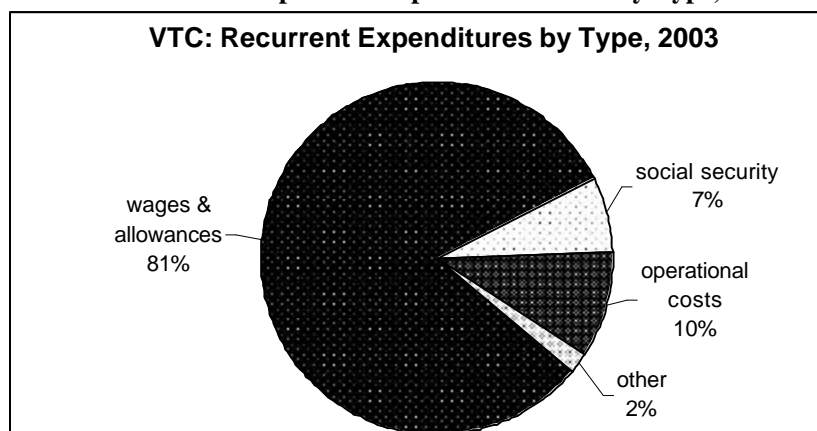


Source: Appendix 3-9.

The MOE spends about 60% on salaries, 20% on operational expenses and 14% of materials and disposables. These expenditures suggest that operating expenses and disposable materials are adequately financed.

In contrast, based on a unit cost analysis, the VTC spends mainly (88%) on salary, allowances and transfers to social security. Only 10% of the recurrent budget is allocated to operational expenses. (Chart 19).

**Chart 19: VTC Expenditures per FTE Trainee by Type, 2003**



Source: Appendix 4-7.

One *innovation*, or rather change – not necessarily for the better -- has been the introduction of stipends for trainees in the VTC. This was started for ad hoc training programmes, such as the National Training programme and training programmes for enterprise zones, in which participants receive JD 80 during the training. It is not clear what impact this will have on the regular training programmes of the VTC which heretofore have charged tuition.

**Tax rebates.** All spending by enterprises on staff training is deducted from income in calculating net profits. The Company Tax Law has long included a provision for a one percent tax on the *profits* of firms. However, firms are exempted from paying the tax to the extent that they can prove spending up to 1 % on employee training and research and development. Any proceeds are to go to the Ministry of Industry and Trade. The Higher Council for Science and Technology is responsible for deciding on expenditures from the proceeds. However, no funds have been collected from this tax thus far.

### **Training Inputs**

**Curriculum reforms.** The content of TVET has been the subject of frequent changes and adaptations. The MOE had standing committees operating for a decade between 1988-98, comprised of some industry representatives and other experts, to revise training curricula for vocational streams. The VTC established sectoral committees with a view to adapt training content to the needs of the workplace. About 750 training modules were prepared. The BAU undertook a *major innovation* on teaching programmes. When BAU was established some 125 diploma programmes were in existence. A major effort at rationalization pared the list down to the current total of 66 diploma programmes, almost all with a practical orientation for direct entry into the labour market. A new procedure has been established whereby programme advisory committees (with two thirds membership from industry) at community colleges can propose new training content or programmes, which are forwarded to a newly-established Deans' Council for review.

**Standards and accreditation.** National standards are maintained through two means: the use of common national curricula by programme amongst all training institutions and application of common exit examinations. Further, private community colleges must adhere to a comprehensive set of accreditation guidelines on such matters as teacher qualifications, class sizes by type of subject and physical standards. Private vocational centres are also subject to MOE review to receive official recognition for their graduates (See above).

**Instructor and teacher training.** With the exception of the BAU instructors and teachers are recruited through the Civil Service Bureau for all public institutions, and must meet minimum qualifications for educational background. Typically instructors and teachers for vocational streams and centres are recruited from amongst graduates of community colleges. This means that they often lack the desired industrial or work experience, and even some of the technical skills required. The MOE has an in-service teacher training programme, but officials in the vocational stream state that teachers in vocational streams receive low priority and cannot often participate. The VTC has its own in-service instructor training centre devoted to instructor upgrading (the Training and Development Institute, TDI). Heretofore, the BAU has had no formal facility for instructor training, but a National Instructors Training Institute is to be established at the BAU with EU assistance. The main purpose will be to provide pre-service training for instructors, but also upgrading. The effect of the establishment of this new National Institute will make on the VTC's TDI is not clear.

**Monitoring and evaluation.** Considerable effort has been put into monitoring the outputs of TVET institutions. The respective agencies publish their own annual statistics and reports. The NCHRD also has published several key analyses of TVET, particularly those produced



under Canadian assistance.<sup>19</sup> One *innovation* in this regard is adoption by BAU of a set of “key monitoring indicators<sup>20</sup>”. These cover accessibility; internal efficiency, effectiveness and quality; relevance and external efficiency; costs and financing; governance and administration; institution and capacity building and attitudes towards TVET. The basic indicators provide an excellent basis for monitoring the performance of the system in the future and should be extended to VTCs and MOE as well.

In addition, numerous tracer studies have been carried out since 1990 by the various public training providers. The MOE has conducted 12 tracer studies on its various vocational programmes; the VTC has carried out seven; four tracer studies have covered community colleges. This is an impressive record for any country. Appendix 11 lists the tracer studies. The tracer studies by the VTC found that only 36% of the graduates of limited skill training were in full time employment and 11% part-time; 53% were unemployed and only 34% were working in the specializations for which they were trained. Employment rates were better for craftsmen, with 62% fully employed. However, only 55% of these had found the training relevant to their work. (Appendix 4, pages 35-36.)

### **The Role of the Private Sector**

#### **Private sector participation in TVET.**

In theory employers from the private sector can participate in TVET at various stages: governance of the training agencies; establishing training standards; designing training content and curricula; provision of equipment and lending instructors to training institutions; providing workplace attachments or apprenticeship places; assessing the skills of graduates; and financing the training.

The private sector has a strong record of participation downstream in TVET in Jordan. This occurs mainly at the level of provision of work attachments, or apprenticeships, for trainees of the VTCs. At present 5400 employers are providing such attachments. This helps to make the training relevant to the world of work, and gives an opportunity for employers to assess the skills of potential workers before employment. Two tracer studies found that 40-44% of the graduates from limited skills, and craftsman training were hired by the firms at which they did their apprenticeships (See Appendix 4).

Employers have also been involved at earlier stages of the training process. Employers make up three of 11 members of the Board at the VTC (five of 11 are non-government), and five of 18 members of the Board of the TVET Council. More importantly, representatives of the private sector constitute the majority of members (5 of 8) of the Board of the new Training Fund. This is a key *innovation* that should help ensure that the funds raised from enterprises are directed at their identified training needs.

Efforts have also been made to involve employers in the design of training standards and curricula. However, reportedly it is difficult to interest employers or sustain their in this process.

### **Enterprise-based Training**

An important area of private training provision, enterprise-based training, is virtually uncharted territory in Jordan. Employers spend resources on training their employees, but little is known about the incidence, types or levels of such training. Elsewhere it has been found that the scope of EBT is substantial and is one of the most powerful ingredients in

<sup>19</sup> Three reports were particularly valuable in preparing this report: Pearson, Rostron and Evans. (See bibliography)

<sup>20</sup> John Rostron, *et. al.*, “Development of Performance Indicators for Assessment of Policy, Practices and Investments,” n.d.

raising total factor productivity<sup>21</sup>. Studies should be carried out to document its scope and incidence in Jordan.

**Private Training Provision.**

As stated above, the scope of private training provision is usually below the radar and not seen in its entirety. However, the data base developed by the TESP and earlier statistics from the MOE shows extensive private provision in terms of number of training centres and number of participants (all entirely non-government financed) especially in short term training. There is, however, little quality assurance in the process, except for MOE checking on the required inputs. At the community college level a more extensive system of accreditation is in place for quality assurance. Based on an examination of procedures for entry and operation, the government does not appear to over-regulate private training providers. For example, registration of a new training institution is relatively free of bureaucratic red tape and can be done within months. The government sets no limits on the tuition and other fees charged by private providers. (Appendix 6). The private providers surveyed agreed with this assessment. The main complaint of private providers was unfair competition – either from public universities or unregistered private providers. The public community colleges have even been enrolling additional students in “parallel programs” at higher tuition payments (but less than those charged by private community colleges), thereby crowding out the private institutions.

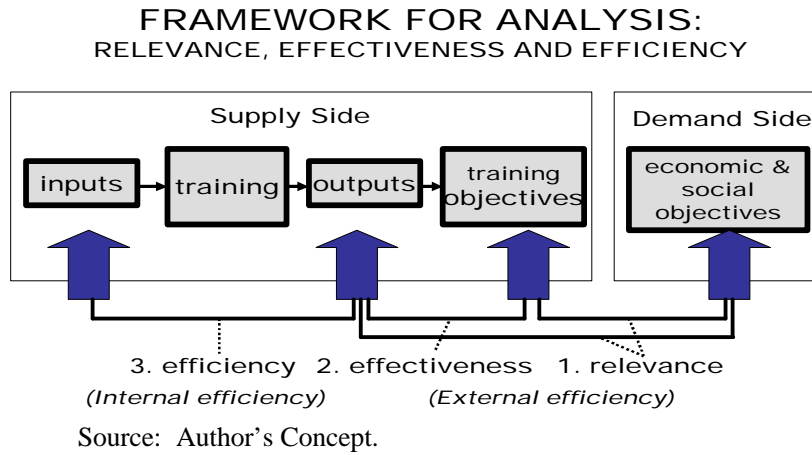
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<sup>21</sup> Hong Tan, World Bank and Tyler Biggs, Manju Shah, and Pradeep Srivastava. 1995. “Technological Capabilities and Learning for African Enterprises”. Technical Paper No. 288. Africa Technical Department Series. Washington: World Bank.

### III. EVALUATION OF THE JORDANIAN TVET SYSTEM

**Analytical framework.** This review seeks to evaluate the Jordanian system of TVET in terms of three broad criteria: (a) relevance to economic and social requirements; (b) effectiveness in achieving its objectives; and (c) internal efficiency in the use of resources. The three criteria are illustrated below in Chart 20.

**Chart 20: Analytical Framework**

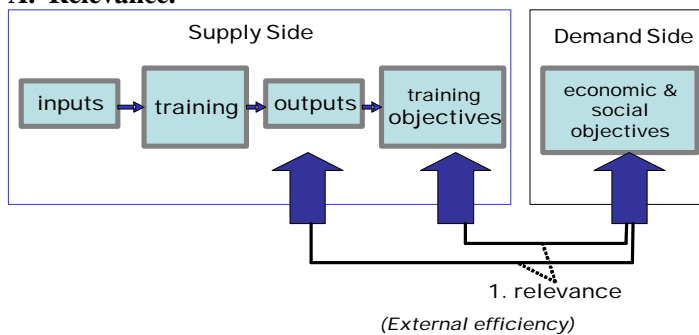


The first criterion, “relevance” or external efficiency, means the relationship between training outputs and training objectives to the economic and social objectives for the system. “Effectiveness” means the relationship between training outputs and objectives, i.e. how well the system is achieving its goals. “Internal efficiency” is the relationship between inputs and outputs.

The sequencing of analysis is important. Relevance, or external efficiency, needs to be considered first. If the system is not closely related to overall economic and social requirements, then it does not matter whether it is effective or efficient. Similarly, the second step is to consider effectiveness in achieving objectives. If the system is ineffective, i.e. does not achieve what it sets out to do, then it matters little whether TVET is internally efficient. The last consideration, therefore, should be internal use of resources.

Each criterion is considered in sequence below.

#### A. Relevance.



Relevance includes two broad considerations – economic relevance and social relevance, or equity. Economic relevance pertains to the relationship between the outputs of the TVET system and economic requirements. Social relevance means the extent to which the system relates to social requirements such as enrolling lower income groups and achieving gender balance.

Overall, despite some strength, the current training system lacks relevance in some respects to both market requirements and social goals (equity).

### **1. Economic Relevance.**

**Strengths.** The first condition for a properly oriented system of TVET is clear linkages with employers and the labour market. This requires information about labour market trends and close consultations with employers. The NCHRD is in the process of developing a comprehensive labour market information system (LMIS), integrating data from various sources, for the purpose of tracking trends and identifying occupations in surplus or short supply. In addition, as noted in the previous chapter and Appendix 11, frequent ex post studies have been made about the outcomes of training in the labour market. The studies have been criticized as infrequent and not comprehensive (Pearson, 132), but the studies do provide valuable pointers about the utilization of training products in the market.

Jordan can boast highly positive linkages between training and industry, at least downstream in the training process. The most salient manifestation of training-industry linkages comes from the practice of “dual training” by the VTC, in which trainees are exposed to workplace experience in addition to centre-based skills training. Few countries outside Europe have achieved the extent of employer involvement in providing apprenticeship places, currently exceeding 5400 enterprises. This emphasis on practical work experience as part of the training process helps graduates achieve practical skills and conducive work habits.

All parts of the formal system have shown some adaptation to requirements of the labour market. The BAU engineered a major reorientation of community colleges in the late 1990s away from predominantly academic courses to those involving practical skills. Currently, advisory councils are being established in community colleges with major employer participation. The purpose, *inter alia*, is to identify new opportunities in local market requirements that the colleges could address. MOE vocational streams and VTC programmes have both introduced “employability skills”, e.g. IT skills and English. The MOE converted its commercial stream programme into information technology based on evidence that the graduates had difficulty competing with people trained in similar subjects at higher levels of the system. The VTC recently implemented ad hoc programmes responding to the need for particular categories of workers, e.g. for export zones. The VTC undertook extensive surveys in potential areas before establishment of new VTCs to identify the target population and skills likely to be in demand. All these changes exemplify the considerable strength and dynamism in the TVET system at present.

### **Weaknesses.**

Despite the strengths, the TVET system has not proved adept at responding to market requirements in other respects.

a. **Supply orientation.** The TVET system is overwhelmingly weighted to pre-service training imparting job-entry skills. Its main target groups are youth. Its main purpose is to build a transition between school and the world of work. Therefore, by definition, it aims at converting the supply of school leavers into qualified workers. Quantitatively it is supply-oriented. That is not so serious, given its social objectives, as being supply oriented qualitatively, i.e. in content. Jordan has not been very successful yet in getting employer

involvement upstream in the training process -- in planning, setting standards, designing content, or testing the competencies acquired.

This shortcoming has not been for lack of trying. Numerous sector-specific training committees and curriculum groups have been formed over the years at least initially with employer participation. However, it has proved difficult to sustain employer interest, given the time involved and the deferred results. Moreover, as elsewhere in the region, employers have often had difficulty in foreseeing and articulating their skill requirements beyond immediate openings. Several technical sectoral committees were established by the VTC in 1996 to enhance the content of teaching programmes, but these are not functioning well because of lack of employer interest<sup>22</sup>. As noted by external observers, advisory committees have tended to be nominal, and many have not met for years (Pearson, 63). In relatively few cases have employers influenced the curriculum in any significant way (Evans, 122). “Most TVET programmes are developed based on a ‘supply-driven’ model as opposed to being developed on a labour market driven basis that takes into account the immediate, short-term training needs of employers as well as nationally identified training priorities.” (Evans, 123)

In contrast, one model of demand-led training has been tried with success in Jordan, the approach used in the Training and Employment Support Project (see Appendix 8). Unfortunately, the effectiveness of this approach was ignored in formulating the National Training Programme (NTP), which was designed as a training supply project to qualify unemployed workers. The design and implementation of the NTP has not involved employers much at all. Initial results (in terms of employment) are not encouraging.

In short, the TVET system is not based on employer determined standards, and therefore tends to be qualitatively supply-oriented. “Programmes currently in use are not designed around industry-defined performance objectives and expectations.” (Pearson, 40)

b. **Gaps in coverage.** (1) An area that appears underdeveloped in the Jordanian context is technician training in industrial and engineering fields. As countries develop into knowledge-based economies, the demand for technicians typically soars, even more so than that of skilled workers (ILO 1999). The most important consequence of the introduction of technology is the growth of highly skilled knowledge-based jobs. Jordanian employers, when asked about their human resource needs, have said they can find professional workers such as engineers or accountants, or low skilled workers such as labourers. The greatest need reportedly is at the technician level. This trend is likely to accelerate as companies acquire new technologies. (Pearson, 129) The community colleges are well positioned to respond to the increased demands. However, an examination of the current training profile of community colleges (Chart 9) reveals several imbalances: enrolments in engineering and computer science total only 2600 students, and applied sciences enrol less than 100 students. Together these subjects comprise only about ten percent of total enrolments. It is not clear how the demands for technicians in these fields will be met in the future, although the proposed post-secondary institution by the VTC patterned after the German *fachhochschule* may help. In addition, community colleges do little to blend classroom studies with work experience. More could be done to foster internships or alternance programmes which include practical work with academic training.

(2) TVET has not served target groups much other than youth in, or just finishing, the school system. As noted, some programmes are now being designed by the VTC to cater to the

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<sup>22</sup> In the VTCs recent tracer study on the limited skills level interestingly, 74 percent said they were not interested in participating in training programme development and 69 percent said they were not interested in developing new training specializations. (Appendix 4, p. 35)

needs of enterprise zones and to the unemployed. In addition, the VTC provides upgrading programmes for those already in employment. The numbers are substantial, about 3100 trainees in the most recent year (Appendix 4). However, on closer examination about 40% of the upgrading is for drivers training, another 22% is for occupational safety and health, and 23% is for upgrading the staff of the VTC itself. Relatively little training is provided for upgrading employees in enterprises: only 238 trainees in supervisory training, 182 in technical upgrading and 105 in chemical and metal institutes. Given that most unemployed are schools leavers between 19-29 and that many private sector companies are beginning to realize that investment in HRD is the only way to expand their operations and maintain their long term competitiveness, the potential for more adult education and training appears substantial. (Evans, 112) Continuous education and training will be highly important for future growth in an increasingly competitive environment (Chapter 1) at both skilled worker and technician levels. It has hardly started.

(3) Training as offered by the VTC is mainly concentrated in traditional trades. Large occupations groups (clerical, administrative support, health care, communications, hospitality, transportation and agriculture) are either under represented or not represented at all in VTC programmes. (Pearson, 29).

c. **Overspecialization.** Research in other countries suggests that many if not most graduate trainees find work in occupations other than those in which they were trained. In competitive, dynamic economies workers often change jobs several times in their working careers. Integration of functions is becoming more common, such as integration of mechanical and electrical components in maintenance. This applies also to the small enterprise sector where integration of functions has always been a requirement. (For example, a welder who also has carpentry skills has always been in demand by small construction and renovation companies.) These factors of a dynamic labour market, responding to technological change and the challenges of globalization, suggest that a broad preparation is what is needed, not the acquisition of specialized skills. What is important is the mastery of problem-solving skills, team-working, ability to compute and learn on the job, and information management that can be applied across broad occupational groupings. “The subject matter of training may continue to be occupationally oriented but the intended outcome is not the mastery of a hierarchy of skills in a narrow occupation, but rather the mastery of competencies required to gain entry to a broad sector of economic activity and then to be able to move easily from job to job in and around that sector or occupational family.” (Pearson, 131, 132, 133) The use of multi-skilling makes sense in terms of emerging market demands. Trends in the ways jobs will be organized suggest that training programmes be restructured around the generic skills required by sectors of business and industry, or clusters of occupations.

In contrast with this need for broad occupational preparation, the Jordanian training systems in the MOE and VTC seem narrowly focused. The current programme offerings by the major training providers in Jordan tend to be very specialized and provide skills development in narrow bands of each occupation. (Pearson, 131). The MOE industrial streams are divided into 33 specializations<sup>23</sup>. The VTC has 54 specializations for its skilled worker programmes. Over specialization is a problem not only in view of likely job mobility for graduates, but also in view of the lack of labour market information. Both MOE and VTC officials are confronted with a lack of clarity in the job market. Overall training supply exceeds demand and

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<sup>23</sup> Ministry officials respond that the curriculum is not overspecialized, that the number cannot be further reduced without becoming overly general and not useful. The Ministry also points out that the number of specializations nationally (not all are offered in each school) allows the Ministry to meet the needs of different regions. However, it is not clear how the stated goal of providing “basic skills” can be reconciled with the practice of dividing industrial occupations into 33 specializations.

Jordanian enterprises tend to be small, making it difficult to discern market trends and identify skills in demand.

Finally, even though the BAU has encouraged the establishment of Programme Advisory Committees at each public community college, the process for proposing new training programmes to address the needs of the local community may tend to dilute the effectiveness. The Committees must propose to the Dean, who then proposes to the Deans' Council which then refers the matter to a programme design committee at BAU. Academic staffs from the BAU, plus college academic staff, propose the specific course designs – in part to ensure they are consistent with bridging to the university. This process would tend to overemphasize the academic content of curricula at the expense of practical orientation and market requirements.

**d. Lack of links with employment.** Little is done within the TVET system to link students with the job market. The most effective linkages take place through the apprenticeships arranged for trainees in skilled worker programmes of the VTC. According to tracer studies, about 40% of the trainees in skilled and advanced programmes end up being employed in the enterprises in which they do their apprenticeships. Staff from the VTC's Directorate of Activities and Training Affairs visit schools to provide information about VTC programmes, and also provides information about programmes to students enrolled in the VTC. This service is not employment-oriented, but the VTC has plans to establish a guidance and counselling center. The MOE vocational directorate also organizes visits to schools to promote positive attitudes towards vocational education, but has no employment-oriented services. However, the directorate, through tracer studies, distributes booklets to students about those specializations with high employability. The MOE plans to establish a field service unit, inter alia, to assist with job placement. At the community college level departments for students' affairs provide information to some extent about the labour market. The Kings Abdallah, II Fund for Development will establish employment and career counseling units in all universities and community colleges. The Ministry of Labor has employment offices in all governorates to assisting job seekers in finding jobs in private companies. The NCHRD is in the process of establishing an employment service or exchange, but the project is still in a pilot phase.

## 2. Equity

### Strengths.

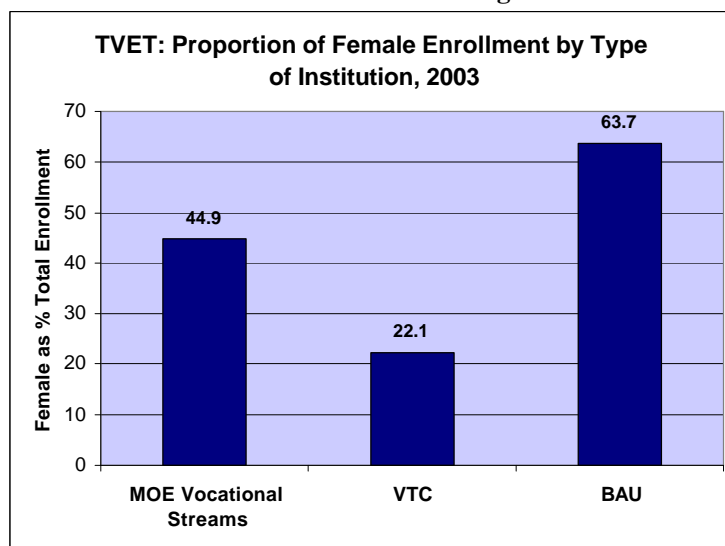
Jordan does a very good job in responding to social demand for places both in general education and in TVET. Enrolment ratios are high. About 100,000 youth complete grade 10 each year, and virtually all go on to some form of additional education and training. This means that students complete ten years of general education, which has a prevocational element, before entering vocational courses. The TVET system is extensive in Jordan compared with other countries in the region and elsewhere. About one third of all graduates of Grade 10 enter some form of skills training, as well as most of those entering community colleges. An extensive network of training infrastructure exists, including 190 secondary schools offering vocational streams, 35 existing VTCs distributed throughout the country along with another 12 centres under construction, and 51 community colleges. In addition, private training provision – as best as can be determined – includes almost 800 institutions (private and NGOs) and covers 23,000 participants in short courses.

Jordanian society traditionally has undervalued vocational skills, but the very fact that vocational streams are provided within formal secondary education has helped to make vocational studies more acceptable to youth and parents. Another characteristic of the Jordanian system is its openness – some students from vocational streams can get access to post-secondary education. About one fourth of the graduates of MOE vocational streams

enrol in community colleges. Up to 20 percent of diploma graduates from community colleges can advance to degree programs.

Female enrolments make up a relatively high proportion of total enrolments in two of the three public segments of the system, as shown in Chart 21.

**Chart 21: Female Enrolments as a Percentage of Total Enrolments**



Source: MOE, VTC and MOHE

To a large extent the proportions above reflect what traditionally has been considered socially acceptable. Parents prefer enrolling their daughters in schools rather than apprenticeship training programmes. Substantial efforts have been made lately to increase female enrolments in VTCs, in part by building more female training centres.

#### **Weaknesses.**

Few data are available analyzing beneficiary incidence of TVET in comparison with general education. However, it is likely that trainees in the system come from lower socio-economic groups. Overall, the majority of the students in secondary vocational education programmes came from the lower income strata of society. (In contrast, 95 per cent of the students enrolled in the academic secondary stream came from families classified as middle to upper income levels). One of the reasons for this disparity is that job-related training is seen as attractive for students who are expected to find a job at an early age and assist with family income. (Evans, 30). Those who can continue to study may have an incentive to remain in the academic streams. The 1998 Jordanian Living Conditions Survey provided information from which a profile of student background of *girls* enrolled in vocational education could be presented. Most of the students (69 per cent) had heads of household with vocational secondary, basic education or less. In contrast, only nine percent of parents had higher education. About one fourth of the students came from low income families (<JD1450); only 10 percent came from families with higher income (JD>2900). (Ibid., 32).

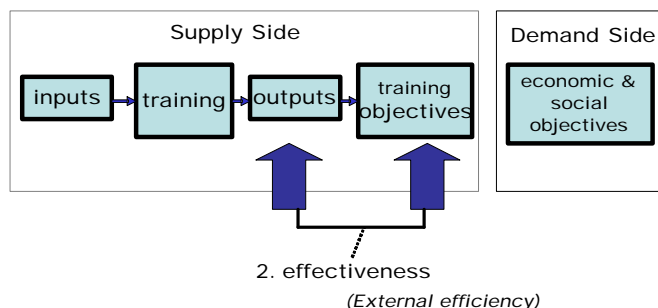
In contrast, in community colleges, the background of students includes parents who have university degrees (about 16%), and 56% with brothers and 63% with sisters who have completed university or community colleges. The majority (93%) of students' mothers were outside the labor force and not working. (Centre for Strategic Studies, 1998, p.4) These figures suggest that the students in community colleges tend to come from the higher income segments of society. Further analysis of beneficiary incidence and profile is needed to



determine whether students in community colleges could share more of the direct costs of their education.

Another issue relates to inequitable treatment of students in applied vocational streams. Students in secondary education, both academic and vocational streams, pay no tuition (although they do pay nominal amounts for books.) Trainees must pay tuition in the VTC applied skills programmes which take mainly Gr. 10 graduates. Granted these fees are not large – JD 20-JD30 per term. However, one could argue that this amounts to discrimination against the applied vocational stream compared with tuition-free secondary education.

## B. Effectiveness.



Effectiveness is evaluated in terms of two subjects: quality of training, i.e.; and management effectiveness.

**1. Quality of training** is defined as the extent to which the training system meets its objectives, e.g. learning achievements.

### Strengths.

Perhaps the best indicator of quality of training is quality on exit, i.e. performance of trainees on final tests that examine both their theoretical knowledge and practical skills. One outstanding feature of the Jordanian system of TVET is the existence of national exit examinations for each of the three main parts of the public system. Students in the MOE vocational streams are subjected to examinations for the general secondary certificate, the *Tawjihi*. Trainees in VTC programmes must pass terminal examinations. Students in community colleges, both public and private, must pass a comprehensive examination to obtain the diploma. These national examinations provide a basis for evaluating how well the training is achieving its objectives.

Overall, TVET teachers and instructors are relatively well qualified in academic terms. Table 6 shows the proportions of teaching staff by qualification.

**Table 6: Teacher/Instructor Qualifications (% of total teaching force by agency)**

Qualification	MOE Vocational	VTC	Community College
Advanced degree			55
Degree	48	7	38
Diploma	43	46	7
Secondary or below	9	47	

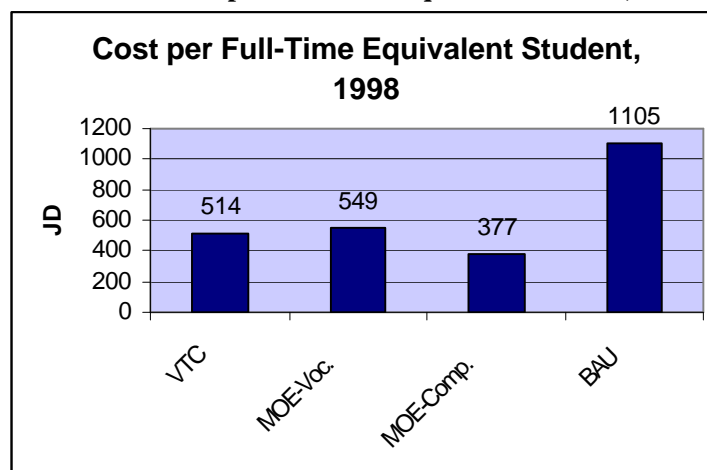
[Note: community college includes both public and private]

Source: Appendices 3-5

The imminent establishment of a national training of trainers institute at BAU should help improve the qualifications of staff even further.

Other inputs required for quality are also present. The MOE and VTC have developed hundreds (750) of training modules for various training programmes. The government spends substantial resources per student or trainee, as shown in the following chart.

**Chart 22: Cost per Full-Time Equivalent Student, 1998**



Source: Rostron, 77:26.

### **Weaknesses.**

Overall, quality problems may be the most serious of all in the Jordanian TVET system. The views of employers, those who use skills in the workplace, may be the best indicator of levels of quality. The difficulty is that there is no easy mechanism for a systematic, comprehensive sampling of employer views. Tracer studies have given some indications, and the results are mixed. In the survey of limited skills training by the VTC the employers about split in half over whether the VTC training programs totally or partially met the needs and requirements of employers. In the VTC survey of craftsman level training 70% of the employers said the training program was only able to meet their requirements in part (Appendix 4, 35-36). The TESP found that employers who used public training institutions were not satisfied with the quality of training provided (compared with on-the-job training.) (Appendix 8). One recent study of Ministry of Labor programs canvassed several focus groups of employers and reported the following findings about VTC training: "The deficiencies of the once pre-eminent and vital VTCs in utilizing outmoded curriculum; woefully ill-prepared instructors; and old and decrepit training laboratories and equipment were mentioned by respondent after respondent. With few exceptions, in the basic trades (carpentry, simple electrical work and the line), employers felt that the graduates of VTC programs, as a group, were singularly unequipped either technically or behaviourally for entrance into the private sector workforce except at the most elementary levels. They wondered whether the Government's (and taxpayer's) money was well spent in continuing these VTC training efforts, within the government." (Nathan Associates, 20) <sup>24</sup>

<sup>24</sup> To a certain extent employers the world over tend to be critical of the graduates they receive from training institutions. Some of this is the fault of the training institution, but much of it relates to unrealistic expectations on the part of employers: They want immediately productive workers, but training institutions cannot typically provide industry-specific skills. Additional on-the-job training typically is required.

A more objective indicator of low quality of achievement would be the pass rates actually achieved on exit examinations. According to these tests, less than half the MOE vocational stream students pass the GSC examination for access to tertiary education, and only a small minority (4%) of vocational students pass the *Tawjihi* for access to universities. VTC trainees achieve an overall pass rate of 79 percent, including 90% in semi-skilled programs, only 58% in skilled programs and 88% in craftsman programs. Only about 60% of the students in community colleges who take the comprehensive examination for a diploma pass it the first time, with public institutions generally doing better than private ones.

The existence of national examinations for the graduates of training programmes is a decided strength of the Jordanian system, but at the same time there are weaknesses related to the purpose of the examinations and built-in subjectivity. First, performance on the MOE examinations cannot be considered as a true index of learning achievement. The purpose of the examinations is really to regulate access to post-secondary education and may not reliably evaluate the students' knowledge and competencies. As one official said, in Jordan the exams are designed to test what the students do not know, rather than what they do. Second, the examinations are conceived and administered by each agency itself, without employer involvement. It would be preferable to have third party examinations, particularly those overseen by employers to ensure that the standards and requirements of end users are being met. The same could be said for tracer studies that evaluate, *inter alia*, employment rates for graduates. A case exists for third-party design and implementation of tracer studies. The National Training Project is starting its fifth cycle of training without having conducted an acceptable tracer study on the employment impact of its programmes.

Recently, the NCHRD conducted independent pilot testing of MOE and VTC graduates in five fields. Graduate trainees were proposed by each agency for the testing. People from industry specified the content. Only about one third of the graduates (who earlier succeeded in exit tests) passed the examination. The VTC graduates were somewhat ahead on the practical aspects and the MOE graduates were ahead on theoretical, but overall pass rates were startlingly low. The MOE and VTC criticized the testing methodology and sampling after the results were known, and the formal results have not been published. However, now industrial representatives want the test repeated every year.

Problems with low quality can be attributed to a variety of problems with inputs. Low quality of student and trainee intake is frequently mentioned as one problem, particularly in the VTCs. The more able students, who have the choice of which streams to follow, tend overwhelmingly to remain in the formal school system. Trainees allocated to the VTC skilled worker programmes therefore tend to be the weakest students academically finishing the tenth grade. Some reportedly are barely literate and numerate. This low level of student intake contributes to learning problems of trainees and even dropouts amongst those who cannot cope with the modest theory requirements in the curriculum<sup>25</sup>. Even community college administrators complain that many students have weak academic preparation and are unable to handle the content of some teaching programmes.

Generally teachers and instructors are well qualified academically, however there are exceptions. In the VTC, in particular, 47% of the instructors have only secondary education qualifications or less. Even more important, academic qualifications do not necessarily correspond with technical qualifications. The MOE and VTC must recruit staff through the civil service, which does not recognize technical qualifications in its recruitment policies. They mostly receive fresh graduates with inadequate industrial work experience. This is

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<sup>25</sup> Given the low quality of academic achievement of incoming trainees, one wonders what will be the effect of shortening the training period from three to two years, then recently to two-four semesters depending on occupation.

especially a problem with MOE vocational streams. Civil service pay levels tend to be unattractive for trainers in high paying occupations. Staff members, once hired, have little incentive to improve their qualifications. The MOE Directorate in charge of in-service training of teachers and instructors within the MOE accords a relatively low priority to training vocational teachers. The situation in private community colleges is not much better. The private community colleges face declining enrolments and therefore less income. This limits their income and ability to hire good teachers.

Another issue pertains to training through work attachments or apprenticeships in the VTC. Most enterprises are small and only perhaps a third of them have the facilities, equipment and trained staff to be able to provide effective apprenticeship. The problems are compounded by patchy supervision by VTCs of trainees in apprenticeships. The “dual system” employed by the VTC involves alternating training within training centres and on-the-job. Originally the VTC instructors went to the workplace to conduct the supervision of trainees. This was changed recently. Now special supervisory units operate in most training centres that do the supervision of apprenticeship training. This cuts feedback from the workplace to the instructors carrying out the centre-based training. Communication from supervisors to VTC instructors is tenuous.

Quality also suffers because of insufficiently equipped training centres, and inadequate maintenance. The available budget sometimes does not cover needs for new equipment, keeping it in repair or updating equipment as technology changes in the marketplace. This is undoubtedly a contributing factor in a mismatch between skills provision and market requirements. One survey found that “... because of limitations of work stations, hand tools and other equipment students spend a great deal of time ‘observing’ rather than practicing a skill.” (Pearson, 37) Another review found that “students in the automotive repair programmes are being graduated at the present without a sound knowledge or practical experience in the repair and maintenance of the newer model automobiles presently on the market.” (Evans, 37)

Quality problems may be a reflection of less tangible factors than deficiencies in inputs. Low quality may derive from low expectations or even excessive expectations. Students in MOE vocational streams may be expected to do too much in terms of workload. Students in vocational subjects take too heavy a load (even though this was decreased recently from 44 hours/week to 39/hours per week by reducing some academic courses). This compares with 27-30 hours required in the academic stream. It may be unrealistic to expect students in just two years to do all the theoretical and practical work required. This is on top of the fact that the vocational stream receives the students with the lower levels of achievement compared with the academic stream.

Expectations may also be set too low. “Quality standards and expectations from students are set at unacceptably low levels”. (Pearson, 40) Some observers have found, particularly in carpentry, metalworking and construction trades, low quality expectations and performance standards accepted for practical work undertaken by trainees. This contrasts with high expectations and standards in clerical training, hostelry, dress making, some machine shop work and printing trades. This underscores the importance of having measurable performance criteria stated in curricula. (Evans, 37)

In the final analysis low quality and underperformance of the TVET system may be the result of inadequate incentives. Funds are transferred to public institutions based on previous budgets regardless of performance. Budgets are not adjusted upwards for good results or downwards for poor outcomes. Teachers and instructors are paid the same regardless of how many students or trainees they teach or the competencies they acquire. Criteria for allocating recurrent and development budgets are not based on programme costs. (Rostron 77:29). The

lack of an effective system of annual staff performance reviews supports the continuation of mediocrity. (Evans, 121) The TVET system does not hold training institutions and instructors accountable for results.

## **2. Management effectiveness.**

### **Strengths.**

Three innovations show the strength of the Jordanian TVET system. First, Jordan has long been famous for its innovative, semi-autonomous Vocational Training Corporation. The autonomy of the VTC was curtailed somewhat in 1988, as part of a government-wide effort to reign in autonomous government agencies. The VTC became part of the civil service instead of setting its own salary levels. It must now recruit its staff through the Civil Service Commission and salaries follow standard government regulations. Approvals must be sought from government in many areas, such as sending staff abroad for training. Still, the VTC has flexibility in changing the type or content of training programmes without going through an extensive bureaucracy for the changes. It is able also administer its own budget after approval by the Council of Ministers. Second, the BAU, another innovation in the region, is strategically placed to coordinate the activities of both public and private community colleges. Third, the recent creation of the TVET Council promises to address one of the two main weaknesses in the governance and management of the TVET system, inadequate coordination of its various parts. Heretofore each of the three parts of the public TVET system had its own planning system. No organization was looking at the system as a whole. It is difficult to overemphasize the importance of the Council and its potential to counter fragmentation in the system, set overall national priorities, and root out duplications of effort amongst major TVET providers that have crept into the system.

### **Weaknesses.**

The principal weakness of the current management structure is the excessive centralization of authority, and lack of delegation to training institutions and intermediate layers of the management structure. Consider the following:

- Principals of vocational and comprehensive secondary schools exert little authority over the affairs of the school. They receive students assigned by the Ministry. They receive teachers recruited through the civil service and assigned to the school by the Ministry. They must apply curricula and teaching programmes designed by the Ministry. They have little discretionary authority over financial resources to buy needed equipment; the only direct funds available are those collected for books. As stated by MOE officials, rules and regulations are binding. Training institution staffs do not have the freedom to purchase equipment or change curricula as needed. They cannot take initiatives to respond to opportunities. More flexibility is needed in rules and regulations.
- Heads of VTC training centres similarly receive assigned students and teachers. They apply standardized curricula designed by VTC headquarters. They have no separate budget for each training centre. Teachers are recruited and paid through the civil service. Operating costs must be applied for from a common training centre budget. Equipment must be applied for separately. The authority of training centre heads to approve spending is sharply restricted, usually less than JD 50 (Rostron 77:29). The Area Directorates, midway between the training centre and VTC headquarters, have little authority to approve anything. The Area Directorates exist mainly to provide guidance in instruction.
- Public community colleges have much more freedom to act. They are able to review and propose for student applicants for acceptance but the BAU has the final decision. They are able to participate in the selection of teachers, who are not members of the Civil Service. However, despite their autonomy public community colleges cannot fire anyone

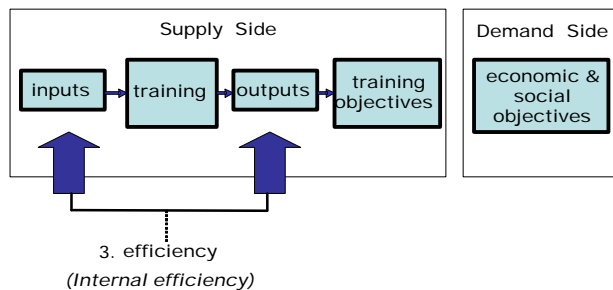
except for extreme cause. Public colleges each have separate budgets, and greater authority over tuition funds. However, even public community college administrators complain that their freedom to act is sharply circumscribed. The BAU keeps one fourth of the line item budget funds at the University, and deans must apply for them individually.

The lack of authority over inputs by the institutions that train sharply limits their ability to solve problems quickly, to mobilize financial resources, to respond flexibly to local market requirements and changes in demand. The degree of centralization in administration makes it difficult to make necessary adjustments and take initiatives at the school level. “The pervasive administrative structure, with its command and control features, common to most major TVET providers in Jordan, threatens to severely restrict the capacity of TVET institutions to respond to local and national training priorities and to address adequately the learning needs of trainees.” (Evans, 123)

It will not be easy to change the tendency to overcentralization, which delays decision-making and destroys initiative amongst instructors, centre managers and supervisors. “While a decentralisation of responsibilities to schools will be necessary to make them responsive to local labour market needs, the system has a strong centralized tradition, which is difficult to break, nationally at ministry level and locally at school level. (ETF, 2000, 19).

Finally, in terms of management effectiveness, a cursory review of the organization chart of the Vocational Training Corporation (Appendix 4, Chart 4-1) suggests an issue in coordination of work on technical matters. Three Assistant Directors General deal with technical matters, the ADG Institutes, ADG Technical and ADG Centres and Training. There is no easy way within the organisational setup to coordinate the work of these three assistant directorates except through the Director General, who is extremely busy.

### C. Internal Efficiency.



**Strengths.** Several positive features exist in terms of efficient use of resources. There has been strong public interest in and financing for TVET over the past several decades in Jordan. Efforts have been made to reduce the length of unnecessarily long training programmes, pruning the length of skilled worker training to two-four semesters compared with a uniform three years in the past. (It is not clear, however, how this addresses the problem of low academic level of trainee intake). The recent establishment of the employers’ Training Fund, financed by a one percent company profit tax, may prove to be the most interesting innovation of all. This Fund counters the inadequate financing of training by the private sector, and should lead to demand-oriented training since employers hold the majority of the Board of the Fund. Finally, the Training and Development Institute of the VTC is an example of a programme that generates outside resources to cover three fourths of its costs (Pearson, 86).

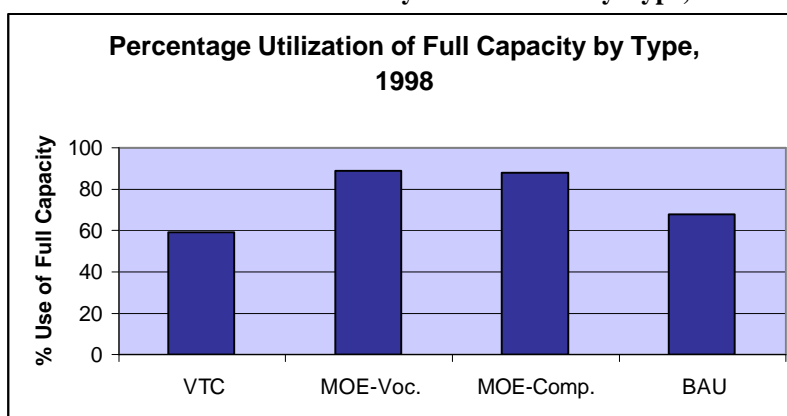
### Weaknesses.

Efficiency in the use of VET resources is low in several respects. First, the TVET system lacks cost consciousness. The prevailing incentives are to spend allocated budgets fully and to get more financing. Lack of available data on costs contributes to the lack of cost consciousness. “Data on costs according to the criteria required for conducting cost analysis and cost comparisons between similar programmes and institutions are not readily available...” (Rostron, 77:29.) To this factor must be added the previously-mentioned lack of accountability and incentives to use resources efficiently.

The TVET system depends excessively on government financing. The VTC generates only about 10% of its total revenue through production and fees, and this level has not increased over the past decade. The community colleges reportedly earn about 18% of total costs from tuition. “There is not a culture or attitude that is conducive to the systematic search for external funds in an effort to become more self reliant. There is not sufficient appreciation that income from other sources is vital to a movement towards greater effectiveness.” (Rostron, 77:29)

Low use factors also indicate inefficient use of resources. One survey found the following data:

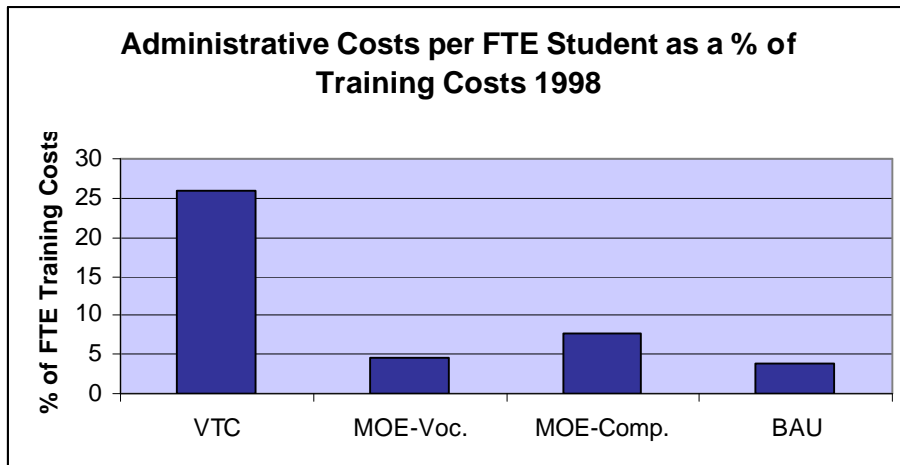
**Chart 23: Use Factors for Physical Facilities by Type, 1998**



Source: Rostron 77:24.

Substantial scope exists for economies in the use of resources, as called for in the HRD Strategy. Most training facilities are used only until the early afternoon. They stand idle thereafter and in evenings. This is a tremendous investment that could be put to other purposes such as adult training. In addition, the extreme variation in cost per trainee in VTCs (Appendix 4, Table 4-9), even amongst institutions of the same type, cannot be explained by different programme composition. The smaller institutions, especially the specialized institutes, fail to realize economies of scale.

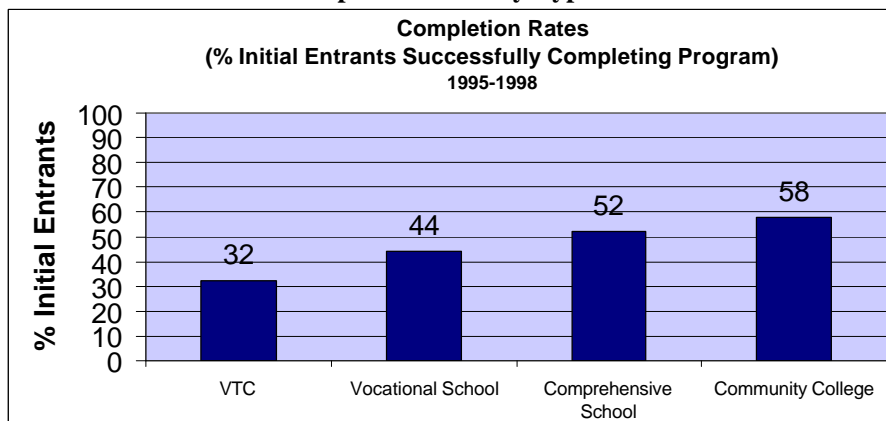
Moreover, overhead costs appear to be exceptionally high for the VTC as compared with the other two public providers. Allocations to VTC headquarters grew in the 1990s at three times those to training centres (Pearson, 103). Chart 24 shows the comparisons amongst major public training providers.

**Chart 24: Overhead costs as a Percentage of Training Costs per Student or Trainee**

Source: Rostron 77:22.

VTC overhead costs include legitimate centralized functions such as trade testing, curriculum development and in-service instructor training. However, the proportion of total costs seems excessive and should be analyzed further to determine the scope for economies or devolution.

One of the best indicators of internal efficiency is completion rates. Completion rates – the proportion of initially entering students who successfully complete the programme – take into account two important factors: annual student attrition as well as pass rates on exit examination. According to this criterion Jordan has had low productivity (input-output ratios) and high wastage in its TVET system. Completion rates are extraordinarily low. Charts 25 and 26, respectively, show the completion rates for the various providers.

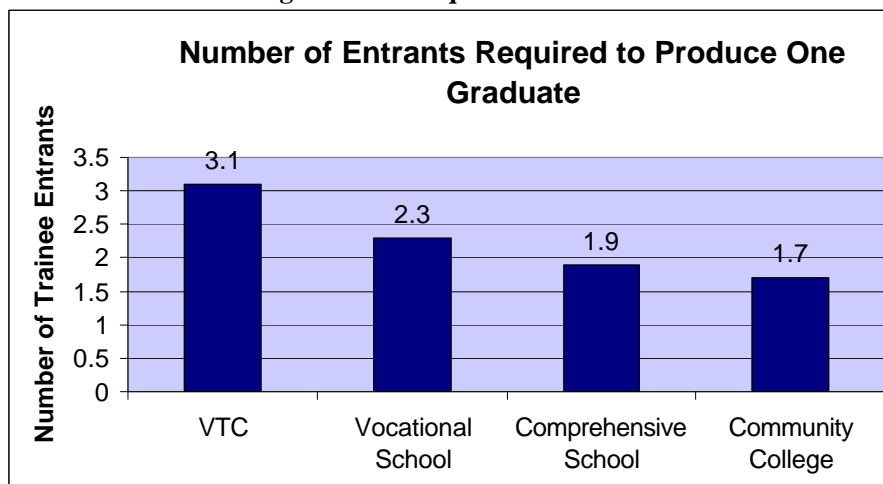
**Chart 25: Completion Rates by Type of Institution**

Source: Rostron: 77:26.

The VTC has pointed out that its completion rates have increased with the reduction in length of the skills training program from three to two years, and adoption of a differentiated length by program from two to four months. Also, many people leave training to take up jobs, and this cannot be considered as wastage. However, dropout was still substantial for the first two quarters of 2003, averaging 10% per quarter for the skilled worker program (Appendix 4, Table 4.6).

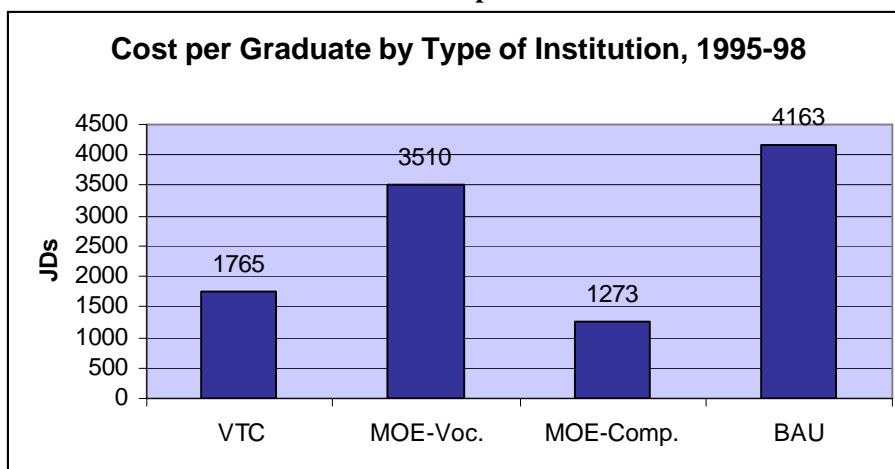


Chart 26: Number of Entering Trainees Required to Produce One Graduate



Source: Calculated from Rostron, Ibid.

Chart 27: Costs per Graduate



Source: Rostron 77: 23.

The cost per graduate in VTC centres and in community colleges about triples the cost for one full-time student. The cost per graduate is almost six times higher than annual FTE cost in vocational schools and five times higher in comprehensive schools. The VTC graduate cost and comprehensive graduate cost are somewhat comparable. The high costs per graduate are a reflection of the high attrition rates. These data should be updated and collected continuously by the various agencies.

**Overall conclusions about TVET.** Despite considerable strength in the TVET system,

- TVET production tends to be supply driven because of insufficient employer involvement upstream.
- TVET outputs are sometimes not valued highly by employers because of low quality.
- The TVET system is not very productive, as indicated by high attrition rates and low completion rates.

Why?

1. Problems with inputs

- Low quality intake (at VTCs, but then why shorten the programme?)

- Under qualified instructors (especially lacking industrial experience, e.g. MOE)
- Problems with apprenticeship attachments (supervised work)
- Equipment not sufficient or up to date

2. Even more important:

- Lack of employer-defined training standards & content
- Lack of accountability for results by institutions and instructors
- Funds are transferred to public institutions regardless of performance.
- Lack of authority over inputs by the people who train
- Examinations done by the providers themselves

In short: there is a lack of incentives for instructors and managers to perform within the system.

## IV. RECOMMENDATIONS

### A. Main Recommendations.

One of the first tasks of the TVET Council will be to forge a comprehensive strategy for TVET, based on the principles of the earlier, broader HRD Strategy, with a view to improving the relevance, effectiveness and efficiency of the system as a whole. The sections below outline some of the main elements to be considered in developing a strategy for TVET. The recommendations call for a greater role by private enterprises in governing and directing TVET, greater effectiveness in delivering public-sponsored training and an enhanced role for the private sector in financing and delivery of training.

**1. Deepening the demand orientation.** The key requirement in any TVET system is to orient it to employer and labour market demands. Training providers throughout the world run the risk of perpetuating training systems that are insular and divorced from the external environment. Despite considerable efforts, this is happening in Jordan to some extent at present because of lack of employer involvement “upstream” in the training process in defining training standards and content. Employers should provide orientation and direction to the system by defining what they want, certifying outputs and participating in the financing of training. Everyone agrees that TVET needs to be more closely linked with the needs of industry and employers. The key question is how. Employers are busy and have not been able to sustain interest in curriculum development committees in the past. Sometimes they have not been able to articulate their own requirements. To be effective, key points of intervention for employers should be targeted. These include: training needs analysis, establishment of performance standards in terms of competencies, and evaluation and certification of outputs. One way to increase employer involvement is to give employers more control over directing the system, such as increased numbers in the governing bodies of the public system. The majority representation by the private sector in the new Training Fund is an innovation in this direction. At the same time efforts will have to be made to develop the capacity of employers’ organizations to formulate appropriate standards and articulate their training needs.

The challenge is getting employers involved upstream. One way to do this would be to adopt employer certification of graduates, based on employer standards. The recent experiment by NCHRD with external testing of graduates based on employer content is strongly endorsed. This, plus accountability and performance payments, could give substantial impetus for improving the relevance and productivity of the TVET system. How? Let private enterprise organize and run the testing, as is done in Germany.

Another way to make the system demand orientated is to recognize the changes occurring in the external environment and make trainees more adaptable and transferable across occupations -- in a word: multi-skilling. Rather than narrow specialization, workers need to be prepared for integrated functions and occupational families.

### **2. Devolve authority to training institutions and make them accountable for results.**

Both instructors and training institutions should be accountable for results, i.e. successful completion of the training programme at defined quality standards within reasonable costs. By extension, training organizations should also be held accountable for results by government. Accountability requires better data on actual performance, including completion rates, and better systems to evaluate the performance of trainers, training institutions and training agencies.

More importantly, accountability requires greater freedom on the part of training organizations and institutions to make decisions and use resources, i.e. the authority to take

actions. At present central authorities stifle initiative and drive by hermitic control over their training institutions. An emerging consensus throughout the world favors increased autonomy for training establishments. Devolution of authority means letting the training institutions administer themselves and keep the funds they raise through fees and production, and forcing them to find their own markets. This breaks the long decision-making circuits in centralized systems that militate against dynamic relations with the labor market and beneficiaries at the institution level. Relationships between the training center and enterprises are easier to promote at the local level. The readjustment of local supply and demand can come about best through institutional flexibility and local initiative. Training institutions therefore need to manage their own affairs, to stimulate their creativity in finding local markets and mobilizing resources. Devolution of authority to training institutions, coupled with accountability for results, will release reservoirs of innovation in the system and counter the lack of productivity in the present system<sup>26</sup>.

However, autonomy is not a panacea. It can be fraught with problems. Decentralization has proved to be far more complex and protracted than originally envisaged in many countries. Any movement toward institutional autonomy has to be carefully planned. Administrators of training institutions have no experience in carrying out the full range of processes involved in self-management. For example, all TVET managers and key personnel should receive staff development in how to operate as a “business unit” within an entrepreneurial environment (including marketing and financial management.) (Rostron 77, 33) The aim should be autonomy for the institutions which will require the establishment of boards of governors for each training institution. Thus, a move towards devolution of authority must include development of appropriate management capacity, new accounting systems and training for board members. Limits may have to be placed on autonomy, particularly the freedom to borrow funds and pledge assets. The government will have to retain some residual authority to intervene should the autonomous institutions go off track.

In this context consideration should also be given to making the Vocational Training Corporation more autonomous and to changing its basic role<sup>27</sup>. Greater autonomy for VTC could be achieved in the following directions:

- Change the Board of Directors to include a majority of employers.
- Receive lump sum (or at least reduced number of line items) from government, in exchange for performance agreement.
- De-link staff from civil service, and increase pay scales for scarce needed skills and experience. (No general salary increase; increases must be linked to increased productivity.)

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<sup>26</sup> Devolution of authority has been supported in several previous reports on TVET. “All TVET institutions should be given sufficient freedom to act in order to become more self-reliant and less dependent on government funding. Clear policy guidelines with respect to the level of authority given to TVET institutions, procedures and requirements for financial responsibilities should be developed in order to enable greater independent actions.” (Rostron 77: 33) “All TVET institutions should be given sufficient freedom to act in a manner that allows them to become more self-reliant and less dependent on government funding. (Evans, 130)

<sup>27</sup> Another more radical proposal made recently is that of privatizing public training institutions or to “lease” them to private trainers on a contract basis, even temporarily. Wholesale privatization is unlikely to be feasible in the near future. However, a precedent concerning private use of public facilities on a contract basis. The VTC used external competitive bidding to select a Tunisian firm to provide training within public training centers in industrial sewing for enterprise zones, and also to train 100 Jordanian trainers.

- Change the role of the central authority from detailed supervision, to policies, standards, support for training (programmes, teaching materials, financing), rather than direct training provision. (See also Nathan Associates, 13).

3. **Reform the way training is financed: link payments to performance.** Financial transfer mechanisms distribute the funds available within the training system but do not increase the overall level of funding. Mechanisms that distribute available financing within the training system can have a powerful influence on the effectiveness and efficiency of resource use. Three world-wide trends can be identified in the allocation of financing for training. They are (a) the trend from direct state allocation to training funds to the use of intermediaries in the form of training funds (e.g. as proposed for the employers' Training Fund) (b) trends from a public monopoly by public training institutions over training budgets to competition for funds amongst state and private providers; and (c) from budgeting based on historical precedent to allocations based on norms and outputs.

The present system of incremental budgets is based on historical spending and gives little incentive for efficient use of resources. The TVET Council should work to change the allocation of financial resources to one based on performance and outputs. One method could be to allocate funds based on competition by institutions in both the public and private sectors. The bigger and better institutions would tend to garner the lion's share of resources under a competitive system. Winning institutions would be held to quality standards. In addition, equitable access would have to be ensured as part of the performance specifications (e.g. coverage by gender, regions and income groups). Another method would be for the TVET Council to adopt a simple formula for normative financing that gives incentives for efficient use of resources, e.g. financing on the basis of FTE trainees and graduates. The use of normative financing criteria should be well within the administrative capacity of Jordan.

Adoption of performance-based financing has one major requirement: much better information. Therefore, priority has to be given to development of a simple management information system, covering such key indicators as socio-economic background of trainees, internal flows of trainees, evaluation of skill acquisition, costs per successful output and especially absorption and performance of graduates in the labor market. The TVET Council could direct that all segments of the public training system follow the excellent performance indicators prepared by NCHRD. (Publication 75).

4. **Enhance the role of private training providers.** The respective roles and balance between the public and private sectors in TVET needs to be reconsidered in Jordan. At present the public sector does just about everything— it directs, manages, finances TVET and provides all types of skills training. Given financial constraints, however, the government cannot do all that is needed. In these circumstances it is important to ask what can be done best by government and what functions can be shared with others? Some key functions belong squarely in the public sector. These include planning and policy development, instructor training, monitoring and evaluation of results, and dissemination of information to the public about performance of TVET. The government also has a key role to play in ensuring equitable access to training amongst economically and socially disadvantaged groups. Other functions are best shared with the private sector, including standards development, program development, financing and delivery of training. Training delivery can be shared with other providers and does not have to be exclusively provided by public institutions. Certain dynamics at work in private institutions should, in principle, make them efficient and output-oriented. Their survival often depends on controlling costs; recruitment of new trainees depends on the labour market achievements of past graduates. This does not mean that private institutions always or generally are more efficient or of higher quality than public institutions. However, to the extent that non-government training institutions are in fact less costly in producing defined skills or provide better quality for given costs, the public

sector could achieve more (i.e. enrol more trainees or produce higher competencies) by using non-government providers. As a principle, therefore, it is important to de-link the funding of training from the provision of training.

What is recommended here is not a take-over of training from the government, but rather a rebalancing of roles. The private sector needs to play a greater role in the financing and delivery of training in Jordan, as stated in the Human Resource Strategy. Private training providers in many countries provide the bulk of the training, either through on-the-job training or through privately owned training centres. Private trainers can often be more efficient in the use of resources – cost consciousness is essential for their survival – and therefore often can produce graduates to standard at less cost. Moreover, private training is usually financed entirely by the user and beneficiaries, thereby saving resources for the public sector. For these reasons it is important for Jordan to facilitate the development of a private training market. Putting public funds out to competition, or contract training with both public and private providers eligible to compete, is one way to do this. In particular, authorities should use the new employers’ training fund (Appendix 9) to build a training market. To keep the Fund demand-led only employers should be able to access funds directly from the Training Fund<sup>28</sup>. Employers would then contract training providers for the training they need through a competitive process in which both public and non-public trainers would be eligible on equal terms (i.e. a “level playing field.”). Competition for funds in sufficiently large packages would also attract external training expertise which could be teamed with local training firms to build local training capacity.

**5. Diversify sources of financing.** Reduce dependence on government financing by mobilizing more outside resources. Why? “There are quite severe limits on the growth of the Government budget. Standard government policy emphasizes the need for careful limits on overall public expenditures, which implies the need for cost-recovery and self-sufficiency. TVET policy confirms the necessity of alternate sources of funding (e.g. development of production units, continuing education etc.) including a greater role for the prime beneficiaries (students, parents and the private sector.)” (Rostron 77:27) How? Allow training centres to do more production, raise tuition rates for those able to pay, and mobilize short, in-service training directly for employers. This is not, however, a blanket recommendation for more cost recovery in all levels and types of TVET. Raising tuition for pre-service training in VTCs or vocational streams in MOE, for example, would not be equitable unless tuition were also raised for students in academic secondary. This is not likely to happen in present circumstances. Instead, there appear to be two specific areas in which greater resources could be mobilized. First, much greater in-service training could be done for enterprises on a full cost-recovery basis. VTC and community college programmes do very little training for enterprises at present. In addition to relieving constraints on government financing, diversification of financing would help forge better links with the market. Diversification of financing would naturally lead training institutions to cater more to those able to pay, e.g. continuous training for adults (for community colleges) and upgrading training for employers (for all segments of the system). Second, depending on the outcome of in-depth beneficiary assessments, there may be scope for charging higher tuition rates for community college students, provided it is combined with increased scholarships and loans targeted on the basis of financial need so as not to exclude lower-income students.

Adoption of the five broad strategic directions described above would help Jordan create a demand-led system of training, raise the competencies of graduates, and get better value for money in terms of system productivity. It would address the heart of the quality issues in the system, i.e. lack of incentives for instructors and managers to perform. It would ensure

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<sup>28</sup> Direct access to the Fund by training providers – public or private—risks the Fund becoming supply-led.

employer-defined standards and content; accountability for results by institutions and instructors; link funding to institutional performance; provide authority over inputs to the people who train and ensure third party (employer) testing and certification of outputs.

### **B. Additional Recommendations**

Chapters 2 and 3 also includes additional specific recommendations for the various training agencies that are summarized below:

1. Areas for further potential action by the the Ministry of Education:
  - monitor and document more closely the registration and operation of private training providers. Either it or the NCHRD should take over, operate and maintain the information system on short-term training provision developed under TESP.
  - examine ways to introduce less specialized, multi-skill programs for students in vocational streams.
  - find ways to add industrial experience for its teaching staff
  - review the total workload on students in vocational streams
  - adopt and implement the “key monitoring indicators” developed by NCHRD with Canadian assistance (the VTC should do this also).
  
2. Areas for further potential action by the Vocational Training Corporation:
  - find better means to dove-tail the work of its various uncoordinated Assistant Directors General (at present only the Director General can exert such coordination and the incumbent does not have a technical background);
  - examine ways and means to reduce the chronically high dropout from its skilled work programs
  - ensure that all instructors and teaching staff receive periodic upgrading in technical content (as well as pedagogy), and allow for access to related industrial experiences
  - strengthen the intensity of its supervision of apprentices, and provide better feedback to instructors responsible for centre-based training
  - greatly expand in-service training for employers and continuous upgrading programs for workers seeking advancement
  - raise female enrolments in skilled worker programmes, in part by introducing non-traditional courses more socially acceptable for females
  - closely analyse and monitor overhead costs
  - analyse whether it is spending sufficiently on consumable materials and equipment to ensure quality results.
  
3. Areas for further potential action by the BAU and community colleges:
  - ensure that the imminent National Instructors Training Institute covers technical content (not just pedagogy) and addresses the substantial requirements for upgrading existing instructors
  - review its current provisions for engineering and technology programs in view of likely increased demands
  - introduce “sandwich” or alternance programs to complement classroom teaching with work experience
  - greatly expand short term service offerings for enterprises on a cost-recovery basis
  - stop crowding out private community colleges by eliminating the practice of admitting students into “parallel programs” at increased tuition fees beyond the public quotas

### **C. Additional studies.**

Finally, no study would be complete without recommending further studies. The following additional studies should be considered:

- At present no organization has an overview of training provision, including the non-government sector – NGOs, for-profit trainers and EBT. Two studies could yield worthwhile results on non-government training:
  - A study is recommended on the scope, costs and outputs of private training provision; in addition, it is recommended that the data system established under the TESP be assigned by the TVET Council to one of the agencies for operation and maintenance of the data base. NCHRD might be the logical place, since this data base would complement on the supply side data already being collected on the demand side for the labor market information system.
  - Little is known about the incidence and characteristics of enterprise-based training (EBT). A sample study on EBT within companies should be undertaken to determine the type of training by size of company, occupation, gender, etc.
- Training gaps: In view of the likely increased demand and uncertain supply, a study should be conducted on industrial and other technicians in terms of likely demand, sources (both public and private), quality and supply constraints.
- Updating of Rostron study on completion rates, FTE unit costs, and costs per graduate; and, more importantly, establishment of information systems to collect these data routinely in all public agencies.
- Each provider should conduct a detailed space, equipment and staff utilization study of its institutions to determine current student capacities and efficiency of operations in order to maximize the use of overall resources. (Rostron 77:33).
- Undertake beneficiary assessments of the various programs by major provider. In particular, the profile of beneficiaries of community colleges should be analysed to determine whether and the extent to which they could share in the direct costs at that level.
- Analyze the trend, components and justification for overhead costs at the VTC.