Chapter 8

LESSONS FOR DEVELOPING COUNTRIES FROM EXPERIENCE WITH TECHNICAL AND VOCATIONAL EDUCATION AND TRAINING

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8.1 Introduction

This literature review paper examines the lessons learned from the experience in developing countries, particularly in Africa, in the design and implementation of strategies and policies for technical and vocational education and training (TVET) with the aim to inform national policies in Sierra Leone.

There are several dimensions that can be used to describe TVET, for example, its venue (company-based, apprenticeship, school-base), character (initial, continuing), etc. It has been agreed by UNESCO and ILO to jointly use the term TVET. There has also been discussion to add TVET to the UNESCO 'Education for All' (EFA) and 'Education for Sustainable Development' (ESD) initiatives (Maclean *et al.* 2009; see King and Palmer 2006). *The definition of TVET* adopted by them is:[1]

> Those aspects of the educational process involving, in addition to the general education, the study of technologies and related sciences, and the acquisition of practical skills, attitudes, understanding and knowledge relating to occupations in various sectors of economic and social life.
>
> UNESCO 1999

King and Palmer (2006) find in their review that *skills development* is increasingly used by donors as the preferred term for what used to be called TVET or VET; but in the field and at the country level, policymakers and employers

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[1] TVET, VET and career and technical education (CTE) are almost identical in meaning. What is most prominently used depends on what part of the world you are talking about. Source: TVETipedia.

continue to use the older terminology of vocational, technical and agricultural education and training (see DFID 2007; Palmer 2007a).

This chapter follows a related but different definition by the Association for the Development of Education in Africa (ADEA). The ADEA defines 'post primary education' as being all-inclusive, and including the following dimensions:

- all forms of learning, e.g. non-formal and informal;
- all modes of delivery, e.g. distance learning, apprenticeship;
- all types of settings/venues, e.g. community schools, work sites.

It also sees 'post primary education' as holistic, including:

- traditional 'general' secondary education;
- development of life skills and key competencies;
- technical and vocational education and training (ADEA 2007).

The 2008 Biennale in Maputo validated the paradigm shift consisting of the integration of formal, non-formal and informal pathways to knowledge and skill acquisition into an integrated, coherent education and training system. The 2012 ADEA Triennale in Ouagadougou continues the work begun at Maputo and underscores the importance of the further changes to be made to the design and build education and training systems that can face the current and future challenges of sustainable development (ADEA 2011b). In fact, the key concepts of ADEA's 2012 Triennale connect the various *definitions of skill to that of sustainable development* through the notions of efficiency and effectiveness. They are summed up as follows.

The concept of skill. Skills is defined as 'combinatory knowledge that uses and integrates theoretical, procedural and environmental knowledge, know-how and life skills to resolve problems, make decisions, carry out plans, etc'.

The concept of sustainable development. This gives added richness to the various meanings of the concept of skill, in that it orientates them toward a multidimensional development process.

The concept of lifelong learning. The theme of the Triennale redefines the concept of basic education by broadening it to include the opportunity, for any young or adult, to acquire the key skills constituting the theoretical and practical foundation that is essential for lifelong learning (ADEA 2011b).

Along the same lines, Radwan *et al.* (2010) argue that in order to achieve the African Continent's development aspirations, young people need to have access to an education that will enable them to enhance their standard of living, become aware of health issues, achieve their desired family sizes and gain *competitive (lifelong technical and vocational) skills (for sustainable socio-economic growth)* that will be in high demand in the labour market(s). De Largentaye

(2009) recalls that vocational training is only one of several instruments for employment generation. Whereas vocational training can develop appropriate skills and thereby improve labour supply and the *'employability'* of the workforce, the demand for labour depends on incentives for investment, including prices, the exchange rate and generally, the business climate in the country.

The African Union's (AU's) Plan of Action for the Second Decade of Education (2006–2015) recognizes the importance of TVET as a means of empowering individuals to take control of their lives and suggests the integration of vocational training into the general education system. However, the integration of TVET strategies into comprehensive employment policies remains a challenge in most African countries. Many interventions in the (formal) labour market are clustered under the title *'active labour market programmes' (ALMPs)*. Such ALMPs may lead to direct job creation (through demand-side interventions such as *a new public works programme (PWP)*), help the unemployed fill existing vacancies (through supply-side interventions such as *retraining* to meet the new job requirements), or improve the functioning of the labour market (through labour market intermediations, e.g. *employment information and labour offices*) (Dar and Tzannatos 1999).

When planning for TVET, policymakers and decision makers should be able to make informed decisions about whether the intended ALMP objective ('benefit') is met, and at what cost, supported by evidence-based information. There is, unfortunately, a paucity of evidence-based information about TVET, particularly in sub-Saharan Africa (SSA). This chapter aims to contribute to filling that critical information gap by re-examining the world of TVET and its diverse aspects and documenting them in order to provide the best answers and best practices to *improve TVET in Sierra Leone*. This is done by recent trends in TVET with regards to the restructuring of formal and non-formal education systems to ensure relevance of education and training in response to the changing patterns of employment, the needs of the labour market, and the rapid pace of change in technology and communications. The chapter particularly focuses on identifying challenges and opportunities for low income, fragile and post-conflict countries to help the government of Sierra Leone in its *search for an appropriate demand-driven* (i.e. programmes meet the needs of the economy, society and communities) *and good-quality TVET system*, which will equip more young women and men particularly in the informal economy with skills that will improve their employability in more productive and decent work.

The chapter builds on previous work undertaken for the 2008 edition of the African Economic Outlook (AEO), which provides a snapshot of TVET in 34 African countries. It also draws on the seminal UNESCO–UNEVOC International Handbook of Education for the Changing World of Work (Maclean *et al.* 2009), which is the first reference tool of its kind providing a comprehensive coverage of all the twelve important areas we discuss in this chapter. The review also uses official TVET documents, the French Development Agency's (AFD's) survey in seven African countries on experiences of support to TVET in the informal sector, World Bank, IADB and ILO studies, successful case

studies as well as the academic literature using statistical approaches and a few socio-anthropological studies.

The chapter is structured as follows. Section 8.2 provides a brief stocktaking of statistical enrolment data from UNESCO as well as of the available quantitative evidence on the impact of TVET. Section 8.3 presents and discusses different institutional and strategic TVET frameworks. Section 8.4 discusses the importance of a demand-orientated TVET system. Section 8.5 discusses the various existing and potential sources for the financing of the costs of different forms of TVET. Finally, Section 8.6 concludes and presents a number of policy options pertaining to each of the preceding sections of the chapter.

8.2 Stocktaking of Statistical Evidence

Skills development and TVET have recently returned to the international policy agenda. A TVET and skills strategy has been launched by UNESCO reflecting a growing interest in the skills agenda (King 2009).[2] The forthcoming 2012 *Education for All Global Monitoring Report (GMR)* will focus on skills development, emphasizing strategies that increase employment opportunities for marginalized groups. Most of the UNESCO data presented in this section refers to the school year ending in 2007, and are based on survey results reported to and processed by the UNESCO Institute for Statistics (UIS) before the end of May 2009. The weakness of the UIS data set is that it does not capture all aspects of the holistic ADEA Post-Primary Education definition. This is a challenge that the forthcoming GMR should attempt to address.

Globally, the number of secondary students at the age group from 10 to 18 years enrolled in TVET increased from 46.6 million in 1999 to around 54 million in 2007 with the percentage of females remaining around 45%. The 16% increase in TVET was slightly lower than the 19% increase in total secondary enrolment (including both lower and upper secondary enrolment). During the same period the world's youth unemployment fell slightly from 73.5 million in 1999 to 72.5 million in 2007, after which it rebounded due to the global crisis. This fall is equivalent to a fall in the world's youth unemployment rate from 12.6% in 1999 to 11.8% in 2007 (ILO 2010, 2011). The increase in TVET enrolment was driven by both the economies in transition (EiT) and the developing countries which recorded an increase of 26% and 28%, respectively, whereas the OECD experienced a fall of 10%. However, the enrolment rates and TVET's percentage share of total secondary enrolment vary widely among regions (Table 8.1).

In both 1999 and 2007 TVET programmes accounted for 36% and 32% respectively of total secondary enrolment in the Pacific, far above the other regions. At the other end of the spectrum TVET is far less common in South and West Asia (2%) and the Caribbean (4%) in 2007. Although the share in Central Asia and SSA is lower than in Central and Eastern Europe (16%) and East Asia

[2] Source: www.britishcouncil.org/gointglobal-gg4-skills-development.htm.

TABLE 8.1. Enrolment in secondary education, 1999 and 2007.

Country or territory	School-age population 2006 (total)	Total enrolment					Enrolment in private schools as % of total enrolment		Enrolment in technical and vocational education						
		School year ending					School year ending		School year ending						
		1999		2007			1999	2007	1999			2007			
		Total	% F	Total	% F	Δ (%)	(med.)	(med.)	Total	Share	% F	Total	Share	% F	Δ (%)
World	782,790	436,797	47	518,721	47	19	11	11	46,649	11	45	54,024	10	46	16
Transition countries	29,135	31,719	49	26,261	48	−17	0.1	0.7	2,713	9	40	3,428	13	40	26
Developed countries	82,951	84,564	49	83,335	49	−1	6	7	15,023	18	45	13,553	16	43	−10
Developing countries	670,705	320,514	46	409,125	47	28	16	15	28,913	9	46	37,044	9	47	28
Arab states	42,556	22,682	46	27,453	47	21	9	10	3,297	15	43	3,157	11	43	−4
Central and Eastern Europe	36,792	39,582	49	32,375	48	−18	0.6	1	7,286	18	41	6,385	20	39	−12
Central Asia	11,470	9,356	49	10,891	48	16	0.1	1	556	6	41	1,271	12	46	129

TABLE 8.1. Continued.

Country or territory	School-age population 2006 (total)	Total enrolment					Enrolment in private schools as % of total enrolment		Enrolment in technical and vocational education						
		School year ending					School year ending		School year ending						
		1999		2007					1999			2007			
		Total	% F	Total	% F	Δ (%)	1999 (med.)	2007 (med.)	Total	Share	% F	Total	Share	% F	Δ (%)
East Asia and the Pacific	213,360	133,579	47	165,769	48	24	13	19	18,974	14	47	23,658	14	49	25
East Asia	210,090	130,307	47	162,324	48	25	11	12	17,797	14	47	22,550	14	49	27
Pacific	3,270	3,272	49	3,445	48	5	—	—	1,176	36	47	1,109	32	44	−6
Latin America and the Caribbean	66,153	52,575	51	58,547	51	11	20	20	5,004	10	54	6,275	11	54	25
Caribbean	2,233	1,151	50	1,294	50	12	—	19	39	3	45	51	4	49	30
Latin America	63,919	51,424	51	57,253	51	11	24	22	4,965	10	54	6,225	11	54	25
North America and western Europe	62,328	60,661	49	62,401	49	3	9	9	8,849	15	45	8,645	14	43	−2
South and west Asia	243,954	97,783	41	125,705	44	29	—	13	1,531	2	30	2,412	2	27	57
Sub-Saharan Africa	106,177	20,578	45	35,580	44	73	23	14	1,152	6	36	2,221	6	39	93

Note: data for 2006 except for countries with a calendar school year, which are for 2007. *Source*: UNESCO Institute for Statistics database (UIS 2009).

(17%), these two subregions, on the other hand, experienced the highest growth rates between 1999 and 2007 of 129% and 93%, respectively (Table 8.1).

This worldwide growth in TVET enrolment has fuelled economic growth in some countries and fallen short of expectations in others. Globalization is prompting governments to take renewed interest in this multisectoral approach of education and training for sustainable development according to Maclean *et al.* (2009), which is considered an indispensable means to tackle the many challenges that the rapidly increasing number of unemployed youth (see ILO 2011) are confronted with when it comes to their integration in the labour markets.

According to the Paris Declaration on Mutual Accountability, 'a major priority for partner countries and donors is to enhance mutual accountability and transparency in the use of development resources.' Accountability has become a hallmark of educational reform initiatives in the United States. Federal legislation requires that states develop evaluation systems to assess student performance, including vocational achievement, and successful transition from school to post-secondary education/or employment (Rojewski 2009). The mandated programme evaluation in terms of collecting data to respond to these US federal mandates has led to a disproportionate number of evaluation studies based on US data.

8.2.1 Evaluations of TVET and Other Active Labour Market Programs

Cunningham *et al.* (2010) recently proposed a four-step framework to guide youth interventions (see Figure 8.1). A *Youth Employment Inventory (YEI)* has been compiled to improve the evidence base for making decisions about how to address the problem of youth employment. As policymakers consider measures to help young people make the transition into the labour market and obtain decent work, they are hampered by a lack of information on what their options are, what works in different situations, and what has been tried and failed. To respond to this situation, the World Bank has compiled a worldwide inventory of the interventions that are designed to integrate young people into the labour market. This YEI is based on available documentation of current and past programmes and in 2007 included *evidence from 289 studies of interventions from 84 countries in all regions of the world*. The interventions included in the YEI have been analysed in order to (i) document the types of programmes that have been implemented to support young workers to find work; and (ii) to identify what appears to work in terms of improving employment outcomes for youth (Betcherman *et al.* 2007).

The YEI does not include new project information but, rather, is based exclusively on existing documentation gathered from a wide range of published and electronic sources. For practical reasons, the inventory is largely limited to *post-formal schooling interventions*. It covers ongoing and completed interventions specifically targeted at young people or that had young people as primary participants.

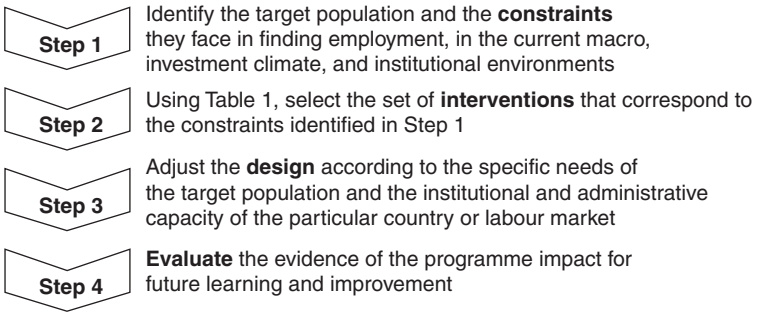

FIGURE 8.1. A framework to guide youth employment interventions.
Source: Cunningham *et al.* 2010.

The most common type of intervention for youth is *skills training*. This category accounts for 39% of all the YEI covered interventions and is significant in all regions, but is especially popular in Latin America and the Caribbean where it represents 56% of the programmes included in the inventory. *Comprehensive multiple-service interventions* – for instance, combining vocational and on-the-job training with wage subsidies and public works, or classroom and on-the-job training with paid work experience and job search assistance – account for 32% of the total. One-half of these multiple-service programmes are in OECD countries. Making the labour market work better for young people (especially through wage subsidies), and improving chances for young entrepreneurs each account for 12% of the total. The largest number of interventions is in the OECD area but Latin America and the Caribbean also has good coverage (Betcherman *et al.* 2007).

The methodology for assembling the inventory emphasized the search for programmes in developing countries. However, 42% of the interventions in the inventory are from OECD countries; this reflects both the level of activity as well as the availability of documentation in industrialized countries. Among developing regions, youth programmes have been most widely implemented in Latin America, which accounts for 24% of the interventions included in the inventory. The shares in the other regions are 14% in Eastern Europe and Central Asia, 10% in sub-Saharan Africa, 7% in South and East Asia and the Pacific, and 3% in the Middle East and North Africa (Betcherman *et al.* 2007).

Only about one-quarter of all programmes included have evidence on the net labour market impact. Overall, *only 1 in 10* programmes designed to integrate young people into the labour market, included in the YEI, has an evaluation which measures both net impact in terms of improving employment outcomes for the youth and cost. Moreover, these figures are likely to overestimate the true incidence of scientific evaluations of youth programmes. This is because the interventions subject to extensive analysis and documentation were more likely to be captured for the inventory compared to those without. Based on evidence from the ALMP interventions as captured by the YEI, it is possible,

TABLE 8.2. The menu of constraints and interventions.

Constraints	Possible ALMP interventions: Evidence-based interventions	Possible ALMP interventions: Mixed evidence, theoretically sound
Job-relevant skills constraints		
Insufficient basic skills	Information about the value of education	Second chance programmes
Technical skills mismatch	– Training 'plus'/ comprehensive programmes – Information on returns to technical specialities	On-the-job training
Behavioural skills mismatch		Behavioural skills training
Insufficient entrepreneurial skills		Entrepreneurial training
Lack of labour demand		
Slow job-growth economy	Wage or training subsidies	– Public service programmes – Labour-intensive public works
Employer discrimination	Affirmative action programmes	– Subsidies to employers hiring target groups – Employee mentoring

as Cunningham *et al.* (2010) has done, to generate a menu of constraints and possible ALMP interventions (see Table 8.2).

Outside the OECD area (especially the Anglo-Saxon countries) and other than studies sponsored by international organizations, rigorous evaluations are quite rare.

Sub-Saharan Africa

Quantitative analysis of *formal TVET systems in Africa* has been hampered by the lack of quantitative data on TVET participation, graduation and labour-market outcomes. National statistics on access to TVET are often not available as can be seen from Table 8.3; even when they are their quality is variable, due to methodological difficulties in defining relevant indicators. Furthermore,

TABLE 8.2. Continued.

Constraints	Possible ALMP interventions: Evidence-based interventions	Possible ALMP interventions: Mixed evidence, theoretically sound
Job search constraints		
Job matching	Employment services	Technology-based information sharing
Signalling competencies		– Skills certification – Training centre accreditation
Firm start-up constraints		
Lack of access to financial or social capital	Comprehensive entrepreneurship programmes	Microfinance
Social constraints on the supply side		
Excluded-group constraints (ethnicity, gender, etc.)	– Target excluded group's participation in programmes – Non-traditional skills training – Safe training/employment spaces for specific groups	Adjusted programme content/design to account for excluded-group specific needs

Source: Cunningham *et al.* 2010.

while the data that does exist may meet some national information needs, it can rarely be used for cross-country comparisons.

Latin America and the Caribbean

Youth unemployment in Latin America is exceptionally high (15.7% in 2009 (ILO 2011)), as much as 50% among the poor (Attanasio *et al.* 2008). Consequently, among ALMP, *job training* is popular in Latin America as an attempt to help the labour market insertion of disadvantaged youth, and also as a way of providing skills to low-income groups to enable them to deal with the challenges of globalization (Ibarrarán and Shady 2008).

Ibarrarán and Shady (2008) summarize the findings from the first rigorous set of evaluations of *job training programmes* in Latin America that were made in the context of a project undertaken by the Office of Evaluation and Oversight

TABLE 8.3. GDP per capita, aid, poverty and TVET enrolment share (sub-Saharan Africa).

Country or territory	GNP per capita: Current US$ 1998	GNP per capita: Current US$ 2007	GNP per capita: PPP US$ 1998	GNP per capita: PPP US$ 2007	Net aid per capita (US$) 2005	% population living on less than US$1 per day 1990–2005	% population living on less than US$2 per day 1990–2005	Enrolment in technical and vocational education: School year ending in 1999: Total	1999: Share	1999: % F	Enrolment in technical and vocational education: School year ending in 2007: Total	2007: Share	2007: % F	Δ
Angola	460	2,540	1,800	4,270	28	—	—	58	19	27	—	—	—	—
Benin	340	570	960	1,310	41	31	74	25	12	38	58	13	43	127
Botswana	3,350	6,120	7,620	12,880	40	28	56	10	6	36	11	7	38	17
Burkina Faso	240	430	740	1120	50	27	72	13	8	53	26	6	49	95
Burundi	140	*110*	300	330	48	55	88	—	—	—	13	6	44	—
Cameroon	630	1,050	1,430	2,120	25	17	51	165	26	40	124	17	39	−25
Cape Verde	1,240	2,430	1,790	2,940	317	—	—	—	—	—	2	3	43	—
Chad	220	540	820	1,280	39	—	—	3	2	31	4	1	46	26
Comoros	420	680	940	1,150	42	—	—	*0.2*	1	25	0.2	*0*	*7*	6
Côte d'Ivoire	730	920	1,510	1,620	*7*	15	49	26	4	50	—	—	—	—
Democratic Republic of the Congo	*110*	140	*240*	290	32	—	—	**372**	**30**	31	**562**	**20**	—	51
Equatorial Guinea	1,120	**12,860**	5,090	**21,220**	78	—	—	1	6	45	—	—	—	—
Eritrea	210	270	720	620	81	—	—	0.8	1	16	1	1	46	77
Ethiopia	130	220	420	780	27	23	78	3	*0*	21	191	6	44	**5,565**
Gabon	4,070	7,020	**12,210**	13,410	39	—	—	6	7	34	—	—	—	—
Ghana	370	590	820	1,320	51	45	79	23	2	22	67	4	46	194
Guinea	470	400	810	1,120	19	—	—	—	—	—	5	1	14	

TABLE 8.3. Continued.

Country or territory	GNP per capita: Current US$ 1998	GNP per capita: Current US$ 2007	GNP per capita: PPP US$ 1998	GNP per capita: PPP US$ 2007	Net aid per capita (US$) 2005	% population living on less than US$1 per day 1990–2005	% population living on less than US$2 per day 1990–2005	Enrolment in technical and vocational education: School year ending in 1999: Total	1999: Share	1999: % F	Enrolment in technical and vocational education: School year ending in 2007: Total	2007: Share	2007: % F	Δ
Kenya	440	640	1,110	1,550	22	23	58	10	1	39	25	1	**62**	161
Lesotho	680	1,030	1,340	1,940	38	36	56	1	2	**57**	2	2	53	29
Liberia	130	140	250	*280*	—	—	—	20	17	30	—	—	—	—
Madagascar	250	320	690	930	50	61	85	30	4	35	—			
Mali	280	500	690	1,040	51	36	72	27	12	40	55	10	51	104
Mauritius	3,760	5,580	6,720	11,410	26	—	—	9	9	22	18	14	31	98
Mozambique	220	330	390	730	65	36	74	21	20	26	28	6	31	35
Niger	200	280	530	630	37	61	86	7	6	40	3	1	17	*−62*
Nigeria	270	920	1,120	1,760	49	**71**	**92**	—	—	—	166	3	35	—
Rwanda	260	320	550	860	64	60	88	28	26	54	—	—	—	—
São Tomé and Príncipe	—	870	1,630	204	—	—	—	—	—	*0.1*	2	43	—	
Senegal	510	830	1,140	1,650	59	17	56	7	3	35	—	—	—	—
Sierra Leone	160	260	340	660	62	57	75	—	—	—	12	5	60	—
South Africa	3,290	5,720	6,140	9,450	16	*11*	*34*	160	4	44	—	—	—	—
Togo	300	360	680	770	14	—	—	15	*7*	25	32	8	38	106
Uganda	280	370	610	1,040	42	—	—	40	13	30	—	—	—	—
United Republic of Tanzania	230	410	700	1,200	39	58	90	24	9	31	—	—	—	—
Zambia	310	770	810	1,190	81	64	87	6	2	7	51	8	39	765

Source: UNESCO Institute for Statistics database (UIS 2009).

at the Inter-American Development Bank. These programmes increase the employment rate of participants by about 0–10% and the impact in terms of quality of jobs (measured by wages, social security and/or formality) is slightly higher (see Table 8.4). This research was complemented by two independent impact evaluations of similar training programmes in Chile and Colombia. They report the results of two evaluations with an experimental design (the Dominican Republic and Colombia), one with a natural experiment (Panama) and four non-experimental evaluations (Argentina, Chile, Peru and Mexico). Overall, the results in Table 8.4 suggest that *employment effects* range from modest to meaningful – increasing the employment rate by about 0 to 5 percentage points – although higher and significant for some groups such as *women* in Colombia and Panama – with impact of 6 to 12 percentage points in the employment rate.

8.2.2 Survey of Quantitative Evaluations Studies

TVET links skill development policies to employment needs and labour market requirement, especially because the majority of new work opportunities are increasingly found in productive self-employment and work in the informal economy rather than in formal employment (UNICEF–WBI 2008).

The amount and type of TVET varies widely across countries, and this is not necessarily linked to a country's state of economic development. For example, Martínez *et al.* (2010) argue that the impact of such training does vary according to the level of economic development. It appears to have greatest effect on *early-stage entrepreneurial activity* in countries with favourable institutional contexts (see Section 8.3). Training appears to be particularly effective in *western European countries* with low rates of early-stage entrepreneurial activity, such as Belgium, France, Germany and the United Kingdom.[3] This finding fits the so-called global entrepreneurship monitor (GEM) model,[4] which predicts that training in starting a business is most effective and relevant in *innovation-driven countries*. According to Martínez *et al.* (2010) it supports the argument that *factor-driven countries* in particular should not invest large-scale resources in training programmes if basic levels of entrepreneurial framework conditions are not adequate.[5] An alternative explanation for the findings is that the *quality*

[3] General measure of the environment for entrepreneurship from a National Expert Survey (NES) shows a higher average score for Western Europe (3.0 on a scale of 1 to 5), compared with 2.7 for Latin American and Caribbean. In Republic of Korea and Japan, institutional barriers, as well as cultural perceptions, may prevent the gains in awareness and attitudes from translating into intention and action (Martínez 2010).

[4] The GEM model of Entrepreneurship and National Economic Growth was designed specifically to facilitate understanding and analysis of why entrepreneurship is critical to economic growth.

[5] The NES process includes the selection of at least 36 experts, covering *9 framework conditions* that influence a nation's entrepreneurial environment, including financial support, education and training, etc. Interviews are conducted with at least 4 experts in each of the 9 areas (Martínez 2010).

TABLE 8.4. Summary of findings: labour market impacts of job training programmes.

	Employment rate	Formality	Wages
Dominican Republic	None, higher (5–6%) but not significant in the east and Santo Domingo	Health insurance 9% higher for men (43% versus 34%)	17% (marginally significant), larger for males under 19
Colombia	5% for women, none for men	6–7% for women; 5–9% for men	22% for women, 10% for men
Panama	Overall not significant; 10–12% for women and in Panama City	Overall not significant, probably higher outside Panama City	Overall negligible, large for women (38%) and in Panama
Peru	Large, 13% (much higher for women – 20% – than for men, for which negligible)	Large: overall 11%, 14% women, 5% men	12–30%
Argentina	0–11%, 10–30% for youngest (under 21)	0–3%, 6–9% for youngest in one cohort	No significant pattern
Mexico	Overall, no clear pattern; on-the-job training robust positive effects (12–30%)	Positive effects (10–20%) since 2002	No consistent patterns, at best small and mostly not significant
Chile	18–22% larger for youngest groups	15–23% larger for youngest groups	22–25%, imprecisely estimated

Notes: Employment figures show differences in percentage points vis-à-vis the comparison group, while *the wages* refer to percentage differences. *Formality* means finding a job in the formal sector. Significance refers to statistical significance, with 'significant' denoting 5% and 'marginally significant' denoting 10%. In most cases there is a larger and significant impact on *job quality* (measured by getting a formal job (i.e. *formality*), having a contract and/or receiving health insurance as a benefit, social security or formality). *Source*: Ibarrarán and Rosa-Shady 2008, p. 27.

of training may vary by country context, and that less-developed economies have lower quality forms of training. Martínez *et al.* (2010) find that there is some support for this view from the collective opinions of experts in these countries.

In Section 8.2.2 we proceed by summarizing the findings from a rigorous set of *evaluations of job training programmes* in the OECD, Latin America, Asia and

Africa. Section 8.2.2 also reviews the econometric studies on the determinants and effects of training in the developing countries as well as in the OECD countries.

Review of Evaluations of Job Training Programmes

Renaud (2009) asks 'how do we know when an educational institution is doing well compared either with other institutions, or against external standards?' He provides a clear survey of the topic of the use of *performance indicators* to measure the quality of institutional provision, both the pros and the cons, and provides details of indicators such as selectivity, expenditure and quality of teachers. He concludes, however, that these sorts of indicators, so often employed, do not get to the central question of *learners' outcomes*. He argues that future research ought to focus less on institutional characteristics and more on learner outcomes.

There is a very large literature, which seeks to evaluate the outcomes of individual programmes. Martin (2000) divides these evaluations into two main types.

The first type seeks to measure *the impact of programme participation* on individuals' employment and earnings after they have left the programme, judging the outcomes against the experiences of a benchmark or control group of similar individuals who did not participate in the programme. This type of evaluation makes sense for those active programmes which attempt to make participants more productive and competitive in the open labour market, e.g. training and job-search assistance.

The second type of evaluation attempts to measure *the net effects of programmes* on aggregate employment and unemployment by estimating what, in economists' jargon, are called 'dead-weight', 'substitution' and 'displacement' effects. These evaluations are mostly relevant for employment programmes, i.e. programmes that attempt to stimulate job creation in the private sector (including self-employment), as well as direct job creation in the public sector (Martin 2000).

Based on *micro-evaluations* involving comparing labour market outcomes for individuals who have gone through a particular programme with those of a control group of their peers, Dar and Tzannatos (1999) suggest that the programmes should be tightly targeted at those for whom they are found to be *the most cost-effective*,[6] or, if the evaluations point towards these programmes being ineffective, they should be amended or discarded.

As mentioned above, much of the evaluation literature relates to the United States and Canada where there is a long-standing tradition of evaluating labour market programmes. Few European countries have carried out rigorous evaluations until recently. As a result, some European countries (e.g. Norway, Sweden,

[6] A better understanding of cost levels and structures is a prerequisite to increasing *cost-effectiveness*. In recent years, much progress has been made to better record and assess educational expenditures. In the field of TVET, information on costs and expenditures is generally still limited (see Peano *et al.* 2008).

United Kingdom; Germany and France (AfD)) and Australia are undertaking rigorous evaluations of their labour market programmes.

For example, the GTZ Evaluation Unit[7] contracts independent research bodies each year to conduct these evaluations. Final evaluations take place shortly before or after the completion date of projects. *Ex post evaluations* focus in particular on the sustainability of results. They are conducted two to five years after completion of the project (Castañer 2007). However, in other countries, the most common method of *'evaluation'* consists of simply monitoring the labour market status and earnings of participants for a brief period following their spell on a programme. While this sort of exercise provides useful information, Martin (2000) warns that it cannot answer the vital question of *whether the programme in question 'worked' or not for participants*.

The OECD has reviewed the available evaluation literature in OECD (1993) and this review was updated in Fay (1996) and the OECD review by Martin (2000) of the evaluation literature, which tells us about what works and what does not. Martin (2010) cautions that the bottom line from this OECD research on the effectiveness of ALMPs is not terribly encouraging. The track record of many active measures is mixed in terms of raising the future employment and earnings prospects of job seekers and producing benefits to society. As the OECD Jobs Study (1994) stressed, more *effective active policies are only one element in a comprehensive strategy of macroeconomic and micro-economic measures* required to cut unemployment significantly. Nonetheless, they remain a potentially important weapon in the fight against unemployment (Martin 2000).

Martin (2000) characterizes the evaluation literature in the following way. The 'outcomes' are invariably expressed in terms of programme impacts on *future earnings and/or re-employment prospects* of participants. There is an issue about *the scale of programmes*, even those which appear to work. Many programmes, which have been evaluated rigorously, tend to be *small-scale programmes* – sometimes called 'demonstration' programmes. While the evaluation literature tells a lot about what works, Martin (2000) underlines that it is not very instructive in answering other equally important and related questions, such as why do certain programmes work for some groups and not for others, and in what circumstances? For example, do skill-enhancing activities e.g. via classroom training and/or on-the-job training, work best or must they be combined with personal counselling, job-search assistance and mentoring services in order to work? Policymakers want to know the answers to such questions (Martin 2000), which is why we want to take a closer look at these issues in what follows in Sections 8.3–8.5.

In summary, Martin's (2000) review of the evaluation research highlights *five principles* which could guide the selection of ALMPs in order to maximize their effectiveness. One principle of relevance to the research objective of our chapter is the importance of *keeping public training programmes small in scale and*

[7] DED, GTZ and InWEnt were the predecessor organizations of Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH.

well targeted to the specific needs of both job seekers and local employers, which is aligned with the view of Martínez *et al.* (2010). Another is that if, in the spirit of the G20 Seoul Summit 2010 knowledge-sharing pillar, we are to expand the range of international knowledge on 'what works' and 'why' among ALMPs, it is vital that more countries and donors begin to evaluate their ALMPs systematically as, for example, DFID has started to do. Indeed, Martin (2000) suggests that *evaluation be built into the design of programmes* at the beginning rather than being viewed as an *ex post* exercise. Evaluations should also be undertaken in a rigorous way that allows one to draw useful inferences about the effectiveness of the interventions in terms of their *impacts on the employment and earnings prospects* of the programme participants and that cover *a sufficiently long period* so that one can assess whether the programme yields any long-term private or social benefits.

Reviews of Econometric Studies on the Effects of Training

Carnoy (1994) suggests that in order to make effective use of TVET to equalize economic outcomes among different groups, policymakers first have to estimate the impact of various types of TVET on employment and incomes. These estimates do not necessarily assume that employability and income differences reflect productivity differences (i.e. that market prices – wages, in this case – are good estimates of the real economic value of education and training). Employability and incomes are assumed merely to reflect the value that society places on certain education and training certificates – whatever the social or economic reason (Carnoy 1994).

The model generally used to make such estimates relates employment (including self-employment) and individual income or wages to education, training, experience (age) and, if data is available, ability and socio-economic background. Because labour markets are usually different in the rural and urban areas of developing countries and because women and men are differentially treated by employers in both labour markets, separate estimates are generally made for urban and rural workers and for men and women according to Carnoy (1994).

The situation has also been analysed from other perspectives. An extensive literature has been developed on the segmentation of formal and informal labour markets in developing countries. Incomes in informal labour markets can be in the form of wages or of returns to entrepreneurial ability combined with occupational skills. In order to calculate the latter, Carnoy (1994) argues that we need to know skills, income, and the value of physical capital invested in the informal entrepreneurs' business. Yet, in most developing countries, the *estimation of income returns to TVET in informal labour markets* is crucial to developing a TVET investment strategy.

Carnoy (1994) further argues that we should for example be able to compare the payoffs to academic education with those to vocational education, and that we should obtain a good approximation for the impact of completion of

a given level of vocational education or a training programme versus its non-completion (the 'certificate effect'). If we run the estimates of the equations in stages – that is, first with formal schooling and training as independent variables, then with ability, then on-the-job training – Carnoy shows that we can separate out the impact on income of schooling, ability and later training. If the third-stage education and training coefficients are much smaller than those in the second stage, this he suggests is associated with *much of the return to formal training* being linked to the access it provides to further training in workplaces.

The international empirical literature on whether labour market training has a positive impact on employment is extensive. Most of the studies are based on non-experimental methods.

A study by Zweimuller and Winter-Ebmer (1991) found an insignificant effect when using a single-equation model of employment effect of manpower training schemes. After correction for selection into training by simultaneous estimation of a two-equation model, the employment effect of training emerges as positive and significant (Torp 1994).[8]

In Denmark, Jensen *et al.* (1993) analysed the impact of labour market training within a fixed-effect model with panel data for almost 40,000 workers (1976–86). They found *no wage effects* for participants with unemployment experience prior to training, neither for men nor for women.[9] Concerning *employment effects of training*, previously unemployed participants experienced a significant *decrease* in post-training unemployment (Torp 1994).

In Ireland, Breen (1991) evaluated (subsidized) temporary employment schemes[10] and training programmes for *young people*. Both were found to have positive short-term employment effects. The long-run effects were significantly positive for the temporary employment schemes only. Tests for *selectivity bias* show no evidence of such bias for training.[11] The short-term effect of the

[8] One approach to assessing the employment impact of training is to take differences in both individual and local labour market characteristics into account. The dependent variable is duration of employment within a limited response period. As this variable is censored, a Tobit estimation model is required. Using non-experimental data, the problems of unobserved heterogeneiteity and selection bias arise (Torp 1994).

[9] Westergaard-Nielsen (2001) finds that the youth programme in Denmark was the only part of the labour market reforms in the late 1990s, which clearly lowered the reservation wage. The lower benefits mean that those with higher alternative wages will choose jobs and that those with relatively low alternative wages would choose training.

[10] Termed a 'variant of conventional public works programmes'. While direct employment schemes may indeed lead to the provision of public goods/services, their overriding purpose is that of employment generation. In Ireland, Community Employment is the largest direct employment scheme. Community Employment, which replaced the Social Employment Scheme in 1994, is targeted at the long-term unemployed (Halpin and Hill 2008).

[11] Based on the general lessons learned from over 30 years of experience in evaluating government training programmes and a survey of the main methodological lessons learned from 30 years of evaluation activity conducted mainly in the United States, Heckman *et al.* (1999) identified eight lessons from the evaluation literature that they believe should guide practice in the future (for details see Heckman *et al.* 1999).

employment schemes increased, however, after correcting for selectivity bias. Torp (1994) argues that this indicates a negative selection into these labour market programmes.

A common concern for impact evaluations of ALMPs is the *self-selection process* of participants into the programme. Unobservable characteristics, such as motivation or other factors determining a person's participation, may also determine their ability and make them different from non-participants. Unless the existence of unobservables can justifiably be ruled out, it cannot be concluded that the programme had an impact. The simplest way to establish this is to assign treatment randomly to some part of the study population and to withhold treatment from the others (see Adda *et al.* 2007). However, others resort to quasi-experimental methods where the control group is formed by matching non-participants with participants based on observable characteristics that are thought to determine programme participation and/or eligibility (Cunningham *et al.* 2010).[12]

From his review of the empirical literature Torp (1994) concludes that it is not surprising that the results of the analyses diverge. He argues that most of the programmes evaluated seem to have positive employment or wage effects. Some of the analyses illustrate general problems, indicated by several authors in this area of the evaluation literature: different non-experimental methods that proclaim to take into account *the selection to training* have proved to produce estimates that are sensitive to model specification and assumptions made by the estimator (see Lalonde 1986; Heckman and Hotz 1989).

Other studies summarized by Dar and Tzannatos (1999) have also taken advantage of *the advances made in model development and econometric analysis*. However, a number of issues affecting the reliability of the findings of these studies for guiding public policy remain open. First, there are unresolved technical issues, such as handling *selection bias* and assessing *deadweight and displacement/substitution effects* likewise mentioned in Torp (1994). Second, there are a variety of data problems in the specific surveys. These include benchmarking pre-intervention profiles (employment history, human capital attributes, etc.) and the tracking of participants and non-participants for no more than one or at most two years while, in many cases, *the full impact of policies* is unlikely to play out in this short period of time (such as in *the case of training and self-employment*) (Martin 2000). Third, *administrative data* which may be called upon to provide supplementary information, tends to be surprisingly poor, so that the nature or the intensity of the intervention received by the participant is often uncertain (Dar and Tzannatos 1999).

Concerning *the macroeconomic evaluations of the active policies* in terms of what works and what does not, Martin (2000) concludes that the jury is still out on the matter. The results of the various *econometric analyses* are inconclusive, some studies appearing to show robust effects of active policies in terms of lowering the natural or equilibrium rate of unemployment or real

[12] For more detail on evaluating Active Labour Market Programmes see Heckman *et al.* (1999).

wage pressures, others appearing to show zero or insignificant correlations. This literature is bedevilled by a number of data and technical difficulties, notably *simultaneity bias* since cross-country comparisons reveal that the amount of spending on active programmes is positively related to the unemployment rate.

Betcherman *et al.* (2004) agree with this caution by stressing that it is increasingly *difficult to isolate impacts of particular types of programmes* because of a trend towards integrated service provision. Nevertheless, their review leads to a number of general conclusions.

Training for the unemployed. Participants often benefit from these programmes in terms of higher employment rates but not in terms of higher earnings.[13] Programmes seem to work best with on-the-job training and active employer involvement. Results are more positive for women than men.

Retraining for workers in mass layoffs. These programmes most often have no positive impacts, although there are exceptions. The few successful cases typically include a comprehensive package of employment services to accompany the retraining.[14] However, these are generally expensive.

Training for youth. These programmes are almost always unsuccessful in improving labour market outcomes, at least in developed countries. It makes much more sense to invest earlier in the education system to reduce drop-outs and other schooling problems. While there are few studies in developing countries, evaluations in Latin America do find positive impacts for programmes that integrate training with remedial education, job search assistance, and social services.

Public works. This can be an effective short-term safety net but public works do not improve future labour market prospects for participants.

Micro-enterprise development/self-employment assistance. There is some evidence of positive impacts for older and better-educated workers. However, take-up is low.

[13] They examined 49 evaluations of training programmes primarily aimed at the unemployed. These programmes are quite diverse but most have the objective of skills development through classroom and/or on-the-job training, which can include gaining work experience. The dominant methodological design for the training evaluations is quasi-experimental, with most applying matching techniques to analyse employment-related outcomes. The new wave of evaluations reinforces the view that the record for training unemployed workers is mixed. There are many programmes with positive results, especially in terms of increasing employment probabilities (as opposed to wage rates), but others appear to offer little benefit to participants. The evidence suggests that the design of the programme is critical for ensuring favourable outcomes.

[14] The common approach involves a combination of services where training is provided in a comprehensive package that also includes basic education where needed, employment services, and relevant social services. However, it is important to acknowledge that these comprehensive services approaches involve trade-offs: they are costly and cannot easily reach large numbers (Betcherman *et al.* 2004).

Betcherman *et al.* (2004) suggest that many findings from industrialized countries do seem to apply broadly to transition countries but – on the basis of what is still a small sample of studies – this is not always true in the case of developing countries. The much larger *informal labour markets* and weaker capacity to implement programmes may limit what some programmes can achieve in terms of creating formal employment or increasing wages. The few evaluations in these countries for *employment services and training programmes* for the unemployed are less positive than the (much larger) body of evidence in the OECD and transition countries. On the other hand, some *youth training programmes* in developing countries have much more positive impacts than are seen in OECD countries. It may be that such programmes in these low-income labour markets have more potential because abundant supplies of skilled workers are not available according to Betcherman *et al.* (2004).

For example, the World Bank (2008) finds that rising levels of education are producing higher earnings in the informal sector. In Ghana, using *household data* from the 2005 Ghana Living Standards Survey, the comparison of earning gains *estimated with multiple regression analysis* showed returns by level of schooling for self-employed workers in the urban non-agriculture sector that approach or match those of wage workers in the urban non-agriculture sector (Adams 2008, 2009).

Betcherman *et al.* (2007) seek to identify the determinants of positive programme impacts systematically. This is done by carrying out *a meta-analysis of the interventions* in the YEI and using *econometric methods* to combine and synthesize results from the individual studies to get an overall picture.[15] Their results suggest that there are no major differences across categories of interventions in terms of *impact or cost-effectiveness*. Three categories of interventions – making the labour market work better for young people (primarily wage subsidies, public works, and job search assistance), skills training, and comprehensive programmes – each had similar percentages of programmes with positive impacts. Although *entrepreneurship programmes* had the highest positive impact rating, the number of these interventions in the inventory is too small to draw firm conclusions. The meta-analysis found no statistically significant differences in the impact of the different programme types (Betcherman *et al.* 2007).

[15] To identify the determinants of programme outcomes more systematically, they carried out a meta-analysis based on the interventions collected by the inventory. A meta-analysis uses econometric methods to quantitatively combine and synthesize results from individual studies in a common field in order to get an overall picture. They chose this approach in order to analyse what types of youth interventions work best and what are the key features in implementation design and targeting that explain variations in employment and earnings outcomes under different economic and institutional conditions.

8.2.3 Rate of Return Calculations

As a routine task accompanying processes, evaluation is still not widespread in the TVET sector. When evaluations are carried out, this is often done to evaluate *effectiveness and efficiency of specific TVET programmes*, often driven by reasons of accountability. The broad panorama of evaluation methods and their possible mix described by Deitmer and Heinemann (2009) aimed at showing that there are areas of TVET where evaluation can have a suitable impact too. Focusing on the underlying learning processes and using also formative, processes-orientated methods is not a task that is easily integrated into TVET. They describe some of the most important preconditions and implications to expand the field of evaluation to TVET. Deitmer and Heinemann (2009) propose that when *evaluating learning processes*, we have to be sure to sufficiently involve the most relevant stakeholders: teachers/trainers and learners.

Betcherman *et al.* (2007) warn that the absence of rigorous evaluations almost certainly leads to an overestimation of programme impacts by policymakers. Properly evaluated programmes are less likely to lead to positive assessments of impact and effectiveness than judgements based on 'non-scientific' methodologies. In the absence of such evaluations, policymakers are likely to overestimate the benefit of their interventions and, as a result, allocate resources inefficiently.[16] This is a particular concern in developing countries where resources are scarce and evaluations are uncommon (Betcherman *et al.* 2007).

The majority of interventions included in the YEI appear to have positive labour market impacts for participants. Two specific *performance indicators* post-programme – employment and earnings – are considered in assessing programme 'impact'. *An assessment of impact* was possible for 172 interventions, where an assessment could be made regarding employment and/or earning outcomes; these included both programmes where only gross outcomes were available and those where net impact evaluation were carried out.[17] Of these 172 programmes, 132 (78%) were rated as having had *a positive impact* in terms of the employment and/or earnings of participants. When only programmes with

[16] Policymakers who tend to focus on *gross outcome measures* are generally overestimating how useful their interventions are in helping young people find employment or increasing their earnings. Ideally, programmes should be evaluated within a cost/outcome framework involving a comparison of the cost of a course of action (e.g. the cost to the individual of taking the course is the fee that has to be paid plus the value of whatever the individual has had to give up in order to participate in the training, e.g. after-tax earnings) with its outcome (Betcherman *et al.* 2007).

[17] The impact of such a programme on employment should be measured not by the proportion of trainees who get jobs (the gross outcome) but the difference the programme makes to that proportion (the net impact). Thus, a comparison has to be made with a control group, i.e. a group of people with the same characteristics as the trainees (age, sex, education, social class, etc.) save that they did not participate in the programme (Betcherman *et al.* 2007).

net impact evaluations were considered, *the share with demonstrably positive labour market impacts* for participants was 60% (44 of 73 programmes). In the case of many of these programmes, the assessment was made on the basis of gross-outcome data alone. But once *cost-effectiveness* is taken into account along with labour market impacts,[18] less than half of the programmes in the inventory could be judged as successful. However, of the 134 programmes assessed to have positive employment impact, only 25 had done *a cost–benefit analysis*.[19] Of these, 14 were cost-effective (56%), while 11 (44%) were not (ibid).[20]

Assuming that this observed *ratio of cost-effectiveness* applies to programmes without cost information, Betcherman *et al.* (2007) estimate the overall success rate of interventions, where 'success' is defined as having a positive labour market impact and cost-effectiveness. The authors' estimate, using all programmes with outcome indicators that about 44% of interventions were successful according to this definition. When they restrict their calculations to programmes with net impact evaluations, the estimated success rate is 33%.

EML Consultants (2009) carried out a study on the quantification of the economic and social benefits of vocational education in Sri Lanka. The results of their analysis show that the rate of return (ERR) of the entire TVET sector trainees is high, with an ERR of over 42%. All categories of institutes showed high economic benefits with the lowest being in other government institutes and the highest being in private sector institutes. The economic benefit–cost ratio ranged from 2.5 to 13.9 and the economic internal rate of return (EIRR) ranged from 19% to 124%. The private sector, National Apprentice and Industrial Training Authority (NAITA), Vocational Training Authority (VTA), and village level institutes showed high rates of economic return of over 50%, as well as high benefit–cost ratios.

Carnoy (1994) addresses the question of how to determine *the overall effect of the TVET system on efficiency and equity*. The aim is to suggest criteria to guide the allocation of public resources for education and training, to meet both efficiency and equity goals. Carnoy (1994) argues that the value of additional vocational education and training in (a) equalizing opportunity and (b) equalizing outcomes in a particular society needs to be measured. The first

[18] A relevant cost-effectiveness measure would be the extent of improvement in employability per unit of spending (Betcherman *et al.* 2007).

[19] Cost–benefit calculation consists of comparing the stream of costs attributable to the training with the stream of benefits resulting from it. The benefit–cost ratio is the discounted present value of the stream of benefits from the training (measured by its impact on the before-tax earnings of a trainee) divided by the discounted present value of the stream of costs (direct and indirect) attributable to the training (Betcherman *et al.* 2007). See, for example, GTZ (2009, Chapter 2) or EML Consultants (2009) for details and concrete examples.

[20] A programme is considered *cost-effective* if the evaluation results indicate that *the benefits* (e.g. reduced use of social assistance, increased tax gains through participants who found a job, increased earnings, etc.) exceed *programme costs* (income support, training material, cost of training, etc.). Since we are relying on available project documentation, specific methodologies used for the cost–benefit analysis can vary.

of the roles can be assessed by the amount spent by the public sector on TVET for various groups; the second by the 'employability' and the income gain to various groups associated with TVET (and various types of TVET).

Individuals and governments *incur costs in taking and providing TVET. The total cost of different types of TVET* is one measure of 'value', at least to the entity incurring the expense. If the economic value as measured by additional expected earnings (which incorporate the probability of employment), even in the short term, from a particular investment in TVET, is negative or low, *individuals* will not continue to incur the cost of that investment. Yet, Carnoy (1994) proposes that *governments* often will, for two reasons:

1. the public sector may consider that there is a high payoff to society in the longer term of developing certain skills in the younger labour force;
2. the public bureaucracy may consider that public spending on vocational education and training legitimizes the bureaucracy.

One of the most common methods of evaluating TVET programmes is to assess whether the programme *improves the probability of finding work*. Some studies have used the probability of employment to adjust the earnings of different groups. Other studies compare the occupation levels and employment patterns of graduates from different streams of education. Thus, in Colombia, vocational stream graduates tend to get semi-skilled jobs when they graduates from secondary schools, whereas academic streams graduates, even when they do not go on to university obtain access to jobs that provide more training and entrance to higher-skilled jobs. A third index of success is the percentage of graduates from a specific field of education employed in a related field of work. Carnoy (1994) argues that this matching is often better for *vocational secondary school graduates* than for those who take only academic preparation, and when vocational students are 'matched' to labour market demands their wages are significantly higher than those of academic graduates.

An analysis of data from eleven countries in Latin America by Psacharopoulos in 1994 showed that half of these countries (six) 'show that *the rate of return for vocational secondary education* is higher than that for secondary general education'. It was also reported from this study that, 'in seven out of eleven countries, *the private return* to secondary education does not differ between general and vocational education' (Yamada 2002).

Earnings differentials are the most common measure of the economic value of education and training. Even though a lot of years have passed since Mincer (1962) used income curves and some assumptions about *the payoff to education to estimate the value of training* associated with different levels of schooling, his analysis is still useful. In effect, Mincer measured the 'extra' income earned over and above a fixed return to education to measure the value of post-schooling training of workers in the labour force with different levels of formal education. He concluded that the steeper income curve of workers with secondary education, for example (as compared with those with primary schooling), was due to the greater investment in training made once

TABLE 8.5. Private rate of return to investment in education (+1 year), by level of education.

	Primary	Secondary	Higher
Asia	20	15.8	18.1
Europe/Middle East/North Africa	13.8	13.6	18.8
Latin America/Caribbean	26.6	16.0	19.5
OECD	13.4	11.3	11.6
Sub-Saharan Africa	26.6	17.0	19.0

Source: Psacharopoulos and Patrinos 2002.

they began working. Carnoy (1994) further argues that Mincer's method is useful because it *addresses the difficulty of separating education and training*; it measures the value of training as the discounted additional income workers get because of the learning opportunities that follow from their educational and occupational choices; and it provides *an overall methodology for valuing TVET as the discounted earnings stream realized by those who take it* (see EML Consultants, 2009).

Psacharopoulos and Patrinos (2002) provide a comprehensive review of four decades of estimating Mincerian equation across 98 countries. They find that:

- the rates of return are generally falling by level of education and level of economic development (Table 8.5);
- *the average private rate of return* to a year of schooling is 19%;
- the average returns are highest in Latin America and sub-Saharan Africa;
- while average years of schooling have increased, the rate of return is declining.

The basic finding is that more education raises wages and thus likely also economic performance. Other findings summarized in Te Velde (2005) include:

- Barro (1997) finds that one year of additional education raises growth by 1.2% per annum;
- Benhabib and Spiegel (1994) find low to negligible rates of returns to investment in education;
- Krueger and Lindahl (1999) find a statistically significant relationship between education and growth for countries with low-income levels;
- Wolff and Gittleman (1993) find that primary education is statistically significant for output per person in poorer countries.

Thus, while it is clear that higher educated workers earn more, it is less clear whether all types of education raise growth in all type of countries. The effect of education appears larger for low-income countries, and this might

be consistent with the hypothesis that education is important for catch-up. Generally it is important to distinguish between education that contributes to scientific advance and education that aims to create an absorptive capacity to foster the adoption and benefits from best practice technology. For example, Borensztein *et al.* (1998) suggest that education is important to benefit from inward FDI (Te Velde 2005).

Mincer's method can be extended to a much more detailed breakdown. Average age–income profiles can be measured for groups with different combinations of formal general schooling, vocational education, training and apprenticeships. Furthermore, VET can be categorized by occupational skills. Carnoy (1994) suggests that this would permit assessing the cost and value of each education/training 'path' to be assessed and even the implicit value of on-the-job training associated with that path to be estimated.

More recent studies have used a more flexible specification than the standard Mincer model. However, in part due to data limitations, the fiction that educational attainments can be ordered into an ascending sequence has been maintained.[21] But Year 12 completion and vocational qualifications are overlapping rather than sequential attainments. The failure to recognize this has led researchers to view that the return to completing Year 12 is quite high compared to the return to vocational qualifications. A related limitation is the almost exclusive focus on the average effect of education for the population as a whole. As a consequence, existing results on the return to Year 12 completion and VET qualifications present a confusing picture. Ryan (2002) interprets his results to imply that the return to a Level II VET qualification for those who have completed Year 12 is zero. The same result is obtained in a more explicit form in Leigh (2008). Given that the most common path to a Level III qualification is via an apprenticeship, the results imply that four years of post-school vocational education and training is a waste of time (Stromback 2009).

In contrast to the aggregate measures used by economists, research into the school to work transition has employed much finer measures of education and training choices. Because of this finer detail, this research is more attuned to the policy issues and has been very helpful in tracking the relationships between these choices and early labour market outcomes. This research agenda according to Stromback (2009) clearly recognizes the diversity and has contributed much to our knowledge of how well a particular alternative works for young persons who choose that alternative. However, describing these relationships does not uncover the causal effect of the choices. Stromback (2009) observes that this research does not explicitly address the 'what if' question that is of most interest for policy purposes. We know that those who complete Year 12 do fairly well, and better than those that do not, but not whether the early school leavers would have done better had they completed Year 12?

[21] For example, most statistical collection by the Australian Bureau of Statistics only records people's highest level of qualification. According to that scheme, any post-school qualification is ranked higher than a school qualification (Stromback 2009).

In contrast to previous studies Stromback (2009) uses the *treatment-effect approach* that is commonly applied in the field of policy evaluation. Thus, young persons are viewed as obtaining one or both of two treatments – completing Year 12 and obtaining a vocational qualification – or no treatment, leaving school before completion. To estimate the effect of these treatments Stromback (2009) used *the method of matching* rather than parametric models that allows for heterogeneous effects in a more natural way. Whether schooling and TVET is treated as single independent treatments[22] or combinations of multiple (i.e. Year 12 completion and TVET qualifications) treatments Stromback (2009) finds no significant effect on early career earnings from completing Year 12 or a TVET qualification while being largely independent of ability and socio-economic factors.[23] Stromback (2009) concludes that the main implication is that the return/effect to completing Year 12 takes a long time in coming and the benefits can be obtained in more than one way.

8.2.4 Rate of Return to Active Labour Market Policies

Carnoy (1994) discusses models of *estimating TVET equity effects*, which involve comparing what individuals from certain groups gain from their investment in TVET, corrected for the additional taxes they pay to the public sector, and the value to society of public spending on TVET. By comparing these two returns, he argues that it is possible to understand, in yet another and more comprehensive way, *the equity impact of investment in TVET*.

The most common form of measuring the net payoff to investment in TVET by both individuals or private enterprises and the public sector (i.e. ALMP) is *the rate of return*:

- the private rate of return (PRR) estimates the future income payoff to resources spent by individuals on various kinds of TVET;
- the social rate of return (SRR) estimates the future income payoff to the totality of resources (private plus public) spent on these same kinds of TVET (Carnoy 1994).

The coefficient estimated in the income equation represents PRR for the given age group, including income forgone as a private cost only. These coefficients are called *'Mincer (1974) rates of return'*. We can estimate PRR to TVET including

[22] Early studies, following the standard Mincer model, *forced educational attainments into a 'years of education' variable* by translating vocational qualifications into a year of education equivalent. More recent studies have used *a more flexible specification*. However, in part due to data limitations, the fiction that educational attainments can be ordered into an ascending sequence has been maintained (Stromback 2009).

[23] Ryan (2002) interprets his results to imply that the return to a Level III VET qualification for those who have completed Year 12 is zero. The same result is obtained in a more explicit form in Leigh (2008). Given that the most common path to a Level III qualification is via an apprenticeship, the results imply that four years of post-school vocational education and training is a waste of time (Stromback 2009).

all private costs (income forgone plus direct private costs, such as books, uniforms, school supplies and tuition) from a series of income equations, one for each age group, which yield age–income profiles by level and type of vocational education and training and by level of academic schooling. Once private direct costs are added to income forgone during the school years, these age–income profiles form the basis of the benefit and cost stream, in accordance with standard measurements of present value (ibid.).

The PRR provides a good starting point for analysing which groups in a particular country received high or low payoffs from TVET. *To estimate the SRR* on the same TVET and academic education, we simply add public spending per pupil on each type of TVET and on academic education to the private costs so as to estimate social costs, and use private income streams not corrected for taxes paid on additional income to estimate social benefits attached to each type and level of TVET and to academic education (Carnoy 1994).

We can estimate TVET equity between different groups using rates of return in two stages.

Stage 1. Using the PRR (corrected for taxes paid) and applying it to various levels and types of TVET, and assuming we know who obtains these various levels and types of TVET, we can see that the PRR shows who is receiving higher and lower payoffs to their investment.

Stage 2. Those groups with higher PRR may also pay higher taxes – sometimes even more in taxes than the public costs of the TVET. The difference between SRR and PRR (corrected for taxes paid) to various levels and types of TVET captures this concept of evaluating the impact on equity of public spending (Carnoy 1994).

In Latin America, payroll taxes have tended to be used to train workers and young people from lower social classes for production jobs. They are thus probably more redistributive than general TVET spending financed by value-added taxes or excise taxes which are predominantly allocated to higher vocational education. But payroll taxes may also have a negative distributive effect in reducing the demand for production labour. If we believe that this negative effect is offset by the positive equity impact of payroll tax-financed TVET, then payroll taxes also have a second positive feature – they can be seen as a form of 'earmarked' tax in the sense that they are destined for worker training which then also benefits the firms and the workers who pay the payroll taxes for the training (ibid.).

The OECD database covers five main categories of (ALMPs) as follows.

- Public employment services and administration.
- Labour market training is divided into two categories:
  - spending on vocational and remedial training for the unemployed;
  - training for employed adults for labour market reasons.

- Youth measures include:
  - training and employment programmes targeted to the young unemployed;
  - apprenticeship training, which is mainly for school leavers, not the unemployed.
- Subsidized employment is divided into three categories including:
  - assistance to unemployed persons who wish to start their own business;
  - direct job creation for the unemployed in the public or non-profit sectors.
- Measures for the disabled include
  - vocational rehabilitation – training and related measures to make the disabled more employable (Martin 2000).

Dar and Tzannatos (1999) have examined about 100 evaluations. Many of these studies have already been summarized by others (such as the OECD and the ILO), but they have also included a significant number of individual studies. However, *most studies apply to OECD countries* – mainly the United States, Canada, UK, Sweden and Germany (Dar and Tzannatos 1999).

Dar and Tzannatos (1999) suggest that the evidence points to some *generalizations about ALMPs*, which they summarize programmatically.

- *Public works* can help the more disadvantaged groups (older workers, the long-term unemployed, those in distressed regions) as a poverty/safety net programme. However, they are instruments as an escape route from permanent unemployment.
- *Training for the long-term unemployed* can help when the economy is improving.
- *Small-scale, tightly targeted on-the-job training programmes*, often aimed at women and older groups, offer the best returns. However, cost-effectiveness of these programmes is generally disappointing. The real rate of return is rarely positive, and they are no more successful than job search assistance programmes in terms of post-programme placement and wages.
- *Retraining for those laid off en masse* usually has little positive impact and, as is the case for the long-term unemployed, it is more expensive and no more effective than job-search assistance.
- *Training for youth* generally has a positive impact on employment prospects or post-training earnings – it clearly cannot make up for the failures of the education system. Taking costs into account, the rate of return of these programmes in both the short and long run is usually negative.

A very broad generalization on the effectiveness of these ALMPs leads Dar and Tzannatos (1999) to conclude the following.

- Some of these programmes – such as *wage subsidies or training for youth* – are unlikely to be cost-effective instruments in reducing unemployment.
- Some programmes – such *as job search assistance* – are likely to have positive impacts on the probability of finding employment if they are well designed and implemented. However, the impact and cost-effectiveness of most of the ALMPs depends not only on their design, but also on the overall macro and labour market framework in which they are designed (Dar and Tzannatos 1999).

The review by Betcherman *et al.* (2004) does not change the overall findings from the 1999 study on the impacts of ALMPs in any fundamental way. A wide range of results can still be found with some programmes demonstrating positive labour market effects for participants and others showing either no impact or even negative effects. Obviously, programme design and the context in which the programme operates matter a great deal as concluded by Dar and Tzannatos.

While it can be argued that the lessons from the OECD countries on the effectiveness of these programmes may not be directly applicable to developing countries, it is unlikely that these programmes will be more successful in developing countries given the scarcity of administrative capacity to implement these programmes and the paucity of monitoring and evaluation (M&E) experience to study their effectiveness according to Dar and Tzannatos (1999).

Moreover, the few existing rigorous studies of vocational training in developing countries evaluate Latin American programmes, and such studies neglect entirely programmes in Africa. To begin to address this gap in the literature an ongoing IGC project conducted by Hjort *et al.* (2011) aims to evaluate the impacts of a vocational education voucher programme among Kenyan youth, using *a randomized controlled evaluation design* together with an innovative panel data set. The study will explore whether subsidized vocational schooling can enable the unemployed and those with little formal schooling to move into new and higher-paying occupations, which are often found in cities. In particular, the project will examine the effect of vocational training on formal sector employment, labour market earnings, migration decisions, remittances, fertility decisions and other major life outcomes.

The results of the Hjort *et al.* (2011) study should help inform governments, policymakers, and donors of the economic returns to vocational education, allowing them to improve the effectiveness of such programmes in Africa. Moreover, their research design will provide an assessment of vocational education's potential to reduce or exacerbate interregional economic inequalities through migration and remittances. This IGC project is also designed to examine the different returns of private sector vocational training relative to public sector training.

The remaining sections of our chapter cover the remaining issues. In so doing, this improves our understanding of the institutional and implementation features that seem to be systematically correlated with better results, but which are not easily captured by using the econometric evaluation literature approach reviewed so far.

8.3 Institutional/Strategic Framework

Technical and vocational education and training is back on the international agenda. In the mid 2000s, the Commission for Africa, the Millennium Project and Summit, new World Bank policies on secondary, higher and general education, and on skills development, as well as the *World Development Report of 2007* on youth all argued that holistic, integrated, intersectoral approach education is crucial, including TVET. Increasingly, the Poverty Reduction Strategy Papers (PRSPs) will need to reflect this same comprehensive approach. While general absence of skills development in PRSPs has been recognized (Caillods 2003; ILO 2005), the World Bank notes that many governments in SSA have put policies in place that emphasize *training for the informal sector* (World Bank 2004), although it has been suggested that these policies tend to ignore the 'holistic' ones that, in fact, are related to the education.

Johanson and Adams (2004) argue that getting the macroeconomic context right remains the essential first step in focusing on skills development programmes, which in turn can have an incentive effect on investment. Training does not create jobs. Skills are a derived demand and that demand depends on policies for growth and employment creation, although these at times can be short-sighted. These points are emphasized in this section. Section 8.3.1 shows the importance of general education. Section 8.3.2 discusses the role of formal TVET schooling and vocational training in enterprises. Section 8.3.3 explains how to ensure good-quality TVET. Section 8.3.4 presents a few strategies for TVET in the informal sector, which starts by looking at the organization and for the development and implementation of a national TVET policy. Section 8.3.5 derives the implications for policy and practice in the informal sector. Section 8.3.6 briefly presents the organization for the development and implementation of a national TVET policy in various SSA countries. Section 8.3.7 looks at some of the major elements of such a national TVET policy by highlighting some recent cases of good practice in Ethiopia, Niger and Zambia.

8.3.1 The Importance of General Education for TVET

A long-standing debate within Western countries, but also evident in practice elsewhere (e.g. Brazil and China), is the degree to which education should be focused on developing specific vocational knowledge and skills, or be comprised of a form of education that generally serves as a foundation for paid vocations. In other words, whether workplace competencies or general

education should be the primary goal of education. Billet (2009) suggests that the emphases on specific occupational outcomes will probably fluctuate over time as economic circumstances change. As global economic competition has increased, many Western-style countries have intensified the focus on workplace competencies within vocational education supply rather than on more general educational outcomes. Where they exist, these *more general purposes* are sometimes manifested as more generic workplace competencies suitable for several occupations.

In many Asian countries, the provision of vocational education is that of *technology education* undertaken within schools by schoolteachers with limited experience outside the school classroom. Here, the educational processes and goals are developed through and enacted within the educational sector that is primarily concerned with general education. Yet, in a different way, in Russia and China there are levels of vocational education that are masked by activities across educational sectors more institutionally distinct than in other countries (e.g. colleges, polytechnics, universities). All this leads to provisions of TVET and professional practices that are in some ways distinct and hybrid in each country (Billet 2009).

During the 1990s, the international policy debate on education was mainly focused on *basic education*. Although skills training, apprenticeships and formal TVET programmes were seen as components of *the expanded vision of basic education* at the World Conference on Education for All (WCEFA) in Jomtien in 1990, where 155 countries joined together to adopt the World Declaration on Education for All (Hughes 2009), they have not featured substantially as a core element of the global agenda of education since that time. This could be associated with the donors' result-based management approaches which have a tendency to focus on quick and measurable results away from interventions with more long-term outcomes. Engberg-Pedersen and Fejerskov (2011) argue that result-based development aid has failed, for example because the MDG approach has led to significant construction of schools instead of addressing the more longer-term needs of training competent teachers or supporting educational reforms to ensure that the curriculum is up-to-date.

The World Conference Forum, held in Dakar, Senegal in 2000 noted that more than 100 million children were still not attending any school and that one-third of the world's population lived in countries where the achievement of the EFA goals was unlikely. Six areas were adopted to achieve EFA, specifying targets for achievement by 2015:

- in early childhood education;
- in UPE, including recognizing the needs of the most disadvantaged;
- *in access to learning and life-skills programmes for youth and adults*;
- in improving adult literacy levels;
- eliminating gender disparities;
- in improving the quality of education, especially in literacy, numeracy and essential skills (UNESCO 2000 quoted in Hughes 2009, p. 2039).

Although most countries are making substantial progress towards *attaining basic education for all*, the point remains that for countries to compete in the world economy their young people must be trained beyond basic education and that TVET needs to play an important role in this process (Hawley 2009). Responding to that position, Hughes (2005), in a paper titled 'Why access to TVET for all is essential if education for all is to be achieved', elaborated that the link between UPE and TVET is highly relevant, given the failure of so much formal education in addressing the needs of all students, particularly those for whom some forms of exclusion have reduced their life chances. Hence TVET provides low achievers with learning and life opportunities so that they are not kept out of school (UNICEF–WBI 2008).

The Jomtien Declaration went beyond the idea of UPE to use the term *'basic education'* defined by UNESCO in 2000 as 'the minimum skills and knowledge needed in order to be able to make a full contribution to one's local environment and to be in control of one's life,' by noting that problems with literacy and low school attendance are related to other social indicators: high birth-rates, high infant mortality; low agricultural productivity; lower life-expectancy; poor housing quality; limited access to clean water; restricted employment opportunities; and a lack of political participation. There is a strong correlation between all these figures and education: where there is deterioration in one indicator there tends to be deterioration in all of them. Basic education was seen as the essential tool for breaking this cycle of disadvantage (Hughes 2009).

The fact that the UPE goal remains unachieved after such a long and persistent effort points to the need for some *new initiative* to complement the continuing approach through primary and secondary education. *A partnership of EFA with TVET* can make major strides towards meeting the goal. Support for such a partnership now can provide a major boost to the achievement of EFA by 2015. This extension from literacy to multiple literacies was recognized at the General Conference of UNESCO in 2003 (Hughes 2009).

If the formal system is incomplete and the achievement of UPE is inadequate, this will still leave a substantial proportion of people excluded from opportunity. Nepal, for example, has a population of 23 million people, mostly in rural areas, with 2 million children working in agriculture. It is estimated that 54% of children never complete primary school. *A radical change of approach* is necessary to deal with this reality. Hughes (2009) proposes an approach that provides skills for work and that can help transform attitudes. The priority in Nepal and other developing countries is to meet the current needs for primary education while also providing help to the most vulnerable groups, including skills development.

Technical and vocational education and training is specifically designed to provide access to productive work and competency-based curriculum because of its focus on technologies and related sciences as well as the acquisition of practical skills relating to occupations in various sectors of economic life and social life. Access to productive work is one need, but so are the creative attitudes relevant to seeking and finding work. Recognizing that UPE entails the

need for coherent pathways to further education and to skills for employment and self-employment, an international consensus was reached on the need for a holistic, integrated, intersectoral approach to education, including TVET.

Many African countries are seeking new approaches. The lead YES agency of Burundi teamed up with the Dutch YES team. The purpose was to fund a micro-credit scheme for Burundian families. 'About 37 families received €100 each to begin micro-enterprises activities in late 2002. Other activities included *technical training* provided by the lead agency for youth to set up small businesses in different villages. Additional school materials were provided to assist' (Holmes and Tschanz 2004, quoted in Hughes 2009, p. 2047).

Mali provides an interesting example of a country that has made great advances, but that still faces severe problems. The gross enrolment rate (GER)[24] for the primary education level (ISCED1)[25] was 7% in 1962 increasing to 62% in 2002. An effort on this scale has its costs. *The total education sector* currently accounts for around 30% of the overall central government budget. The priority accorded to TVET expressed in capital expenditure terms is evidenced by the fact that in 2008 TVET drew nearly 15.6% of investment expenditure in Mali, against 12.7% in 2005 (OECD and AfDB 2008; see Table 8.6). The gains in primary education are striking, but it is a heavy strain on limited resources. Also, this success leaves a difficult problem untouched. The socio-economic development of the country has been substantial, but there is an extra challenge because *disadvantaged groups still have limited access to vocational skills*. The government is using non-formal education programmes to provide literacy and basic education, as well as vocational and rural skills training. These are combined with microfinance schemes at the village level to provide extra opportunities (Holmes and Tschanze 2004, quoted in Hughes 2009).

In Uganda the Education Sector Plan envisages that Business TVET will become an alternative to academic education in the last two years of the secondary level, rather than an alternative to the early years of secondary education (OECD 2008; see Lauglo and Maclean 2004).

Moreover, there is an obvious difference in the way TVET is organized in French-speaking African countries such as Mali and English-speaking countries such as Uganda. This is attributable to the colonial influences that have largely been retained to date with minimal modifications. In Algeria, Morocco, Senegal and Tunisia, which are all Francophone, TVET retains a fairly large amount of *general content* as has been the case with TVET in France. However, lack of specificity towards vocational contents has the disadvantage of delinking the TVET courses from the mostly informal labour-market skills. Atchoarena and

[24] Total enrolment in a specific level of enrolment, regardless of age, expressed as a percentage of the eligible official school-age population corresponding to the same level of education in a given school year. It indicates the capacity of the education system to enrol students of a particular age group. *Source*: http://glossary.uis.unesco.org/glossary/en/home.

[25] ISCED stands for 'International Standard Classification of Education' (ISCED 1: Primary education (ISCED97)).

Delluc (2001) found this to be the case in their study of TVET in Côte d'Ivoire, Madagascar, Mali and Senegal, where the informal sector, especially micro-enterprises, is totally ignored by the programmes and patterns of TVET delivery. Originally modelled on the French school system, TVET in these countries has often not fully taken into account the possibilities of traditional apprenticeship for meeting the needs of the artisanal sector (Oketch 2009).

In contrast, Anglophone countries display a much stronger experience, both in dual forms of public-sector training and in the provision of training for the artisanal sector (Atchoarena and Delluc 2001). In the case of these English-speaking countries, the vocational content is generally high and the academic content is extremely limited. While this has the advantage of reflecting specificity in terms of the skills needed in the informal sector, where more jobs continue to be created, Oketch (2009) argues that it has the disadvantage of limiting progression to higher levels of education or movement between vocational and general institutions (see De Moura Castro 1988). This high level of specificity leads to narrowness, an issue that often makes TVET less appealing, relegating it to a type of education only capable of leading to what many refer to as 'dead-end' jobs (Oketch 2009) (see Section 8.4.3).

There are some emerging trends in countries such as Botswana, Ghana and South Africa,[26] where TVET has been 'modernized' from the traditional apprenticeship schemes to programmes that *permit movement into the national training system.* The aim of this approach is to include a balanced proportion of *general and vocational content* that would enable participants to move both laterally within the TVET programmes and vertically to general or advanced education institutions. This progression within and between TVET and general education, when fully implemented, can create a breathing space whereby the education system responds to the types of skills demanded for the labour force at different periods (Oketch 2009). Moreover, it has been argued that adding vocational elements to primary school curricula or ensuring that basic education school-leavers are literate and numerate is the best way of preparing them for further training and also making them ready for the world of work (Ahadzie 2009; see Herrington *et al.* 2010).[27]

So why is Africa's youth unemployed? One of the main explanations is the low literacy and numeracy rates. Africa has the worst education outcomes of any continent. Although wage rates are low they do not compensate for low productivity and investors have shied away from starting labour-intensive

[26] In 2003 the International Mathematics and Science Study (TIMSS) surveyed 50 countries including South Africa, Botswana and Ghana. Not only did these African countries perform better than South Africa, but there was evidence that other African countries would also have performed better than South Africa had they been included (Herrington *et al.* 2010).

[27] The *Global Competitiveness Report 2009–10* cites South Africa's inadequately educated workforce as the second most problematic factor for doing business in the country. South Africa is ranked 45th out of 133 countries overall by the GCR. However, this ranking plummets to 107th in terms of the quality of primary education (down from 104th the previous year), 119th for quality of higher (secondary and tertiary level) education and training (down from 110th last year), and a dismal last in terms of the quality of maths and science education.

businesses in Africa (World Bank 2011). Creating productive employment opportunities for Africa's youth has proved challenging for Africa's policymakers and those that have attempted to support them. Part of the reason that this problem has proved so intractable is that an effective approach must draw on a myriad of disparate solutions. To be successful, African leaders will, for example, have to overhaul flawed education systems and ensure access for the most disadvantaged children; and improve skills starting with basic literacy and numeracy and including cognitive skills, problem solving and developing managerial talent (World Bank 2011), which we will take a closer look at in the rest of this chapter.

8.3.2 The Role of Formal Schools versus Enterprises and Other Forms of Productive Activities in TVET

For many years, state provision dominated the field of education in many African countries. However, over the past 20 years, private provision has been steadily growing. This has happened as state provision has either found it increasingly difficult to expand and cope with increased demand for education or simply because the state's capacity to monopolize provision of education has generally deteriorated and become unattainable. This can also be said of the TVET sector. Moreover, the MDG quest to achieve UPE has incrementally absorbed a larger share of the public sector's educational resources often at the expense of both TVET and higher education (see UIS).

Atchoarena and Esquieu (2001) conducted research on this phenomenon and documented patterns of provision and policy issues with reference to private technical and vocational education in SSA. They conclude the following.

- Private provision of TVET is growing rapidly and even dominates in some countries.
- There is heterogeneity in private provision with key aspects, such as legal status, ownership, objectives and financing, most difficult to establish clearly.
- The majority of private TVET institutions enrol students from low socio-economic backgrounds.
- A sizeable number of private institutions cannot be properly traced in government registrations records, implying that they operate illegally.
- Many of the private providers offer courses with a high concentration in commercial trades, although there are also a few cases such as Mali, where 21% of the offering are in technical areas (such as light industrial skills).
- Given the private nature, tuition fees are the main source of operational resources for these institutions.

- The private sector has the benefit of tailoring the courses to the labour-market demands and seems to be flexible in adapting to demand (Oketch 2009) as well as to the social demand for 'modern' skills such as computing, administration, management where the demand is low.
- There is little evidence to indicate a close working relationship between enterprises and the private institutions. In most cases, it is up to the students to choose what they would like to specialize in by themselves. The degree to which they respond to the actual needs of the enterprises is thus less known (Oketch 2009) as is the trainers' skill level.

In Ghana, there are 160 TVET institutions run by the government agencies and 250 registered private institutions. It is thought, however, that there could be approximately another 700 unregistered private providers. Private technical and vocational institutions run a variety of courses in Ghana which last an average of three years. Their students take the City and Guilds of London Institute or the Ghana Education Service Craft examination, or the National Vocational Training Institute (NVIT) Craftsman or Trademan Grade examination (Oketch 2009).

Thus, competencies can be acquired either through structured training in public or private TVET schools and centres, or through practical experience on the job in enterprises (workplace training in the formal sector and informal apprenticeship), or both (the so-called *'dual' training*, involving a combination of workplace and institution-based training) (OECD 2008; De Largentaye 2009).

In Mali, the effort to address the needs of the real economy has led to support a 'dual' training system. Formally introduced in Mali in 1997, *dual training* is a training system which combines work supervised by a trained artisan (80% of the training time) and formal courses in training centres (20%). Evaluations confirm that the dual system improves skills significantly and contributes to social inclusion and to improved employment (De Largentaye 2009). The seven country studies surveyed by Walther (2007) showed that traditional forms of youth training in workshops are in fact the point of departure for the slow (cf. the issue of short-term efficiency versus long-term impact) but far-reaching transformation of crafts apprenticeship into *dual systems* that combine on-the-job and theoretical training. The changes taking place vary from country to country, but everywhere they entail the structuring of established practices through the progressive introduction of interaction between practice and theory. The AFD field survey showed that schemes to structure and progressively improve apprenticeship practices that involve all of the partners concerned are the best way to help young people vitalize their professional trajectories (Walther 2007). Additionally, there is also the key issue of the long process of setting up professional organizations as the interlocutors of the relevant public authorities.

The private sector is now routinely involved with the Ministry of Employment in the design of programmes and in the quantification of training needs for *the dual system*. However, the scope of the dual training system in Mali remains

small, with about 1,000 apprentices graduating every year, as compared to the 300,000 or so entering the labour market.[28] Scaling-up requires: the extension of the system to a variety of activities; a better control of costs, which currently vary between 60 and 1,000 euros per trainee *per annum*; and a proper training certification system (De Largentaye 2009).

8.3.3 Policies for Ensuring Good Quality in TVET, Including Monitoring and Evaluation Mechanisms

Aside from the early criticisms by Foster (1965), numerous concerns have been voiced over the past decade. Atchoarena and Delluc (2001) summarize them in Africa in terms of

- poor quality,
- very high costs,
- training not suited to actual socio-economic conditions,
- disregard of the informal sector's needs,
- disregard of the labour market and of the high unemployment rate among graduates (quoted in Oketch 2009, p. 541).

Indeed, in the bulk of the African countries, the lack of funding of formal TVET has led to the obsolescence of equipment and weak managerial capacity, which in turn *affect the quality of training programmes*. Moreover, the oversight responsibility for TVET is in general shared between the ministries responsible for education or technical education and labour or employment, although some specialized vocational training programmes (in agriculture, health, transport, etc.) fall under the supervision of the sector ministries (OECD 2008).

Most programmes emphasize the improvement of skills of the youth labour force or support the creation of youth entrepreneurs, and the emphasis is placed on improvement of quality in the supply of employable labour. As for demand, emphasis is placed on creation of an environment conducive to the growth of the private sector – a measure that has indirect, but nevertheless important, implications in the creation of employment for youth. However, UNIDO, African Union *et al.* (2007) argue that the two aspects should not be isolated from one

[28] According to the latest UIS data (table 3F) available in 2010 in Mali the total enrolment in secondary all grades was 654,619 up from 597,039 in 2009 (table 1). The total enrolment in lower secondary, public and private all programmes in 2009 was 510,651 (table 3B). The entrance age of lower secondary is 13 and the duration of lower secondary is 3 years, whereas the entrance age at upper-secondary is 16 years and the duration of upper secondary is 3 years (table 1). The total enrolment in upper secondary, public and private, all programmes in 2010 was 247,634 (224,732 in 2009) of which enrolment in upper secondary, public and private, TVET programmes was 104,666 in 2010 up from 89,032 in 2009 (table 3B). Hence, the total secondary, public and private, all programmes enrolment was 758,285 in 2010 up from 686,071 in 2009, with total, public and private, TVET programme enrolment equal to that of the upper secondary level (table 3B in UIS database).

another, but be undertaken in a linked and complementary manner. There is need, therefore, for concerted efforts to seek a more direct role for the private sector in programmes that generate jobs for youth.

In order to improve the participation of young and disadvantaged groups in the labour market, the Latin American governments have been implementing several policies. Some policies deal with the structural causes, such as the coverage, access and *quality of basic and secondary education*. Two influential demand-driven training programmes, the Mexican Probecat (1984) and Chilean Joven, have laid groundwork for this type of programmes.

The Chile 'Joven' vocational training programme, which started in 1992 with the support of the IDB, was based on youth training experiences in the United Kingdom and the United States. Building upon the existing training system in which the state had *a regulatory and supervisory role*, and in which private training firms had to be accredited by the state agency to be entitled to tax-deductible training costs, the government created a new programme that was *under the supervision of the national agency* that oversees the private vocational training, which is named the National Training and Employment System (SENCE). The mechanism innovated in Chile was internalized by the IDB and (with the participation from the International Labour Organization (ILO), which also supported governments in preparing proposals for this type of operations) it was later replicated throughout Latin America: in Venezuela (1993), Argentina (1994), Paraguay (1994) and Peru (1996) in the early-to-mid 1990s, and later in the Dominican Republic (1999), Colombia (2000), Panama (2002) and Haiti (2005) (Ibarrarán and Shady 2008).

In Argentina growth stalled again in 1995 and unemployment never stopped growing, reaching 30% for youth aged 15 to 24 in 1999. As a result of these uncomfortable statistics, the Argentinean government took several initiatives both to reduce unemployment and to avoid its worst consequences. The Programa de Apoyo a la Reconversión Productiva funded by the IDB was one amongst others and the Proyecto Joven was part of this loan. Claudio de Moura Castro (1999) examines this Proyecto Joven Argentine programme for the purpose of training unemployed youth in semi-skilled occupations. The programme was found to be innovative in many respects, successful in unexpected ways but in need of revisions. The project contains important innovations at the management level. It is noteworthy that all the training is outsourced from ministries of labour and/or local government to private and public providers through the purchase of training by competitive bidding in the private and public market, instead of trying to create a training system or rely on the regular training institutions. The same is happening with some control, evaluation and auditing processes. This avoids the chronic problems of civil service operation and creates checks and balances between execution and funding decisions. The quality and dedication of the management was considered to be one of the reasons for the success of the programme, which seems professionally run and well monitored. Internships are beneficial to students and reduce the mismatch between training and demand.

However, de Moura Castro (1999) warns that the immediate impact is probably less convincing than it appears at first sight. Evaluations indicate that about 30% of the graduates get a job after the internships and that up to 70% are working after six months. These he argues are internationally respectable results. But the same international experience shows that while in most programmes the tracer studies show very encouraging results, when stricter methods are used to establish control groups the benefits drop precipitously. Given the methodological weaknesses in the creation of the control groups, the programme cannot convincingly avoid the scathing criticism levied at other similar programmes, claiming that they help little to alleviate unemployment.

8.3.4 Strategies and Structures for Non-formal TVET

There are three main schools of thought regarding the relationship between the formal and informal economies.

The dualists: the informal economy is a separate marginal economy not directly linked to the formal economy, providing income or a safety net for the poor (ILO 1972).

The structuralists: the informal economy is subordinated to the formal economy. In order to reduce costs, privileged capitalists seek to subordinate petty producers and traders (Castells and Portes 1989).

The legalists: informal work arrangements are a rational response by micro-entrepreneurs to over-regulation by government bureaucracies (de Soto).

In fact, it has increasingly become clear that there are many interdependencies between the informal and the formal economies. Market links exist through the trade of goods, raw materials, tools and equipment and acquisitions of skills and know-how. Informal actors provide services to formal actors on a subcontracting basis. In addition, individuals can participate both in the formal and the informal economies (Flodman Becker 2004).

The informal sector of SSA has become a growing source of employment for large numbers of youth, but also for older workers pursuing entrepreneurial goals and others adjusting to structural changes in the region's employment (Johanson and Adams 2004). Initially viewed as *a safety net* for those unable to find employment in the modern sector, the image of the informal sector has begun to change with time and the education of those entering it. More workers have begun to view it not as a temporary stop while searching for employment in the formal wage economy, but as a preferred destination offering opportunities to those wanting to become entrepreneurs (Adams 2009).

Informal employment has been persistent and has been rising in many regions of the world. During the 1990s, informal work in the non-agricultural sector represented 43% of employment in North Africa, 57% in Latin America, 63% in Asia and 75% in SSA. Including *traditional agriculture*, the percentages were even higher. In SSA percentages stood at 95% in Benin and 90% in

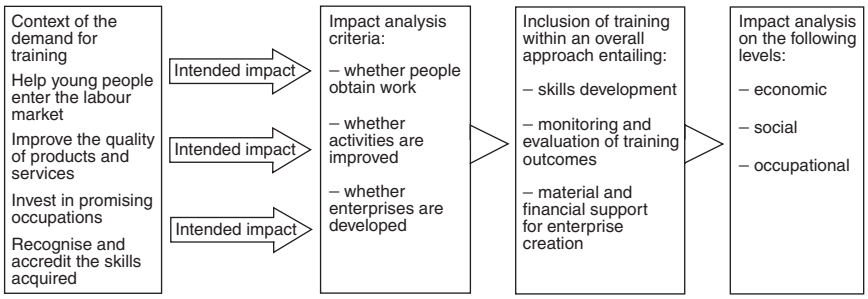

FIGURE 8.2. Training as one element in the overall informal sector development process. *Source*: Walther and Filipiak 2007.

Cameroon, Ethiopia and Senegal. Two-thirds of the people of SSA are less than 25 years old, compared to 30% in Europe. Field studies by AFD such as some recent field studies carried out by Walther and Filipiak (2007) in seven African countries (Angola, Benin, Cameroon, Ethiopia, Morocco, Senegal and South Africa) show large youth cohorts entering the labour market. In South Africa, every year there are 826,000 school leavers and in Benin 200,000. Whereas equivalent figures for annual labour demand are not readily available, the formal economy is clearly unable to cater for this employment demand. Most school leavers, especially early school leavers, make *a living as self-employed in the informal economy*. With little access to formal vocational training, the vast majority resorts to makeshift mechanisms in the informal economy (e.g. on-the-job training or traditional apprenticeships) (Adams 2008, 2009; de Largentaye 2009).

The analysis by Walther and Filipiak (2007) of the situation in the seven countries surveyed makes it possible to identify a number of key factors for stimulating the informal sector in Africa (Figure 8.2).

Walther and Filipiak (2007) suggest that these factors offer some useful guidelines for further reflection and sequential action. Firstly, they determine the conditions required if appropriate context specific intervention in the informal sector is to help it thrive and progress from being a subsistence economy to one of growth and development. Secondly, they provide the basis for a range of recommendations on how to refocus local, national and international policies on objectives and modes of action that are truly adapted to the specific circumstances of this economy, whose main benefits are that it gives work and income to those who would not otherwise have any, and is a potential source of growth and development.

The AFD field surveys carried out by Walther and Filipiak (2007) clearly showed that *training schemes in the informal sector are only truly effective* when their promoters tailor them to the social and economic situations they are supposed to improve or develop. The surveys also clearly revealed that the effectiveness of such schemes depends on their being part of a larger process of means to implement the expected outcomes.

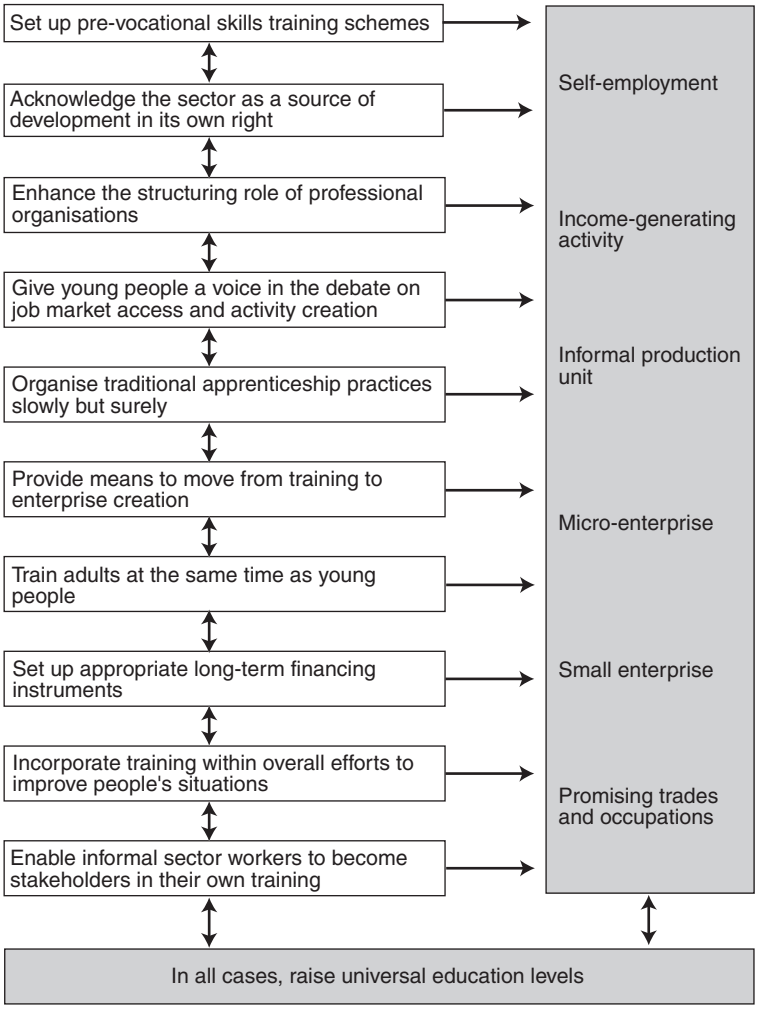

FIGURE 8.3. The process for developing a thriving informal sector through TVET. *Source*: Walther and Filipiak (2007, p. 18 and p. 184).

The comparison by Walther and Filipiak (2007) of the seven countries' respective situations helped to identify *10 major factors or guidelines* to ensure that vocational training in the informal sector has the means to increase the skills and qualification levels of employees and micro-entrepreneurs, and make a positive contribution to their working conditions and the profitability of their activities. Figure 8.3 gives a coordinated, interactive overview of the means and conditions for effective intervention in the informal sector.

These 10 key factors are interconnected elements of an overall process to ensure *effective delivery of training in the informal sector*. Ultimately, they constitute some useful guideposts for further reflection and action. First, they determine the conditions required for intervention in the informal sector to

help it thrive and progress from being a mere subsistence economy to one of sustainable growth and equitable development. Second, they provide the basis for a range of recommendations on how to refocus local, national and international policies on objectives and modes of action that truly suit the specific circumstances of this economy, whose main usefulness is that it gives work and incomes to those who would not otherwise have any, and is a potential source of future growth and development (Walther and Filipiak 2007).

Many governments in developing countries have begun to respond to the training deficit with strategies and policies based on a 'demand-driven' approach to VET that stimulates the 'production' of trainees with competencies, defined explicitly by the employment sector. In some countries, this has included greater attention to training that occurs in the informal production, service and commercial sectors. Emphasis is being put on raising the quality of training and performance in order to strengthen simultaneously the economic welfare of individual artisans and their families and of the society. Singh (2009) proposes that an implicit goal of such a process is the eventual *'formalization' of the informal sector*, in order to raise the economic and social benefits of the 'sector'.

Muskin (2009) examines the potential of the informal sector to contribute to the readjustment of national TVET strategies and policies, drawing on research conducted in Chad in the mid 1990s. Following other researchers, Muskin has tried to reveal the 'quality' of skills required to operate productively in the informal sector. The training needs include: fundamental theory; elements of basic design; techniques and basic knowledge; specific products and services; basic business skills, attitudes and habits, organization of operations; fundamental cognitive skills and basic school-related technical skills. The basic challenge of training for informal sector participation is to prepare both future and current owner-operators with satisfactory competence equally as technicians and entrepreneurs, covering each of these eight categories. Training has to take into consideration the diverging training needs in terms of content, as well as delivery of the 'low' and 'high' end of the informal micro-enterprise (IME) sector (Singh 2009).

In close association with the pervasive informal sector is the increasing interest in the so-called '*system of traditional apprenticeship*'. This is not surprising, given that this 'system' has proved to be an enduring and an effective source of skills for many developing countries. But its resilience is also attributable to its positive association with the equally pervasive informal sector of West African economies. Perhaps a more engaging argument for the resurgence of interest in traditional apprenticeship is the inability of formal systems to deliver the types of skills that are required to ensure employability of the ever-increasing new labour market entrants and to contribute to overall poverty reduction (Fluitman 2005, referred to in Ahadzie 2009).

In addition to traditional apprenticeship models, there are attempts to provide *pre-employment skills training* through short-term training programmes. These aim to transfer skills for self-employment quickly. Palmer (2009) argues

that in order for skills acquisition to be more effectively translated into skills utilization, programmes need to be accredited only and when they meet the required standards of good delivery and quality learning and training (Singh 2009).[29]

The problem facing most youth as they graduate from self-employment-orientated TVET programmes is that, while they have acquired skills during their training, most find it very hard to utilize these skills productively in the labour market. Indeed, Palmer (2009) finds that the environment in which most graduates trained find themselves is quite disabling. Most quantitative studies fail to account for the transformative context, or the different types of environment into which school, TVET or apprenticeship graduates emerge. Usually, the generic returns for different levels of education or different types of occupation are simply stated. But research would suggest that the returns to education and skill acquisition are markedly higher where there are other supportive measures in place as shown in Palmer (2007b).[30]

8.3.5 Implications for Policy and Practice in the Informal Sector

The major message from the Muskin (2009) study is that apprenticeship training may represent a major approach for creating future producers and service providers in what was, and likely remains, the most important economic sector in the majority of SSA countries. More particularly, the analysis yields four recommendations for improving training in Chad's informal sector.

- *An institutional capacity* (public, private, or more likely, mixed) should exist to assist the informal sector's members, individually and collectively to asses and articulate their specific training needs.
- *Policies should be adopted and strategies designed* to improve the quality of apprenticeship training.
- Any improvements to apprenticeship training should be matched with effort to provide *professional skills up-grading to the entrepreneurs.*
- These three recommendations imply *greater coordination and cooperation* across the informal sector and within the individual vocational areas.

[29] A good example is Edexcel, a Pearson company, which is the United Kingdom's largest awarding body offering academic and vocational qualifications and testing to schools, colleges, employers and other places of learning in the United Kingdom and internationally. Accreditation from Edexcel service can recognize and accredit professional bodies' in-house training programmes against international quality standards.

[30] Much can be learnt from how the formal enterprise environment is measured in developing countries, for example in the World Bank's 'Doing Business' surveys, its Regional Programme on Enterprise Development data on investment climates, or its enterprise surveys. However, the formal enterprise environment is very different from the informal micro-enterprise contexts (Palmer 2007b).

> One measure of improved performance is the achievement of greater efficiency. As such, Muskin (2009) proposes that the members of the informal sector and each vocation should move to greater coherence in the definition of the skills, as well as the methods by which to attain, transfer, maintain, expand and certify them.

The preceding recommendations also suggest the value of further developments in the participation by governmental and non-governmental agencies, as well as the private sector, in supporting the informal sector. This approach may arguably represent the best chance for the informal sector to emerge from its present 'inertia' according to Muskin (2009).

Furthermore, Ahadzia (2009) proposes that expanding the traditional apprenticeship system depends on pursuing policies that reduce the costs of training and improve access to credit, raw materials, technology and markets for the craftsmen. These are beyond the immediate control of the craftsmen themselves. The responsibility to formulate such policies falls essentially on state and non-state actors outside the apprenticeship system. Collaboration among all partners will arguably according to Ahadzia (2009) create the appropriate policy intervention for expanding the training system.

Finally, from the review of *the criteria for training policy in the informal sector* in Latin America, Pieck (2009) draws the conclusion that *an integral approach is indispensable*. Clearly, what is needed today is a strategy capable of reconciling policy in the fields of education, occupational training and employment. Today's problems suggest the need for *professional and occupational training councils* that would include the following among their key functions:[31]

- orientating and coordinating the initiatives of the various institutions that relate to this field;
- setting up links between institutions of various sectors (NGOs, the private sector, public organizations);
- helping to design methodologies and strategies capable of meeting the training needs of the informal sector.

According to Pieck (2009) this strategy would seek to quantify the conception and practice of occupational training on the basis of the confluence of actions and actors who at present neither identify themselves with this activity nor are part of it.

[31] They could for example promote and coordinate various local activities in relation to professional training and, particularly, the practical training of students at local authority schools, at the same time encouraging industrial placements in companies and involving students in the most detailed, motivating and responsible learning process to complement that given in the classroom, by placing the student in the world of work.

8.3.6 Organization for the Development and Implementation of a National TVET Policy

Human-resource development strategies in African countries aim to pursue the development of skills at all levels of the spectrum (low, intermediate, and high levels), but each country needs to emphasize *the mix of skills* that best corresponds to its stage of economic development and the needs of the local labour market. In 2007 the OECD Development Centre and the AfDB within the African Economic Outlook (AEO) project carried out a review of TVET systems in 34 African countries, which revealed that *the current status of TVET systems in Africa* differs from country to country and TVET systems are delivered at different levels in different types of institutions, including technical and vocational schools, polytechnics, enterprises, and apprenticeship training centres (Abdul-Wahab and Afeti 2009). Moreover, technical and vocational skills are delivered through a wide range of modalities and actors (OECD 2008). The findings in the AEO 2008 Report illustrate how these countries have managed to put the development of skills at the centre of their development strategy.

According to OECD (2008) most countries in the sample have a primarily school-based model, where education is provided in specific schools or colleges with workshops for the practical training. In general, students enter the vocational education tract at the end of primary school, corresponding to 6–7 years of education as in countries like Sierra Leone, Burkina Faso and Kenya or at the end of lower secondary school (ISCED2), which corresponds to 7–9 years of what is called basic education in e.g. Ghana, Mali, Nigeria and Swaziland. The duration of school-based TVE is between 3 and 6 years, depending on the country and the model. Some countries, e.g. Ghana, Senegal, and Swaziland, in an attempt to expose young people to pre-employment skills, have incorporated basic vocational skills into the lower secondary school curricula (OECD 2008).

Evidence shows that success in getting more children into primary school leads to increased demand for secondary education. More attention is being given to diversified approaches to education which includes vocational and skills development (Levesque 2007). Some countries adopt an enterprise-based model through apprenticeships. Education and training alternate between theoretical education in a school context and practical training in an enterprise (which account for about 50–70% of the pupils' time). In other countries, the delivery systems combine school-based vocational education and apprenticeship. This model attempts to combine advantages of the school-based model and of the enterprise-based model (OECD 2008).

Seventeen countries in SSA have presented draft *comprehensive sector-wide education plans for 2015*. Main regional grouping country examples of the expansion of vocational education and skills include the following.

Common Market for Eastern and Southern Africa (COMESA).

- Ethiopia: increase in admissions to TVET from 94,592 (2005) to 312,826 (2010) and 624,095 by 2015. New standards and programmes for TVET.

- Kenya: improving TVET, tertiary education and adult literacy.
- Rwanda: 50% increase in the number of TVET institutions.
- Uganda: New technical/vocational qualifications framework.

Economic Community of West African States (ECOWAS).

- Sierra Leone: more private investment in education at all levels and more direct links between education and employment.
- Gambia: 50% increase in the number of TVET institutions. Revised standards and programmes for TVET.
- Ghana: 50% increase in the number of TVET institutions.
- Senegal: Second priority is TVET in order to have a qualified and skilled labour force.

Southern African Development Community (SADC).

- Malawi: optimizing private sector participation in basic education and in TVET.
- Mozambique: increasing participation in secondary education and TVET.
- Namibia: doubling of enrolments in TVET by 2011.
- Tanzania: 30,000 full time and 35,000 part time and distance learning students in technical and higher education, by 2008.

8.3.7 The Major Elements of a National TVET Policy

The joint OECD–AfDB AEO review of the successful African countries' experiences suggested eight necessary conditions for formulating and implementing successful TVET strategies:

1. adopting a clear vision and leadership at the highest political level;
2. improving forecasting and planning for skill needs;
3. improving the quality of TVET;
4. addressing the skill needs of the informal sector;
5. facilitating the growth of the productive sector through technological learning and innovation;
6. fostering partnership with all stakeholders (i.e. the government, social partners, business associations, and various stakeholder groups in the formal and informal sectors of the economy);
7. involving the local communities;
8. strengthening local management of TVET through the delegation of responsibilities to regional authorities.

TVET systems, under the assumption that they do exist, in a growing number of African countries are undergoing or have undergone promising reforms that are designed to build on the inherent strengths of the system. In the ECOWAS countries this is no exception. The major reforms concern the following.

- Adopting national strategies and derived policies for TVET – Burkina Faso, Senegal, Mali, Ghana, Gambia, Niger, and Nigeria.
- Have or are in the process of setting up of national TVET bodies: Gambia, Ghana, and Nigeria.
- Have or are in the process of developing National Qualification Frameworks (NQFs) (National Vocational Qualification Frameworks (NVQFs) in Nigeria; National Skills Qualifications Framework (NSQFs) in Gambia).[32]
- Adopting updated competency based curricula more aligned with the labour market needs: Nigeria, Gambia, Senegal, and Burkina Faso.
- Linking training to employment (either self or paid employment) (Abdul-Wahab and Afeti 2009).

World Bank (2006) argues that, for reforms to succeed, close involvement of the private sector (both formal and non-formal/informal) at all levels – from policymaking to being involved in running institutions and investing in skills development, is critical and the government is working closely with the private sector to move forward in transforming this vision into reality. In the ensuing subsections we will highlight two recent examples of TVET strategies considered successful by many TVET experts, namely that of Ethiopia and Niger both undertaken in 2007 as well as Zambia, which had seen the growth of the total TVET enrolment increase the most.

Ethiopia's TVET Strategy

The significant increase in TVET enrolment in Ethiopia has been managed by a combination of government funding, intensive short-term teacher training and building of TVET centres. However, the rationale was still that of a supply-driven system. Hence, the future stages of the TVET reform require a paradigm shift towards a demand- and outcome-driven system (cf. ADEA 2011). This holds not only for the training itself, but for the management of the TVET system and its

[32] The National Skills Qualification Framework (NSQF) or Gambia Skills Qualification Framework (GSQF) was developed in 2006 and implementation began in 2007. The NSQF emphasizes qualifications and standards to be delivered by registered and accredited training providers to enhance quality improvement in the TVET system. In 2007 some training institutions were closed for failure to meet standards and so far 53 training institutions have been registered and accredited. A lead body established in 2007 is responsible for the registration and accreditation of training providers, trainers and assessors based on set standards and benchmarks. A training levy which forms the main financial base of the National Training Authority is being collected.

institutions as well. The deciding factor for success is not input or supply, but performance according to GTZ (2006).

At an International Symposium on Implementation Issues of Diversified Financing Strategies for TVET organized by the Ethio-German Engineering Capacity Building Program (ECBP) on November 20–21, 2006 in Addis Ababa it was agreed that the Ethiopian approach to TVET reform and financing are very much in line with international best practice in terms of performance. All stakeholders seem to agree that public–private and civil society partnerships will be key to making any TVET reform process succeed (GTZ 2006).

Ethiopia has made considerable progress towards UPE and continues to work hard to ensure relevance and quality at each educational level. As an increasing number of young people graduate from general education, the government of Ethiopia has recognized that it is of utmost importance to provide them with options for further education and training in order to increase their employability. In this context it is important to build a demand-driven, flexible, integrated and high-quality TVET system. The government of Ethiopia (GoE) therefore has involved all stakeholders in the planning, policy making, training delivery and monitoring and evaluation (M&E) of the TVET system, although TVET development is hampered by a serious lack of relevant data and information. The ongoing reform seeks to increase the engagement of the private sector – both of private TVET providers and enterprises as future employers of TVET graduates – and to provide students and trainees with knowledge, skills and abilities relevant for the world of work (GTZ 2006; Walther 2007).

The recent growth in TVET enrolment and provision has been achieved by a considerable expansion of public spending and increased TVET provision by private institutions. Government sources estimate that private TVET providers currently provide approximately 30% of all TVET in Ethiopia. Private TVET providers estimate their share of the market to be closer to 50%. Also, NGOs provide a significant share of TVET in Ethiopia (GTZ 2006).

Niger

In Niger the percentage of women enrolled in TVET has fallen from 40% in 1999 to only 17% in 2007. Moreover, during the same period the share of secondary students enrolled in TVET programmes declined from 6% to only 1%. Nevertheless, in 1998, the government of Niger launched a process to reform the TVET sector. This was the year in which the National Office of Vocational Training (ONAFOP) was started in Niger, which offers opportunities in finance training for and by the informal sector and building capacity in the TVET sector (Johanson and Adams 2004).

It is against this background that the government of Niger's sectoral TVET policy has been elaborated and whose strategic policies and measures correspond with the government's own development plan (Government of Niger 2006). Niger received support from the EU, the French Cooperation and the

Luxembourg Aid Agency to carry out TVET reform. This process amounted to *a sectoral policy document* issued on 16 March 2006, whose basic principles govern and guide the TVET system in Niger. The TVET funding came from *a TVET tax on the enterprises*, which goes directly to the TVET fund circumventing the Treasury in the Ministry of Finance (Agune 2010).

Technical and vocational education and training is a priority by the government of Niger because it is considered to constitute an effective means to include and maintain the youth in the labour market. The sectoral TVET policy in Niger permits first of all to better address the issues and the objectives of the TVET systems. Secondly it also enables concrete development of a better synergy between the vocational training systems and the world of work in order to adapt the training to the evolving needs of the labour market. The implementation of this sectoral policy demands a new type of relationship between the government and all the partners operating in the sector with the aim of reforming the TVET sector and establishing a real partnership (Government of Niger 2006).

Zambia

The government of the Republic of Zambia (GRZ) through the Ministry of Science and Technical Vocational Training (MSTVT) instituted the Technical Education, Vocational and Entrepreneurship Training (TEVET) Reforms in 1994 that saw the formulation of the TEVET Policy (1996), the Strategy Paper (1997), the TEVET Act No. 13 of 1998 and the revised act No. 11 of 2005. Government established the Technical Education, Vocational and Entrepreneurship Training Authority (TEVETA) to regulate all forms of technical education and vocational training. As a result of this, all training providers, regardless of ownership, are required by law to register with TEVETA.

The MSTVT has been implementing the TEVET Development Programme (TDP) since 2001 with the objective to 'develop a TEVET system that will improve the skills of both the formal and informal sectors of the economy through creating a high-quality, sustainable, demand-driven, and equitable training system'. The broad development objectives of the TDP are as follows.

Demand responsiveness: establishment of a training system that was responsive to the demands of both the formal and informal sectors of the economy.

Quality: improvement in the quality of training.

Equity: assurance of equity (gender, disability and vulnerability) in the delivery of training.

Sustainability: development of mechanisms for assurance of financial sustainability of the training system (Mwanza 2008).

Zambia as a consequence of its TVET reform had the second highest growth rate (+765%) in the total number of secondary students enrolled in TVET programme between 1999 and 2007.

8.4 Demand Side and Supply Side for Skills

8.4.1 Ways of Addressing Socio-economic Factors Such as Public Perception Problems and Inequities in Access to TVET

The teaching profession *per se*, but particularly the field of TVET, often suffers from low standing. The poor prestige of vocational education has implications for both pre-service and in-service teacher training throughout their professional life. Billet (2009) argues that it is as though we are dealing with a sector whose contributions are not fully appreciated or understood, and whose status is shaped by societal views and sentiments about the learning of vocational knowledge.

Promoting African entrepreneurship is a long-term process, involving overcoming negative cultural perceptions regarding entrepreneurship, which is often seen as something to be engaged in only by those who have failed in other ventures. Flagship national entrepreneurship programmes, supported by strong communications efforts, have been found to help increase entrepreneurship opportunities and skills, as well as tackling these negative perceptions according to Radwan *et al.* (2010).

A lot of research has been carried out looking at the linkages between national culture and entrepreneurship. Studies have, for example, looked at components of entrepreneurial activity captured by national rates of innovation, regional rates of new firm formation, power distance, individualism, etc. However, Mungain and Ogot (2006) controversially argue that *national culture*, is largely absent in most African countries that are still dominated by the cultures of their individual ethnic communities, at least in the rural areas.[33]

Mungai and Ogot (2006), therefore, present the differences amongst four ethnic communities in Kenya on their perceptions on entrepreneurship based on the proposition that culture is one of the key reasons which may hinder or encourage entrepreneurship amongst the four different ethnic communities represented by samples selected from Nairobi. Two factors known to be closely linked to the propensity for entrepreneurship are risk aversion[34] and locus of control.[35] The study finds significant differences among communities, suggesting that certain cultures may foster an entrepreneurial spirit within its members more than others.

Nevertheless, for many parents and students TVET still remains a 'second-class' education. In 2007, in the Republic of Korea, about 13% of secondary students were enrolled in TVET. So the government is trying to open a pathway

[33] In 1950 14.7% of Africa's inhabitants were urban, in 2000 had it risen to 37.2% and the UN expects it to rise to 45.3% in 2015.

[34] Risk taking refers to the willingness to commit significant resources to some uncertain opportunities. A high risk-taking propensity is often attributed to entrepreneurs.

[35] This concept refers to the belief held by individuals that they can largely determine their fate through their own behaviour. In addition, internal locus of control has proven to be more useful than need for achievement in differentiating entrepreneurs from non-entrepreneurs.

to higher education. First, TVET students are now getting academic subjects so that they can apply for a place in university. In some schools, academic and vocational students share as much as 75% of a common curriculum. The government is also channelling public and private investment into new post-secondary training institutes to kill the myth that TVET is an academic 'dead-end' (Maclean *et al.* 2009).

The Czech Republic is one of the few countries where vocational education enjoys a good reputation. In 2007 about 38% of secondary students were enrolled in TVET (UIS 2009). Instead of abandoning the system to market forces, the government has given greater freedom to principals and teachers to update curricula and introduce new occupational fields, as opposed to the specific skills associated with a particular job. Another major selling point is the 'open-door' policy to higher education. Some of the new post-secondary training institutes (set up over the past 10 years) allow students to transfer directly into universities (Maclean *et al.* 2009), all of which contribute to improving the perception of TVET.

Moreover, TVET in general can motivate student learning. Students who do not succeed in school, both in developed and developing countries, are almost without exception those who lack the motivation to learn – those who see no value for themselves in the learning. A key finding of research on 'disengaged students' has identified the power of the perceived usefulness of learning in motivating the learner. There are few motivators to match the value of an education that provides an avenue for varied work opportunities, as well as the capacity to use those opportunities well. Hughes (2005) argues that TVET has a role not just in preparing students for work but also in increasing their motivation to learn more generally.

Technical and vocational education and training has suffered from being considered as the fall-back position for those who did not succeed in the more academic streams. It is only in recent decades that this perception has been challenged. A major reason for this modification has been the changing role of work and its impact on national and international economies. With work becoming more technologically based and more diverse, thus reducing the opportunities for unskilled work, technical and vocational education has assumed a key educational role. The enhanced role of TVET as an entry point to the 'knowledge society' is reflected in the role it has been accorded by UNESCO (Hughes 2009).

8.4.2 Linkage of TVET with Labour Market and the Evolution of the Economy

There is a rich literature on the supply side of youth employment as we have seen in the previous sections. However, there is almost no youth-focused literature that starts off from *the demand side of the labour market*; that is, *job creation*. Radwan *et al.* (2010) argue that the strand of economic thought that highlights the particular needs of youth as secondary workers comes closest to

looking at these issues but it is focused on broad macroeconomic issues such as labour market regulations, minimum wages and information asymmetries (see Borjas 2010), which is only part of the job creation story.

Exacerbating the poor quality of formal education is the tendency of the African private sector to underinvest in training. The formal sector is likely to consider that it does not need to attract employees through the quality of their career development and training programmes, as *demand for jobs* is so high. Furthermore, many large formal sector jobs are in sectors (including the public sector) that are protected from competition, and so a dynamic skill development programme is less critical. Radwan *et al.* (2010) believes that the informal sector is unlikely to offer training given the instability within which the sector operates, which can make any long-term investment unviable despite the fact that it employs thousands of youth as 'traditional' apprentices. *Changing the incentives for African firms* and multinational companies operating in Africa is key to a long-term approach to skill development.

In order to overcome these various *market failures* – namely, mismatching of skills with training provision and underinvestment in training – Radwan *et al.* (2010) argue that the private sector must partner institutions of higher learning to support the curriculum development process. Public providers of education and training must also better consider how to deliver those skills which are crucial to all private enterprise, such as those relating to management and entrepreneurialism.

A number of studies at the World Bank are moving toward a more comprehensive approach to skill gaps and market needs. One such effort is 'MILES' (which stands for macroeconomic framework, investment climate and institutions, labour market regulations, education and skills, and social protection). Currently being implemented in several countries, MILES uses comprehensive analysis of *education–labour market linkages* to develop policies that foster job creation and poverty reduction (Fasih 2008). *The framework* within which educational supply and demand are analysed is thus broadened to include a country's macroeconomic situation, investment climate, and labour market policies. A more comprehensive framework will not only strengthen the diagnostic capacity of education supply and demand analysis, it will make the policy approach to education issues more efficient. However, the paper by Radwan *et al.* (2010) argues that the MILES framework misses out on a crucial component of the youth employment jigsaw, in terms of identifying and supporting *youth intensive sectors* (Radwan *et al.* 2010).

Most recently, *a new approach to skills development* has been published by the Human Development Network (World Bank 2010). The 'STEP' framework ('skills towards employment and productivity') has five steps:

- getting children off to the right start;
- ensuring that all students learn;
- building job-relevant skills;

- encouraging entrepreneurship and innovation;
- facilitating labour mobility and job matching.

This combination of steps enables policymakers to focus on concrete steps involved in creating *a coherent skills-building system*. As the steps imply, it includes the crucial linkages to private sector demand, as well as often overlooked element of *entrepreneurial skills building* (Radwan *et al.* 2010). Chapter 2 of Martínez *et al.* (2010) reviews the literature and reveals that entrepreneurship education and training has grown rapidly in recent decades. However, little comparative data exists on how many people receive training in business start-up activity, whether some people are more likely to receive training than others and whether the training makes any difference in their subsequent entrepreneurial behaviour.

According to the AfDB High Level Panel Recommendation on Skills Development, priority should be given to *links to the private sector*. Public/private partnerships (PPPs) and the involvement of the corporate sector in TVET-related programme activities mounted by UNESCO are becoming increasingly important. For example, in December 2008, UNESCO signed a four-year partnership agreement with the UK-based StratREAL Foundation to cooperate in the field of *entrepreneurship education* in the Arab states region. The objective of this partnership is to support decision makers in the development of educational policies and programmes that *integrate entrepreneurship education in the education systems* of the Middle East and North Africa (MENA). The activity represents a significant and sustainable contribution to skills development for youth across the Arab states region (Maclean *et al.* 2009).

While the public sector has been slow to respond to the changes in demand for skills brought about by growth of the informal sector, Brewer (2004) argues that the private institutions have been more responsive to this demand. Largely dependent on fees, for-profit institutions are concentrated in urban markets and less frequently found in rural areas. They are *responsive to demands for skills*, adjusting quickly to changing needs. The programmes offered often require limited investment in equipment and facilities and provide easy market entry and exit for the providers. Commercial courses are popular, including IT programmes. Although, Johanson and Adams (2004) warn that quality varies widely where standards are left to the provider, they do propose that private for-profit providers could play a larger role in the provision of training to those in the informal sector. Adams (2008) suggests that sometimes modular short courses are well suited to a more flexible delivery of skills training for those who cannot afford long spells away from their work.

8.4.3 Training of TVET Teachers and Instructors

Billet (2009) finds that the teaching profession within the broader sector of TVET is differentiated by the way in which this educational provision is manifested in a particular country, the institutions within that country, and what purposes

it seeks to serve at a particular moment in that country's social and economic development. As a sector of education that is often *seen as needing to be highly responsive to changes* in the kinds of skills and knowledge that countries require to be developed, Billet (2009) argues that TVET has particular cultural impetus[36] and forms. Not least of these is the degree to which its purposes are aligned with *directly training the skills required for work* by the community, or some other educational goal, such as more general competencies associated with the quality of working life.

Billet (2009) further suggests that the kinds of roles that *TVET professionals* will undertake are likely to be quite varied given that the different educational purposes, institutions and sectors in which they practice are likely to shape the way in which their professional roles and activities will be transformed. These shape not only the conduct of professional practice, but also the training programmes that prepare individuals for the profession and in-service professional development. Yet, within all of this difference and across these distinct provisions there are likely to be at least *two elements of commonality*: constant change and relatively modest prestige. Billet (2009) argues that these also affect the professional preparation and career development of teaching staff.

Billet (2009) suggests that it is important to understand the bases for initial preparation for professional practices and the processes by which TVET professionals are able to *maintain the currency of their practice* through a career characterized by changing demands and goals.

Billet (2009) divides the examination of the preparation and ongoing development of those who practice as teachers within TVET into two areas:

- those dealing with the profession and its preparation;
- those focusing on professional development, particularly changing roles and further development for TVET professionals.

With regards to the first area, it largely concerns *the current and emerging societal requirements for TVET teachers* and their pre-service preparation. These requirements are often premised on particular imperatives that the contributors clearly identify according to Billet (2009).

Zhao and Lu (2009) note that, in China, there are barriers that inhibit elevating the prestige of vocational education and educators, including the sector's traditional modest standing, a lack of stability in policymaking and the failure of vocational educators to organize themselves politically (Billet 2009).

One contentious issue is who *the curriculum-makers* are, e.g. in terms of their social origins, visions of TVET, etc., and to what degree TVET professionals are empowered not only to enact what others have decided should be taught, but also to design and develop further the goals of students' learning and the means by which that learning is supported. Beven (2009) argues for TVET professionals

[36] That is, something which encourages a particular activity or makes that activity more energetic or effective.

to have a key role in applying their pedagogic and curriculum knowledge in designing learning experiences for students that are based not only on government and industry directives, but also upon the situational factors that shape the enactment of any curriculum. Therefore, Beven (2009) proposes that the curriculum process needs to take into account the importance of the student, who ultimately experiences the curriculum (Billet 2009). Leite *et al.* (2009) similarly propose that *the role of the TVET professional needs to go beyond that of just being a teacher* of vocational practice (Billet 2009).

Kerre (2009) offers *an approach to the preparation of TVET educators* that is suitable to African countries. Kerre (2009) holds that the educational provision of TVET is most likely to be effectively *delivered through the schooling system*, given the strengths of the existing educational institutions. Therefore, it is necessary to *prepare specialist teachers to deliver quality TVET through the schooling system*. The in-service development of the TVET professional becomes an imperative following the kinds of demands described above. Clearly, pre-service teacher education will not be sufficient to meet the evolving demands placed upon TVET professionals throughout their teaching careers (Billet 2009).

Harteis (2009) argues that *a combination of practice-based and academic-institution-based experiences* are the ones most required to develop expert capacities in TVET teachers. It is through these two contributions that the integration of both of these kinds of experiences can provide the kinds of teacher-training processes that Harteis promotes as being essential for effective professional development (Billet 2009).

Gerds (2009) talks about the *implementation of technical and vocational teacher qualification standards* in developing countries. Gerds (2009) mentions that in the last two decades, a process of *developing standards* for occupation-directed education, training and development has come from the Anglo-American countries. It can now be seen in many countries all over the world. It is not an understatement to say that *the establishment and acceptance of national teacher qualification standards (NTQS)*, not only for the education and training of the workforce, but also for vocational and technical teaching staff, has set in motion radical changes and improvements.

Nevertheless, Gerds (2009) warns that some undesirable consequences are possible. Notwithstanding his concerns, other authors suggest that the development of *rigorous national teacher qualification standards* and their certification may 'increase the professional standing of the teaching profession'; create a consistent, unified vision of accomplished teaching; and establish for the general public *a positive image of public education*. Furthermore, 'the extensive nature of the standards development process is seen as an innovative model for developing the codified knowledge of teaching excellence, designed to remove misconceptions of what constitutes good teaching' (Billet 2009).

According to an ILO survey, some 70 countries are in the process of developing or implementing some kind of qualifications framework (Allais *et al.* 2009a). The ILO and ETF are in the process of carrying a number of qualifications framework (QF) case studies, which includes:

- 5 early starters (England/Wales, Scotland, Australia, New Zealand and South Africa);
- 11 recent starters (Botswana, Mauritius, Tunisia, Lithuania, Russia, Turkey Bangladesh, Malaysia, Sri Lanka, Chile, and Mexico).

Some of the *lessons learnt* based on the analysis of these NQF case studies are the following.

- QFs are not static – early starters changed considerably over time.
- A loose comprehensive framework can help create pathways to higher learning.
- No evidence that QF improved relationships between education and labour markets.
- Where new qualifications and competences have been designed, there has been lack of uptake, with many not being used at all.
- There is little indication that employers find qualifications easier to use than prior to NQF in terms of making qualifications relate more closely to their needs.
- Allais *et al.* (2009a) comment that introducing a qualifications framework is a far more ambitious and radical project than most policymakers and designers have realized. In some ways, qualifications frameworks are best seen as utopias, and like all utopias, they are more attractive in theory than in reality.
- Limited formal roles for Ministries of Labour.
- Many countries are not tracking labour market results – no data on whether NQF improves supply and demand of training.

The development of a NQF requires legislation to set up a National Qualification or Training Authority to construct and administer the NQF, including the development of unit standards. Abdul-Wahab and Afeti (2009) argue that a *Regional Qualification Framework* for the ECOWAS region can facilitate the portability of qualifications, skills and labour within the region, such that TVET can become an instrument of regional integration.

8.5 Cost Analysis and Financing Issues

Lack of resources is seen as a hindrance to pursuing the objectives of training the workforce for self-employment, and raising the productivity of the informal sector as well as in the public sector. This is all the more so given that TVET is an expensive form of education and expanding it without necessary and adequate facilities and equipment does not lead to increasing productivity in the long run. Yet, at the same time, criticisms of TVET have led to cuts in the

volume of training provided in the public institutions and a call for the mostly family-run informal enterprises to take on more responsibility for providing TVET. Oketch (2009) suggests that *a look at the funding of TVET* can shed light on the contradiction between the emphasis for skills and the limited funding that the governments are willing to commit to it. Moreover, the international pressure on countries to meet their EFA goals for 2015 has meant that more resources have been shifted, both within national budgets and by international aid assistance, to realizing UPE and yet the rhetoric over skills and the value of TVET continues unabated according to Oketch (2009).

The analysis of financing patterns used to focus on collection and allocation mechanisms. Increasingly, these concerns are being linked to the wider question of organizing training systems and particularly with *the sharing of responsibilities* between the key stakeholders according to Atchoarena (2009a).

Atchoarena (2009a) argues that *financing strategies for TVET* are part of a broader effort to engage all concerned parties, particularly companies and learners, in a dynamic process of skills acquisition. Atchoarena (2009a) proposes that achieving such a goal requires maintaining a careful balance between incentives and constraints according to national circumstances.

Atchoarena (2009a) suggests that *the debate on TVET financing* typically turns around the following two key questions.

- Who pays for skills development?
- What mechanisms can be put in place to finance skills development, and what works best, in particular as far as spending public money is concerned?

While economic and financial issues present constraints for financing policies, Atchoarena (2009a) suggests that a third element opens new opportunities. The *wide body of knowledge on different funding mechanisms* that have developed internationally is indeed a valuable asset for policy decisions. According to the economic rationale, *those who benefit from training should pay for it*. In many countries, pre-employment training, initial training and institution-based training are still considered to be a responsibility of the government, while financing continuing training and education is left to social partners (Atchoarena 2009a).

Little data is available on the sharing pattern in individual countries, even regarding initial training. In the current economic context it has become more and more common for governments to *promote co-financed mechanisms for TVET*. This frequently includes creating incentives for employers and individuals to invest more in skills development. Atchoarena (2009a) writes that the current trend emphasizes *the role of enterprises and learners in contributing to the costs* of skills development.

Section 8.5.1 takes a look at the role of the domestic government and Section 8.5.2 presents various financing mechanisms and instruments.

8.5.1 Public Finance for TVET

Despite the importance given to TVET by many governments, the training system in Africa is largely *underfinanced*. Generally, the provision of technical and vocational skills and especially formal TVET is expensive, since facilities, material, equipment and maintenance costs are high. The *financing of TVET* percentages of public expenditures varies considerably from country to country. It ranges from a low of 0.9% a decade ago in Ethiopia to 12.7% in Gabon in the same period (ILO 1998, cited in Atchoarena and Delluc 2001). Getting the financial breakdown for TVET in Africa is difficult because in many countries allocation is done at ISCED level rather than by programme. Many countries are therefore unable to provide the UNESCO UIS accurate expenditure data. Difficulties in specifying spending on TVET are compounded by the fact that provision in the private sector and other ministries with TVET responsibilities is hardly captured in the data.

According to the latest public expenditure figures Mali allocated the highest share of its total public expenditure on education to TVET (Table 8.6). Investment expenditure recorded strong progression at every level. The priority accorded to TVET education by the Malian government is expressed in the figures: it drew nearly 15.6% of public expenditure on education in 2008, against 12.7% in 2005 (OECD 2008) and 9.1% in 1995.

Gabon is ranked second in Africa when it comes to public expenditure on TVET as a percentage of total public expenditure on education (Table 8.6). In Gabon TVET financing methods are quite varied. For many years, the national budget allocated to education has oscillated between 10% and 15%. The scheduled TVET investment budget for 2008 was 13.9% of the government's investment budget: this was an increase of 40.7% compared to 2007. Financing of TVET is executed according to the priorities of the ministry's strategic plan and the priority action plan approved by the finance ministries (OECD 2008).

Difficulties in specifying spending on TVET are compounded by the fact that provision in the private sector is hardly covered by the data. Oketch (20009) carried out interviews with respondents in seven African countries, which revealed that many of the private providers due to their mistrust towards civil servants and researchers do not want to cooperate in providing their financial information, and, in cases where they do, the figures are often inaccurate.

The Ugandan government's priority in the education sector continues to be directed towards the UPE programme. The education ministry allocates approximately only 4% of its total budget to the business, technical and vocational education and training (BTVET) subsector (Table 8.6), while two-thirds of the budget goes to primary education. Since 2002, however, vocational training has increasingly gained importance particularly at the post primary education levels. The proportion of BTVET within the education budget is set to increase from the current level to 12% by 2015. Funding for TVET at post-primary levels is also inadequate. In 2005 Ministry of Education expenditure on TVET was only 1.2% of the total resource envelope for education; similarly in

TABLE 8.6. Public expenditure on TVET as a share of total public expenditure on education.

Country or territory	1990s Period	1990s % expenditure	After 2000 Period	After 2000 % expenditure	Rank
Algeria	—	—	2005–9[a]	13	3
Cameroon	—	—	2007	2.34	10
Cape Verde	1991	2.9	2008	5.47	6
Eritrea	1994	1.6	2004–5	8.60	5
Gabon	1992	12.7	2008	13.9[b]	2
Kenya	1993	—	2006–7	2.70	9
Mali	1995	9.1	2008	15.6[b]	1
Nigeria	—	—	2005	13	3
Senegal	1990	2.7	1992–2005	<4.5	7
Uganda	—	—	2006–7	3.60	8

Notes: 1990s data from ILO World Employment Report 1998–9, Statistical Annex Table 8. [a]World Bank Public Expenditure Review (PER) 2007. [b]Share of overall public capital expenditures. *Source*: author based on the ILO and UNESCO databases.

2002 the Ministry of Manpower allocated 12% of its budget to the TVET sector under that ministry (Palmer 2007).

8.5.2 Financing Mechanisms and Instruments

Table 8.7 summarizes some of the benefits and limits of the use of *payroll taxes to finance TVET*. Traditionally governments directly financed training providers and training delivery. In order to improve the effectiveness of public spending, *new forms of management* are, however, being developed (Atchoarena 2009a).

Financing mechanisms and instruments are generally seen as a way to mobilize additional resources. Payroll taxes and training funds constitute the most significant attempt to involve industry in the financing and regulation of a training market. Financial arrangements can also contribute to improving the efficiency of public spending. They are often part of a broader body of reform inspired by *the new public management principles*. An extended analysis of this topic is offered by Ziderman (2009), whereas Walther (2009) provides *a comprehensive review of financing criteria and models* illustrated by examples from eight countries in Europe and Africa.

Government policies to encourage enterprises to invest in skills subsidize the cost of this investment through various measures. *The incentives* may vary in their impact on the actual amount of training done. Twenty-one countries in SSA have introduced *training funds* financed by *payroll taxes*. These funds *reimburse enterprises for the cost* of qualified training undertaken. *Training vouchers* are also an instrument used by governments and training funds to subsidize the cost of training by enterprises and individuals (Patrinos 2002,

TABLE 8.7. Advantages and limitations of using payroll taxes to finance TVET.

Advantages
– Training funds are powerful tool to expand training provision.
– Training funds can stimulate employers' investments in training and skills development.
– Training funds contribute to the establishment of a market for training when resources can also be allocated to private providers, which lead to a competition between public and private providers.
Limitations
– Fund management, including the accumulation of surpluses and the diversion of funds, sometimes causes problems.
– The system cannot operate on a sustained basis without sufficient support from the business community.
– Formal sector employers are often resistant to supporting skills development in the informal sector, i.e. to cross-subsidize skills development in the informal sector.
– The long-term sustainability of training funds in LICs remains open to question.

Source: Atchorarena (2009a, p. 1032).

referred to in Adams 2008). Offered to master craftspersons and workers in the informal sector, vouchers can help pay for training selected by the worker. The cost of training is also subsidized by *governments by allowing enterprises to deduct eligible training costs from their income* for tax purposes or that provide *tax credits* for qualified training expenses.

The introduction of training levies on payrolls is used globally to mobilize additional resources for skills development (Ziderman 2003, referred to in Adams 2008). The fairness of the levy is judged on the taxation principle that those who benefit from the resources spent on training should be those who pay as mentioned above. *Payroll levies* have been used to finance the provision of training by national training organizations, as found in Latin America in countries like Brazil, Columbia, and Venezuela, but also training directly by enterprises where *a levy grant system* is adopted and administered through a training fund. Enterprises are reimbursed in a levy grant system for the cost of qualified training expenditures by these funds. This is the dominant model found in SSA (Adams 2008, 2009).

The impact of these funds on training by the informal sector, however, is limited according to Adams (2008). *Most funds exempt smaller enterprises* (below 50 employees) from the payment of a levy because of the higher administrative cost of enforcing compliance by these enterprises. Dar *et al.* (2003), in a review of *international experience with training funds*, find that small employers do not benefit substantially from these schemes. *The financial*

incentives offered are insufficient to offset the other factors that deter training by small enterprises. As a result, *training funds with levy grant schemes* tend to favour larger enterprises and the training of more highly educated and skilled workers in these enterprises (Adams 2008).

Limited evidence is available in SSA on *the initiatives of national training funds to reach small enterprises in the informal sector*. Other voucher programmes have been introduced to encourage training in the informal sector (see Johanson and Adams 2004). *The Kenya Jua Kali voucher programme* was successful in its pilot stage in expanding the supply of training to workers in the informal sector and lowering cost. There was evidence of its positive impact on the earnings of participants and strengthening of the capacity of local Jua Kali Associations responsible for distribution of the vouchers, but problems were encountered with corruption in scaling up that led to high administration costs (Adams 2001; Riley and Steel 2000, referred to in Adams 2008).

A similar voucher programme targeted on informal sector enterprises was offered in Ghana in the early 1990s that largely failed due to lack of attention in the design of the marketing and distribution of the vouchers (Johanson and Adams 2004). Worldwide, countries allow enterprises to *deduct the cost of training from their income* as a cost of business before taxes, but for the informal sector where small enterprises may not earn sufficient income to pay taxes or may avoid taxes altogether by not being registered, these deductions provide limited incentive for training. The same result may apply to *tax credits* that are targeted to selected enterprises in return for agreed training and employment actions. Where the credit can be refunded to the enterprise in the absence of a tax liability, this may serve as an added incentive for training and even registration of the enterprise, but once again that may not be sufficient to prompt small enterprises in the informal sector to train (Adams 2008, 2009).

Atchoarena (2009a) also proposes that financing of TVET cannot rest solely on the government budget. He calls upon businesses, local governments, NGOs and individuals to contribute to this investment. Yet he warns that the temptation to rely increasingly on private-sector funding may face *structural limits* due to the already high, and sometimes increasing, cost of training in many fields. The new skills requirements linked to globalization, the constant search for competitiveness and the preservation of social cohesion clearly require *new funding formulae* according to Atchoarena (2009a).

8.5.3 The Relations between Costs, Efficiency-Impact and Financing

Costs

Principals and teachers point to the heavy expenses required to develop curricula, train staff and equip classrooms for specialized TVET subjects, which generally cost three times more than academic courses (Maclean *et al.* 2009). Lauglo (2006) argues that part of TVET policy preparation is *cost analysis*. Annual costs of established TVET institutions are usually available,

but surprisingly often cost analysis of different training specialties within the same institution are lacking, and surprisingly often cost estimates do not seek to produce combined costs of recurrent expenses and annualized capital expenses. Lauglo (2006) therefore raises the following questions: how should the accuracy of cost information be improved, and how should the use of cost information be ensured?

Efficiency

A series of 'internal efficiency' questions relates to the flow of students or trainees 'internal' to courses. Applied to TVET, this would especially be for longer courses which are 'pre-employment' rather than to short 'training events' and training within industry itself. Lauglo (2006) raises the following question: what are course completion rates and drop-out rates in different types courses? Other indicators (regrettably rarely available) are capacity utilization of facilities and of available human resources. *Benefit–cost analysis* is sometimes attempted on TVET (usually internal rate of return estimates) in order to estimate what may be termed *external efficiency*. It is a method which has been both widely espoused and – especially as a means of estimating benefit–cost to society rather than merely to private persons – widely criticized. Lauglo (2006) suggests that research has a role in both critically assessing its potential and limitations, and in applying such analysis.

8.6 Conclusions and Policy Implications

Education and skills are important for growth and productivity but are also at the centre of *a fair and inclusive globalization*, which according to the ILO (2004) is understood as being about harnessing the benefits of globalization while promoting sustainable economic and social development, and broad access to opportunities is vital. The World Commission on the Social Dimension of Globalization noted that all countries that have benefited from globalization have invested significantly in their education and training systems (Poschen 2009; ILO 2004). Viewed from the perspective of an ever-changing fast-paced global economy, change in workplaces and labour markets is being driven by powerful and interconnected forces: rapid technological advances (particularly ICTs) and their global diffusion, increased trade and FDI, intensified competition in international markets, etc. (ILO 2008a; Greene 2009).

To quote the definition of the term *employability* in the ILO's Human Resources Development Recommendation no. 195, paragraph 2(d) (2004), it is an 'individual's capacity to … secure and retain decent work, to progress within the enterprise and between jobs, and to *cope with changing technology and labour market conditions*'. In other words, this means that the field of vocational training has never been as important as it is today (Greene 2009).

Based on lessons learned distilled from our review of evaluation studies and past TVET experiences in various regions around the world, a number of suggestions and policy options is provided in this concluding section, which could serve as inspiration for how Sierra Leone's schools, teachers and education system as well as all economic and social stakeholders could respond to the needs of the current economy. This also includes providing some guidance to the TVET reform process that is currently underway in Sierra Leone through the revision of the National TVET Policy 2010 prepared in collaboration with UNESCO.

8.6.1 Quantitative Evidence on the Effects of TVET Interventions

Several quantitative studies, which predominantly focus on OECD countries because of the much higher availability of data sources, find that the majority of TVET interventions appear to have positive labour market impacts for participants in terms of post-programme employment and earnings. But Betcherman *et al.* (2007) conclude from their statistical analysis of the patterns of programme success from 84 countries in all regions of the world that interventions in the OECD targeting disadvantaged youth are as good, if not better, than programmes with no particular orientation.

From our own review of the statistical impact evaluation studies, e.g. using methodologies such as a non-experimental procedure for evaluating a prototypical job training programme, evaluations of the impact of a randomized training programme, scientific (i.e., control-group) evaluations, etc., we conclude the following.

- *The development of relevant skills* is an important instrument for improving productivity and working conditions and the promotion of decent work in the informal economy.
- *Education and skills* can open doors to economically and socially rewarding jobs and can help the development of small informal-sector and formal-sector (growth-orientated) enterprises (Kingombe 2010), facilitate the reinclusion of displaced workers and migrants into the labour force, and support the transition from school to work for school drop-outs and graduates.

More specifically, we conclude the following.

- The statistical analysis of the Youth Employment Inventory (YEI) based on documentation of current and past programmes that have been implemented to support young workers find work, with a focus on disadvantaged young people, and *evidence from 289 studies of interventions from the 84 countries* shows the following.
  - The most common type of intervention for youth is *skills training*.
  - Only 10% of the interventions in the YEI are in SSA countries.

  - There is great need for improvements in the quality of evidence available as regards the effects of youth employment interventions.
  - The absence of rigorous evaluations outside the OECD area almost certainly leads to an overestimation of programme impacts with possible inefficient allocation of resources.
  - 78% of the evaluated programmes have been rated by Betcherman *et al.* (2007) as having had an impact in terms of the two specific performance indicators post-programme employment and/or earnings of participants.

- Quantitative analysis of formal TVET systems in Africa has been hampered by the lack of comparable quantitative data on TVET participation and outcomes.
- Among active labour market programmes (ALMPs) in Latin America:
  - *Job training for young people*, 16 to 29 years of age, particularly the following categories of interventions: vocational training including apprenticeship systems and to a much lesser extent second chance and equivalency programmes, is popular as an attempt to help the labour market inclusion of disadvantaged youth.
  - Overall results suggest that *employment effects* range from modest to meaningful – increasing the employment rate by about 0 to 5 percentage points.
  - Educational benefits in terms of *the rate of return*, e.g. higher entry wages, higher wages throughout working life, increased job opportunities and a reduced risk of becoming unemployed, for vocational secondary education is higher than that for secondary general education.[37]

It should be added that in general almost no research exists on the contribution to economic and social development of vocational training versus general education (Descy and Tessaring 2005, referred to in GTZ 2009). By far most of the economic studies refer to secondary and tertiary education without distinguishing between general and vocational secondary education. Furthermore, most of them are limited by methodological issues, particularly the control for

[37] While some scientists have demonstrated the great importance of general education for economic growth, it seems that no thorough investigation of the impact of TVET on economic growth has been carried out thus far. While the human capital theory is coherent, the results of empirical studies concerning TVET are very limited and, in fact, largely incomparable, due to the different structures and roles of TVET in different countries. Furthermore, with regard to individual benefits, important differences between people enrolling in academic educational institutions and those enrolling in vocational educational programmes are often not taken into account (Dohmen 2007 referred to in GTZ 2009).

selection bias is missing.[38] The studies provide very divergent results, using different methods.

Whereas some studies estimate lower returns to general education compared to vocational education, others find that the income effects of vocational qualifications lag behind. Taking into account the length of time of studying and the earnings forgone, the returns to vocational training approximate the returns to academic qualifications (Machin and Vignoles 2001 cited in Dohmen 2007, referred to in GTZ 2009).

Some generalizations about ALMPs suggest the following.

- *Training for the long-term unemployed* can help when the economy is improving.
- *Small-scale, tightly targeted on-the-job training programmes*, often aimed at women and older groups, show the best returns. However, the cost-effectiveness of these programmes is generally disappointing.
- Concerning *the evaluations of the macroeconomic effects of the active policies*, such as making the labour market work better for young people (e.g. counselling, job search skills; wage subsidies; public works programmes); improving chances for young entrepreneurs; skills training for young people (e.g. vocational training; literacy and numeracy – young adult literacy programmes), the results of the various econometric analyses are inconclusive.
- The OECD Jobs Study stressed that more *effective active policies are only one element in a comprehensive strategy of macroeconomic and microeconomic measures* required to cut unemployment significantly.
- Many findings from OECD countries do not always seem to apply broadly in the case of developing countries. The much larger *informal labour markets* combined with much weaker capacity to implement programmes may limit the ability of some programmes in developing countries to accomplish much, in terms of creating formal employment or increasing wages.
- In terms of financing and impact, it is important to *keep public training programmes small in scale and well targeted* to meet the specific needs of both job seekers and local employers.
- *The evaluation of programmes and interventions* should be built into the design of TVET programmes at the beginning.

[38] That is, the target group for TVET, and particularly for vocational training, is different from the target group for general education, for example the fact that TVET is seen as being for dropouts it therefore attracts less motivated pupils/students/apprentices. Thus, a comparison between the rates of return to general education and TVET is necessarily biased towards general education (GTZ 2009).

Indices of TVET value as probability of employment, of attaining entrance to some particular occupation and employment, and good job matching to education and training are useful indicators for policymakers. Yet, these indices should be seen as complements to the equally feasible estimates of the material consumption payoff to TVET certificate holders, specifically, *the additional earnings* (adjusted for employment probability) that TVET yields to those who obtain it (Carnoy 1994).

- In general, the social rate of return (SRR) to spending on vocational schooling or specialized private vocational training in establishments outside the workplace is likely to be lower than to spending on general education, mainly because the unit costs (per trade area) of vocational schooling is much higher,[39] and also because, even if academic education does not provide occupational skills, it does attract better prepared individuals from higher socio-economic groups. However, there are exceptions (cf. the case of Germany's famous 'dual system').
- To be effective, *TVET has to be flexible* and tied to current future labour market conditions, for two main reasons:
  - TVET is geared to developing skills in young people for application to work, and without employment of those skills the training has little meaning or value;
  - TVET skills tend to depreciate rapidly if not used at once.
- The closer TVET is tied to existing employment opportunities, the higher both the private rate of return (PRR) and the SRR.
  - In a number of Latin American countries relatively short-course vocational education outside the firm has yielded reasonable rates of return because it is provided to workers who already have jobs and who return to them.
  - In-plant training is not only generally cheaper than TVET in schools, but it may also have a greater effect on productivity, implying a doubly powerful impact on the private rate of return PRR and SRR (Carnoy 1994).

Cost–benefit analyses as well as *estimates of the rates of return* are important instruments for evaluating the outcome of TVET. The analysis of rates of return is just one useful instrument for assessing the impact of training, but it cannot be the only criterion as it does not detect externalities and long-term effects (Lipsmeier *et al.* 2003; referred to in GTZ 2009). However, these aspects should

[39] By definition, *the unit cost of a programme* is the total cost divided by the number of units of training output: participants, batches or hours. This ratio measures the average amounts of resources required to generate one unit of output. Unit costs analysis provides information on the efficiency of training programmes. It is important to check the number of trainees to get an idea of the reliability of the unit costs (Peano *et al.* 2008).

be taken into account in order to arrive at a more profound conclusion on participation in TVET (op. cit., p. 16).

8.6.2 Institutional and Strategic Framework

It is claimed that *strategic considerations* are important in profiling vocational skills in developing countries. Although only a few PRSPs contain skills and education development chapters, most have only devoted a subsection to TVET (cf. Gambia's 2007 PRSP Chapter 5.2 '*Delivery of Social Services – Education*'[40]; Mozambique's 2011 PRSP 2011–2014, Chapter 5.c *'General Objectives 3: Human and Social Development'*[41] or Tanzania's 2010 PRSP II Chapter 4.2 *'Goal 2: 'Ensuring Expansion of Quality Technical and Vocational Education and Training, Higher Education, and Adult, Non-formal and Continuing Education'*[42]), these chapters are often not linked to other chapters. These *strategy papers*

[40] According to Section 4.4.2 on *'PRSP II Priorities and Strategies for the Industrial Sector'*, 'Department of State for Education in consultation with the National Council for Technical and Vocational Training develop a policy to integrate technical and applied science training in primary and secondary schools based on a market analysis of the types of skills the Gambian labour force will need, particularly those required for industrial development.' According to Section 5.2.5 on *'Intervention Priority Areas'* only a small section/paragraph is devoted to *the purpose of the TVET programme*, namely, it is to improve access to, and quality of, TVET in The Gambia. Targets of PRSP II for TVET Gambia are as follows: (i) TVET institutions increased by 50%; (ii) number of skills development centres in rural areas increased (target of more than two centres); (iii) System of Prior Learning accreditation approved; (iv) labour market information system (LMIS) established; (v) mechanical and engineering laboratories established; (vi) approved syllabi established; (vii) TVET affordable to 90% of all eligible trainees; (viii) 50% increase in the number of differently abled people in TVET; (ix) 75% retention rate in TVET system; (x) gender parity achieved in TVET; (xi) at least 75% of the total expected levy is collected; and (xii) Functional Gambia National Vocational Qualification framework established.

[41] According to Annex 1: *'Government Program to Achieve the Objectives of the PRSP 2011–2014'* on TVET recommends to 'consolidate the reform underway and expand the formal and informal system at the various levels, with a special focus on learning opportunities for young people not in school.' On 'employment and vocational training', it recommends to 'improve the quantity and quality of vocational training, in order to make citizens more employable and to promote work and employment opportunities in rural areas, with special attention to young people, women, persons with disabilities and those affected by HIV/AIDS.' On 'secondary education', it recommends to 'expand secondary vocational education on a sustainable basis, through the formal system and distance education, with due regard to quality.'

[42] Cluster strategies to achieve two broad outcomes under Cluster II (that is, improvement of quality of life and reduction of inequities) are structured under six goals including goal 2: 'ensuring expansion of vocational, technical, polytechnics, and higher education, and improving non-formal and continuing education.' The required TVET cluster strategies, according to Tanzania's PRSP II, are: '(i) expanding and improving infrastructure in order to expand enrolment, especially of girls; (ii) reviewing curricula and updating the range of courses offered in order to provide knowledge and skills relevant to the job market and the national growth and development agenda; (iii) strengthening PPPs for the delivery of technical and vocational education and training; (iv) improving quality of teaching and

do not methodologically and strategically link TVET to economic development objectives.

Concerning the Organization for the Development and Implementation of a National TVET Policy

Human-resource development strategies in African countries aim to pursue the development of skills at all levels of the spectrum (low, intermediate, and high levels), but each country *needs to emphasize the mix of skills* that best corresponds to its own stage of economic development and the needs of the local labour market.

In its organization for the development and implementation of its national TVET policy the government of Sierra Leone's Ministry of Education, Youth and Sports needs to bear in mind that:

- there are diversified approaches to education which includes TVET;
- TVET is delivered through a wide range of modalities and actors,[43] as revealed by our review of TVET systems.

Education and training systems in LDCs have many weaknesses and are not yet, in general, assets in terms of achieving development goals. Educational output is often distorted, favouring academic non-technical qualifications, while vocational, technical and employability skills training that could open up labour market opportunities are in short supply (ILO 2008a).

Illiteracy puts formal training out of reach for many people in the informal economy, including for apprentices and master craftspersons. The success of combining literacy training with livelihood training has been demonstrated by many programmes, such as the Society for the Development of Textile Fibres in Senegal, the Tangail Infrastructure Development Project in Bangladesh and the Somaliland Education Initiative for Girls and Young Men (Oxenham 2002, referred to in ILO 2008a).

- In the United Republic of Tanzania, the Vocational Education and Training Authority has designed and tested *an integrated training programme* comprising literacy, technical and managerial training.
- *Informal apprenticeships* can improve training and productivity outcomes.

learning environment; (v) strengthening quality assurance; (vi) promoting adaptation of science and technology to Tanzania's conditions; (vii) promoting use of ICT in teaching and learning; and (viii) mainstreaming HIV and AIDS into curricula, implementing HIV and AIDS intervention for students. Increased emphasis on vocational and technical training needs to be supported with strengthening of M&E in order to monitor, in particular, acquisition of the desired competencies'.

[43] *Formal TVET* in public vocational training centres and schools; non-governmental institutions; the informal/unregistered sector (i.e. traditional apprenticeship); and enterprise-based training.

- In Benin, the Artisans' Support Office *(Bureau d'appui aux artisans)* seeks to complete the training of apprentices by working with various trade associations.
- Making informal apprenticeships more effective requires an integrated strategy (for details of the key elements see ILO 2008a, p 51).

Formal public training systems in LDCs face problems of relevance, quality and equity.

- *Formal TVET systems* fail to deliver skills for existing jobs.
- *The quality of training* has deteriorated as budget cuts have curtailed investments in facilities, equipment and staff salaries.
- *Equity in access to education and training* is a critical problem in LDCs. Women and girls are under-represented in vocational education and training (ILO 2008a).

Concerning the Major Elements of a National TVET Policy

New policies and delivery systems have been introduced by many LDCs to address these problems, many of which centre on *coordination and partnerships with the private sector*. For example, Malawi, United Republic of Tanzania and Zambia have established national consultative or coordinating bodies (national training authorities) that advocate partnership as a means of improving efficiency in the use of public money by making vocational education and training more responsive to the job market. Structuring the relationship between the training system, employers and trade unions is a major feature of national training authorities (Johanson and Adams 2004).

The government of Sierra Leone might consider:

- adopting a clear vision, strategy and leadership at the highest political level;
- improving forecasting and planning for skill needs;
- improving the quality of TVET;
- addressing the skill needs of the informal sector;
- facilitating the growth of the productive sectors;
- fostering partnership with all stakeholders;
- involving the local communities;
- strengthening local management of TVET.

Concerning the Linkage between General Education and TVET

In the mid 2000s, recognizing that universal primary education entails the need for coherent pathways to further education and to skills for employment and self-employment, *an international consensus* was reached on the need for a holistic, integrated, intersectoral approach to education, including TVET. *The Bonn Declaration* states clearly that *TVET should be a central part of EFA*:

> Recognizing that the vast majority of the worldwide labour force, including knowledge workers, require technical and vocational knowledge and skills throughout life, we affirm that skills development leading to age-appropriate TVET should be *integral to education at all levels*, and can no longer be regarded as optional or marginal. It is especially important to integrate skills development in Education for All (EFA) programmes and to satisfy TVET demand created by learners completing basic education.
>
> UNESCO–UNEVOC 2004 quoted in Hughes 2009, p. 2051

Concerning the Role of Formal Schools versus Enterprises in TVET

Competencies can be acquired either through structured training in public or private TVET schools and centres, or through practical experience on the job in enterprises (workplace training in the formal sector and informal apprenticeship), or both (the so-called 'dual' training, involving a combination of workplace and institution-based training) (OECD–AfDB 2008).

In recent years, there has been much policy and programme development activity to *encourage enterprises to expand workplace learning*, while improving the quality of training. In a number of French-speaking African countries (for example, Benin, Burkina Faso, Chad, Côte d'Ivoire, Guinea, Mali, Niger, Senegal and Togo) training funds have been established. The funds are primarily fed by money collected in enterprises (a certain percentage of their payroll). The funds finance employee training within or outside the enterprise and constitute the embryo of these countries' emerging systems of lifelong learning (ILO 2008a).

The government of Sierra Leone should take into consideration that:

- the private provision of TVET is growing rapidly and even dominates in some countries;
- many of the private providers offer courses with a high concentration in commercial trades;
- the private sector has the benefit of tailoring the courses to the labour-market demands;
- there is little evidence to indicate a close working relationship between enterprises and the private institutions.

Concerning Policies for Ensuring Good Quality in TVET

Formal TVET is seriously under-funded, and in turn the obsolescence of the equipment and weak managerial capacity affect the quality of training programmes. Moreover, the oversight responsibility for TVET is in general shared between the ministries responsible for education or technical education and labour or employment, although some specialized vocational training programmes (in agriculture, health, transport, etc.) fall under the supervision of the sector ministries (OECD–AfDB 2008).

The government of Sierra Leone should bear in mind that in order to meet the skills demand in terms of *relevance and quality* it must:

- *increase the capacity* of schools, training institutes and enterprises to deliver relevant and high-quality skills, and to respond to rapidly changing skills needs;
- *expand the availability of good-quality basic education* as an essential right and as a foundation for vocational training, lifelong learning and employability;
- *upgrade informal apprenticeship systems* to deliver skills and knowledge as a basis for higher value added activities and more advanced technologies;
- *facilitate recognition of skills* for the effective and efficient matching of workers' skills with skills required in enterprises (irrespective of where the skills were gained);
- *promote equal opportunities for women and men* in access to relevant and quality education, vocational training and workplace learning, and to productive and decent work (ILO 2008a).

Moreover, the government of Sierra Leone should also consider the following.

- If the effort to collect skills programme/project data on a regular basis is successful, it will be of considerable assistance in monitoring the impact of TVET programmes.
- The important challenge ahead will be monitoring the quality of TVET, the internal efficiency of providers, and the relevance of programmes.
- It is recommended that, in order to *achieve a standardization of training* across the country, occupational standards should be developed for crafts in the traditional apprenticeship system:[44]
  - a programme of training in pedagogy could be introduced to improve the instructional abilities of craftsmen in the informal sector;

[44] *Occupational standards and competency-based training* are intended to improve the relevance of training and thus of the employability of trainees. Competency-based training shifts the emphasis from time spent in training courses to what trainees can actually do as a result of the training. Occupational standards provide the essential link between workplace requirements and education and training institutions and programmes (ILO 2008a).

  - for example, over 100 occupational standards have been adopted by CARICOM as a basis for a regional qualifications framework (ILO 2008a);
  - as part of the TVET reform process, the Ethiopian Ministry of Education has established an outcome-based TVET system, including occupational standards-based assessment and certification (GTZ 2006).

- Government regulations on apprentice training could be made available to all craftsmen (Ahadzie 2009), however, the success of promoting apprenticeship programmes depends on specific capacities, e.g. know-how in business and financial management, marketing and advocacy, which are very scarce in low-income countries. Therefore, development assistance for capacity building could be part of any policy towards TVET development in Sierra Leone.

Concerning Strategies and Structures for Non-formal TVET

The government of Sierra Leone could pursue a strategy based on the state-of-the art of what is known about the informal sector for improving skills as a means of promoting its growth and productivity and improving the incomes of those employed in the sector. According to van Adams (2008, 2009) such an approach needs to include the following elements:

- both the role and the place of the informal sector has to be recognized for policy purposes;
- the education levels and literacy of those employed in the formal sector needs to be raised;
- the complementarity of training with other small business services, such as entrepreneurship, business development services and microfinance needs to be recognized;
- sustainable financing for skills development needs to be promoted;
- using the informal training systems should be carefully assessed when reforming TVET by strengthening traditional apprenticeships;
- a role for public providers of skills needs to be defined;
- the capacity of industry associations needs to be strengthened;
- monitoring and evaluating outcomes for skills development needs to be taken into account in the continuous reform/redesign of the TVET system;
- effective training schemes in the informal sector needs to be tailored to the social and economic situations they are supposed to improve or develop;
- an *active labour market policy needs to be formulated with a TVET component.*

8.6.3 Demand Side and Supply Side for Skills

Concerning the Linkage between TVET and Labour Market

Public/private partnership (PPP) and the involvement of the corporate sector in TVET-related programme activities mounted by UNESCO are becoming increasingly important. According to the AfDB High Level Panel Recommendation on Skills Development, priority should be given to links to the private sector. Hence, the government of Sierra Leone may consider the following.

- *Changing the incentives for African firms* and multinational companies operating in Africa, which are key to a long-term approach to skill development.
- Involving the private sector as partner with institutions of higher learning to support the curriculum development process.
- Ensuring that public providers of education and training better consider how to deliver those skills which are crucial to all private enterprise.
- Improving entrepreneurship education and training, for example,
  - by using the ILO's Start Your Business (SYB), Improve Your Business (IYB) and Expand Your Business (EYB) training modules,
  - by using *UNCTAD's Empretec programme* through a national centre (i.e. one-stop-shop) to help found or expand businesses.
- *The Institute of Technical Education (ITE)*, Singapore, is an example of best practice as a post-secondary technical education institution, but it is perhaps too far away from Sierra Leone's context to be of relevance in the short-to-medium term. The important role that the reform of the TVET system plays in achieving Ethiopia's targets to overcome poverty could be considered instead.

Concerning the Training of TVET Teachers and Instructors

Promoting demand-driven TVET is not a sufficient condition to ensure the quality and relevance of training. *Complementary policies* are needed to improve the qualifications and dedication of teachers. In general, *teachers in formal TVET programmes* have relatively low formal qualifications, they are poorly remunerated, lack motivation, and suffer from low social status and poor career prospects. In many cases, vocational teachers lack practical skills in the trades that they teach and have difficulties to impart skills that meet the occupational standards (OECD and AfDB 2008).

The government of Sierra Leone therefore might consider the following propositions.

- Grollman (2009) proposes that the key to *enhancing the status of the profession* is through a process of professionalization that needs to be

introduced by individuals themselves and supported by TVET institutions which provide the training, as well as those partners in the community whose interests are served well by TVET trainers and trainees.

- A great deal of scientific research suggests improvements resulting from the development of standards. For example, in the United States teachers who have been certified against National Board for Professional Teaching Standards (NBPTS) have been shown to be more effective classroom teachers. A major precondition of these achievements is that standards are developed by teachers, as in any other of the more recognized professions. This has consequences on development of cornerstones and concepts for pre- and in-service teacher training and on delivery – and not only for TVET teachers (Gerds 2009).

These concepts correspond to general international trends of curriculum developments, such as the following.

- *Raising the degree of teachers' freedom* in decision-making and choices.
- *Providing flexible and reversible relations between learning and working for teachers* based on modular curricula for pre- and in-service teacher training, usually based on standards.
- *Generalization of TVET teacher-training curricula* by 'regrouping vocational specializations' and by stressing cross-field qualifications.
- *Combining and linking different pathways of recruiting TVET personnel* within a coherent system of teacher training, according to the different functions of teachers:
  - practitioners from industries without formal technical and pedagogical qualifications;
  - teachers with or without vocational, technical but with pedagogical qualifications;
  - practitioners from industries with formal technical/vocational qualifications (ibid.).

8.6.4 Ways of Addressing Socio-economic Factors such as Public Perception Problems and Inequities in Access to TVET

For many parents and students TVET remains a 'second-class' education. To address this issue, governments such as those of the Republic of Korea, the Czech Republic, etc., are trying to open pathways to higher education. However, all the potential risk of reverse effects on the quality of higher education as well as the costs should be borne in mind.

The government of Sierra Leone could also take the following recommendations into account.

- Mungai and Ogot (2006) recommend that the SSA governments need to take concerted efforts to make *entrepreneurship part of the national culture*. For example, in 2002, the ILO and vocational training institutions in some Central Asian countries started the Know About Business (KAB) programme to promote *positive attitudes among young people towards enterprise and self-employment*. The KAB programme gives vocational education students knowledge and practical skills to start, operate and work productively in a small enterprise, and accustoms them to an environment where full-time wage jobs are scarce. The curriculum has been adopted as the official business education curriculum for secondary and vocational training schools (ILO 2008a).
- Institutional reforms should address the stigmatization of vocational training as being reserved for the academically weak through a sustained civic education campaign.

8.6.5 Financing TVET

Ways are being discussed to enable TVET students to pursue higher education or training. The problem lies in finding the money. The government of Sierra Leone might consider the following.

- *Taking a look at the funding of TVET* can shed light on the contradiction between the emphasis for skills and the limited funding that the governments are willing to commit to it.
- *The analysis of financing patterns* is increasingly being linked to the wider question of organizing training systems and particularly *the sharing of responsibilities* between the key stakeholders.
- Atchoarena (2009a) suggests that *the debate on TVET financing* typically turns around three key questions:
  - who pays for skills development?
  - what mechanisms can be put in place to finance skills development?
  - what works best, in particular as far as spending public money is concerned?
- In the current economic context it has become more and more common for governments to *promote co-financed mechanisms for TVET*. Based on the core principles for financing laid out in the national TVET Strategy, a Financing Framework for TVET in Ethiopia has been drafted. The main principles of the new TVET Financing Framework are diversification of funding sources, increased involvement of the private sector, and increased efficiency. These principles are not intended to reduce public spending, but to share the burden and readjust the roles that the public sector, the private sector and households play in TVET financing (GTZ 2006).

Public Finance for TVET

The public sector must still actively finance TVET because it needs to address issues of equity, market failures, strategic development, etc. (GTZ 2006).

- Despite the importance given to TVET by many governments, the training system in Africa is largely *underfinanced*.
- *Financing of TVET* as percentages of public expenditures varies considerably from country to country. It ranges from a low of 0.9% a decade ago in Ethiopia to 12.7% in Gabon in the same period.
- Getting the financial breakdown for TVET in Africa is difficult because in many countries allocation is done at ISCED level rather than by programme.
  - According to the latest public expenditure figures Mali allocated the highest share of its total public expenditure on education to TVET.
  - Gabon is ranked second in Africa when it comes to public expenditure on TVET as a percentage of total public expenditure on education.

Financing Mechanisms and Instruments

Traditionally governments directly financed training providers and training delivery. In order to improve the effectiveness of public spending, *new forms of management* are, however, being developed.

- Payroll taxes and training funds constitute the most significant attempt to involve industry in the financing and regulation of a training market.
- *Government policies to encourage enterprises to invest in skills* subsidize the cost of this investment through various measures.
  - Twenty-one countries in SSA have introduced *training funds* financed by *payroll taxes*.
  - *Training vouchers* are also an instrument used by governments and training funds to subsidize the cost of training by enterprises and individuals.
  - *The introduction of training levies on payrolls* is used globally to mobilize additional resources for skills development.
- *The impact of these funds on training* by the informal sector, however, is limited.
- Atchoarena (2009a) proposes that financing of TVET cannot rest solely on the government budget. He calls upon businesses, local governments, NGOs and individuals to contribute to this investment.

8.6.6 Policy Implications

Reforming TVET is a long-term process. Accelerating the pace of change can jeopardize quality. Any TVET reform requires good monitoring and evaluation (M&E) mechanisms and willingness to learn from experience (GTZ 2006). Constant innovation is a key ingredient in the reform process of the education and training systems so that they provide the skills and competencies that will be needed to boost the growth. If done properly, the results can be spectacular. The Republic of Korea is an example of how TVET can fuel stellar economic growth. While no model should be emulated, the Korean experience offers key lessons (see Maclean *et al.* 2009; GTZ 2006), which the government of Sierra Leone could take a closer look at.

- A TVET reform consists of a broad range of programme of TVET activities that focus on:
  - development of new national TVET strategy and policy;[45]
  - implementation of competency based training;
  - new teacher training arrangements;
  - a greater role for the private sector;
  - more decentralized management of the formal TVET institutions.
- Although the Republic of Korea, China and Singapore are examples of good TVET reform practice in Asia, given the socio-economic context of Sierra Leone their experience probably cannot be transferred to Sierra Leone, since no one size fits all.
- The government of Sierra Leone may also want to take a closer look at some of the recommendations coming out of the EC/ILO TVET reform project in Bangladesh.[46]
- On the other hand, a number of examples of good TVET reform practice in Africa are more relevant for replication by the government of Sierra Leone. These include the following.
  - Benin, Togo, Senegal and Mali, which are restructuring their TVET systems to incorporate traditional apprenticeships.

[45] *National development frameworks* may provide an opportunity for countries to integrate skills development into broad national development processes. Skills development plays an important role in national development strategies, five- or ten-year national development plans, national employment policies, Poverty Reduction Strategies (PRSs) and Decent Work Country Programmes (DWCPs). These are the principal vehicles for articulating and implementing national development goals in general (ILO 2008a).

[46] The National Skills Development policy 2010–2015 for Bangladesh represents a groundbreaking attempt to improve coordination and delivery of skills in Bangladesh for the betterment of the nation as a whole. This policy also extends and builds on other major government policies such as the Education Policy of 2009, the Non-formal Education Policy of 2006 and the Youth Policy of 2003.

– The experience in South Africa and experiments in Morocco, Benin and Cameroon underscore the need to associate social partners in TVET systems in the restructuring of apprenticeship.[47] For example, they offer skills assessment for graduate apprentices so that their skills are recognized in the labour market.[48]
– The support for the establishment of an integrated TVET system in Rwanda to assist their national level institutions in addressing the acute shortage of middle-level skilled labour in the country, also known as the missing middle.
– The TVET reform process in Ethiopia is of considerable size and complexity. As part of this TVET reform process, the Ethiopian Ministry of Education is establishing an outcome-based TVET system, including occupational standards-based assessment and certification. *Learning from international best practice*, it is currently in the process of developing the most appropriate mechanisms, procedures and instruments for standard setting, assessment and certification (GTZ 2006).

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[47] Various studies have noted that the Egyptian vocational and education training system does not provide skills that are in demand by employers and young people. To understand the reasons see ILO (2008a).

[48] The South African Qualifications Authority (SAQA) has developed common procedures and guidelines for the implementation of recognition of prior learning (RPL) within the National Qualifications Framework. The comprehensive guidelines encompass assessment, feedback and quality management systems and procedures. Industry 'Sector Education and Training Authorities' (SETAs) develop industry-specific plans (for example in the tourism, hospitality and sport, health and welfare, construction, insurance, and engineering sectors) to advise on RPL procedures, set skills verifications procedures and organize provision of upgrading training. Some of these industries particularly target workers in the informal economy (ILO 2008a).

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