

*Promising Youth Development Strategies*

# Technical and Vocational Education and Training

## A Study of Promising Models in International Development

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## Introduction

This paper examines four approaches to technical and vocational education and training (TVET) used by USAID in South Africa, Indonesia, Georgia, and Morocco between 2007 and 2012 and is based on a 2010 desk review. This review examines how the four programs perform according to nine elements of highly effective workforce development and TVET systems. These nine elements were found to be a part of effective workforce development systems in a 20-country study conducted by USAID in 1997<sup>i</sup>. This paper begins with a brief background and history of TVET, followed by four project briefs that describe each program's purpose, policy framework, content, organization, staffing, partnerships, impact, and sustainability. The programs are so recent that there is little evidence of sustainability or impact to date. A detailed comparison of all the programs in terms of the nine elements can be found in Annex 1. The Conclusions and Recommendations sections provide an analysis of what is missing and recommendations on how sustainability could be improved so that USAID investments in TVET are more likely to be sustained, replicated, and scaled up. It appears that each of the programs is designed, organized, and managed so as to respond to challenging skill and capacity gaps in its country. However, it is hard to know if the innovations developed with USAID funding will be sustained once USAID ceases to invest. At the end of the document you will find annexes listing recommended resources and references/bibliography.

## Brief Background and History of Technical and Vocational Education

Why is TVET important? According to the World Bank's 2007 World Development Report,<sup>ii</sup> 1.3 billion 15- to 30-year-old young people now live in the developing world—the largest youth population in the history of the world, in both absolute and relative numbers. Young people make up nearly half of the world's unemployed.<sup>iii</sup> For example, a recent study by Silatech<sup>iv</sup> concludes that 100 million new jobs have to be created in the Middle East and North Africa by 2020, just to keep pace with new entrants into the region's labor markets. Most surveys of young people in East Asia, Eastern Europe, and Central Asia indicate that access to jobs, along with physical security is young people's biggest concern. The report goes on to say, "developing countries have a very short time to get this right before the youth dividend turns into a generation of unemployed adults."

Lack of skills that are valued in global and local economies constrains economic growth, jobs, and income. Good, demand-driven TVET is potentially one of the most important tools for skilling young people, both in and out of school. However, TVET looks very different in the Organisation for Economic Co-operation and Development (OECD) nations as compared to the developing nations. In the developed OECD countries, TVET plays an important role in preparing people for productive livelihoods. Each of the OECD countries takes a different approach to TVET; however, most of their systems benefit from close communication and linkages with the private sector and with the education system, from substantial private-sector investment, industry-wide skill

standards, a collaborative process of curriculum development for learning at schools and workplaces, high-stakes exit exams leading to well-paid technical jobs in their economies, and deeply rooted industry, trade associations, and other intermediaries who bring the various stakeholders together to hold one another accountable and share the costs and benefits. Most importantly, with the exception of the United States, most of the European and other OECD economies tend to have relatively small internal markets and use TVET as one of several strategies to ensure high-quality exports to grow their economies.<sup>v</sup>

An underlying and hidden issue is the perception of the term *vocational* in different languages and cultures. The countries of northern Europe perceive the term *vocational* differently from the Anglo-Saxon countries, where it tends to have negative connotations.<sup>vi</sup> This point of view was most likely transferred to the former British colonies, many of which make up the developing world.

In addition to the negative social status implied by vocational education, developing countries have few if any of the conditions found in the OECD nations. Instead, most developing countries have little, if any, history of collaboration among employers or between employers and education. Indeed, few developing countries have a strong and organized private sector. There are usually few, if any, intermediaries who can connect both education and employers effectively, and few resources available to purchase and maintain expensive state-of-the-art equipment for learning globally competitive skills. Moreover, there is often no economic growth strategy linked to vocational education. Usually teachers are poorly paid and their social status lies far

below that of teachers in “academic” education. Curricula are often narrow or out of date, and there are no skill standards that reflect a sector’s current and future skill needs. It is not surprising that by the 1980s, TVET had fallen out of favor when rate-of-return studies showed that returns to general education were higher. And where TVET was of a high quality, these studies showed that low-income students were crowded out by elite students who went to those schools because of their high quality.<sup>vii</sup> Since the mid-90s, TVET and technical vocational skill development (TVSD) have been gaining momentum, largely because of their role in East Asia and their continuing importance in OECD countries.<sup>viii</sup>

A close examination of the East Asian approach to technical and vocational education is illuminating. In both Singapore and Penang, for example, leaders lured foreign multinational corporations to their countries, offering their low-skilled workforce to multinational corporations for assembly work, and building special parks to house the companies. Skill development training centers were typically located in the center of the park.<sup>ix</sup> This placement reflected a deliberate strategy, as country leaders recognized that the best way they could grow their economies was to learn how to make the products they were assembling. They insisted that the foreign companies provide them with the training manuals for their products. The same manuals were then used in the skill development centers to train the workforce, transferring the knowledge to local companies.<sup>x</sup> Special funds were set aside for local companies that wanted to upgrade the skills of their workforce.<sup>xi</sup> South Korea followed a different strategy with similar results; after winning independence from Japan the country passed a law limiting any Japanese

firm operating in South Korea to no more than 49 percent ownership, which ensured that the intellectual capital remained in South Korea, whose colleges were required to teach today's and tomorrow's skills based on the country's economic growth export strategy.<sup>xii</sup>

There are a significant number of variations of effective approaches to TVET. To better understand what works, USAID commissioned EDC to conduct a two-year study (1995–1997) on best practice in workforce development and TVET in 20 developing and developed countries.<sup>xiii</sup> The study concluded that the most effective programs shared nine common characteristics:

1. Leadership and accountability
2. Demand-driven design
3. Open access
4. Portability of skills
5. Continuous improvement
6. Public-private partnerships
7. Sustainable financing
8. Replicability
9. Economic and social impact

To compare the programs in terms of how they fulfilled the nine criteria for effective workforce development and TVET programs, see Annex 1.

## Program Model Descriptions

The following is a comparison of four countries with four models of TVET:

1. **South Africa**, where USAID helps South Africa insert best practices in TVET into the country's further education and training college system (FET) by partnering with highly effective U.S. community colleges. TVET can be an important part of a technical and community college system; one of the

top TVET systems in the United States is a campus of career colleges found in Cincinnati, Ohio (Great Oaks). The effectiveness of this approach depends on the extent to which the colleges are linked to the skill needs of the private sector and to what extent the skills reflect international quality standards and portable.

2. **Indonesia**, where USAID engages a Global Development Alliance with Chevron and the Government of the Aceh region to develop an exemplary, state-of-the-art technical college—the Aceh Politeknik. High-quality, stand-alone technical schools offer another effective way to deliver TVET, provided they are tightly linked to the private sector and to an entire industry sector, not just one or two companies, so that the skills are portable and not captive to a specific firm or small group of firms.
3. **Georgia**, where USAID partners with government-run vocational centers to rapidly train thousands of young Georgians, unemployed as a result of the country's conflict and economic collapse. Vocational centers are found in many countries. In the developing nations, they are often the places of last resort because they lack proper equipment, curricula, teachers, materials, and connections to the private sector. Such centers are often government-run, which can be problematic in that government bureaucrats seldom understand the needs of the private sector and do not see it as their job to do so. This

situation has been a challenge in Georgia.

4. **Morocco**, where USAID brings an employment orientation to improve retention and quality of the country's middle schools and helps several agricultural trade centers deliver higher quality learning experiences. Focusing on bringing employability (soft) skills and employers to middle schools seems strategic, as middle school years are the time when students and their parents often choose to drop out of further education, especially in the case of girls.<sup>xiv</sup> The project's additional focus on improving a select number of agricultural institutes and creating "teaching farms" seems also strategic as Morocco's agricultural underpinnings—especially in wheat production—are about to be challenged by the advent of a free trade agreement with the United States

## Project Briefs

### South Africa: Partnership for Skills Development—Further Education and Training (March 2009–March 2012)

#### Program Overview

The Further Education and Training (FET) program is a three-year, skill development partnership between the American Council on Education and 12 of the 50 colleges who are a part of the FET college system in South Africa. USAID is investing \$6.7 million with matching funds from the Government of South Africa (GoSA) to improve the quality of technical and vocational training in 12 colleges within three provinces: Limpopo, Mpumalanga, and the

Northern Cape. Virtually all of USAID funding goes to support the training of college staff. South Africa's contribution is for equipment and infrastructure. The American Council on Education manages the project, which includes several additional partnerships between U.S. community colleges and nonprofit organizations. Each of the participating community colleges and participating NGOs is responsible for different goals.

#### Program Goals and Purpose

The overall goal is to reduce unemployment by improving the quality of human resources in the country. Specific program goals include faculty development; expansion of student support services; provision of academic support for FET students to help them meet core national qualifications; and improvements in student placement, counseling, and orientation services. Other goals are to strengthen entrepreneurship and to use labor market information to drive career guidance and career-focused activities. This will be done via sustainable industry partnerships, work-based learning, and job placement in key industries.

#### Policy Framework

The FET program supports the government's Growth Employment and Redistribution Strategy, which states that transformation depends on "enhanced human resource development." The goal is to halve unemployment and poverty by 2014. The shortage of skilled labor is seen as one of the six binding constraints to accelerated growth.

#### Program Content

Several factors distinguish the USAID South Africa FET program: (1) tuning programs to respond to actual labor market needs; (2)

improving the quality of instruction; and (3) providing direct services to students, such as career counseling, HIV/AIDS counseling, individualized learning plans, coaching or mentoring based on student progress, and tailoring the programs to fit into students' work schedules. Organization, Staffing, and Partnerships

The 12 USAID/FET colleges are supported by multiple partnerships with U.S. colleges and nonprofits. Each of the partnerships focuses on different aspects. For example, Bronx Community College and YouthBuild International worked with colleges on activities leading to mastery of basic skills, retention, throughput, and lecturer/professional development. Springfield Community College and Anne Arundel Community College led the team on entrepreneurship and small business creation and the role of colleges in promoting local workforce development and engaging employers, developing partnerships, and expanding work-based learning. The National Center for Education and the Economy—now affiliated with the NGO Jobs for the Future—is designing labor market and career information and guidance activities and tracking of former FET college students' experiences. Public health experts from Virginia's Community College system are providing technical assistance for the provision of HIV/AIDS student services, such as prevention, treatment, and counseling. Their work is being done in partnership with Right to Care, a South Africa based nonprofit. South Africans view this initiative as the beginning of an FET college network that will last beyond the life of this program.

### **Impact**

This project is building institutional networks within the 12 USAID/FET colleges and with the

participating U.S. colleges. While a results framework has been developed, data to determine impact are not yet available.

### **Sustainability**

Beyond the evident commitment of local USAID staff and funding on the part of GoSA, it is difficult to determine if the leadership of the various stakeholders is well developed. For example, the college leadership lacks capacity and requires training in the management of finances, time, and projects. The links with employers are not yet forged; they will take time to develop. An industry association supports each cluster, which can make it possible for leadership to emerge from various industry associations—if they are managed appropriately. And while the Ministry of Higher Education did invest significant resources in equipment and in-kind services for the colleges, it is difficult to tell if the terms of their economic growth goals are specific enough to determine which industry cluster skills are needed to accelerate growth. It is not clear whether there are intermediary organizations that bridge employer skill needs with the FET system.

### **Indonesia: Politeknik Aceh (2007–2010, with a two-year extension)**

#### **Program Overview**

The Politeknik Aceh (PA) is the product of a \$16 million, three-way Global Development Alliance (GDA) between USAID, Chevron Corporation, and the Government of Aceh. Two decades of violent conflict and the 2004 tsunami left Aceh—Indonesia's westernmost province—without the educational infrastructure and competitive labor force needed to attract investment and support long-term

development. The Politeknik was established as a private institution to equip youth and adults (aged 16–30) with postsecondary, technical education that meets local and eventually international labor demand, generates employment opportunities, and contributes to post-tsunami reconstruction and long-term economic development. USAID funded the technical assistance to develop the Politeknik curriculum, train and hire staff, and establish linkages with industry and government through a \$4.9 million contract with Swisscontact, a Swiss-based NGO with a positive track record in establishing some of the most successful polytechnic institutions in Indonesia. Parallel investments were made by the two other GDA partners: (1) land and road-bridge construction by the Government of Aceh, and (2) the design and construction of a landmark three-story building by Chevron Corporation. USAID is providing an additional two years' financing of approximately \$500,000 to help PA bridge the gap between its current ability to generate revenues and what it needs to be fully financially sustainable by the end of FY 2012. The contract calls for Swisscontact to methodically shift control of operations—including financial and academic management—from the USAID-funded project staff to the Politeknik's own staff. Governance of the institution is similarly shifting from the three-donor GDA model to an independent foundation (Yayasan Politeknik Aceh) that legally owns the institution and is responsible for oversight.

### **Program Goals and Purpose**

Two prior USAID/Indonesia assessments determined that Aceh has long-term sustainable growth potential in value-added processing of agricultural and fishery products,

port operations, and related shipping and trade industries. They recommended a polytechnic that would develop the process engineering skills needed for producing these services. The purpose of the USAID investment was to assist the Politeknik Aceh to achieve programmatic and financial sustainability by September 2010, when the Swisscontact implementing agreement was scheduled to end.

### **Policy Framework**

Aceh Province is one of 33 provinces in Indonesia; it has 23 districts, with a total post-tsunami population estimated to be about 4 million. Through USAID, the U.S. Government has been one of the largest contributors to post-tsunami reconstruction and post-conflict development in Aceh Province. The GDA with Chevron Corporation generated an alliance to develop a state-of-the-art technical education polytechnic to prepare Acehnese graduates for entrepreneurial and technical employment opportunities.

### **Program Content**

The program includes a demand-led diploma program and short course offerings, as well as the following:

- Production of all teaching and learning materials and plans for meeting Indonesian accreditation standards
- Recruitment of qualified faculty and the establishment of linkages, as needed, with other educational institutions
- Student recruitment strategy to attract a wide variety of students, including outreach activities to attract women

and people from remote districts of Aceh

- Enrollment of approximately 500 youth and adult students (aged 16–30) in the D3 diploma program, of whom 35 percent are women
- Enrollment of approximately 500 students in short-term courses
- Action plan for career planning and job placement services, with the goal of having 75 percent of graduates employed within three months of graduation in industry or as entrepreneurs in Aceh or nearby regions of Indonesia and Southeast Asia
- Transfer of all financial and academic management from the USAID-funded project to the Politeknik's permanent staff
- Transfer of the governance of the institution from founding donors to an independent foundation (Yayasan Politeknik Aceh) that legally owns the institution and is responsible for its oversight

### **Organization, Staffing, and Partnerships**

The USAID/Indonesia contract is implemented by Swisscontact, who is developing the academic program and business operations of the Aceh Polytechnic, including the provision of laboratory equipment and furniture for the buildings. Chevron is to contribute up to \$5 million for the design and construction of the Aceh Polytechnic physical facilities. Operating costs will come from the sale of products and services, from the governing foundation's fundraising efforts through its contacts, and,

once the program has been fully accredited, from the Government of Indonesia.

### **Impact**

It is too early to tell what impact this program has had since the first students are scheduled to graduate in late summer 2011. The Aguirre evaluation of the program indicates that results in student enrollment, industry participation, and investment have fallen short of projected goals, but that appropriate actions are being taken to achieve targets.

### **Sustainability**

The Aguirre report for USAID measures sustainability by the following four criteria:

1. High-quality academic programs: The academic programs appear to have high quality.
2. Effective internal and external governance: Internal and external governance need to be strengthened, but this appears to be happening.
3. Supportive industry linkages/partnerships: The GDA is a partnership, and the program has established linkages with 35 companies for student on-the-job and internship training. Employers' acceptance of students in the program indicates its value.
4. Sufficient revenue generation programs: A five-year business plan includes annual projected revenue from short courses, production units, services, sponsorships, and local government. By the final year (2010–2011), the total revenue from these activities is projected to be 35.7 percent

of the operational costs, below the target of at least 50 percent.

## **Georgia: Vocational Education Project (2008–2011)**

### **Program Overview**

USAID's Vocational Education Project (VEP) in Georgia is a two-year workforce development project designed to develop and expand vocational education and training to meet labor market demand in tourism and construction. The initial locations of Tbilisi, Spectri, and Icarus were selected within the first 18 months of the project. In June 2009, a costed extension expanded the project to Kibistabi, Gori, and Kutaisa. USAID then extended the project to Kobaleti, near the Black Sea. The project seeks to shift away from tourism, as the economy has suffered severely from the recent conflict. This program has managed to operate and produce results during very turbulent times, including an almost complete shutdown of the country's economy. The war with Russia left behind some 30,000 Georgians (internally displaced persons) who cannot go back to their homes unless they become Russian citizens.

### **Program Goals and Purpose**

The Georgia VEP's purpose is to:

- Increase the number of tourism and construction-trade graduates trained to international standards from five vocational education centers
- Improve the sustainability of the five centers through public-private sector partnerships and established business management and development models

### **Policy Framework**

The project represents a partnership with the Ministry of Vocational Training and several of its vocational centers and colleges. As of November 2009, the implementers and USAID were negotiating to transfer the costs of the program to the Government of Georgia (GoG) at the completion of the project.

### **Program Content**

The program content consists of one-month and three-month training courses designed to lead to immediate employment in the construction and tourism sectors. The project team uses local and international faculty; for example, three of the project's permanent staff are involved in construction in Georgia. The program teaches soft skills through approaches such as paid internships and inviting entrepreneurs to come and speak to students. Teaching soft skills is also emphasized by job placement teams and a point person whose job it is to help instructors and graduates with soft skills. The capacity to teach soft skills is not isolated to the vocational centers. Instead, a subgrant with the Caucasus School of Business has funded an employability checklist to be used in daily classes.

The program has developed a national certification system so that trainees in both construction and tourism are awarded nationally recognized certificates upon completion of their training assignment. The welding training is certified by an independent institution. Skill standards for the construction industry were being developed, and the private sector has asked that training be expanded to three months. Each course will include theoretical course work, practical work-station training at the vocational center, and one- to two-month on-the-job training. Work-based

learning is integrated into the curriculum. For example, to demonstrate their skills, students build a simulated bathroom, from the initial dry walling to the finished product. Each of the trades gets the chance to demonstrate its technical expertise.

Guidance and career planning are being provided by the Caucasus School of Business, which has conducted trainings in career soft skills for two centers, including job search methods, preparing CVs, developing networking skills, performance appraisal, and using databases.

### **Organization, Staffing, and Partnerships**

The project is organized and managed by the American Institutes for Research (AIR), in partnership with the Ministry of Education and Science, and with support from local mayors. USAID funding has made it possible for AIR to put a job placement team, tools, and equipment into every center. Instructors who come from the industry are key to ensuring that the content of training is current. AIR was able to get a cost-sharing agreement with the government and has developed various schemes for cost sharing with industry. AIR trains center managers and government policymakers on public-private partnerships via workshops.

### **Impact**

Demand for courses in some centers is higher than anticipated, and a recent graduate of the electrician's training course found a job as an electrician in President Saakashvili's residence, a prestigious appointment considered a testament to the quality of the training. Employers at a job fair in Kutaisi made 25 requests for trainees to fill job vacancies. The success and promotion of job fairs is a key

factor in enhancing the reputation of the program. Within three years, despite a war and economic collapse, the centers have graduated a total of 4,368 from the construction courses and 476 from the tourism courses. As of March 2010, 1,884 graduates of the construction trade and 308 graduates of the tourism trade have secured employment, for a total of 2,267 (52%) employed graduates. Graduates of VEP courses have obtained employment with Georgian Technical University, Academy O. Gudushauri National Medical Centre, and several public schools.

### **Sustainability**

As international companies begin to participate more fully on various advisory boards, quality control and monitoring should improve. One measure of quality control is the absorption of graduates into the labor market. This 52 percent hiring ratio is an indicator of quality. One strong feature of this program (and a lesson learned) is the focus on job placement teams in each center. Their production of highly publicized job fairs has been extremely successful in promoting vocational training and providing venues where employers and prospective employees can meet.

The Government's role was worked out in 2010, as the program moved to full cost sharing; after a year, those costs would be totally borne by the Government. The program recently held a workshop on public-private partnerships to help vocational center personnel to design, negotiate, and implement partnerships with business to benefit the centers.

## Morocco: Advancing Learning and Employability for a Better Future (January 2005–September 2009)

### Program Overview

Advancing Learning and Employability for a Better Future (ALEF) began in January 2005 and ended in September 2009, covering a span of five academic years. Total funding was approximately \$28 million. The ALEF program worked in both basic and vocational education. In basic education, ALEF helped promote initiative and creativity in school teachers and students to achieve greater quality and relevance of classroom education. The project includes a girls' dormitories component implemented with key partners, l'Entraide Nationale and the National Federation of Charity Associations, as well as a literacy program for women. In vocational education the project worked with agricultural institutes to provide work-based learning experiences and vocational competencies.

### Program Goals and Purpose

The program's purpose was to create a deep and lasting partnership with the Ministries of Education, Agriculture, Social Protection, and Trade. Two of ALEF's three objectives are covered under this review: (1) In middle schools, ALEF strengthened the relevance of basic education and workforce preparedness and school planning, and (2) In the country's agricultural training centers, ALEF improved the capacity to prepare graduates for employment or self-employment in agri-business. The ALEF program targeted 15 agricultural institutes, focusing on 6 of them.

### Policy Framework

A 2003 USAID-sponsored assessment of the potential impact of the free trade agreement with the United States indicated that certain sectors, especially the agricultural sector, would be negatively affected. For example, while agriculture accounts for only 14 percent of GDP, it provides livelihoods for some 45 percent of the population. In an open free trade market, small Moroccan farmers could not hope to compete with the wheat produced at lower cost by U.S. mega farms. Raising agricultural productivity, diversifying crops, and the improving quality of enterprises, would help mitigate any negative effect of the free trade agreement on agricultural production. ALEF used a multi-stakeholder approach, including relevant Moroccan ministries, national associations, agricultural institutes, leaders in the country's public high schools, employers, and NGOs. The ALEF program was a part of Morocco's economic growth strategy designed to mitigate any adverse impacts of the free trade agreement. ALEF also helped Morocco implement the country's new Green Plan, which required new qualifications and skills based on competency models.

### Program Content

ALEF focused on industry skill needs and on instructor skill needs in middle schools and agricultural institutes. The program developed national certifications for teaching the competency-based approach; work-based learning experiences were introduced into teaching farms and for professional internships at various employers. Guidance and career planning are provided at every agricultural institute. The USAID team helped the Ministry finalize a survey instrument, a protocol, and an analytic software program to gather data on job

entry and experience of new graduates. Competence networks were set up to provide a series of relationships with schools in which feedback about quality and relevance is embedded.

### **Organization, Staffing, and Partnerships**

Different project teams worked on different program objectives. To strengthen middle school education, school planning capacity, and competencies for employment readiness, one of the ALEF teams worked with the Ministry of Education's decentralized authorities. To improve the capacity of the country's agricultural training centers, a different ALEF team worked in collaboration with the Ministry of Agriculture, its R&D institute (DERD), and its professional training institute to prepare graduates for employment or self-employment in agri-business. At its inception, the ALEF program targeted 15 agricultural institutes, focusing on 6. In the last year the DERD worked to bring the ALEF training models for entrepreneurship, employability, and career guidance to 17 additional centers. ALEF and the DERD brought together institutes and the private sector to resuscitate two pedagogic farms, one in Meknès and the other in Zraib. At the project's completion, a third teaching farm was on the verge of inauguration at Ain Taoujdate. The farms, which were already connected to the training institutes but had long lain fallow, were supported by all the stakeholders to create a living classroom to support instruction, research and development, demonstration, and extension to operating farmers and livestock technicians. The DERD was investigating how to extend them to other schools and training institutes across the country.

### **Impact**

On the basic education side, the ALEF model can now be found in over 2,000 primary schools and almost 700 junior secondary schools, reaching 1.25 million students. Parts of the ALEF program have had national impact. During a June 2009 speech, Morocco's Minister of Education announced that many of ALEF's approaches are being adopted throughout the country. There is anecdotal data that more graduates from the pilot agriculture institutes have found satisfactory employment in the agriculture sector, and more quickly, than in the rest of the DERD's institutes. This includes a greater number of graduates' opting to launch their own agricultural enterprises. A preliminary evaluation conducted three months after the graduation of the first class (2006–2007) shows that 62 percent of the graduates reported being actively employed or having launched a new business, and another 30 percent were still looking for employment.

ALEF succeeded in "flattening" many of the traditionally highly hierarchical relationships between official authorities and the "frontline" implementers (teachers, trainers, directors, associations, etc.) and instilling attitudes of collaboration and collegiality to accomplish many conventionally top-down activities, such as program design, training, and assessment.

### **Sustainability**

ALEF's close collaboration with the various stakeholders has made it possible for the ministries to implement eight new approaches, including apprenticeships, social mobilization, entrepreneurial education, clubs and activities, improving the quality of internships, integration of ICT into education, literacy skills of women. These new approaches were put in place successfully in four regional pilot academies and

expanded to five other regions in 2009. In the last year the DERD worked to bring the ALEF training models for entrepreneurship, employability, and career guidance to 17 additional centers. ALEF supported the DERD in reviving these centers with training, validation of models, and career development tools, such as the portal that students can use for career guidance training. The competency networks ALEF developed form a web of private sector professionals who partner with the centers and schools, contributing time and expertise. A partnership has been developed with the Agency for Social Development, the International Association for Business Students, and Casablanca's Technopark. The partners are forming a website to continue to mobilize additional partners. At project end, it appeared that the ministries involved were adopting many of the ALEF approaches.

## Conclusions

The Conclusions section includes (1) technical themes and lessons and (2) contextual themes and lessons, since human behavior is so strongly influenced by its environment.

### Technical Themes and Lessons

The programs appear to meet, in varying degrees of success, all the criteria of effective workforce development or TVET programs, except for characteristic #7, sustainable financing. They all focus on labor market needs, they work hard on establishing linkages with employers, they build instructional capacity, they spend most of the resources (except in the case of ACEH) on curriculum and instructional quality, and they appear to be very well managed by the contractors. However, it appears doubtful (except for ACEH and FET)

that the initiatives can be sustained after USAID stops investing. All of the programs appear to be run by implementer teams that are highly competent and deeply committed. It is not at all clear that this commitment is matched by the country's governmental and other institutions.

Some of the criteria trumped others depending on the nature of the challenge; the need to produce results and numbers drives what the program's implementing partners pay attention to. For example, in Morocco, the need to train teachers trumped the need to build stronger alliances within the various ministries early on. In war-torn Georgia, the need to produce quick results on training people for jobs trumped longer-term strategic thinking about future occupations and their skill requirements. In Aceh, the need to train teachers trumped the need to place graduates in industry to generate revenue for the college. In South Africa, the need to train students with real marketable job skills trumps the need to build partnerships with employers.

Despite a focus on metrics (student outcomes, jobs gained, number of employers participating), most of the programs (except for Georgia) fell short in this area, largely because government accountability systems were not well developed. This raises serious concerns about long-term sustainability. For example, the ALEF program team in Morocco worked for four years with the government to create a results tracking system, which began in the fifth year, at the time the program ended.

Each program used innovative approaches. The project in Georgia developed a "brigade" approach to train students in teams to manage facilities and hired trainers from industry to

work on job placement teams. The South African FET program links U.S. NGOs and colleges with their South African counterparts. In Morocco, the development of teaching farms and competency networks linked employers with middle school teachers and promoted the development of soft skills. In Aceh, the Politeknik was a means to achieve regional growth objectives.

### Contextual Themes and Lessons

#### **Treating symptoms vs. underlying causes.**

Despite the brilliance of the programs and the people who manage them, it appears that the USAID TVET programs reviewed here resemble those of a physician who treats symptoms rather than the underlying causes. If the underlying causes are lack of incentives for connectivity between industry and government, lack of leadership, lack of accountability, lack of ownership and lack of resources, it might make more sense to remedy these lacks. For example, the South Africa program is actively building connections between the South African VET colleges and U.S. institutions. If these linkages are sustained over time, their connectivity may in the long run be far more productive than any specific program.

#### **Lack of strong connection between the countries' short- and long-term economic growth priorities and the TVET programs.**

Except for Aceh and Morocco's middle school program, the programs meet immediate, short-term needs. But the programs do not appear to be deeply integrated into the country's own growth strategy or institutional capacity. Access to the top levels of ministries is critical for a successful partnership; it was lacking in the case of Morocco.

**Insufficient building on the capacity of intermediating organizations.** An intermediating organization is a local organization (Chamber of Commerce, trade or business association, NGO committed to economic growth) that is able to connect the different stakeholder groups. Intermediating organizations play a very important role in sustaining successful TVET systems. Except for ALEF, who built employer councils, the programs did not appear to focus on this critical linkage.

**Insufficient time to produce results.** If USAID creates technical vocation programs that by their nature require deep linkages among industry, government, and education, USAID must consider that institutionalizing the changes takes far more time than five years. No country's governance structure, even that of the United States, could absorb that many changes in five years.

**Tighter focus.** Instead of spreading few resources across a large program scope, as in the case of South Africa's FET colleges, it might make more sense to develop small, very tightly focused programs (as in ACEH), to serve as the lighthouse of the region or country.

### Recommendations

**Focus on genuine sustainability.** Instead of focusing on getting the technical approach right, it would make sense for USAID and contractors to start with the question of "what will it take for a program to be sustainable, given this particular environment, set of institutions, cultural context?" Designing the program from this question is at least as important as building the technical program. If one is done without the other, the results are

not likely to be sustainable. Building alliances with the private sector to solve problems that intersect the private sector's needs for talent with the government's needs for economic growth and USAID's desire to help could provide a more sustainable solution.

**Build a lighthouse instead of handing out flashlights.** If resources are limited, would it make more sense to support an organization in the country that demonstrates commitment to skill development, that has energy and vision, and then use that organization as a lighthouse to inspire the rest of the country? Alternatively, to help transform an existing institution, such as a part of a university, to be a teaching college that inspires and instructs other vocational programs in the country. A lighthouse approach could train faculty and staff of vocational programs around the country, build and

maintain linkages around employer needs, and maintain strong linkages with key U.S. partner organizations. This type of approach might be amenable to a sustained, long-term public-private partnership.

**Use a more realistic time horizon.** Five years appears to be too short a time for any country's institutions and governance structure to absorb the new way of seeing and doing things. Even in the United States, five years are insufficient to bring about a genuine change, as new expectations, habits, conversations, and relationships between previously disconnected stakeholders have to be built, nourished, and resourced, apart from the technical challenges of maintaining a successful TVET program. The five-year time horizon on the programs reviewed for this study may be preventing a long-term rate of investment for USAID.

## Annex 1: Comparison of Four USAID Investments in TVET Across the Nine Criteria of Effective Workforce Development and TVET Programs

Description/9 Criteria <sup>xv</sup>		South Africa	Indonesia	Georgia	Morocco
USAID Investment		\$ 6.7 million	\$ 5.4 million	\$4.1 million + \$1.4 million	\$ 28 million
Period of Performance		3/09–3/12	2/07–2/12	5/08–7/11	1/05–9/09
Primary Approach		Inserting TVET into the further education system	Technical college approach	Using government run vocational centers for rapid skill building	Embedding TVET into the middle schools and agri-institutes
1.	Leadership and accountability	Stated intention, but unclear as to degree of local ownership and leadership	Highly effective as evidenced by local governance structure	Stated intention, but unclear as to how effective	Stated intention, but unclear as to degree of local ownership and leadership
2.	Demand-driven design	Industry not consulted ahead of time except in one college	Industry a strong local and regional partner, not clear if there is a strong focus on soft skills	Very tightly focused on local employment opportunities	Local employers councils partner with schools and agri-institutes focused on skills in demand and strong overall focus on soft skills
3.	Open access	Very flexible and oriented to meet students where they are	Unclear, 21% of students to receive scholarships	Appears to be open to anyone, data on recruitment unclear	Open to students in middle school and those in agricultural programs
4.	Portability of skills	Focus is on teacher training and specific industry skills via partnerships with U.S. community colleges and in at least one case with local industry	Highly portable skills and curriculum based on analysis of master workers in various sectors. Not clear if there is a strong focus on soft skills	Highly portable skills in construction and tourism but not at higher levels. Soft skills are learned in teamwork and as students form own contracting companies	Portable due to participation of employer councils at middle school level. Portable at agricultural institutes as students learn on learning farms

Description/9 Criteria <sup>xv</sup>		South Africa	Indonesia	Georgia	Morocco
5.	Continuous improvement	Criteria for measuring performance are being put in place	Criteria for measuring performance are in place and being used to track past performance and guide planning	Criteria for measuring performance are in place and being used to track past performance and guide planning	Criteria for measuring performance postponed by Ministry, developed in final year, unclear as to whether they are being used
6.	Public-private partnerships with industry or companies	Desired but unclear whether these are in place	A GDA with Chevron plus partnerships with over 30 local employers	No employer partnerships to date although it appears employers are willing to start to engage	No partnerships per se, employer councils were established, no data as to whether these are being maintained
7.	Sustainable financing	Intended, but unclear as to what will happen after USAID leaves	Appears to be sustainable	Transferring costs to GoG, also instituting public-private partnerships	There appears to be no evidence of sustainable financing
8.	Replicability	Highly replicable and replicates best practices in the U.S.	Highly replicable, however depends on strong founding partner such as Chevron	Highly replicable, focusing on immediate job and skill needs and deliver quickly	Elements of program are replicable, such as employer councils, learning farms, forming twinning arrangements with Ministry of Education
9.	Social and economic impact	No data as yet	No data as yet	Significant numbers of graduates, 52% job placement rates despite economic turmoil and war	Minister of Education states that ALEF reforms are being integrated into the national system, no further data

## Annex 2: Recommended Resources

1. TVET Portal – a community of practice  
<http://www.tvet-portal.net/index.php?id=20&L=0>
2. Technical Education. UNESCO  
<http://www.unesco.org/new/en/education/themes/education-building-blocks/tvet/>
3. Monika Aring, Cathleen Corbitt. (1996). *Compass for workforce development*. Newton, MA: Education Development Center.  
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4. John Middleton, Adrian Ziderman, Arvil Adams, (1993). *Skills for productivity: Vocational education and training in developing countries*. New York: Oxford University Press.  
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- <sup>ii</sup> World Bank. *World Development Report, 2007*.
- <sup>iii</sup> World Bank. *World Development Report, 2007*.
- <sup>iv</sup> Silatech. 2008. <http://www.silatech.com/arabic/media/pdf/Silatech%20Brief.pdf>
- <sup>v</sup> Monika Aring. (1998). Comparing entrance requirements into TVET in Denmark, Switzerland, Austria, Germany, and the Netherlands. Unpublished paper for German Marshall Fund.
- <sup>vi</sup> In German, for example, *vocational* means *Berufsausbildung*, which means completing your education for your profession. In French and Spanish, the term is *formation* or *formacion*, which implies forming the individual's skills.
- <sup>vii</sup> Conversation of author with John Middleton in 1995, author of the leading study on vocational education. World Bank.
- <sup>viii</sup> Middleton, Ziderman, and Adams: *Skills for productivity: Vocational education and training in developing countries*.  
<http://books.google.co.uk/books?hl=en&lr=&id=DeI0cyTKV1EC&oi=fnd&pg=PR5&dq=Middleton+Vocational+Education&ots=4UPsGqhsYz&sig=a6uMUjCMMszHjNcycUNa5wqAdmo#v=onepage&q=history%20of%20vocational%20education&f=false>
- <sup>ix</sup> The Penang Skill Development Center still exists today. <http://www.psd.org.my/> Extensive conversations with the founder of PSDC and Bill Wiggenhorn, then head of Motorola Penang. Monika Aring et al., *Compass for Workforce Development*. Penang Skill Development Center Case Study. EDC 1997
- <sup>x</sup> Conversation by author with Bill Wiggenhorn, who was head of Motorola Asia when the Penang Skill Development Center was created.
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- <sup>xiii</sup> Monika Aring et al. (1997). *Compass for Workforce Development* (for USAID). Newton, MA: Education Development Center.
- <sup>xiv</sup> Lynn Salinger and Monika Aring. (2003). *Morocco workforce assessment*. Newton, MA: Education Development Center .
- <sup>xiv</sup> This summary is based on a final evaluation report prepared by Aguirre for USAID Indonesia March 17, 2011
- <sup>xiv</sup> Lynn Salinger and Monika Aring. (2003). *Assessment for EDC*. Newton, MA: Education Development Center
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- Project website: [www.vep.org.ge](http://www.vep.org.ge)