

MILLENNIUM CHALLENGE CORPORATION

PRINCIPLES *into* **PRACTICE**

Training Service Delivery for Jobs & Productivity

MCC's Lessons Learned in
Technical and Vocational
Education and Training

A joint product of the
Human and Community Development Practice Group
and
Monitoring and Evaluation Division

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The Millennium Challenge Corporation's mandate is to reduce poverty through economic growth. MCC works with a select number of developing countries that demonstrate a commitment to good governance and sound economic and social policies where the opportunity for economic growth and poverty reduction is greatest. MCC's model reflects a set of principles that the United States—and many other donors and advocates—agree are required for development assistance to work well: country ownership, an evidence-based approach, focus on results, and transparency.

MCC's Principles into Practice series offers a frank look at what it takes to apply these principles in day-to-day operations. MCC hopes that capturing and sharing the experiences will help MCC and others learn and do better.

<http://www.mcc.gov/p-into-p>

Acknowledgements

We are grateful for the peer review provided by: Nicole Goldin (FHI 360), Eric Johnson (RTI International), Harry Patrinos (World Bank), Maria Fernanda Prada (IDB), and Nancy Taggart (USAID)

Acknowledgements are due to the following individuals within MCC for valuable contributions and feedback: Sarah Bishop, Naomi Cassirer, Claire Danes, Isabel Dillener, Casey Dunning, Carlos Gargiulo, Algerlynn Gill, Peter Glick, Lawrence Goldman, Rebecca Goldsmith, Jennifer Heintz, Berta Heybey, Sarah Jones, Zaidoon Khouri, Sarah Lane, Katerina Ntep, Caitlin Reichart, Cindy Sobieski, Mark Sundberg, Lona Stoll, Monica Tejada, and Anthony Tyrrel.

Abstract

Between 2008 and 2014, MCC invested over \$148 million in its “First Generation” of technical and vocational education and training (TVET) programs, aimed at promoting economic growth and poverty reduction. Independent evaluations from El Salvador, Morocco, and Namibia revealed that MCC achieved many output targets but failed to achieve the intended labor market outcomes. This is in line with the mixed results of TVET interventions in the literature. Weak TVET service provider accountability, especially accountability to firms, is identified as the core constraint to achieving employment and income impacts for individuals and productivity impacts for firms. Drawing on the evaluations of the First Generation programs and additional lessons from the design and implementation of a “Second Generation” of TVET projects, a new results framework is presented, pointing to five key lessons for the design and delivery of improved TVET. TVET interventions should: i) focus on addressing identifiable skills gaps; ii) ensure programs measurably contribute to labor market outcomes and firm productivity; iii) strengthen provider accountability to clients, especially employers; iv) strengthen the ability of policymakers to hold providers accountable; and v) should contribute to addressing pre-existing inequalities in the labor force. An emerging toolkit describes how MCC plans to operationalize these lessons for future projects.

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List of Acronyms

COSDEC—Community Skills Development Center (in Namibia)

IGD—Institut de Gestion Déléguée or “Delegated Management Institutes” (in Morocco and Senegal)

ITCHA—Instituto Tecnológico de Chalatenango or “Chalatenango Technical Institute” (in El Salvador)

MCC—Millennium Challenge Corporation

NTF—National Training Fund (in Namibia)

OECD—Organization for Economic Cooperation and Development

RBF—Results-Based Financing

TVET—Technical and Vocational Education and Training

VTGF—Vocational Training Grant Fund (in Namibia)

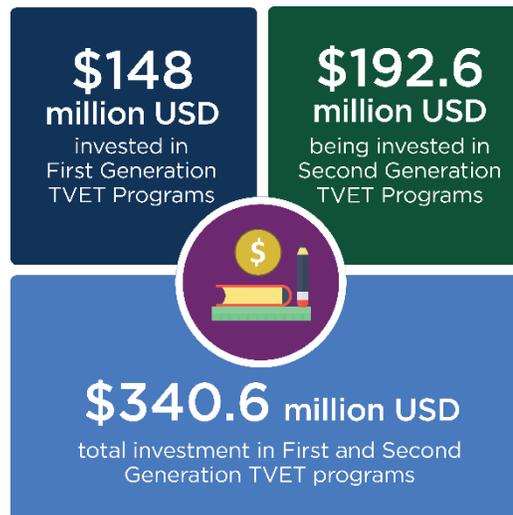
WDR—World Development Report



Instructor observing a trainee using a heavy machine operation simulator at a Mongolian TVET college.

Introduction

The Millennium Challenge Corporation (MCC), along with many other donors, has committed to spurring economic growth in developing countries as a means of reducing poverty and improving livelihoods. Given that the primary asset of the poor is their labor, a growing economy without job growth is by definition not inclusive of the poor. Yet, as the United Nations notes, “in 2018, one fifth of the world’s youth were not in education, employment or training, meaning that they were neither gaining professional experience nor acquiring or developing skills through educational or vocational programs in their prime years... [and] young women were more than twice as likely as young men to be unemployed or outside the labor force and not in education or training.”¹ Compounding these



¹ United Nations Economic and Social Council 2019.

challenges, the nature of work is rapidly changing with increasing automation and the rise of artificial intelligence. In the face of such challenges, it is no surprise that the transition of youth from education systems into the workforce has become a policy priority across the developing world.

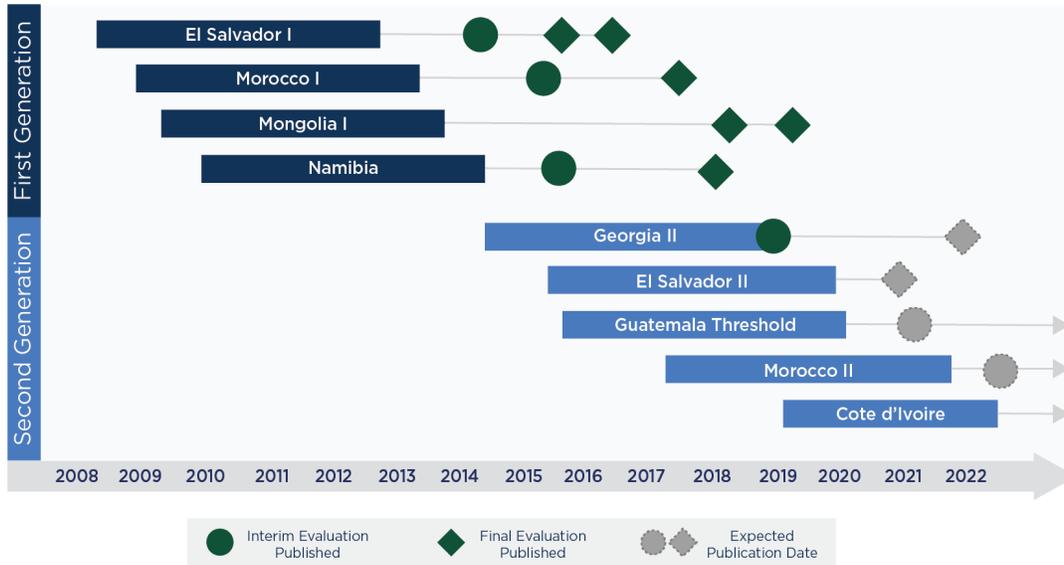
There are many potential routes to promote economic growth and job creation. Through an analytical process called a *Constraints Analysis*, MCC identifies the most binding constraints to private sector-led economic growth in a country. The analysis aims to examine key components of an economy (e.g., macroeconomic stability, infrastructure, governance, human capital), within the country's unique context to identify which constraints could be alleviated to produce the greatest economic gains. Tackling such constraints might include programs that seek to ease labor market restrictions to make it more efficient for firms to hire or increase access to finance to increase job-creating investment. When demand for labor greatly exceeds or differs from the labor supplied within an economy, this reveals a market failure in the production or allocation of human capital. In those cases, education and training to increase the quantity, quality, and/or relevance of skills may be an appropriate response. Since 2007, MCC has committed over \$340 million in support of Technical and Vocational Education and Training (TVET) programming in seven partner countries with the objective of providing their people with the skills demanded by the labor market to increase employment and ultimately spur economic growth.

TVET at MCC

MCC's "First Generation" of TVET programs (implemented between 2008 and 2014) included \$148 million of investments in El Salvador, Mongolia, Morocco, and Namibia. First Generation project support included new/rehabilitated training facilities and equipment, student scholarships, training of trainers, and national policy reform. A "Second Generation" of projects began with the Georgia II Compact in 2014 and continues through Côte d'Ivoire, which began implementation in August 2019.² Final evaluations of those Second Generation programs are expected to be published between 2021 and 2026.

² Overall, MCC has invested over \$948 million in education and training programs in 11 countries ranging from support to rural primary schools in Burkina Faso to science and engineering higher education in Georgia. See more about our investments in education at <https://www.mcc.gov/sectors/sector/education>.

Figure 1: MCC's First and Second Generation TVET Investments and Evaluations



Since the First Generation of programs, MCC has evolved its approach to developing its [Compact](#) and [Threshold](#) grant agreements with partner countries. Prior to the Georgia II Compact, MCC introduced the [Constraints Analysis](#) tool as part of its program development process. Now, as a first step in country engagement, MCC and its partner governments conduct this analysis to determine the most binding constraints to economic growth in a given country. Since the introduction of this approach, MCC invests in education or training when human capital (a skilled workforce) is identified as a binding constraint.³ The development process has also evolved to include a more robust [problem diagnosis](#) in order to determine the root cause of the constraint and to design projects that address well-defined problems. The stated goals of MCC investments in TVET have been relatively consistent over time and have, by and large, aimed to be responsive to labor market demands in order to improve employment outcomes.⁴ However, the means by which MCC programs have aimed to respond to human capital constraints have varied over time. This paper will highlight lessons from independent evaluations of the First Generation as well as from the design and early implementation of the Second Generation, tracing a path forward based on the agency's results to date.

³ In some cases MCC invests in targeted TVET to support the impact and enhance the sustainability of projects in other specific sectors, such as for power utility companies, even when human capital is not identified as a standalone binding constraint to economic growth.

⁴ For example, in Mongolia, MCC's stated goal was to "Improve the quality of TVET education, its relevance to employer needs, and to increase employment and incomes;" in Namibia it was to "Alleviate skills constraints to enterprise growth and productivity and to ensure that ... [graduates] acquire competencies that are needed for gainful employment and income-earning opportunities;" and in Georgia it was to "increase the number of Georgians with in-demand technical skills that lead to improved employability."

Learning from Evaluations

In early 2019, MCC received the last of its eight independent evaluations of its First Generation of TVET projects. These include evaluations from the El Salvador, Mongolia, and Namibia Compacts representing a mix of impact and performance evaluations.⁵ Findings from the interim evaluation of the Georgia II Compact are also included in this paper. As part of one of our [core values](#)—Always Learn—MCC decided to undertake an exercise to identify what lessons the agency has gleaned from those evaluations as well as more tentative lessons from the design of the TVET investments in the Morocco Employability and Land, El Salvador Investment, and the Côte d’Ivoire Compacts.

Chapter 1. The Global and Historical Context for TVET

The Many Meanings of TVET

Technical and vocational education and training covers a wide range of program types. Another common term for similar programs is workforce development. An exhaustive review of the recent international TVET literature distinguishes between terms:

- ★ *Technical education*: “theoretical preparation... for jobs involving science and modern technology;”
- ★ *Vocational education* as part of formal education: “preparation for jobs in designated—manual or practical—trades or occupations... traditionally non-theoretical;”
- ★ *Vocational training* linked to Ministries of Labor: is “[similar to vocational education, but] better linked to the labor market and employment development system;”
- ★ *On-the-job training*: “workplace-based training that uses real jobs as a basis for instruction and for practical purposes;” and

⁵ As the Morocco I Functional Literacy and Vocational Training program mixed both adult literacy and sector-specific training interventions, it is not reviewed in this analysis. Its [evaluation report](#) is available on MCC’s evaluation catalog.

★ *Apprenticeship training* “combines on-the-job training for a highly skilled craft or trade... with academic/theoretical instruction.”⁶

The delivery mechanism, target population, and duration of TVET programs can also vary substantially. TVET may be either part of the accredited/formal education system or outside of it (non-formal training). Technical and vocational education typically occur within the formal education system targeting youth before they enter the workforce. Vocational training is typically non-formal and targets the unemployed, underemployed, or other out-of-school vulnerable groups. TVET certifications are often given a legal equivalence to a secondary (or in some cases, primary) school diploma or, conversely, can require prior completion of upper secondary schooling. Training can range from several weeks to up to three years. On-the-job and apprenticeship training can be modalities employed for both pre-employment and for the continuing education or upskilling of those already employed. In developing countries, TVET service provision, especially formal programs, tend to be government-funded and managed, but may be provided privately or by non-governmental organizations.

MCC projects have reflected this diversity of programming. Compacts have delivered support to enhance formal vocational education as well as delivering non-formal training through Compact-funded consultants. Many interventions have supported vocational education and training at the secondary school level while others have invested in post-secondary technical institutes. The Second Generation has included more emphasis on on-the-job and apprenticeship training. These training programs have generally focused on initial, pre-employment training for youth entering the labor market or those that are unemployed.⁷

TVET has a Mixed Track Record, but Promising Models Exist

In developed countries, longstanding systems of apprenticeship, in many cases tracing back to the Middle Ages, have evolved into robust TVET systems with a “grown tradition of education and employment sector collaboration.”⁸ A 2007 Organization for Economic Cooperation and Development (OECD) report estimated that in developed countries tertiary vocational training can lead to an average of 26 percent higher

⁶ Tripney et al 2013.

⁷ Technical education can be part of both general education and university education such as the STEM project in the Georgia II Compact. These are substantially different types of interventions and thus fall out of the scope of this paper’s findings and recommendations.

⁸ Verry 2001.



Namibian TVET students learning skills for the electrical trades.

salaries compared to those with upper secondary education.⁹ In countries like Germany, Switzerland, and Austria, TVET is seen as a respected route to the middle class.

The literature on economic growth highlights that TVET can catalyze faster economic growth when TVET programs are designed to improve the match between skills and jobs.¹⁰ Historically, however, TVET systems in developing countries have struggled to deliver. The lingering effects of post-colonial and post-Soviet systems which were built around outdated or nonexistent production demands, combined with other changes in the underlying economic and political conditions, have contributed to weak and ineffective TVET systems.¹¹ While high quality evidence is sparse,¹² the World Bank notes that “meta-analyses of programs from around the world find that less than a third

⁹ Hoeckel 2007.

¹⁰ World Bank SABER Workforce Development 2013.

¹¹ See for example, Chapter 2 of *Skills for Productivity: Vocational Education and Training in Developing Countries* on the history of TVET development during the colonial and post-colonial period; and, “Markets for Communist Human Capital: Returns to Education and Experience in the Czech Republic and Slovakia” which highlights the links between the returns to education and the production demands of Soviet and post-Soviet systems

¹² For example, Tripney et al (2013) find only 10 high rigor studies to use in their meta-analysis and find only modest impacts - 0.06 standard deviations for employment and 0.13 standard deviations for earnings.

have positive, significant impacts on employment and earnings.”¹³ Research finds only modest impacts of 5 and 7 percent increases in employment and income, respectively.¹⁴ Some studies find that women have benefited from these programs,¹⁵ but generally with similar or smaller impacts compared to their male peers.¹⁶ The World Bank further notes that some “short term job training offers opportunities, but most programs fail to deliver.”¹⁷ Moreover, the economic benefits may remain small relative to program costs, making it hard to find TVET programs that pass cost-benefit tests.¹⁸ This has led some to argue that interventions in TVET or skills training should be avoided altogether.¹⁹ Those skeptics argue that TVET is often used as a policy tool to try and compensate for lagging growth in private sector demand. When private sector demand is lacking, developing TVET skills is unlikely to result in better employment prospects for graduates.²⁰

It is important to note that the studies included in these meta-evaluations: i) cover a wide range of dissimilar TVET interventions; ii) are generally focused on non-formal, one-off programming rather than working to strengthen formal systems; and, iii) were mostly concentrated in middle-income countries. Thus, these generalized findings are not particularly useful for informing program design, as the external context²¹ and the specific objectives of these programs greatly influences their measured outcomes. However, examples of strong programs do exist—the Dominican Republic’s *Juventud y Empleo*²², Brazil’s *Galpão Aplauso*²³ and *Lei do Aprendiz*²⁴, and the Generation program in India, Kenya, and Mexico²⁵ have all demonstrated strong employment and income results when programs are implemented in response to tangible skills gaps. A recent randomized control trial in Uganda worked with high quality TVET providers and showed an economic rate of return to vocational training of 24%.²⁶ The 2018 World Development Report (WDR) summarizes that successful programs:

13 World Bank WDR 2018.

14 Kluve et al 2017.

15 Chinen et al 2018.

16 McKenzie 2017.

17 World Bank WDR 2018.

18 McKenzie (2017) presents a revealing finding that, by his estimates, for every hundred people trained, fewer than three get a job they would not have gotten otherwise. Moreover, the costs of these programs tend to be high, ranging as high as \$17,000-\$60,000 per job placement.

19 Fox and Kaul 2017.

20 Fox and Kaul make the insightful point that employment is a “lagging transformation” that generally follows structural transformation rather than creating it. Hence, youth employment programs as a means to “get ahead of” a lack of structural transformation is unlikely to create employment growth.

21 For example, Field et al 2019 find that TVET graduates’ career outcomes are sensitive to fluctuations in economic cycles.

22 Card et al 2011.

23 Calero et al 2014.

24 Corseuil et al 2014.

25 Mourshed et al 2013.

26 Alfonsi et al 2019.

... are typically based on strong ties with employers, with curriculum taught by teachers who have both industry experience and up-to-date pedagogical expertise. These programs also tend to reinforce foundational skills, integrate classroom instruction with workplace learning, and offer certification that can be further built on.²⁷

Given the lack of extensive rigorous evidence²⁸ and mixed results of TVET interventions, this paper reflects MCC's efforts to identify which approaches to TVET show evidence of effectiveness. The agency is committed to employing learning from past and present projects to ensure future TVET interventions are designed to meet its strict requirements that investments generate a sufficient [economic rate of return](#).

Chapter 2. MCC's First Generation Programs and Results

Between 2014 and 2019, MCC received the final independent evaluation reports of eight impact and performance evaluations from MCC's First Generation of TVET programs. Analyzing the findings of these reports and policy-relevant takeaways provides a foundational building block for MCC to learn from our implementation experience to date.²⁹

El Salvador Formal Technical Education Sub-Activity

[The El Salvador Compact's](#) \$25.8 million Education and Training Activity included \$9 million dedicated to improving 20 technical secondary schools. The program improved infrastructure and equipment, launched new technical tracks, and provided teacher training and student scholarships, with the dual objective of reducing barriers for students to enroll in technical secondary school and to improve the quality of education. An impact evaluation³⁰ found a 20 percent increase in enrollment in participating schools and a 13 percentage point increase in post-secondary enrollment. However, no effect was detected on grade progression, graduation, job placement,³¹ or income. The enrollment effects were driven mostly by the provision of scholarships, with positive

²⁷ World Bank WDR 2018.

²⁸ A deeper exploration of this issue is documented in Annex I.

²⁹ A detailed breakdown of the project investments and evaluations can be found in Annex II.

³⁰ Campuzano et al 2016.

³¹ Pre-existing differences between male and female employment rates were found to persist: male employment rates in the treatment and comparison groups were 44 and 50 percent, respectively. In contrast, the employment rates were 25 and 27 percent among females in the treatment and comparison groups, respectively.



Secondary school students learn on modern equipment for engineering trades in El Salvador.

effects concentrated among males. This result was largely interpreted as being due to the scholarships overcoming male student’s stronger social incentives to emigrate or find low-skilled work to provide for their families. Moreover, while the program hired teachers with sector-relevant experience, enforcement of civil service laws meant that those experienced teachers did not have their contracts renewed and were instead replaced with traditional civil servants without similar levels of relevant sector experience.

The other major component of the Formal Technical Education Sub-Activity was a \$7 million investment, which built a new facility for the Chalatenango Technical Institute (*ITCHA*, per its Spanish acronym), launched new programs employing competency-based education (namely in Road Construction/Civil Engineering and in Alternative Tourism), and provided generous stipends for attendees at *ITCHA*. A performance evaluation³² of the MCC investment in *ITCHA* found that the autonomous governance model³³ of *ITCHA* and the introduction of competency-based education combined to produce a perception of quality among students and other stakeholders. However, different career tracks had mixed results on the labor market, with the Road Construction/Civil Engineering track achieving 69% graduate employment rate at follow-up, but with

³² Campuzano et al 2016.

³³ El Salvador contracts out the management of this type of TVET institute to private sector providers.

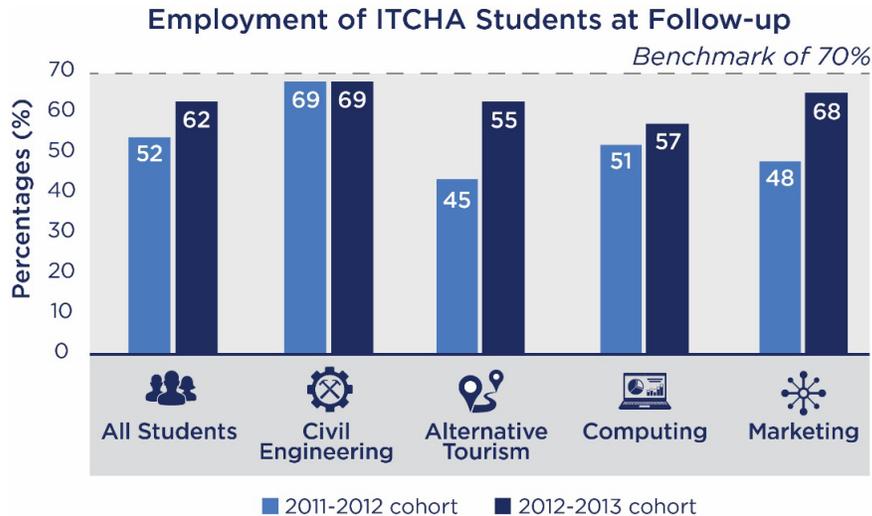
the Alternative Tourism graduates suffering a particularly weak track record with only 51% employed, well below the Compact's stipulated target of 70%.³⁴ Moreover, females with similar GPAs and graduation rates reported employment rates 13 to 16 percentage points lower than males from similar tracks.

Key takeaways:

- ★ Some programs (e.g. Road Construction/Civil Engineering) showed better labor market outcomes when demand for the relevant skills existed. TVET interventions as well as individual service providers should prospectively assess labor market demand.
- ★ The replacement of experienced contract-based trainers with less experienced civil servants after the Compact demonstrates that reform can be hard in the governance of traditional public service delivery.
- ★ Even where the improved inputs may have changed stakeholders' perceptions of the quality of the *ITCHA* program, issues with the linkage to labor market demands left some trainees without labor market opportunities.
- ★ Gender disparities existed in pre-existing programs and persisted in improved programs. Women had worse employment outcomes, even while having similar GPAs and graduation rates.
- ★ Scholarships helped increase enrollment by defraying the costs of attendance, but did not resolve underlying constraints on program quality or change pre-existing labor market results.

³⁴ The target was based on the status quo employment rates of existing post-secondary programs at *ITCHA*. Additionally, as the evaluation design was observational, one cannot rule out that this divergence from the target was due to exogenous factors.

Figure 2: El Salvador Compact—Evaluation Results for ITCHA Post-Graduation Employment



El Salvador Non-Formal Skills Sub-Activity

The other major component of the El Salvador I Compact’s \$25.8 million Education and Training Activity was the Non-Formal Skills Sub-Activity (\$5 million), which provided vulnerable populations with short-term, classroom-based courses based on user requests. The median trainee of the program was 30 years old, female, rural, with only eight years of formal education. While trainees self-reported improvements to employment and incomes, a performance evaluation³⁵ showed no evidence that these short courses systematically improved the labor market outcomes of participants when compared to non-participants. Moreover, participants regularly noted a desire for more hands-on, practical training, rather than solely classroom delivery. Another finding of the evaluation was that the lack of labor market data for the region was the key factor forcing the program to rely on requests from applicants rather than any reliable data on gaps in the labor market or demands of local industry. In areas where evaluation findings confirmed local demand for a given set of skills—such as Ministry of Education contracts for tailors of school uniforms—trainees did report higher employment and increased income.

Key takeaways:

- ★ Some short-term trainings seemed to provide a bridge to employment and income, but not all programs achieved this due to a lack of link to existing labor market demand.

³⁵ Campuzano et al 2015.

- ★ Participants highlighted that training should be practical and hands-on to more effectively build applicable trainee skills for the labor market.

Namibia National Training Fund and Vocational Training Grant Fund Sub-Activities

The Namibia Compact's \$28.4 million Vocational and Skills Training Activity focused on expanding the availability, quality, and relevance of vocational education and skills training in Namibia. It did this by investing in support for the operationalization of a payroll levy to finance a national training fund (NTF), requiring employers above a certain size to contribute one percent of their payroll, and launching a vocational training grant fund (VTGF) to conduct trainings in high priority areas while the NTF was being set up. To create an interface with the private sector, the Activity established industry skills committees to identify priority training needs. Notwithstanding legislative delays until the final year of the Compact, the operationalization of the NTF was generally deemed successful at the time of the program's independent performance evaluation,³⁶ as 80 percent of eligible employers had registered and levy collection targets were surpassed. However, not enough qualified training providers were found to deliver the high priority skills training under the VTGF, calling into question whether the NTF levy funds would have the intended effect of creating a more skilled workforce.

In a subset of VTGF programs, a random selection of eligible applicants were offered scholarships to attend VTGF grantees' training programs, allowing for a rigorous impact evaluation of participants' outcomes. Enrollment and completion increased among scholarship recipients, particularly for women, with training completion rates at 46 percent in the treatment group compared to only 17 percent in the control group. However, the large positive impacts on training participation did not translate into impacts on employment or earnings³⁷, with women even experiencing a 7.6 percent decline in employment, though partially offset by increased rates of further education. Moreover, the evaluation found that although the VTGF training grants were intended to target high-priority skill areas, the process to determine market demand (via the establishment of industry skills committees) was not as rigorous or evidence-driven as planned and had not yet produced useful guidelines for prioritizing skill areas.

³⁶ Velyvis et al 2017.

³⁷ Moreover, only 45% of trainees were employed at follow-up, versus a target of 75%.

Key takeaways:

- ★ The NTF helped ensuring an adequate resource base for workforce development, but without a sufficient base of quality TVET providers, this financing may or may not help ensure a supply of in-demand skills.
- ★ Industry skills committees can be an important function of good governance in TVET, but may need time to develop and build mutual trust between industry representatives and TVET providers.
- ★ Scholarships can support access/enrollment goals. However, they did not change outcomes related to employment or incomes.

Namibia Community Skills Development Centers Sub-Activity

The Namibia Compact's \$16.8 million Community Skills Development Center (COSDEC) Sub-Activity rehabilitated or constructed and equipped community-based vocational institutes to improve the employment and earnings prospects of students from disadvantaged backgrounds. In addition to infrastructure and equipment upgrades, the program invested in management training at the COSDECs and the foundation that oversees them. An independent performance evaluation³⁸ found that 85 percent of students reported completing their course of study, and trainee and staff satisfaction with the COSDEC programs was generally positive. However, after one year, only 40 percent of graduates were employed, and only 13 percent were employed in their field of study. Further, in spite of similar training outcomes, women were much less likely to be employed than male counterparts (36% compared to 48%) and earnings were almost three times higher for males than for females. The evaluation did not determine whether this pay gap is any better or worse than for similar non-program participants in the labor market. Many graduates reported being engaged in temporary employment and/or being dissatisfied with their present employment situation.

Key takeaways:

- ★ Improved inputs (e.g. renovated buildings) may have changed stakeholders' perceptions of program quality, however the lack of clear linkage to labor market demands left many trainees without job opportunities.

³⁸ Borkum et al 2017.

- ★ Relatedly, the results of the evaluation are a reminder of the need for a credible approach to identifying skills gaps in the labor market.
- ★ Despite similar training outcomes for males and females, gendered labor market disparities persisted.



Mongolian trainees learning skills for automotive repair in a mechanical workshop.

Mongolia Vocational Education Project

The Mongolia Compact's \$49 million Vocational Education Project aimed to improve the quality of TVET education, to improve the relevance of TVET to employer needs, and to increase student employment and incomes. The program included five activities targeted at reforming TVET policies, creating system-wide skills standards, designing a competency-based training system, developing career guidance and labor market information systems, and improving learning environments by upgrading and modernizing infrastructure and equipment for 28 schools. A quasi-experimental impact evaluation³⁹ of upgraded TVET equipment at selected schools found no impact of exposure to the

³⁹ Innovations for Poverty Action 2018.

upgraded equipment on various measures of employment and earnings for either men or women.

A separate performance evaluation⁴⁰ of the remaining four activities found that some policy reforms were maintained, while others were discarded or reversed, and found that overall perceptions of TVET quality improved in spite of some exogenous declines in macroeconomic and labor market conditions. While the performance evaluation cited anecdotes of improved placement rates, neither that evaluation nor the impact evaluation delivered convincing evidence of improved labor market outcomes. National-level reforms brought private sector representatives into a high-level decision-making body for TVET, among other ambitious reforms, yet after a 2012 political transition, this body was effectively dissolved and a number of the reforms were only partially maintained.

Key takeaways:

- ★ National governance reforms without corresponding changes in service delivery were vulnerable to political considerations and were partially reversed following a change in government.
- ★ The lack of labor market information and tracer study data inhibited the evaluation of the project's results.

First Generation Lessons Learned

While neither the available literature on the impacts of TVET interventions nor the number of MCC evaluations in this sector allow for rigorous extrapolation or quantitative analysis, the results delivered by MCC's First Generation programs allow for some lessons for future MCC practice:

- ★ Dynamic labor market needs should inform TVET program design, implementation, and continuous updating. However, gaining and maintaining the interest of the private sector in TVET programs is a fundamental precondition to achieving such an understanding of dynamic labor market needs.
- ★ Investing in facilities, equipment, and existing trainers in the context of status quo public systems did not deliver convincing results.

⁴⁰ Nelson et al 2019.

- ★ Additionally, classroom TVET is just one component of skills development. Effective training requires practical learning and experience.
- ★ Donor interventions need to better understand gender disparities in outcomes and design programs which are responsive to those constraints.
- ★ Both MCC and partner governments should judge success by hard data and feed analysis back into governance. This includes tracer studies for long term job placement and, to the extent possible, increases in graduates' earnings.

Scoping TVET Evaluations in Mongolia

Since its inception, MCC has been at the forefront of using cutting-edge evaluation techniques to understand the results of its projects with a high degree of rigor. Since early in its history, where there was excess demand for MCC-supported programs, evaluations were able to randomly select among eligible applicants to both ensure fair, transparent processes and to facilitate evaluation of program impacts. In Mongolia, MCC's independent evaluator randomized among eligible applicants to TVET centers where MCC provided new training equipment. This established a randomized group of students who were granted admission to these programs and a statistically-equivalent group which were not, either attending other TVET programs or pursuing other career options.

Eventually, MCC and the evaluator realized that this particular impact evaluation strategy would help understand the value of a TVET education compared to students' alternative options, yet wouldn't provide information about the additionality of MCC's investments. This realization highlighted MCC's need to include a broader, mixed-methods evaluation looking at MCC's results, broadly defined. However, using the data collected in the evaluator's impact evaluation, their research team was able to rigorously determine that men and women who were admitted to oversubscribed TVET programs were 13% more likely to be employed and women's monthly income increased by up to 25%. (Field et al 2019.)

Key Takeaway: Evaluations should serve both as accountability tools (by assessing a particular program's value for money) and as tools to promote learning (by more broadly informing the evidence and assumptions that go into program design and due diligence). Exploring the latter can be just as important as the more direct question of "what outputs and outcomes did MCC investments buy?" Serving both objectives generally requires employing rigorous impact evaluation tools and other mixed-methods.

Chapter 3. The Challenge of Service Delivery in TVET

In reviewing the outcomes of the First Generation, MCC identified that a fundamental challenge in achieving outcomes in TVET was in operationalizing accountability relationships in service delivery. As such, it is instructive to consider the results of MCC's TVET evaluations within the framework of how services do or do not work for the poor. A helpful model of these accountability relationships comes from the 2004 WDR on [*Making Services Work for Poor People*](#).

The Making Services Work for Poor People Accountability Model

To understand how services like TVET do or do not respond to the needs of citizens, one must first understand the concept of service delivery. A barber or a food vendor provides a service to the consumers of those services—haircuts and meals. When those services are delivered in a competitive market, the service provider will naturally care about the tastes and demands of their clients. Consumers exert client power over the seller when they decide whether or not to purchase a meal or pay for the service of a haircut, and more importantly whether or not to give them repeat business. In this way, the barber and the food vendor will be accountable to their clients through market forces. The 2004 WDR helpfully contrasts this competitive market client power with the non-market services:

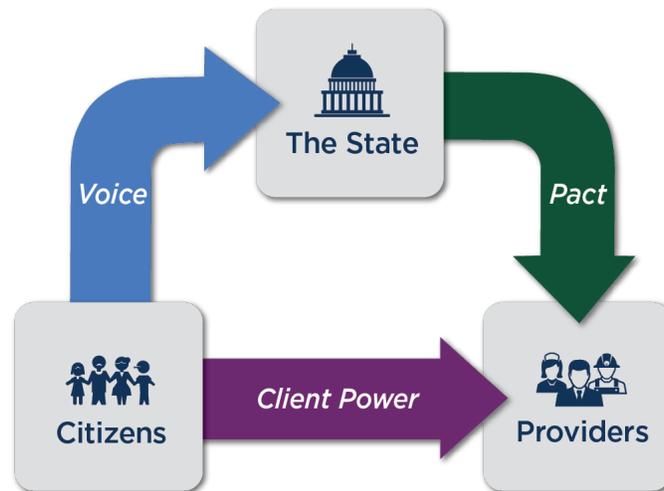
Poor people—as patients in clinics, students in schools, travelers on buses, consumers of water—are the clients of services. They have a relationship with the frontline providers, with schoolteachers, doctors, bus drivers, water companies. [However, for those services...] there is no direct accountability of the provider to the consumer. Why not? For various good reasons, society has decided that the service will be provided not through a market transaction but through the government taking responsibility.⁴¹

The WDR lays out an accountability framework, presented in Figure 3, which highlights two potential pathways through which public services respond to the needs of citizens, with an eye towards the poorest and most vulnerable. First is the *short route of accountability* in which service providers (i.e., nurses, teachers, or agricultural extension workers) are responsive to the client power of citizens as consumers of services. This

⁴¹ World Bank WDR 2004.

is akin to how a producer is responsive to its consumers in a competitive market. The *long route of accountability* traces how citizens can express their needs (*voice*) to the State, and the State in turn responds to their needs by creating a *Pact*⁴² with providers. In both cases, the arrows in the model trace the paths of accountability from citizens to providers. In other words, if service providers are to be responsive, either citizens can leverage their client power over providers or they can find ways to make politicians and policymakers responsive to citizens’ needs through their management and regulation of those providing services.

Figure 3: The “Making Services Work for Poor People Accountability” Framework



Distinguishing between these two routes of accountability is not meant to designate a “correct” form of accountability, but rather to unpack how and where accountability can break down in practice. For example, Shanta Devarajan, Director of the 2004 WDR, insightfully remarked at the 10th anniversary of the report that “the two links of the long route are not symmetrical as politicians and policymakers are not always responsive to citizen voice, especially the voice of the poorest and most vulnerable.” Therefore, even in domains with a strong and effective service delivery pact between the State and its providers, results may fail to meet the needs of citizens if politicians and policymakers do not incorporate the interests of the poor into their policies. Given the multiple potential breakdowns in the “long route,” an intuitive takeaway of this model is that the short route is, indeed, the more direct route to holding service providers accountable. In areas where short-route accountability is failing or is simply infeasible, finding long-route

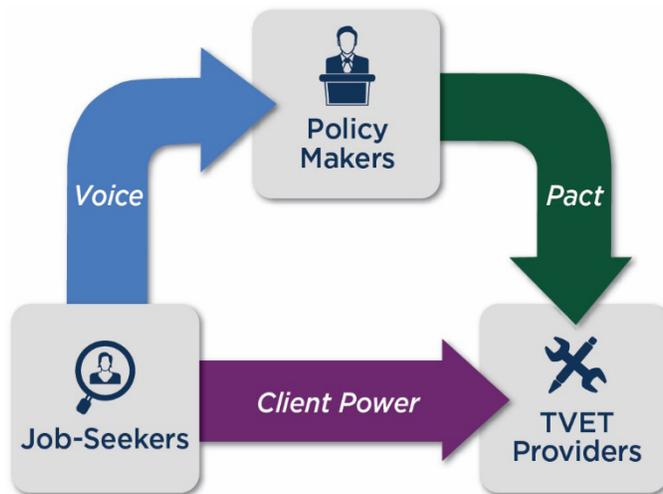
⁴² The 2004 WDR model uses the term “compact” to describe the relationship between the state and providers. To avoid confusion with MCC’s Compact agreements, the term “Pact” is used instead.

solutions (e.g. more effective administration and regulation of providers) is a promising, yet second-best solution, to the challenges of service delivery.

Accountability in TVET Service Delivery

The long and the short routes of accountability describe two pathways to make TVET providers responsive to the needs of jobseekers. Figure 4 illustrates the key players and the accountability relationships as applied to TVET. The delivery of technical and vocational training in most countries is neither a purely market good nor a pure public good (or a pure monopoly of the State). Therefore, gaining a better understanding for and appreciation of these two different types of accountability relationships will help frame a deeper understanding of the core problems of and policy opportunities for TVET systems.

Figure 4: Accountability in TVET



Generally, skills and workforce development programs share some of the attractive textbook features of a market. There is free and fair exchange, enrollment and completion are a visible output of such an exchange, and there is always direct interaction between providers and their clients at the time of this “exchange”. Together, in theory, these features allow “clients” (i.e., jobseekers or others in search of skills) to have a degree of direct, or “short-route,” accountability over TVET providers.

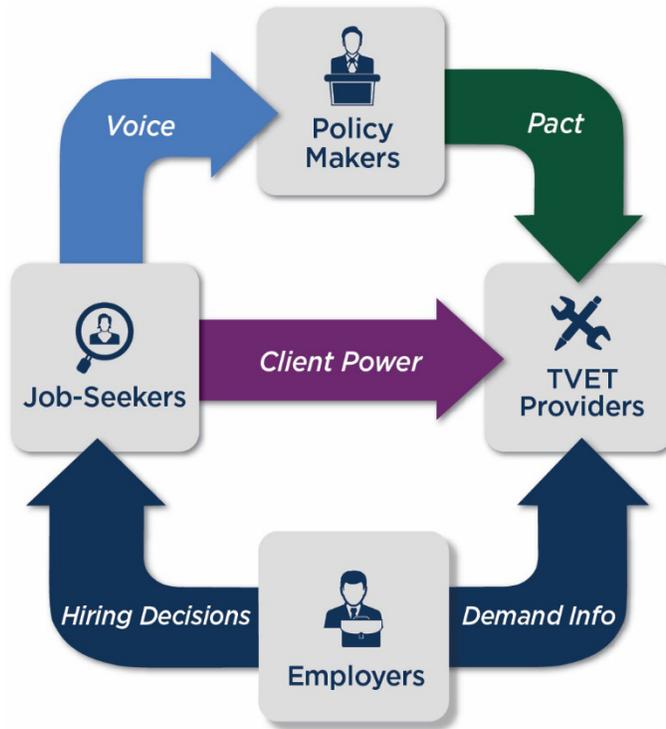
However, a few critical features of a market system are missing, thereby weakening short-route accountability:

- ★ *Imperfect competition and distorted market price.* Government and parastatal intervention into labor and skills markets (whether under growth-driven, distributional, or politically-expedient motives) means that “consumers” (i.e., jobseekers) rarely have effective choice of providers, nor do they face a competitively-dictated price for a given service in TVET. Both of these features combine to produce TVET providers whose incentives do not align directly with those of jobseekers.
- ★ *One-off transactions.* Whereas standard market goods imply a repeated exchange where a consumer learns about quality and chooses to return or not, jobseekers are unlikely to seek training repeatedly, especially for trainings that last for six months or more.
- ★ *Information asymmetry.* Without clear information on labor market outcomes, jobseekers do not have adequate information on the likelihood of getting a job to inform their training and career choices. Moreover, those with strong social networks (i.e., the non-poor) are more likely to have access to informal information on quality and eventual wages - a key driver of inequality.

Given the shortcomings of short-route accountability in TVET, politicians and policymakers can offer a “long route” to accountability by acting on behalf of jobseekers through regulation, financing, or implementation capabilities. However, “long-route accountability” has its own weaknesses. First, as highlighted above, it is not clear that politicians and policymakers can provide an accurate or equitable representation of the needs of their constituents. Moreover, hiring decisions by firms are naturally decentralized “exchanges” between jobseekers and employers, meaning that policymakers overseeing TVET providers are one-step removed from the information necessary to know whether or not those providers are yielding the intended results of helping jobseekers acquire the skills necessary for employment.

This last weakness of the “long route” reveals a fundamental insight—that firms are missing from the above model of TVET service delivery. Firms are an additional client of TVET providers –with overlapping but partially divergent interests vis-à-vis jobseekers. Firms are “consumers” of jobseeker skills through their hiring decisions, providers of information needed to inform program design, and moreover, firms stand to benefit or suffer from the success or failure of TVET delivery. This recognition both creates coordination complexity between the actors as well as requiring that an additional accountability link be established with firms. Figure 5 highlights the potential additional role of employers in the TVET accountability model.

Figure 5: Employers - the Missing Link in TVET Accountability



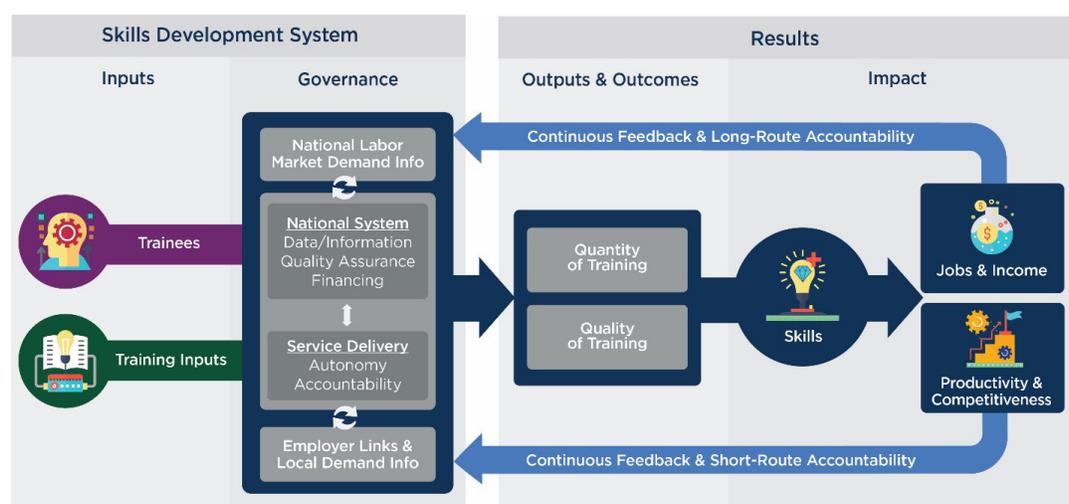
Importantly, employer-provider accountability possesses aspects of client power that are missing or weak in jobseeker-provider relationships. First, employers have an ongoing demand for human capital and therefore have repeated interactions with this “market” as opposed to the generally one-time “exchange” between an individual and a training provider. Second, the addition of the firm-provider accountability relationship overcomes the information asymmetries cited above by including those making hiring decisions into the model.

Chapter 4. A New Results Framework for MCC’s TVET Programs

Building on the accountability framework in Section 4 and in order to create a coherent analysis across both the evaluations and MCC’s current practice, the agency has developed a new results framework for TVET. The framework offers a modified theory of

change⁴³ for how a TVET system produces its intended results, based on recent TVET project logics in MCC Compacts. Additionally, the framework is heavily influenced by the World Bank’s *Systems Approach for Better Education Results* work. Across its past and present TVET projects, MCC has consistently stated that the objective of TVET interventions is to meet the needs of firms for skills and to increase job placement and raise incomes of TVET graduates. The model below describes how inputs are converted through training into skills and on to employment. A more detailed version of the model is available in Annex III.

Figure 6: MCC’s New Results Framework for TVET



The left side of the framework in Figure 6 describes the key components of a well-functioning TVET system and the broader skills development system in which it sits. It lists key inputs needed for training—including equipped facilities, competent trainers, curricula, materials, and financing. These inputs are processed through a governance function. Previously, the World Bank described this governance function as the “black box” of education. Importantly, “what is inside this box has a great deal of influence on what students learn. The results chain for learning includes the quality of policies and institutions and the quality of policy implementation; both of these are likely to be major influences on the quality of education delivered, which in turn affects student learning and other outcomes.”⁴⁴

43 E.g. Page 12 of the [Morocco Employability and Land Compact Monitoring and Evaluation Plan](#) or Annex III, page 3 of the [Côte d'Ivoire Compact](#).

44 World Bank SABER 2013.



In opening that “black box,” the framework distinguishes between the national TVET system and the service delivery level. At the national level, policy and institutional arrangements are important drivers of system performance. This model highlights critical elements of those arrangements—monitoring and evaluation of system performance through tracer studies and information systems; quality assurance through qualification frameworks, standards setting, accreditation and certifications; and financing arrangements that can facilitate equity in access for the poor, disadvantaged, or groups, such as women not traditionally represented in certain fields.⁴⁵ At

the service delivery level, providers must effectively implement policy and utilize training inputs to produce quality and relevant training in appropriate quantities. To do this they need autonomy to develop and deliver training, with accountability for the final outcomes desired—job placement and firm productivity.



At both the national and service delivery level the system must coordinate with employers to understand and respond to labor/skills demand. At the national level this involves labor market information systems and national coordination bodies. At the local level this entails direct relationships—most notably operational partnerships—between service providers and firms or industry associations. This coordination is critical to ensure that training is relevant and that graduates will be able to obtain quality employment. More importantly, these relationships must facilitate a dynamic understanding of labor and skills demand. In the twenty-first century, those needs are constantly evolving—and doing so at an ever-increasing speed. A TVET system cannot be effective if it is not equipped to follow and adapt to evolving demands at both the national and service delivery levels.



TVET inputs processed through the governance function deliver training outputs. Quantitative outputs are easy to name and measure from new facilities, new curricula, or an increased number of students and graduates. The quality of training is harder to assess. Some of MCC’s evaluations interviewed students, trainers, and the private sector about their perceptions of the quality of training. In

a well-functioning system, quality would be actively assessed by competency examinations where trainees demonstrate acquired skills against industry standards. Together the quantity and quality of provided training produces a flow of skills into the marketplace.

⁴⁵ Highlighted elements are drawn from MCC’s experience as well as the “policy goals” laid out in the World Bank’s SABER paper “What Matters for Workforce Development: A Framework and Tool for Analysis.” April 2013.



The final and true metric of success is the degree to which the set of skills produced is relevant, thus matching the needs of the firms. This is assessed through the job placement rates of graduates in their field of study. This needs to be tracked over time—not just an initial placement after training but maintaining employment for 6, 12, or 24 months after graduation. Moreover, graduates should have a strong foundation in both hard and soft skills that allows them to continue to learn, acquire new skills, and adapt throughout their careers particularly given the rapidly changing needs of the 21st century labor market.



The type of job is also important—is informal or formal, a term contract or a permanent position, is the job relevant to, and at a level commensurate with, their field of study? Finally, it is important to disaggregate this data by gender and socio-economic status as a precondition to tracking and redressing differential outcomes.



A TVET system should be judged by its capacity to produce graduates that get jobs at high rates while earning good wages and the degree to which firms receive the skills they need. Achieving the latter facilitates faster economic growth through a more productive workforce, progression up the value chain, and poverty reduction.⁴⁶

These results then need to feed back into both national and local decision making. Tracer studies and other national labor market demand information should feed back into the national TVET system. Regulation, accreditation, and financing decisions should then be used by policymakers to hold service providers accountable if outcomes are not being reached. Moreover, the national system should use disaggregated data to create strategies that promote gender inclusion in training and equitable labor market outcomes through regulatory requirements and by targeting financing to inclusion efforts. This is a “long route” version of accountability. Providers should be receiving direct feedback from firms (as their clients) on whether the training being provided is adequate and what new or evolving skills will be needed in the near future. This is a “short route” manifestation of accountability.⁴⁷

⁴⁶ World Bank SABER Workforce Development 2013.

⁴⁷ A detailed version of Figure 6 that reflects the above descriptions can be found in Annex III.

Mapping First Generation Evaluation Findings to the New Results Framework

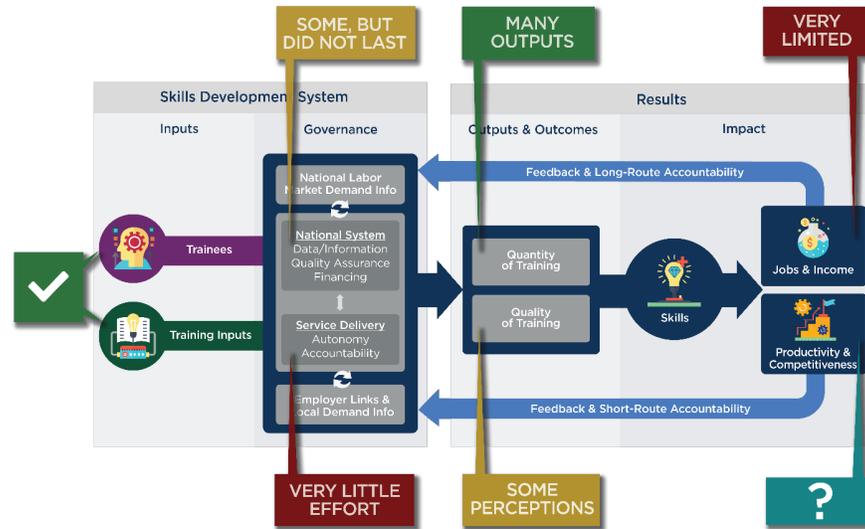
MCC's First Generation TVET programs delivered most of (and in some cases exceeded) the output targets established. MCC supported programs trained over 138,000 students and over 3,600 instructors and built or renovated and equipped 49 TVET centers. Positive results were achieved in increasing enrollment, primarily through scholarships. Some of the programs supported national policy reforms consistent with best practice—setting up a levy tax, introducing competency based training and assessment, creating a basic national qualifications framework, and setting up a new public-private TVET governing body, but these policy reforms were not sufficient to alter outcomes.



Overall, the projects met their output targets, however, they did not deliver on the ultimate outcomes of employment and income. As discussed in the new results framework, the goal of TVET is to respond to the dynamic needs of the private sector. Therefore, a high performing TVET provider should be able to place nearly all graduates into relevant jobs. Where tracer studies were conducted for terminal degree programs as part of the evaluations, they demonstrated weak results—ranging from only 40-62 percent of graduates being employed. In Namibia, where the evaluation inquired about the field of employment—only 13 percent were employed in their field of study. None of the evaluations detected a statistically significant impact on graduates' incomes. Finally, women enrolled at far lower rates in MCC-supported programs and faced worse labor market outcomes than men.

Figure 7 below summarizes how these results map back to the new results framework.

Figure 7: Mapping First Generation Results to the New Results Framework



It is important to note that MCC received very little evaluation feedback regarding the results from the perspective of firm productivity and competitiveness. In the future, it will be critical to remember that firms are not just bystanders or facilitators of TVET, but are a primary driver of the growth impacts derived from a more highly skilled workforce.

An additional observation noted in Figure 7 is that our programs did not invest in governance reforms or improvements at the service delivery level. As will be seen in Section 6, the interim results from the TVET investments in the Georgia II Compact demonstrate progress in the agency’s practice by more tangibly involving the private sector and by focusing on improvements to service delivery.

Chapter 5. The Second Generation of MCC TVET

It’s important to note that MCC did not have the full suite of First Generation independent evaluations to inform the development of the Second Generation programs. Moreover, given that the first set of final evaluations of the Second Generation will not be available until 2021, the following section aims to actively consolidate the learning from the design and implementation of Second Generation programs. Combined



Trainees learning safe welding techniques for in-demand jobs in Georgia.

with the evaluation results from the First Generation described in Section 3, these lessons will inform any necessary course corrections for current investments and future projects.

Georgia II—Industry-Led Skills and Workforce Development Project

MCC's Board selected Georgia to begin developing a second Compact in 2011. The Constraints Analysis identified the low quality of human capital, particularly in science, technology, engineering, and math areas, as the binding constraint to growth. MCC and the Government of Georgia identified a skills gap in mid to high-level technical areas as a particular problem. The \$16 million [*Industry-Led Skills and Workforce Development Project*](#) aimed to improve the alignment between the skills of TVET graduates and the skills demanded by the labor market. The project primarily provided grants to establish new or improved courses reflecting industry demand while also providing support and technical assistance for policy reforms. The competitive grant program required private sector participation as a condition for winning a grant and included other screening

mechanisms—*including cost-benefit analysis*—to ensure that programs were responding to industry demand.

As the Georgia II Compact was coming to the end of its five-year term, in July 2019, MCC received an interim evaluation report detailing qualitative findings from a study of the program’s implementation period. More detailed quantitative findings of employment outcomes are expected in a final evaluation report, though the interim report has already provided meaningful inputs to ongoing learning in MCC’s TVET practice.

Overall, thirty-eight new or improved courses were developed with close cooperation of private sector partners. Those partners provided over 50 percent additional resources as contributions to the project, when only 10 percent was required. Total enrollment during the Compact exceeded the target of 1,500 students. Trainees and teachers had positive impressions of the courses. Private sector partners also expressed cautious optimism about the quality of the trainings and their likelihood to employ graduates. While yet to be quantified by the final evaluation, the interim evaluation reports that trainees expect salary increases significantly higher than MCC’s initial estimate of a 24 percent increase.

Notwithstanding dedicated efforts to promote female participation—such as requiring each grantee to develop a social and gender integration plan, targeted recruitment plans, training trainers in gender equality, and targeted career counseling - only 14 percent of project participants were women. While this is slightly higher than the national average of women’s enrollment in public TVET colleges of 11.5 percent, it is still low.⁴⁸ An important lesson learned is the need to better understand the specific, contextual constraints to women’s enrollment, learning, and job placement and to design interventions responsive to those constraints.

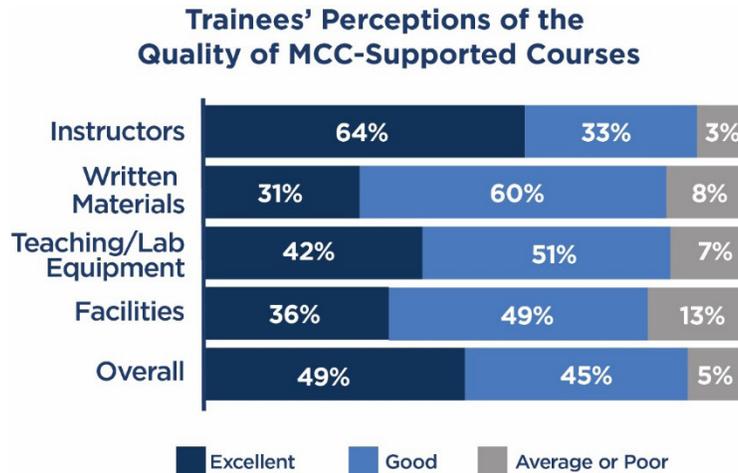
Additionally, public TVET centers that received grants were noted by the evaluator as being at risk for the quality of programs deteriorating over time as they are constrained by relatively low levels of government subsidy coupled with an inability to charge fees for degree programs, low civil service salaries for trainers, and other constraints to operating as a public provider.

Finally, beyond the results from the interim evaluation, the MCC and MCA-Georgia implementation teams report that the Government of Georgia’s policy and approach to TVET has evolved to recognize the need for and value of private sector participation. Specifically, the project has begun to build trust between the private sector and government and has demonstrated that the private sector can and is willing to add value to

⁴⁸ Statistic from Government of Georgia data provided by MCA-Georgia.

TVET. Moreover, the teams cite anecdotes that MCC’s efforts along with those of the Government and other donors, have begun to improve the perception of TVET as a viable alternative to tertiary education.

Figure 8: Georgia II Interim Evaluation - Trainee’s Perceptions of the Quality of MCC-Supported Courses



Morocco Employability and Land Compact— Workforce Development Activity

Following Morocco’s selection by MCC’s Board to develop a second Compact in 2012, the Constraints Analysis conducted in partnership with the Moroccan government found that the quality of education was a binding constraints to growth. Further problem analysis found that the private sector could not find necessary skills due to low quality and weak relevance of vocational education and training. The process of designing the [Workforce Development Activity](#) allowed MCC to explore and conduct due diligence on two new approaches to TVET that demonstrated promise for achieving impact.

An Illustrative Model of Public-Private TVET Governance

In Morocco, MCC’s teams were confronted with the Government’s request to provide material support to a large, well-funded public TVET program struggling to achieve results. Given MCC’s experience with the First Generation, the Agency did not believe an investment in additional inputs into such a system would produce employment, income, and firm productivity results.



MCC's Charaka fund will expand and strengthen an existing program for airplane mechanics.

However, MCC's partners in the Moroccan government also highlighted their on-going experience with an innovative model called *Instituts de Gestion Déléguée* (IGD) or "Delegated Management Institutes." This model had been put in place in the aeronautic and automobile sectors with the primary support of the French Development Agency.⁴⁹ In both cases the industry associations for the sectors created subsidiary companies to operate and manage independent training centers to serve their sector needs. The physical plant and equipment are government-owned and provided to the associations to manage as a concession. Additionally, an annual performance contract is established between the Ministry of Education and the association laying out key performance indicators for the center and providing a government subsidy. Trainees in pre-employment training thus do not pay tuition. To supplement the subsidy, centers generate revenue through selling in-service and upskilling training as well as consulting services to firms in the industry.⁵⁰

IGD training centers reported placing 90 percent of their 100-200 annual graduates into relevant jobs. By comparison, the average national rate of job placement for public

⁴⁹ MCC's team later learned that the French Development Agency also supported the development of a similar model, with similarly positive results, in Senegal.

⁵⁰ After five years of operation, the Moroccan IGD were self-generating 50 percent of operational expenses from these revenues.

programs was barely over 50 percent.⁵¹ A visit to a joint venture among two leading aeronautics firms elucidated why this model seems to work so well. The Chief Executive Officer of the joint venture told MCC staff that he felt that the training center had to respond to him as he was an indirect owner of the *IGD* through membership in the industry association. Moreover, he explained that he had experienced responsiveness from the *IGD* to feedback he provided on trainees. In contrast, he lamented that a public TVET center visible from his office window has never reached out to him about his firm's needs, let alone proactive collaboration.

Impressively, given Morocco's extremely low women's labor force participation rate,⁵² the *IGDs* report having roughly 35 percent women's participation in training. No special actions are taken to promote this level of participation. Anecdotally, MCC staff understood that at least one reason for this is that these new fields—like electrical cabling—were similar to traditional female occupations like weaving. Further study is needed to better understand the drivers of this relatively high rate of female participation in these centers.

The Compact's *Charaka Fund*⁵³ identified the key principles of the *IGD* model and is providing grants contingent on the demonstration of industry need for skills and on a governance model that embodies those key principles. Specifically:



Government's role as regulator and financier. Developing country public TVET providers are widely perceived as unresponsive to the needs of the private sector. Rigidities in centralized management, civil service regulations, and slow decision-making render these providers unable to adapt to meet the changing needs of industry. Reorienting their role from directly delivering TVET services to setting strategic policy, funding TVET to promote equitable access, and regulating providers would allow governments to ensure quality and impact.



Autonomous and private-sector led management. To be flexible in the face of changing skills needs and to be accountable to the industry expressing those needs, TVET service providers should be governed by an independent board, a majority of whose members are from the private sector. Providers must be able to flexibly adjust the skill set of trainers to serve new needs such as through hiring staff on private sector contracts (not as civil servants.)

⁵¹ Moreover, the latter metric is based on a question that asks only if graduates have worked once in the six months after graduation—not if they have a permanent job or if it is related to their field of study.

⁵² 48 percent of women participated in Morocco's labor force in 2018 (International Labor Organization)

⁵³ "Charaka" means partnership in Arabic.



Practical and private-sector driven content. A corollary to recognizing employers’ role as “clients” of TVET, the private sector should be key drivers of training. This means that not only training content should be informed by firms but that competency assessments should be reflective of firms’ skills expectations and should be conducted partially or wholly by industry professionals. Trainers should be experienced professionals with appropriate pedagogical training. Finally, effective skills development requires practical experience—both in labs/workshops at a training center but also in an actual workplace.



Diversified financing. As noted previously, TVET is often expensive and quality TVET even more so. Developing country governments are often not capable of providing these levels of funding alone. By offering consulting services and fee-based continuing education, providers can diversify their resources, account for depreciation and re-investment needs, and reduce dependence on government subsidy. Through links to the private sector, providers can also receive donations in cash or in kind—notably of used equipment.

Results-Contingent Payments to Job Placement Providers

The Morocco Employability and Land Compact is also pursuing an innovative approach to financing job placement programs. Developed in parallel to the Charaka Fund, MCC began exploring existing programs of the government job placement agency. While the Government of Morocco had tested innovative approaches to linking its financing to job placement results, due diligence found that nearly all providers of the program were still being paid based on completion of training programs rather than labor market outcomes. The government agreed to work towards improving its existing results-based financing (RBF) program and to pilot an even more aggressive approach through the Compact’s RBF Jobs Fund. The program is specifically targeted towards finding providers able to reach more vulnerable populations where previously it had only worked with university and TVET graduates.

An excellent example of this approach is the Nepal Employment Fund, a partnership between the Government of Nepal, the World Bank, and other funders and implementers. This fund only made full payment to training service providers upon verification of employment (including entrepreneurship) with a corresponding minimum income level. Bonuses were paid for trainees with different categories of disadvantage. Over eight years, the Fund placed 90,000 beneficiaries in jobs with notably 53 percent being women and 80 percent considered disadvantaged, with the fund providing incentive payments for placement of women and more socially disadvantaged groups. An impact

evaluation found an average increase in income of 72 percent and an increase of non-farm employment from 29.6 to 45 percent.⁵⁴

Linking to the Rest of the Second Generation

Inspired by the evaluation reports and the Morocco design, the key principles of the *IGD* model also informed the design of the Côte d'Ivoire Compact as well as a mid-course redesign of the TVET component of the El Salvador Investment Compact. The updated project in El Salvador is supporting the development of nine sectoral training centers overseen and managed by industry sector skills committees.⁵⁵

Spotlight on Cost-Benefit Analysis in TVET

MCC uses [cost-benefit analysis](#) (CBA) as a key investment criteria to support the design of projects that deliver sufficient benefits to our partner counties and maximize the impact of US taxpayer dollars. The Morocco Charaka Fund provides an example of how MCC recently used CBA to seek cost-effective TVET investments.

The main benefits streams in the CBA model are increased job placement and increased lifetime earnings for trainees, as compared to what those individuals would have earned absent the introduction of this program. The estimated costs are those incurred by all parties to obtain the intended benefits, including infrastructure, equipment, curriculum development, and training of trainers as well as on-going operational costs like salaries, utilities, and materials.

The Charaka Fund was structured to receive concept papers from potential grantees before proceeding to full proposals. This allowed the selection panel to screen for concepts that met core requirements – including an initial CBA. Potential grantees were required to provide both quantitative and qualitative information as inputs to the CBA. This included strong evidence on the economic justification of the proposed TVET centers. In particular proposals had to demonstrate labor market demand for the fields of training and a governance model with tight linkages to the private sector that could adapt to meet changing labor market demands. At the concept phase projects were required to meet an economic rate of return threshold of 8% but this increased to 10% for final selection. In between proposals, feedback was provided to help potential grantees design more cost-effective projects.

⁵⁴ Chakravarty et al 2016.

⁵⁵ Unlike with El Salvador's redesign, the Guatemala Threshold Program did not have the opportunity to reflect the learnings from the First Generation of programs. It is focused on developing curriculum and training teachers for two new technical career tracks in public upper secondary schools and linking those programs to the private sector through two industry skills councils.

Chapter 6. Lessons Learned—Takeaways for the Broader Community

MCC’s TVET practice has yielded significant learning by bringing together the lessons from the First Generation with those emerging from the design and implementation of the Second as well as those of the broader literature. To the degree to which these lessons are built on initial lessons from the Second Generation, MCC will revisit and update our learning and approach based on new evaluation results as they become available.

Figure 9: Lessons Deriving from the New Results Framework



LESSON 1: A Demonstrated Skills Gap Should be a Precondition for Investment in TVET

MCC, governments, and other development partners should critically assess whether TVET is the right solution in a given context. Two ways in which MCC is working to ensure investments are growth-enhancing is to, first, continue to invest in contexts where specific, demonstrable human capital gaps have been identified as a constraint to economic growth, and second, focus on areas where data demonstrates that employers have human capital needs that are not currently being produced by the existing system.

LESSON 2: TVET Should Have Two Primary Goals: Placing Graduates in Jobs with Improved Incomes and Providing the Private Sector with In-Demand Skills

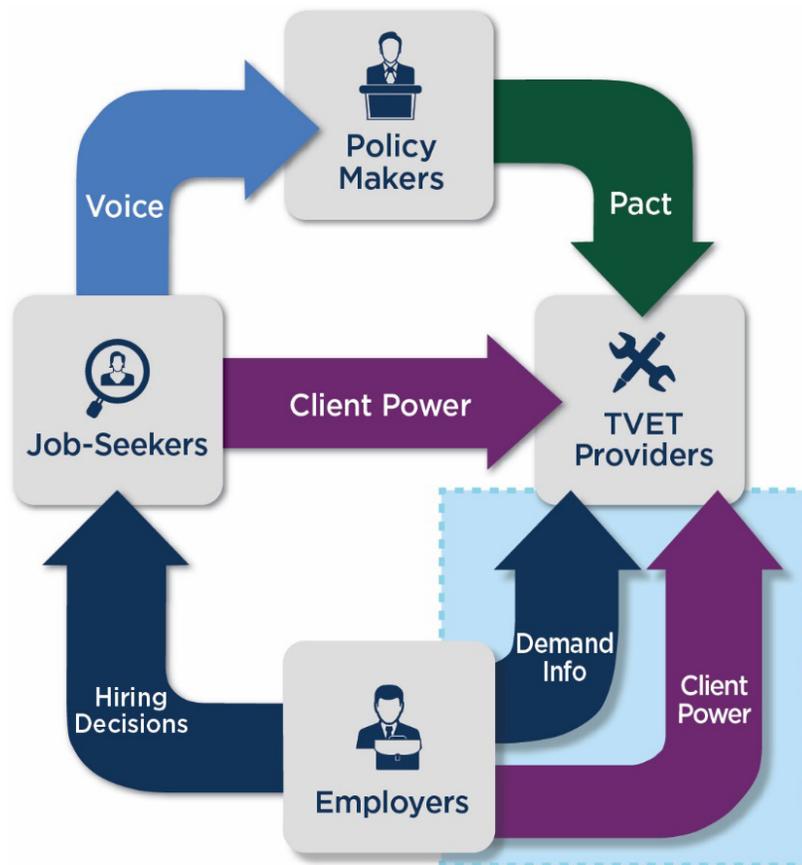
The latter seems straightforward but has most often only received lip service. In the past, MCC tended to only measure trainee-level effects.⁵⁶ Governments and donors should begin with these results in mind and then should design reforms and interventions to achieve them. Our new results framework (see Figure 9) can provide a road map to achieving impact: keep the end results in mind and focus on governance arrangements that create both short and long route accountability. Moreover, those mechanisms need to be flexible to account for the constant pace of technological change and changes in skills demand. Importantly, existing systems for public provision may not be capable of delivering the results desired requiring innovative approaches to deliver TVET services. Finally, these results are the key inputs to assessing TVET's cost-effectiveness. Given the mixed evidence on cost-effectiveness, MCC will continue to put an emphasis on cost-benefit analysis, both in ex-ante investment decisions and as part of its independent evaluation of program impacts.

LESSON 3: Focus First on Short-Route Accountability—Especially between Employers and Service Providers

The most direct way of increasing the accountability of service providers is via the short route—by ensuring clients have voice and influence over providers, as illustrated in Figure 10. Achieving employer-provider accountability may require governments (and donors) to reassess traditional models of publicly delivered TVET.

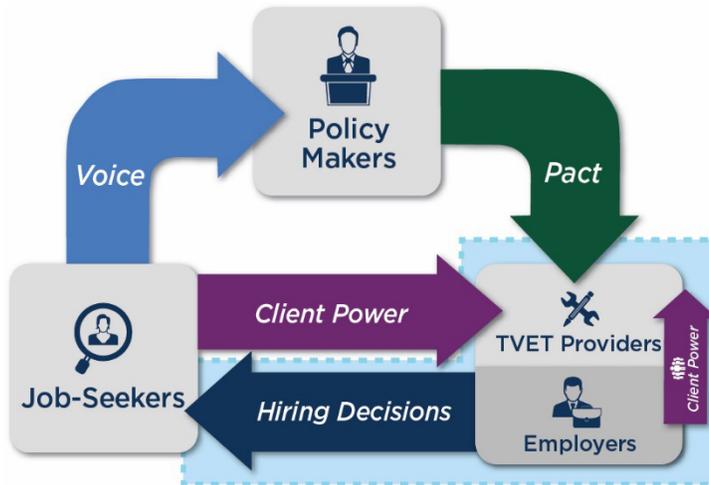
⁵⁶ See Section 8 below for how MCC is thinking about addressing this in the future.

Figure 10: Creating Employer Client Power



Public-private governance can create short-route accountability to Employers. As illustrated in Figure 11, this is achieved through the close alignment of firms and TVET providers. In the *IGD* model, for example, the actors are united by making the provider a subsidiary of an industry association. This creates direct client power between those associations and the training provided at the *IGD* centers.

Figure 11: How Public-Private Governance Strengthens the Short Route



Firm-provided training can be an alternative to the traditional provider approach. For example, Australia has a history of recognizing firms as Registered Training Organizations. Those firms can obtain voucher or per capita funding from the government and employees receive transferable and recognized national certifications and qualifications. MCC’s technical assistance in Georgia helped to introduce the legal framework for firms to be recognized as providers.

Strengthening jobseeker client power can be impactful as well. While MCC has not funded this type of intervention—one way to do this is through vouchers which allow jobseekers to choose which providers to use. This is generally open to both public and private providers, introducing competition. Providers only get funding if they can attract and enroll trainees. In Colombia, for example, an evaluation of a voucher program revealed that many students chose to use the voucher to attend private vocational schools rather than public vocational or academically-oriented ones. Those students who chose vocational schools had 17 percent higher earnings than those who did not receive the voucher. The authors argue that this return was driven by private vocational schools’ closer link to the labor market.⁵⁷ Further research similarly found that voucher recipients in Kenya preferred private providers.⁵⁸ Where a market of high quality providers exists, vouchers can strengthen jobseeker client power.

⁵⁷ Bettinger et al 2017.

⁵⁸ Hicks et al 2011.

LESSON 4, PART 1: Don't Forget to Strengthen Long-Route Accountability...

It is critical to strengthen national systems for accountability. Measures can be taken to reform or enhance national sector governance to put in place the systems necessary to leverage long-route accountability. This may require a shift in government emphasis from direct service provision to setting strategy, regulating provision, and financing. As MCC learned from the Mongolia project, not all national reform efforts will stick, but the potential for improved governance can justify the investment. Key areas highlighted in the new results framework include:

Data for decision making. Without the right data, governments (and donors) are “flying blind.” Governments should invest in, and donors should support, the development of meaningful, robust tracer studies and other evaluation mechanisms to assess whether or not providers are delivering labor market results. Moreover, firm growth and productivity are an important source of information on the quality of the workforce and the quality of TVET interventions designed to improve the workforce. In spite of the notorious difficulty of attributing firm-level impacts to TVET interventions, MCC and other donors should continue to identify innovative approaches to measure firm involvement in and satisfaction with TVET as well as qualitative methods to understand improvements to firm productivity and competitiveness.

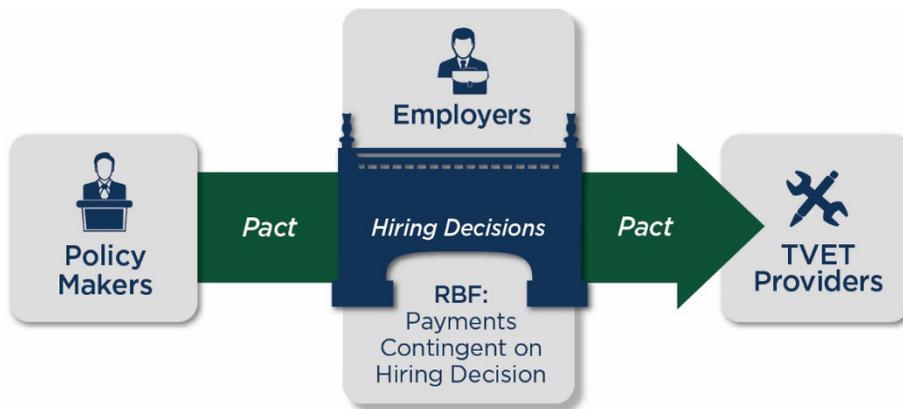
Quality Assurance. Governments should focus efforts on using regulatory powers and budgets to strengthen accountability and achieve results. The new data developed through tracer studies and other evaluations should feed in to reinforced quality assurance mechanisms to hold providers accountable through the regulators’ ability to authorize providers and to reduce or withdraw public funding. Creating progressive steps of accreditation from basic to international standards can support the gradual improvement of the existing system. Both operational and investment financing decisions should be linked to accreditation and quality assurance. Introducing international standards of accreditation such as [ISO-9001](#) for management can provide robust frameworks for institutional development and continuous improvement. Finally, financing can be structured to promote access for poor and marginalized groups as well as to promote women in non-traditional fields.

LESSON 4, PART 2: ...Especially When You Can't Address the Short Route

Results-based Financing. Introducing results-contingent payments can act as an explicit incentive for providers to take into account the client interests of employers. Figure 12

illustrates how this is integrated into the pact between policy makers and service providers. Instead of simply paying providers year after year regardless of performance—they only get paid for actual results achieved on behalf of clients, in this case both jobseekers and employers. When properly implemented, results-contingent payments help create client power for both employers and jobseekers.

Figure 12: Making Payments to Providers Contingent on Results



LESSON 5: TVET Interventions Alone are Unlikely to Resolve Pre-existing Inequalities in the Labor Force, but TVET Has a Role to Play

Factors affecting women’s labor market participation, career choices, and wage levels extend beyond access to and success in TVET. Governments and donors should conduct detailed analyses to understand the constraints facing women’s participation in each context and design interventions targeted to those constraints. This will likely include supporting TVET providers to develop equity-focused enrollment strategies and supplemental preparatory courses. For example, one study in Kenya showed that simply providing women with information about the higher average wages of traditionally male-dominated fields shifted women’s course selections, making them 9 percent more likely to prefer a male-dominated program and 5 percent more likely to enroll.⁵⁹ TVET programs can also work with partners in the private sector to improve the work environment for women—for example through mentoring, implementing sexual harassment policies, and providing services like child care.

⁵⁹ Hicks et al 2011.

Chapter 7. Principles into Practice: An Emerging Toolkit for a Third Generation of MCC TVET Programs

As MCC learns from the on-going Second Generation and takes stock of lessons from the First Generation, it is an opportune time to frame the agency's approach to the next generation of projects.

Promising Interventions and Implementation Modalities

MCC's lessons learned to date lead to a set of promising interventions for demand-driven TVET that will deliver job and income impacts for individuals and enhanced productivity for firms. It will be important to adapt these tools to each new context and to follow the principles that underpin the new results framework to guide program decisions while respecting country contexts and ownership.



Strengthening the Short Route through Public-Private Governance

Following the principles laid out in Section 7, public-private partnerships in TVET that put industry associations or other representative groups of a sector or value chain in charge of TVET service delivery can make the short route of accountability work by creating client power over service providers.

It is important to note that this model has two important feasibility conditions. The first is that there must be a sufficient level of formality in a given industry. It is unlikely that an informal, artisanal sector would be able to achieve the collective action necessary for such an undertaking. Second, a sector should be neither too concentrated nor too diffuse. In a monopoly situation, one firm should be able to invest in its own needs without the fear of other firms poaching their staff (thus MCC would be crowding out that investment). As with an informal sector, a fragmented market would be unlikely to come together. Ideally, there are several large, formal “anchor” firms that can form the core of the partnership while also serving the sector's broader ecosystem and value chain. An exception to the monopoly case may be as part of institutional strengthening efforts for natural monopolies such as power and water utilities.

As with other types of PPPs, change management is important. It is unlikely that a government would be willing or able to hurriedly divest from its public TVET operations.

In Morocco and Côte d'Ivoire, the Compacts frame the introduction or scaling of the PPP model as a demonstration effect.



Strengthening the Long Route through Results-Based Financing Employment Funds

Integrating RBF approaches has shown strong results for other donors and MCC has high expectations for our program in Morocco. Making provider payments contingent on results—job placement and increased incomes—can strengthen the long route of accountability and put the right incentives in place for providers to perform. A limit to RBF in TVET is that it is more suited for training or job placement programs which have a shorter time horizon from program launch to measurable, payable outcomes. Conversely, RBF programs can complement some of the longer-term programs, as they are often more well-suited to targeting more at-risk populations than models which lend themselves to a PPP model.



Policy and Institutional Reform for Improved National Governance

MCC's new results framework and lessons learned point to high value priorities for investments in policy and institutional reform to strengthen long-route accountability. These include tracer studies and quality assurance measures. Other building blocks include: meaningful private sector inclusion in a national governance structure; establishment or updating of robust and actionable national qualifications frameworks; introduction or expansion of the use of competency based training and assessment - including the modularization of coursework and the recognition of prior learning; opening to more private actors including providing qualifications for quality training within firms; and the inclusion of soft skills development. Where appropriate MCC should consider investing in these building blocks.



MCC Needs to Do Better at Promoting Women's Participation

Notwithstanding dedicated efforts to promote gender inclusion in Georgia, only 14 percent of trainees were women. MCC is committed to finding ways to ensure women share fully in the benefits of these programs. Building on the Georgia experience, Morocco's Charaka Fund provided training to bidders to better respond to gender inclusion requirements and additional resources have been planned to operationalize grantee social and gender inclusion plans. Women constitute 50% of trainees in the final

proposals from Charaka grantees. The Activity also includes an RBF jobs fund targeted at women and vulnerable youth.

In Côte d'Ivoire, in addition to grants for TVET programs, the Skills for Employability and Productivity Project includes support to develop a national gender policy that covers TVET and supports the establishment of a Gender Action Unit. The project also funds the establishment of tracer studies that will include gender analysis to facilitate better understanding as well as programming to address gender-differentiated outcomes.

Spotlight on Gender Inclusion in TVET

Despite the overall potential for TVET to improve incomes, specific attention is required to ensure women benefit from those improvements. Secondary education is often a prerequisite to technical training and in MCC's partner countries high proportions of women don't complete secondary education excluding them from TVET. Even when they access TVET programs, labor market outcomes for women are influenced by economic and societal forces beyond TVET, meaning that pre-existing inequalities and legal frameworks (such as prohibitions on work hours) may impact women's TVET outcomes. Strategies to promote gender inclusion and equitable TVET outcomes include:

- For formal TVET: targeted recruitment efforts and supplemental preparatory courses; selecting sectors that are more likely to have higher women's participation; addressing constraints to participation such as flexible class schedules or dormitories.
- Complementary economic empowerment interventions such as: promoting safe work environments with anti-harassment policies, provision of child care, positive role modeling of women in underrepresented fields, informational campaigns around income prospects for different fields, and access to financing for entrepreneurship.
- Financial Incentives: RBF can be used in non-formal TVET to incentivize providers to ensure strong training and employment outcomes for women.
- Complementary education investments: Package TVET with gender responsive investments at lower levels of education to improve the pipeline of qualified women.

Using Competitive Grant Mechanisms to Target Compact Funds

Using a competitive grants program to deliver Compact assistance has shown promise as an implementation modality to target funding to sectors with high demand for training and to providers most capable of delivering on that demand. An important aspect of evaluating those grant proposals is cost-benefit analysis, which estimates an economic rate of return for each grant proposal. In Morocco, MCC's team carefully integrated this analysis into the grant selection process, balancing sufficient rigor and MCC oversight with a country-owned process and deference to the evaluation panel. Additionally, where government is skeptical of the value-added or willingness of the private sector to support TVET, this approach can build trust by incentivizing the private sector to come to the table and can show to government the value and effectiveness of partnership. It is important to note that a competitive, demand-driven process is not a substitute for improved governance.

Updating MCC's Internal Procedures and Processes

In addition to the investment areas above, MCC teams will work to improve our internal practice by updating tools and processes in line with the lessons learned.

Improved problem diagnosis, root cause analysis, and institutional assessment

In the future, TVET service delivery accountability and the new results framework should provide functional guidance to initial MCC assessments of the TVET sector. Additionally, country teams could benefit from pre-identified tools to efficiently diagnose problems related to skills, identify their root causes, and understand the institutional context. A rapid labor market assessment tool could reinforce MCC's understanding of the economic context and the details of existing skills gaps. One possible option for understanding the institutional context could be the World Bank's Systems Approach to Better Education Results for Workforce Development [Training Provider Assessment Tool](#).

Update our performance indicators and practices to align with the new results framework

To operationalize the new results framework, MCC is identifying and adopting more efficient indicators and measurement techniques focused on the dual goals of job

placement and firm productivity. Given the measurement challenges noted in Annex I, MCC is also making a special effort to measure intermediate indicators that confirm progress towards these end results. While imperfect proxies of ultimate outcomes, intermediate indicators could include time spent in labs and outside the classroom, metrics of firm participation and satisfaction, in-kind contributions by the private sector, conferral of nationally- or internationally-recognized accreditation or certifications, and improved learning outcomes in sector-relevant skills. In the coming year, MCC will conduct a more exhaustive internal review of common indicators and other additions to its suite of performance monitoring tools.

Don't give up on measuring complex labor market outcomes

As noted in Annex I, when measuring the labor market outcomes of any project, but particularly in a space like TVET where labor market outcomes are of central interest, the challenge of attribution is worth tackling. Two ways MCC is working to live up to its commitment to rigorous, independent evaluation are, first, by not backing down on experimental and quasi-experimental evaluation. These evaluations may help answer more micro-level questions of differential impacts across providers or models (as in the Georgia II [Industry-Driven Skills and Workforce Development evaluation](#)) or may answer bigger picture macro questions of different vocational tracks and/or comparing TVET versus status quo tracks (as with a [National Bureau of Economic Research Working Paper](#) by one of MCC's Mongolia evaluators). Second, MCC's cost-benefit analysis and evaluation approaches are endeavoring to dive deeper into understanding TVET's links to firm-level productivity gains. Moving forward, both the Morocco II evaluation and the Côte d'Ivoire Workforce Development Evaluations will explore methods to measure those productivity gains.

Conclusion

MCC's First Generation of TVET investments produced their planned outputs in terms of new or renovated infrastructure, curriculum developed, and number of participants trained. However, in line with the results in the literature, our First Generation projects delivered neither the desired jobs and income for trainees nor the improved productivity for firms. This Principles into Practice presented MCC's learning from those experiences as well as from developing a Second Generation of TVET programs. That learning identified the accountability relationships, especially between employers and providers, as a fundamental missing link to achieving impact. The new results framework for

TVET maps the critical role of accountability as a feedback mechanism for keeping TVET provision relevant to the private sector.

Under the right conditions, TVET can be an effective tool to provide youth with the skills needed while providing firms with the human capital necessary to grow and compete. MCC's Second Generation projects are promising—they have taken steps to address both the long and short routes of accountability to support our partner countries, the over 70,000 estimated trainee beneficiaries, and the companies that will hire them as part of MCC's singular mission to reduce poverty through economic growth. Upon conclusion of the evaluations of MCC's Second Generation projects, MCC will revisit whether those projects have succeeded in targeting TVET to relevant, in-demand private sector needs. In the meantime, MCC will pursue the development of the Agency's TVET toolkit and will use the lessons laid out in this paper in developing the Third Generation of TVET. The agency will continue to learn from new evaluations to update lessons learned and adapt the design and implementation of future projects.

Annex I: Challenges in the Generation and Interpretation of the Evidence on TVET Programs

As detailed in Section 2, research on the impacts of TVET programs has yielded mixed evidence, but generally averaging out to positive yet modest impact sizes. Beyond this mixed evidence, MCC staff involved in program development, design, and evaluation have often remarked at the dearth of reliable evidence, particularly when one begins to appreciate the diversity of programs included under the moniker “TVET”. As a donor with a particular interest in both the consumption of existing evidence on TVET impacts as well as invested in the generation of future evidence, MCC must grapple with both the causes for the weak body of evidence and potential approaches to overcome such challenges.

A number of measurement issues make rigorous, reliable evaluation of labor market outcomes difficult. The first challenge is the issue of knowing whether to attribute trainees’ outcomes to the program or to other factors. For instance, if we find that 60 percent of graduates of a given program are gainfully employed in their field of study, one is left wondering if this is better than what this group of trainees would have achieved in the absence of their training or whether 60 percent is only as good (or perhaps even worse) than what would have been obtained without such a program. Techniques like randomization and matching can help control for this issue, though executing the conditions necessary for a well-identified impact evaluation is exceedingly rare, especially when working within the confines of large-scale, government systems.

Even in the rare cases where randomization or other methods give confidence in the difference in outcomes between program participants and a control/comparison group, analysts are left with the problem known by economists as the “general equilibrium” challenge. This concern highlights that when there is an increase in the supply of workers in a given labor market or sector, those in the labor market who already have similar skills might simply be paid less, or (if wages do not adjust to match supply and demand) experience unemployment. In other words, if you add 200 additional plumbers to a local labor market with no change in the demand for plumbers, plumbers may simply receive lower wages or the unemployment rate for plumbers could increase.

The possibility of displacement may further complicate reliable measurement of labor market impacts. Displacement refers to the fact that some of the participants in a program who are observed to have positive outcomes (e.g. a good job with a good salary) may in fact simply have “taken” that job from whomever would have held that job in the absence of the training (i.e., one “displaced” the other). If relevant, a theory of pure

displacement would mean that one beneficiary's gain is cancelled out exactly by another beneficiary's loss.

While the above issues may make evaluators worry about overstating the impacts of an intervention, one of the cornerstone lessons of this paper—the issue of including firm-level benefits—has the opposite effect, one of understating the impacts of an intervention. Specifically, while jobseekers are the most visible beneficiaries of TVET interventions, increased supply of human capital also has the potential to improve the productivity of firms and, in fact, is often a primary objective of TVET programs. In other words, if an intervention provides skills that are truly in short supply, one would expect firms to experience productivity growth. Interestingly, the existence of firm-level productivity growth⁶⁰ means that more skilled workers are being substituted for less skilled ones, allowing for net benefits, even in the case of pure displacement. However, if the challenge of attribution of trainee-level impacts is historically challenging, the ability to attribute firm-level productivity gains is massively more complex, especially when limiting oneself to measure only those gains not already included in the measurement of trainee-level impacts.

Given the general challenge of attribution and the thorny particularities of measuring employment and firm-level productivity outcomes, it is understandable that most reviews of the TVET literature reveal very few reliable impact evaluations from which to predict the effects of TVET programs. Evaluations of other types of education programs, such as primary and secondary education programs, have generally bypassed or circumvented this issue by focusing on standardized measurement of learning outcomes and measurement of increased enrollment. However, given the diversity of TVET programs' subject matters and their desired learning outcomes, there are rarely standardized measures of TVET learning outside of competencies which are idiosyncratic to each sector or skill profile. Overall increases to TVET enrollment is rarely a meaningful goal of TVET programs, thereby limiting its utility as an outcome of interest.

Given the difficulty of forecasting and evaluating the impacts of TVET programs, the following considerations could promote higher quality problem diagnosis and program evaluation. First, during the development of TVET programs, practitioners should conduct detailed labor market analyses, such as those included in MCC's Constraints Analyses. If MCC and others properly employ this type of diagnostic approach to identify areas where the formation of human capital in technical and vocational domains is a constraint to economic growth, the likelihood that displacement or other general equilibrium effects will nullify a program's impact are unlikely to be first-order issues.

⁶⁰ These are often referred to as firm-level productivity spillovers to highlight the fact that higher wages should, in theory, be the primary reflection of improved productivity. This issue is not explored here.

Next, evaluators of TVET programs should: 1) put significant effort into solving the basic question of attribution via impact evaluation, a historical strength of MCC programs, yet with significant room to grow; 2) use triangulation techniques to understand how significant the problems of general equilibrium and displacement may or may not be⁶¹; and 3) not neglect the role of firms as an additional beneficiary of human capital improvements.

⁶¹ See Crépon and Premand (2018) for a helpful exploration of the issue of displacement in the context of an experimental evaluation aiming to directly measure such effects.

Annex II: TVET Project and Evaluation Summaries

While the paper aims to give a high-level summary of key learnings from MCC’s First Generation of TVET programs and early learnings from the design and implementation of the Second Generation of TVET programs, it is also helpful for some readers to dive deeper into the programs and the evaluations analyzed in Sections 3 and 6. Table II.1 gives a brief summary of MCC’s past and present TVET programs and Table II.2 presents key information from independent evaluations of TVET programs.

Moreover, starting in May 2019, MCC began publishing Evaluation Briefs which offer a succinct summary of the key findings and lessons of each interim and final evaluation report. Evaluation Briefs complement the significant other analytical and knowledge products that MCC publishes on the MCC Evaluation Catalog.⁶² The Evaluation Briefs for the Mongolia, Namibia COSDEC, Namibia NTF/VGTF, El Salvador Formal Skills, El Salvador Non-Formal Skills, and Georgia investments are available on [MCC’s website](#).

⁶² See Bibliography.

Table II.1: Description of MCC TVET Investments

Compact/ Threshold	Project	Activity	Program Status	Compact Signing	Entry into Force	Objective	Target Population	Program Budget	Original ERR	Closeout ERR ⁶³
Cote d'Ivoire	Skills for Employability and Productivity Project	TVET Activity	Implementation	7-Nov-17	5-Aug-19	Improve the acquisition of quality, in-demand technical skills and increase job placement rates among graduates of Compact-supported technical and vocational education and training ("TVET") centers	Students of Compact-supported TVET Centers	\$ 35 m	6.8%	TBD
El Salvador	Human Development Project	Education and Training Activity (Non-Formal Skills)	Closed	26-Nov-06	20-Sep-07	Increase education and skills levels of the Northern Zone's poor by expanding quality of, and access to, vocational and technical education and training	At-risk youth, women, and other disadvantaged Northern Zone residents	\$ 5 m	3.6%	12.1%
El Salvador	Human Development Project	Education and Training Activity (Formal Skills)	Closed	26-Nov-06	20-Sep-07	Increase education and skills levels of the Northern Zone's poor by expanding quality of, and access to, vocational and technical education and training	Students and teachers in Chalatenango, and students at technical secondary schools	\$ 16 m	6.5%	11.5%
El Salvador Investment	Human Capital Project	TVET Reform Activity	Implementation	30-Sep-14	9-Sep-15	Harmonize the skills supplied by private and public education and training providers with the skills demanded by the labor market	Students in seventh through twelfth grades, in general and technical education.	\$ 15.5 m	N/A	N/A

63 It is important to note that Closeout ERRs are generally calculated within three months after Compact End Date, and therefore, are rarely able to incorporate updated estimates of an intervention's accrued benefits.

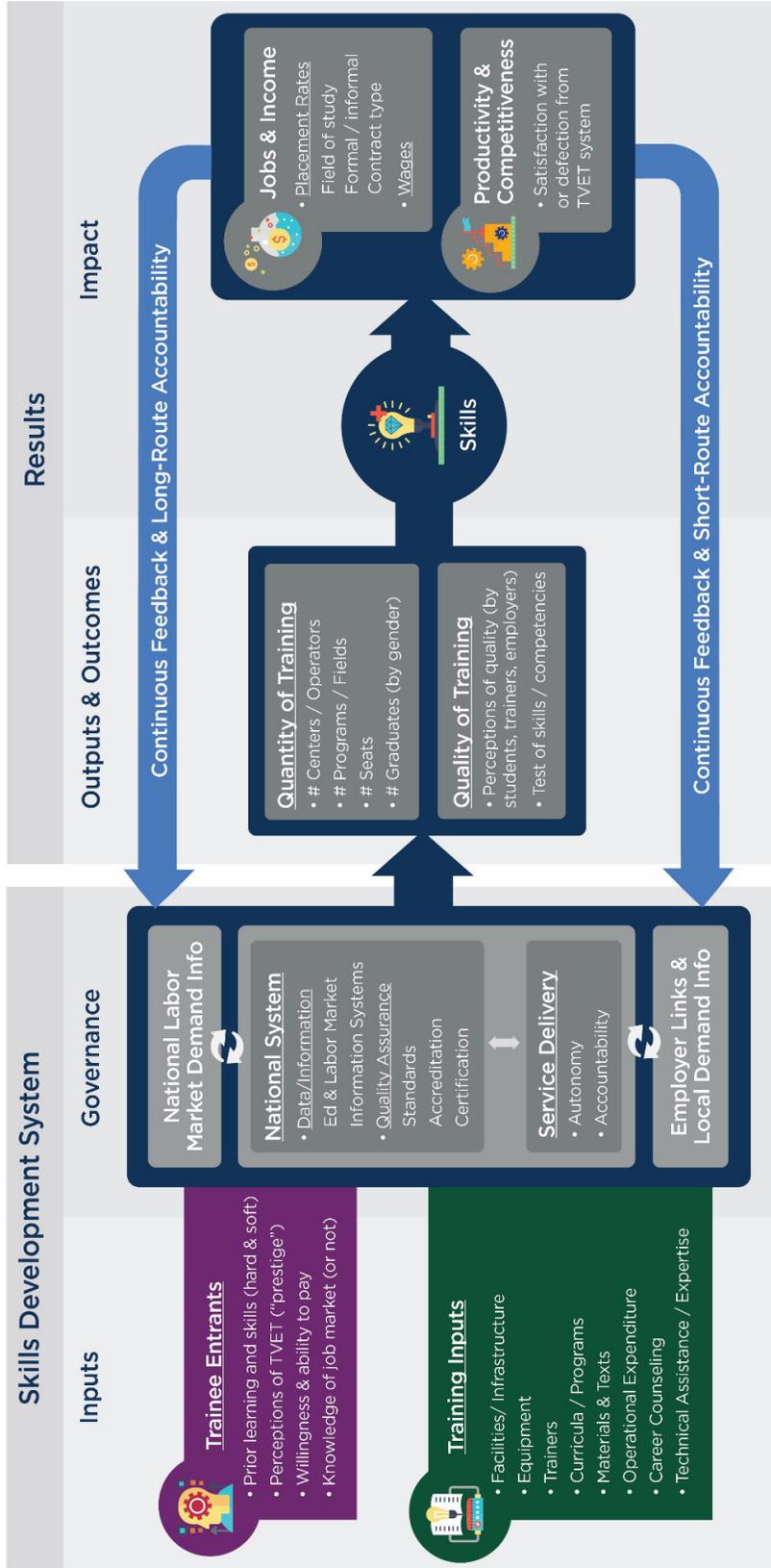
Compact/ Threshold	Project	Activity	Program Status	Compact Signing	Entry into Force	Objective	Target Population	Program Budget	Original ERR	Closeout ERR63
Georgia II	Industry-Led Skills and Workforce Development Project		Closed	6-Aug-14	1-Jul-14	Improve the linkage between market-demanded skills and the supply of Georgians with technical skills relevant to the local economy	Staff, teachers, and students of students of supported programs, expected to include socially-disadvantaged households	\$ 30 m	23%	TBD
Guatemala	Education Project	Improving TVET in Upper Secondary	Implementation	8-Apr-15	16-May-16	Improve the efficiency of the TVET system in Guatemala and develop stronger linkages between the TVET provided and the labor demanded by the private sector	Teachers from nine specialties and young people who finished the basic system and entered nine new diversified careers	\$ 4.7 m	N/A	N/A
Mongolia	Vocational Education Project		Closed	22-Oct-07	17-Sep-08	Increase employment and income among unemployed and underemployed Mongolians	Youth, young adults, the unemployed and under-employed	\$ 49 m	19.8%	11%
Morocco	Artisan and Fez Medina Project	Functional Literacy and Vocational Training	Closed	31-Aug-07	15-Sep-08	Strengthen the national system for literacy and vocational education to the benefit of artisans and the general population, in particular women and girls. Increase the quality of goods by supporting access to training in modern production techniques and business management, as well as access to bank or micro-credit loans to invest in modern kilns and workshops.	National. Non-literate, dropout, and otherwise disadvantaged students - with focus on women, girls and rural poor	\$ 32.8 m	27%	42%

Compact/ Threshold	Project	Activity	Program Status	Compact Signing	Entry into Force	Objective	Target Population	Program Budget	Original ERR	Closeout ERR63
Morocco Employability & Land	Education and Training for Employability Project	Workforce Development Activity	Implementation	30-Nov-15	30-Jun-17	The objective of this program is to develop and improve the quality of vocational training and strengthen the links between supply and demand for skills, through: implementation of a private-sector driven supply of vocational training; and, support for the implementation of the TVET reform.	All graduates of project-constructed vocational training centers and their families	\$ 107.4 m	13.2%	TBD
Namibia	Education Project	Vocational and Skills Training Activity (NTF/VTGF)	Closed	28-Jul-08	16-Sep-09	Assist with the establishment of a National Training Fund within the Namibia Training Authority to fund high priority vocational education and skills training	Disadvantaged applicants (annual household income of under N\$250,000, or about US\$23,500)	\$ 28.4 m	22.2%	5%
Namibia	Education Project	Vocational and Skills Training Activity (COSDECs)	Closed	28-Jul-08	16-Sep-09	Support efforts that the private-training industry responds to the training demands of Namibia's market economy	Unskilled and/or unemployed individuals	\$ 16.8 m	44%	20%

Table II.2: Summary of TVET Project Monitoring and Evaluation

Compact/ Threshold	Project	Activity	Educational facilities constructed or rehabilitated Target	Instructors trained Target	Students participating Target	Graduates	Evaluation Status	Evaluation Methodology
Cote d'Ivoire	Skills for Employability and Productivity Project	TVET Activity					Not yet contracted	TBD
El Salvador	Human Development Project	Education and Training Activity (Non-Formal Skills)			11,896	11,345	Completed	Pre-post
					8,400	6,888		
El Salvador	Human Development Project	Education and Training Activity (Formal Skills)	22	378	30,672	4,285	Completed	Random assignment; Matching; Other (mixed methods performance)
			22	No Target	26,927	6,795		
El Salvador Investment	Human Capital Project	TVET Reform Activity		TBD		TBD	Baseline Data Collection	Other (pre-post performance)
				540		No Target		
Georgia II	Industry-Led Skills and Workforce Development Project			473	1,935	727	Final Data Collection	Other (mixed methods performance)
				40	1,500	No Target		
Guatemala	Education Project	Improving TVET in Upper Secondary			472	TBD	Baseline Data Collection	Pre-post
					No Target	No Target		
Mongolia	Vocational Education Project		18	1,370	17,480	11,967	Completed	Ex-post; Random Assignment
			18	1,500	50,000	15,800		
Morocco	Artisan and Fez Medina Project	Functional Literacy and Vocational Training		1,856	69,731	38,708	Completed	Other (performance)
				2,400	69,000	41,491		
Morocco Employability & Land	Education and Training for Employability Project	Workforce Development Activity					Early Design	TBD
Namibia	Education Project	Vocational and Skills Training Activity (NTF / VTGF)		1,500	1,500	541	Completed	Other (performance); Random assignment
				1,638	No Target	1,392		
Namibia	Education Project	Vocational and Skills Training Activity (COSDECs)	9	15	8,638		Completed	Ex-post; Other (performance)
			9	15	No Target			

Annex III: MCC's New TVET Results Framework



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