



Tracer Study SRI LANKA: PUBLIC TRAINING INSTITUTIONS IN 2016

DECEMBER 2018

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FOREWORD

Sri Lanka aspires to transform into a knowledge-based economy by 2025, for which the government is prioritizing human capital investment to enhance economic diversification and productivity. With its 76th position in the Human Development Index, Sri Lanka traditionally outperforms other lower-middle-income countries. The government, however, continues to ramp up policy measures to make further investment in skills development and catch up with rapid technological changes. It launched a Skills Sector Development Program in 2014, which would lay a strong foundation to achieve its vision of knowledge-based, highly competitive, and social-market economy while at the same time addressing youth unemployment.

The Asian Development Bank (ADB) is supporting this Skills Sector Development Program. ADB is also supporting education and skills development programs, primarily in technical and vocational training and education (TVET), in other South Asian countries (Bangladesh, Bhutan, India, and Nepal) to address similar but unique policy challenges. TVET accounted for more than half of ADB's lending portfolio in the education sector in 2015–2017, led by South Asia.

Under ADB's growing TVET portfolio, analytical work plays an instrumental role in guiding policies. ADB has been supporting policy development through analytical work such as employment diagnostic studies and economic corridor studies in South Asian countries. The analytical works underpin the policy directions, but the policies need periodic review based on evidence to make sure the policies work as intended.

The evidence is particularly important for TVET. The main purpose of TVET is to improve employability, gauged by tracking down people who have graduated from TVET institutions. TVET institutions are dispersed throughout the country, cover a wide range of sectors, and hold a large number of TVET courses every year. These factors add up, making it difficult to assess whether TVET policy has achieved the goal of improving employability or not.

Against this backdrop, ADB is producing a series of tracer studies in South Asian countries to inform TVET policies based on evidence and analytical work. This tracer study in Sri Lanka is the first in the series and serves as a source of quality evidence. It is my sincere hope that this series of tracer studies will spark productive policy discussions to find solutions on the learning crisis and youth unemployment in South Asia, as well as in other parts of Asia and the Pacific.

Hun Kim

Director General
South Asia Department
Asian Development Bank

PREFACE

The Government of Sri Lanka, in its Vision 2025, aims to transform the country into a knowledge-based and highly competitive economy. The government aims to nurture a highly skilled youth as a national priority, a pressing issue given the country's aging population. As such, the country urgently needs a future-ready workforce by generating talent with new and industry-relevant skills. This tracer study provides evidence to inform and design better policy interventions for technical and vocational education and training (TVET).

With the advent of the fourth industrial revolution, a trend in automation and data exchange in manufacturing technologies, such as the Internet of Things, technology and market needs are changing rapidly and TVET needs to be proactive. This requires speed and constant updating of the TVET system. Understanding global and local market trends, as well as the reality on the ground of the TVET system in Sri Lanka, is critical to closing the gap.

This tracer study tracks graduates from seven public TVET institutions supported under the Skills Sector Development Program of the Ministry of Skills Development and Vocational Training. It covers a wide range of sectors, but analysis pays particular attention to four priority sectors: (i) construction, (ii) hotel and tourism, (iii) information and communication technology, and (iv) metal and light engineering. It is the first in the tracer study series, a collection of quality tracer studies in South Asian countries. This tracer study aims to assess the employability of these TVET graduates through job placement rate, and discusses access to, relevance, and quality of the TVET training programs. The findings provide evidence for further policy discussion of the challenges and opportunities in public TVET institutions.

Ryotaro Hayashi, Social Sector Economist, Human and Social Development Division (SAHS), South Asia Department, Asian Development Bank (ADB), and Amila Balasuriya, Senior Research Professional, Centre for Poverty Analysis (CEPA) in Sri Lanka, prepared the study. The CEPA team, including Kulasabanathan Romeshun, Nadhiya Najab, and Hasanthi Tennakoon provided data collection and other inputs. The report benefited from the guidance of Gi Soon Song of SAHS and Sudarshana Anojan Jayasundara Halgamage Don from the ADB Sri Lanka Resident Mission (SLRM). ADB peer reviewers were Kiyoshi Taniguchi, Principal Economist, Economic Research and Regional Cooperation Department; Asako Maruyama, Education Specialist, East Asia Department; and Utsav Kumar, Senior Country Economist, SLRM. Gabriel Bordado, International Labour Organization (ILO) South Asia Decent Work Technical Support Team in New Delhi; and Rukshan Lovell, ILO Country Office for Sri Lanka and the Maldives, also provided valuable comments. Georgina Gonzales, ADB consultant, as well as Alfredo P. Garcia and Criselda G. Rufino of SAHS provided administrative assistance.

Sungsup Ra

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ABBREVIATIONS

ADB	Asian Development Bank
CGTTI	Ceylon-German Technical Training Institute
DTET	Department of Technical Education and Training
GCE A/L	general certificate of education-advanced level
ICT	information and communication technology
NAITA	National Apprentice and Industrial Training Authority
NVQ	National Vocational Qualification
NYSC	National Youth Services Council
SLR	Sri Lanka rupee
SSDP	Skills Sector Development Program
TVEC	Tertiary and Vocational Education Commission
TVET	technical and vocational education and training
UNIVOTEC	University of Vocational Technology
VTA	Vocational Training Authority

CURRENCY EQUIVALENTS

(as of 5 October 2016)

\$1.00 = 146.70 Sri Lanka rupees

EXECUTIVE SUMMARY

Sri Lanka is transitioning to upper-middle-income status and, as it does, demand for skilled jobs is expected to grow. However, the youth unemployment rate remains quite high because of skills shortages and mismatches with labor market demands. To address these challenges, the Ministry of Skills Development and Vocational Training launched the Skills Sector Development Program (SSDP) in 2014 to develop an efficient technical and vocational education and training (TVET) system.

In pursuit of the results-based lending policy of the Asian Development Bank (ADB), this tracer study for the SSDP was conducted by an independent third party. One of the key disbursement-linked indicators of ADB is “employability of graduates from quality assured TVET programs increased”, which is quantified through job placement rate as verified by the tracer study. The aim of this study is to serve as a source for quality evidence that will encourage productive policy debate and analysis on Sri Lanka’s public TVET system.

The objectives of this tracer study are threefold: (i) understand the access to, quality, and relevance of TVET programs; (ii) assess the employability of TVET graduates; and (iii) identify possible areas for improvement in the TVET sector. The analysis focuses on four priority sectors: construction, hotel and tourism, information and communication technology, and metal and light engineering. Mixed methods are used. The quantitative survey tracked down and analyzed 1,991 observations on randomly selected TVET graduates between 1 October 2014 and 30 September 2015. This dataset formed the analytical basis in 2016, which is compared with a tracer study in 2011 conducted by the Tertiary and Vocational Education Commission in Sri Lanka. The qualitative survey consisted of key person interviews, focus group discussions, and life histories, primarily focusing on supply-side analysis of TVET graduates’ perception.

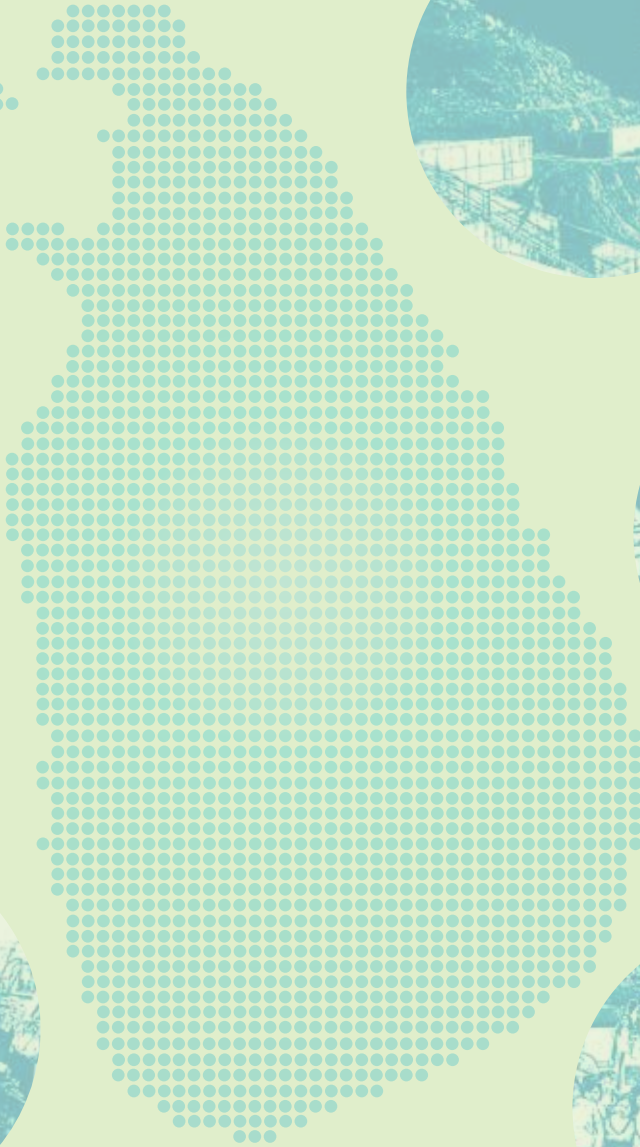
This tracer study found that the job placement rate of TVET graduates improved from 47.5% in 2011 to 54.5% in 2016, exceeding the SSDP target. The job placement rate of National Vocational Qualification (NVQ) graduates was higher than that of non-NVQ graduates, and job placement rate of NVQ graduates increased from 50.3% in 2011 to 56.2% in 2016. The job placement rate for female graduates in 2016 (40.2%) improved from 2011 (34.8%) but remained lower than that of males.

The private sector recruited 77.1% of TVET employed graduates. Despite improvements in job placement, many graduates were still involuntarily unemployed or did not join the labor force. Job scarcity was a primary reason for involuntary unemployment, with many involuntary unemployed graduates having completed courses in information and communication technology, office management, tailoring, and beauty culture. This study showed that half of graduates without jobs were actively looking for jobs, and most of the other half pursued further education.

Access to training and employment was increasingly influenced by friends and colleagues. Parents and relatives were still important, but their impact was declining. The quality of training could be improved by increasing the number of competent instructors, enhancing availability of up-to-date training equipment, and establishing systematic feedback mechanisms between the on-the-job training providers and TVET institutions.

In addition to technical knowledge and skills, employers would like to see improvement in soft skills. These include language, computer literacy, and interacting with others in a work setting. Improvements in this area would further enhance the relevance of TVET courses. While increased internship opportunities and establishment of industry skills council were contributing to reduce this gap, enhancing soft skills required stronger coordination with industries by creating a concrete mechanism to get active industry participation.

Furthermore, the delays in scheduling of NVQ assessments and issuance of NVQ certificates were highlighted as key areas for improvement. The delay was attributed to a backlog of payments to assessors as well as a shortage of qualified assessors in selected fields. The limited number of Tamil-speaking assessors also delayed examination and certification processes, especially in Northern Northern Province and Eastern Province.



I. SECTOR AND PROGRAM CONTEXT

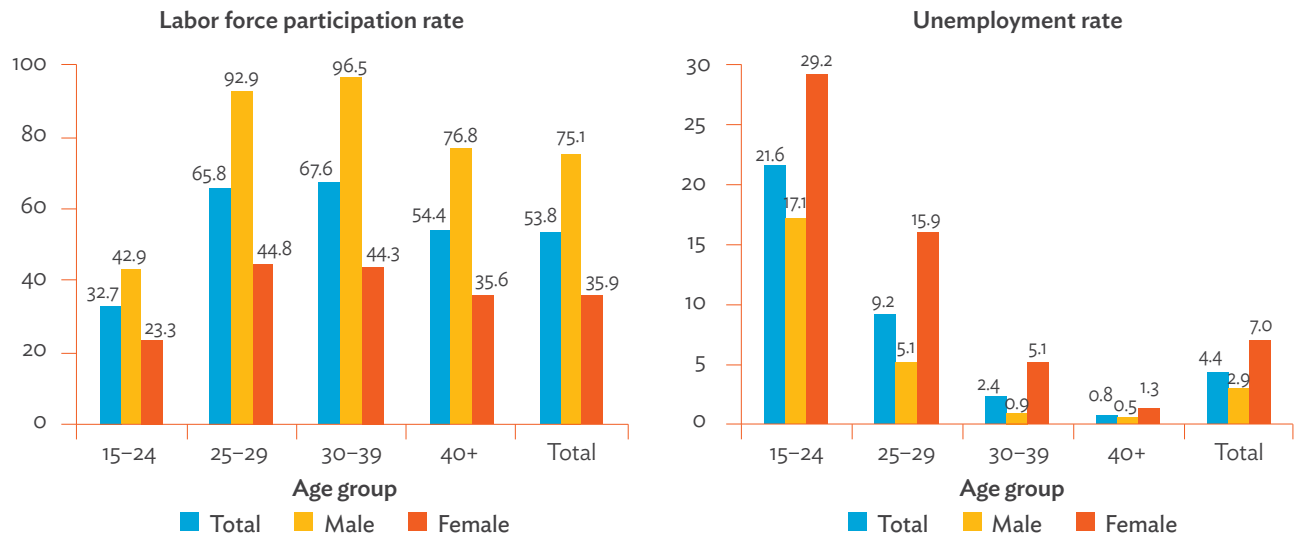
Sri Lanka is poised to achieve upper middle-income country status, and aspires to become a knowledge-based economy. With 5.2% economic growth per annum for the last decade, the government envisions achieving higher income and better standards of living with a knowledge-based, highly competitive, social-market economy by 2025 (Government of Sri Lanka 2017d). Yet, despite more than 8% growth during 2010–2012, economic growth slowed to 4.1% during 2013–2017 due to structural issues, such as heavy losses by state-owned enterprises and weather calamities. Exports have depended on garments, tea, and rubber over the decades, in spite of extensive tax incentives to attract foreign direct investments (IMF 2018a).

The government prioritizes investment in human capital to enhance economic diversification and productivity. This is evident from the high achievements in general education, with an average of 10 years of schooling compared with 6 years in the whole South Asia region (Dundar et al. 2017). However, half of secondary school graduates have no opportunity to continue education or training because of limited financing and capacity of higher education institutions and technical and vocational education and training (TVET) in Sri Lanka. According to the United Nations Educational, Scientific and Cultural Organization Institute for Statistics, the gross enrollment rate in higher education was 18.9% in 2016, far below the upper-middle-income country average of 50.7%. Around one-third of the remaining secondary education graduates take TVET programs.

Maintaining productivity is challenging because of a low female labor force participation rate (35.9%). This rate was less than half that of males (75.1%) in 2016 (Figure 1), a long-standing trend. Improving female labor force participation is important to increase income productivity (IMF 2018b), but the female labor force participation rate declined from 43.0% in 2006 to 40.4% in 2014. High family incomes from remittances or spousal income, inflexible working hours, and cultural factors could explain low female labor force participation. Given high educational attainment, females also tend to prefer more prestigious jobs over manual work. This issue is further compounded by aging in Sri Lanka, and the size of the labor force that is expected to start declining after 2028 (ADB 2017).

Another challenge is the lingering high unemployment among youth (aged 15–24). The overall rate was 17.2% in 2011 (males 12.9% and females 24.8%), rising to 21.6% (male 17.1%; female 29.2%) in 2016 (Government of Sri Lanka 2017a). While the youth unemployment rate has improved in 2017 (Government of Sri Lanka 2018), it remains among the highest in Asia and the Pacific due to skills shortages and mismatches with labor market demand. Stable economic growth, driven by construction and service sectors after the end of the conflict in 2009, does not necessarily translate into better youth labor market outcomes, particularly in remote areas, where industry demands, training opportunities, and youth willingness to migrate are limited. The economic factors are certainly important, but social factors such as class, gender, and ethnicity, also affect youth unemployment.

Figure 1: Labor Force Participation and Unemployment by Gender and Age Group, 2016 (%)



Source: Government of Sri Lanka. 2017a.

The youth unemployment rate varies significantly by gender, province, and educational attainment. In addition to the high youth unemployment rate, there is a huge employment gap by gender, with the figure in Southern Province and Sabaragamuwa Province exceeding 30%. Youth unemployment among those with general certificate of education advanced-level (GCE A/L) qualifications and above remains high, consistently exceeding 30% during 2011–2016, and the unemployment rate for people with GCE A/L and below increased during the same period.

Youth unemployment is explained by a skills mismatch, queuing for good jobs in the public sector, and the slow job creation. Gunatilaka, Mayer, and Vodopivec (2010) examined long-standing youth unemployment issues in Sri Lanka through three theoretical hypotheses, calling for creating more decent jobs, enhancing employability, and providing a level playing field. Education and TVET play an important role in this while industry demands need to increase to absorb youth in priority sectors. Better information provision and communication strategy can also address these challenges by correcting social and gender bias for certain industries in Sri Lanka (World University Service Canada 2016).

Employers are not satisfied with first-time job seekers from TVET, except where both a university degree and TVET are completed. TVET graduates are not well prepared for jobs, as existing TVET programs fail to equip them with job-specific skills or competencies. Only 22.8% of employers in Sri Lanka are satisfied with first-time job seekers from technical and vocational schools (Government of Sri Lanka 2017b). The figure improves to 69.0% where first-time job seekers come from university or higher education institutions with technical or vocational qualifications.

The government is ramping up policy measures to address these issues by strengthening the TVET system. While more than 30 public statutory bodies and training institutions operate under different ministries in Sri Lanka, the Ministry of Skills Development and Vocational Training is a key government agency, managing 11 TVET institutions. In addition, the Tertiary and Vocational Education Commission (TVEC) works as an apex body and is responsible for policy planning, quality assurance, coordination, and development of TVET. Public, private, and nongovernment organizations (NGOs) also deliver training courses in Sri Lanka.

Among other initiatives, TVEC introduced the National Vocational Qualification (NVQ) framework in 2005. NVQ awards tertiary and vocational education and training certification through a nationally and internationally recognized system. NVQ is based on competency-based training with features of (i) assurance of quality training and education, (ii) industry-based vocational training, and (iii) equal accessibility and uniformity. TVEC is a regulatory body for NVQ, but courses exist that do not align with the NVQ framework (non-NVQ courses).

Seven levels of the NVQ framework provide skills certificates, diplomas, or degrees. Completion of NVQ levels 1–4 leads to a certificate, NVQ levels 5–6 leads to a diploma, and NVQ level 7 is equivalent to a degree. These training programs are provided by the Ceylon-German Technical Training Institute (CGTTI), the Department of Technical Education and Training (DTET), the National Apprentice and Industrial Training Authority (NAITA), the Vocational Training Authority of Sri Lanka (VTA), the University of Vocational Technology (UNIVOTEC), and the Ocean University of Sri Lanka. The National Youth Services Council (NYSC) is also a key training provider under the Ministry of Defence, Law and Order and Youth Affairs (Appendix 1 briefly summarizes these training institutions).

In 2014, the government set up the Skills Sector Development Program (SSDP).

The SSDP aims to develop an efficient skills training system to meet local and foreign labor market demand. The main components of the program are (i) improving the quality and relevance of skills development, (ii) institution building and human resource development, (iii) resource mobilization and sustainability, and (iv) innovative interventions to strengthen NGOs and private sector participation. SSDP is supported by development partners such as the Asian Development Bank (ADB) and the World Bank through results-based lending under which disbursement is made subject to fulfillment of mutually agreed disbursement-linked indicators.

A key outcome of the SSDP is to improve the job placement rate for TVET graduates.

A TVEC tracer study conducted in 2011 found that the job placement rate of TVET graduates in public training institutions with NVQ certificates was 50.3%. The SSDP aimed to raise their job placement rate to at least 52.0% by May 2016. Indeed, the job placement rate of TVET graduates improved to 54.5% in 2016, exceeding the SSDP target. This is one of the disbursement-linked indicators that need to be achieved under the ADB-funded Skills Sector Enhancement Program.¹

¹ ADB provided loans under the Skills Sector Enhancement Program to support SSDP.

II. STUDY OBJECTIVES, SCOPE, AND METHODOLOGY

This tracer study aimed to provide evidence for policy discussions on Sri Lanka’s public TVET system. It

had three objectives: (i) to understand the access to, quality, and relevance of the TVET programs; (ii) to assess the employability of TVET graduates; and (iii) to identify possible areas for improvement in the TVET sector. Seven public training institutions were included in the study, namely CGTTI, DTET, NAITA, NYSC, Ocean University, UNIVOTEC, and VTA. Appendixes 2–8 briefly describe and summarize findings by the public training institutions. The study paid particular attention to four priority sectors, namely, (i) construction, (ii) hotel and tourism, (iii) information and communication technology (ICT), and (iv) metal and light engineering.

A mixed-methods research design was adopted. The quantitative survey tracked down public TVET graduates through computer-assisted telephone interviews. The qualitative surveys consisted of key-person interviews, focus group discussions, and life histories, which were also conducted to triangulate the findings of the quantitative survey. The surveys were conducted by the Centre for Poverty Analysis, an independent firm in Sri Lanka.

The comparative tracer study data analysis was conducted between 2011 and 2016.

The TVEC conducted a tracer study in 2011, collecting 4,686 samples from 10 institutions through the postal data collection method.² The key results were compared with the 2016 tracer study findings to see the trends over time. The 2016 tracer study covered a much wider range of TVET program delivery and employability of TVET graduates.

The study, however, had several limitations.

It did not aim to identify the attribution of the TVET programs on labor market outcomes, such as the job placement rate. The analysis is based on correlation, and many macroeconomic, institutional, and social factors affecting the job placement rate. The study also did not examine the impact of TVET programs on migration or overseas jobs because graduates overseas are hard to access. In addition, the study focused on TVET graduates’ feedback, and does not discuss enrollment, completion, and dropout during the training programs. The study would benefit further from employer surveys and institutional analyses to identify the areas for improvement in TVET institutions. The tracer study focused on providing information on the trend and current status of public TVET training programs for the management and officials of the Ministry of Skills Development and Vocational Training; as well as TVEC, TVET training institutions, and industry skills councils in Sri Lanka.

² The response rate of the tracer study in 2011 was 31.2%, covering NVQ and Non-NVQ graduates from 10 institutions: DTET, NYSC, VTA, NAITA, CGTTI, the National Institute of Business Management, the Sri Lanka Institute of Printing, the Sri Lanka Institute of Textile and Apparel, the Gem and Jewellery Research and Training Institute, and the National Design Centre. Data collection methods and targeted institutions were not exactly the same, but given that the large training institutions (e.g., VTA, DTET, NYSC, and NAITA) were included in both rounds of the survey, overall figures were compared between 2011 and 2016.

Quantitative Survey

In 2016, the quantitative survey tracked down 1,991 TVET graduates. These were randomly selected TVET trainees who graduated between 1 October 2014 and 30 September 2015.³ The quantitative survey was carried out from 5 September 2016 to 5 October 2016, nearly 1 year after graduation, with a response rate of 31.4%. Interviews were conducted over the telephone, and responses were recorded using tablets and SurveyCTO data collection technology.⁴ Although 2,119 telephone interviews were conducted with graduates across all districts of Sri Lanka, this declined to 1,991 after data cleaning. The analysis was conducted with Stata, a statistical software package.⁵ Appendix 9 summarizes the sample characteristics of the 2016 survey.

The Kish allocation method was used to determine the sample size. This method enabled comparison of performance across training institutions.⁶ This sampling method ensured that graduates from institutions producing many graduates are not overrepresented in the sample and that those producing few graduates are not underrepresented. Graduates were selected randomly from the list within the training institution. Tables 1 and 2 provide the final sample distribution for the seven training institutions by priority course categories.

Qualitative Survey

The qualitative survey focused on the districts of Colombo, Batticaloa, Nuwara Eliya, Kegalle, and Killinochchi. The first four

Table 1: Sample Distribution by Institution, 2016

Institution	Total
CGTTI	149
DTET	305
NAITA	408
NYSC	184
Ocean University	115
UNIVOTEC	55
VTA	775
Total	1,991

CGTTI = Ceylon-German Technical Training Institute, DTET = Department of Technical Education and Training, NAITA = National Apprentice and Industrial Training Authority, NYSC = National Youth Services Council, VTA = Vocational Training Authority, UNIVOTEC = University of Vocational Technology.
Source: Asian Development Bank.

Table 2: Sample Distribution by Course Category, 2016

Course Category	Total
Construction	269
Hotel and Tourism	82
Information and Communication Technology	618
Metal and Light Engineering	501
Other	521
Total	1,991

Source: Asian Development Bank.

districts were selected taking into account five factors; (i) ethnic diversity (Sinhalese, Tamils, and Muslims); (ii) poverty aspects;⁷ (iii) conflict affectedness; (iv) unemployment rate;⁸ and (v) urban (Colombo), rural (Batticaloa and Kegalle), and estate (Nuwara Eliya). In addition, based on information that emerged during the study, the Killinochchi district was selected given the prevalence of graduates with disabilities.

³ The period from 1 October 2014 to 30 September 2015 follows the verification protocol of the outcome level disbursement-linked indicator (employability of graduates from quality assured TVET programs increased) under the ADB-funded Skills Sector Enhancement Program in Sri Lanka.

⁴ SurveyCTO is a firm using digital technology for data collection; see <https://www.surveyccto.com/>

⁵ The survey firm contacted 6,341 individuals to get 1,991 clean observations. It was challenging to reach that many graduates because of the lack of phone numbers in the graduate database as well as changes in phone numbers after graduating from the TVET courses. The final dataset only includes TVET graduates; those who dropped out during the TVET courses are not included in this study.

⁶ Kish allocation is basically a compromise between the proportional allocation and equal allocation sampling approaches that enables more samples from small groups than equal allocation, while drawing larger samples from large groups than in proportional allocation. Proportional allocation is a straightforward sampling approach to get representative samples, but it has a disadvantage when some groups have very small populations, resulting in too-small sample sizes in these groups. This makes it hard to capture intragroup variability and to make statistical comparison across different groups. Equal allocation has an equal sample size regardless of group population at the expense of representativeness against population. For the detailed sampling formula and discussions, see Maligalig and Martinez Jr. (2013).

⁷ Past Household Income and Expenditure Surveys showed that the poverty head count ratio was historically higher in the District of Batticaloa than in other districts.

⁸ The employment rate was high in the Western Province, while youth unemployment was highest in Sabaragamuwa Province.

Focus group discussions collected in-depth information on perceptions and ideas of the TVET graduates themselves. A total of 17 focus group discussions were completed across the selected districts. The focus group discussions were categorized based on employed and unemployed male and female graduates, self-employed graduates, as well as graduates who studied and/or worked in the predominant sector within the selected districts.

Key-person interviews provided insights into different stakeholders on access to, quality, and relevance of the TVET. Eighty-three interviews were conducted with employers, representatives from TVET institutions (both central and regional), officials

at the Chamber of Commerce, and other relevant government officials. The interviews helped identify areas for improvement.

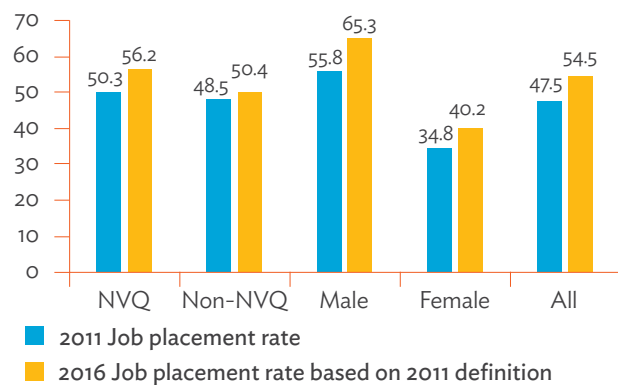
Life histories provided an in-depth understanding of why individuals chose to engage in vocational training. They also looked at the socioeconomic elements that contributed to decisions to engage in vocational training. To understand experiences of TVET courses, four life histories were carried out for graduates with unique experiences. One individual followed a vocational training course while in prison, the second had a hearing impairment, the third was an entrepreneur, and the last life history was the only female enrolled in an automobile training course.

III. EMPLOYMENT OUTCOMES

Overall, the job placement rate improved by 7 percentage points between 2011 and 2016. The rate used a simple formula of respondents who said they were employed or self-employed, divided by the total number of graduates who responded to the survey.⁹ The 2011 tracer study found that 47.5% of graduates were employed, with a job placement rate higher for male graduates (55.8%) than for females (34.8%) (Jayathilake et al. 2013). By 2016, the rate had increased to 54.5%, with corresponding increases among graduates who followed NVQ and non-NVQ courses; as well as an increase in both male and female employment rates (Figure 2). The job placement rate for graduates with NVQ qualifications surveyed in 2016 (56.2%) was also above that of graduates surveyed in 2011 (50.3%). The national and international standard definition of employment rate calculation excludes voluntarily unemployed graduates (i.e., those outside the labor force). In 2016, the employment rate was 72.0%. Meanwhile, the employment rate for those who got a job within 6 months of graduation from NVQ courses was 57.5% in 2016.¹⁰

In 2016, job replacement rates for UNIVOTEC and CGTTI graduates exceeded 80%. Figure 3 shows this evidence, but the two institutions are relatively small and provide more focused education and training for students than

Figure 2: Job Placement Rate of Graduates, 2011 and 2016 (%)



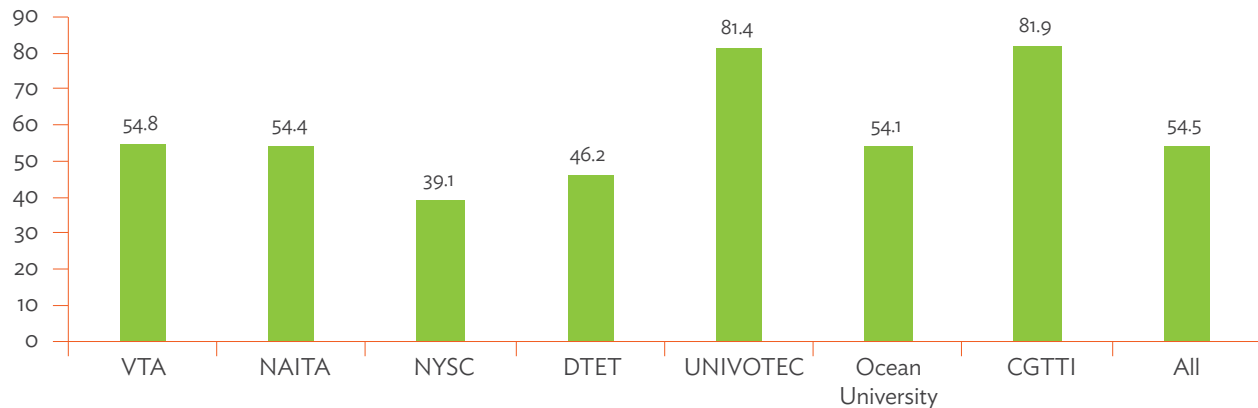
NVQ = National Vocational Qualification.
Sources: Asian Development Bank; Jayathilake et al. 2013.

other training institutions, such as DTET, NAITA, NYSC, and VTA. In addition, UNIVOTEC and CGTTI courses typically run 3–4 years, quite a bit longer than other short-term training institutions. For graduates from CGTTI, the strong rate could be further attributed to the German course model of alternating between theory and practical elements obtained through on-the-job training. Graduates from UNIVOTEC go through NVQ level 7 courses and other degree programs that might have higher market demand. UNIVOTEC and CGTTI deliver training for different levels of youth compared with the other five training institutions, and the higher job placement rate

⁹ The job placement rate was calculated for those employed at the time of the survey, divided by overall sample size. However, graduates applying for jobs even before the training were excluded from the job placement rate. The employment rate calculation also excluded them to understand the TVET program's contribution on labor market outcome. These were, for example, teachers attending UNIVOTEC while taking sabbatical leave, or people in the army. Without this adjustment, the overall job placement rate was 55.9%. A conservative estimate (54.5%) was used for reporting.

¹⁰ This definition of the employment rate is consistent with the verification protocol of the first disbursement-linked indicators under the ADB-funded Skills Sector Enhancement Program. <?> This definition of the employment rate is consistent with the verification protocol of the first disbursement-linked indicators under the ADB-funded Skills Sector Enhancement Program.

Figure 3: Job Placement Rate of Graduates by Institution, 2016
(%)



CGTTI = Ceylon-German Technical Training Institute, DTET = Department of Technical Education and Training, NAITA = National Apprenticeship and Industrial Training Authority, NYSC = National Youth Services Council, UNIVOTEC = University of Vocational Technology, VTA = Vocational Training Authority.

Source: Asian Development Bank.

does not necessarily indicate better training quality. However, considering the 65.5% job placement rate of state university graduates in Sri Lanka in 2017, UNIVOTEC and CGTTI could be said to provide work-ready education and training.

NYSC graduates showed the lowest job placement rate of 39.1% because graduates continued further education and training.

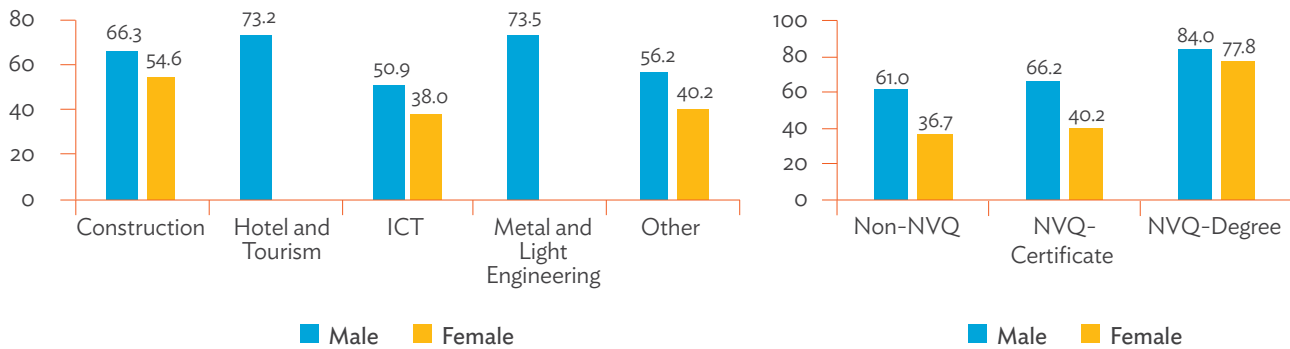
Of the graduates not working at the time of the survey, 58.9% indicated that they were not looking for employment. From this group, 72.7% were still pursuing formal education and training. Also from this group, 62.2% indicated that they took these courses while waiting to enroll in formal education. The data showed that most of those who enrolled with NYSC held advanced-level qualifications, indicating that NYSC is popular with those waiting for jobs or seeking higher education after completion of secondary school.

Among the four priority sectors, graduates from ICT courses suffered the lowest job placement rate, dragging down the overall rate. The pattern applied for both males (50.9%) and females (38.0%), but the low job placement rate was more pronounced among female graduates below NVQ level 7 courses (Figure 4).

More than half of female respondents enrolled in ICT courses expected to find employment or further their career in the ICT sector. However, the ICT courses did not result in employment opportunities. The key-informant interview with the ICT Industry Skills Council suggested that access to jobs in the ICT industry required strong communication skills and non-ICT business knowledge and skills to cater to the needs of diverse clients.

Graduates from public TVET institutions competed for jobs with those from private TVET institutions. The competition is stronger in ICT, hotel and tourism, as well as metal and light engineering. The focus group discussions under this survey implied that employers were more comfortable recruiting graduates from private training institutes. This was because of the availability of good practical training tools and facilities, as well as better English language skills. The students had to pay course fees, and teachers in private training institutions sometimes receive better salaries than in public training institutions. The performance differences between public and private training institutions, however, would require a separate in-depth study, because this survey primarily focused on the performance of the public training institutions only.

Figure 4: Job Placement Rate of Graduates by Sector and Qualification, 2016 (%)



ICT = information and communication technology, NVQ = National Vocational Qualification.

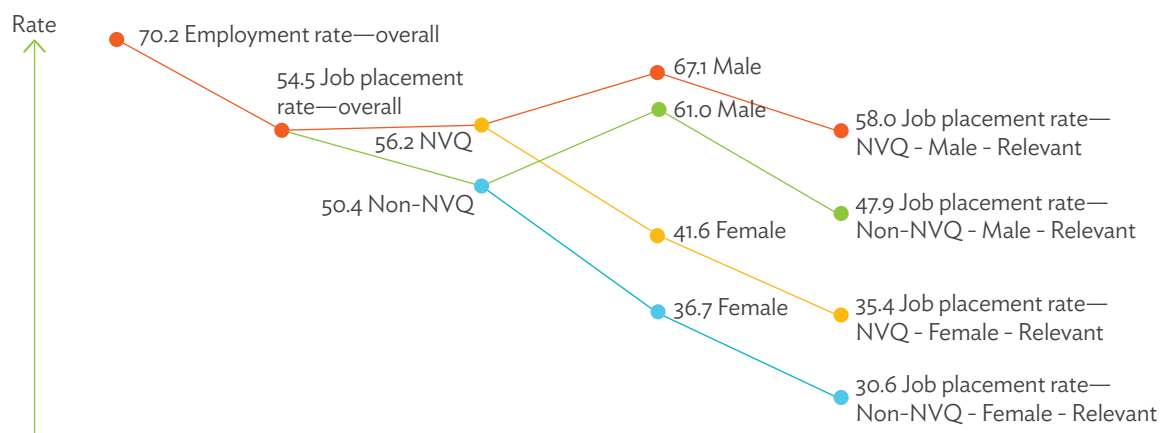
Notes: The female job placement rate was not included in the figure because there were less than 10 respondents working in hotel and tourism, and metal and light engineering. Female respondents working in construction numbered 11. Certificate is NVQ levels 1-4, and NVQ level 7 is equivalent to degree.

Source: Asian Development Bank.

The analysis called for further improvement on relevance of the TVET programs. The job placement rate of the TVET graduates who can apply skills learned for their job was 46.0%. This was 8.5 percentage points lower than the overall rate of 54.5%, a decline common to subgroups by NVQ and gender (Figure 5). The job placement rate of female graduates who could apply skills learned for their job goes below 40%, and female graduates with NVQ courses was even below male graduates with non-NVQ courses.

The female job placement rate was lower than that of males in all sectors and at all NVQ levels. Despite significant progress in improving female educational outcomes for the last 2 decades, this has not translated into the same level of improvement in women’s participation in the labor market and employment outcomes (Gunawardena 2016). The literature suggested this might be because opportunities for women are limited to only a few sectors, and men have a wider range of employment choices (Gunatilaka 2013).

Figure 5: Job Placement Rate by National Vocational Qualification, Gender, and Relevance to Jobs, 2016 (%)



NVQ = National Vocational Qualification.

Note: “Relevant” means those who can apply the skills they have learned to their job (i.e., excluding “skills not appropriate” from numerator).

Source: Asian Development Bank.

Rapidly growing sectors, such as construction, trade, and transport, were largely male-dominated. Social bias about the types of jobs suited for women, combined with issues of personal safety, transport, and accommodation were barriers for women to engage in certain types of jobs.

The conflict-affected Northern Province and Eastern Province showed relatively lower job placement rates, particularly for females.

This is evident in Figure 6, and the lower level of female employment in Northern Province and Eastern Province was associated with the fact that many female graduates in these provinces followed courses in ICT, tailoring, and languages, for which demand in the job market is lower in these provinces. Focus group discussions in Batticaloa and Nuwara Eliya found that these graduates missed out on job opportunities when competing with graduates from private TVET institutions, who had better training in language skills and practical hands-on trainings.

Interestingly enough, the North Central Province had a relatively higher job placement rate. The North Central Province was not necessarily close to the economic center of the Western Province. In addition, as shown on the Map, the training centers are located throughout the country, but the number of training centers in the North Central Province is not large compared with other provinces. The number and location of the training centers needs to be strategically examined considering industry demand, trainee aspirations, and equity. The job placement rate is not directly attributable to the number and

location of training centers, but understanding the differences in job placement rate of TVET graduates by province could provide more policy implications to improve the job placement rate, particularly in rural areas.

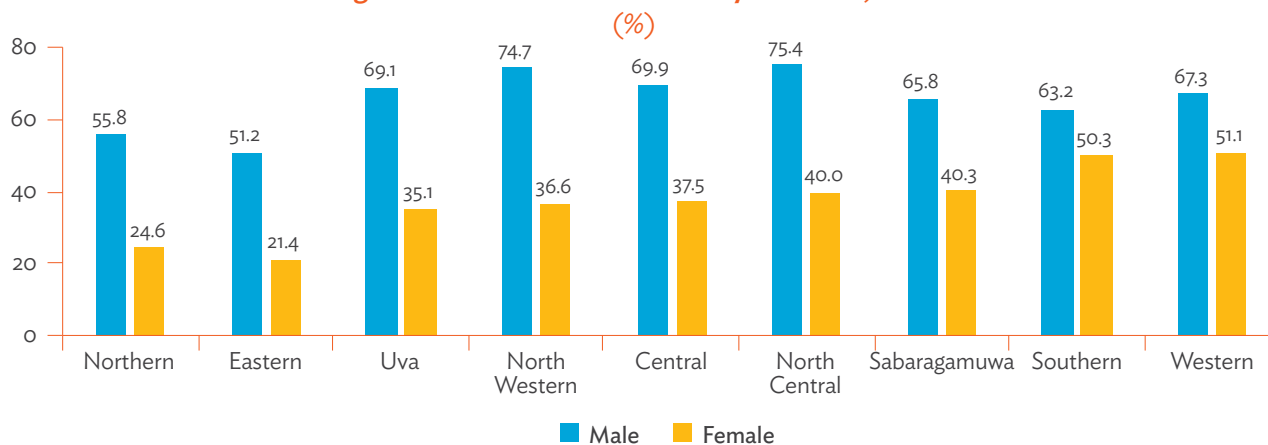
Among graduates without jobs, only half were involuntarily unemployed.

Graduates not employed could either be looking for jobs but involuntarily unemployed or out of the labor force (i.e., voluntarily unemployed). Involuntary unemployment is relatively high in sectors such as ICT and the “other” category, which includes graduates who have followed courses related to tailoring, beauty culture, deck ratings, accounting, and personal secretary (Figure 7). By TVET institution, graduates taking ICT-related courses in DTET, NAITA, NYSC, UNIVOTEC, and VTA had higher unemployment (Figure 8). Graduates from tailoring courses in VTA and deck-rating courses in Ocean University also suffered unemployment.

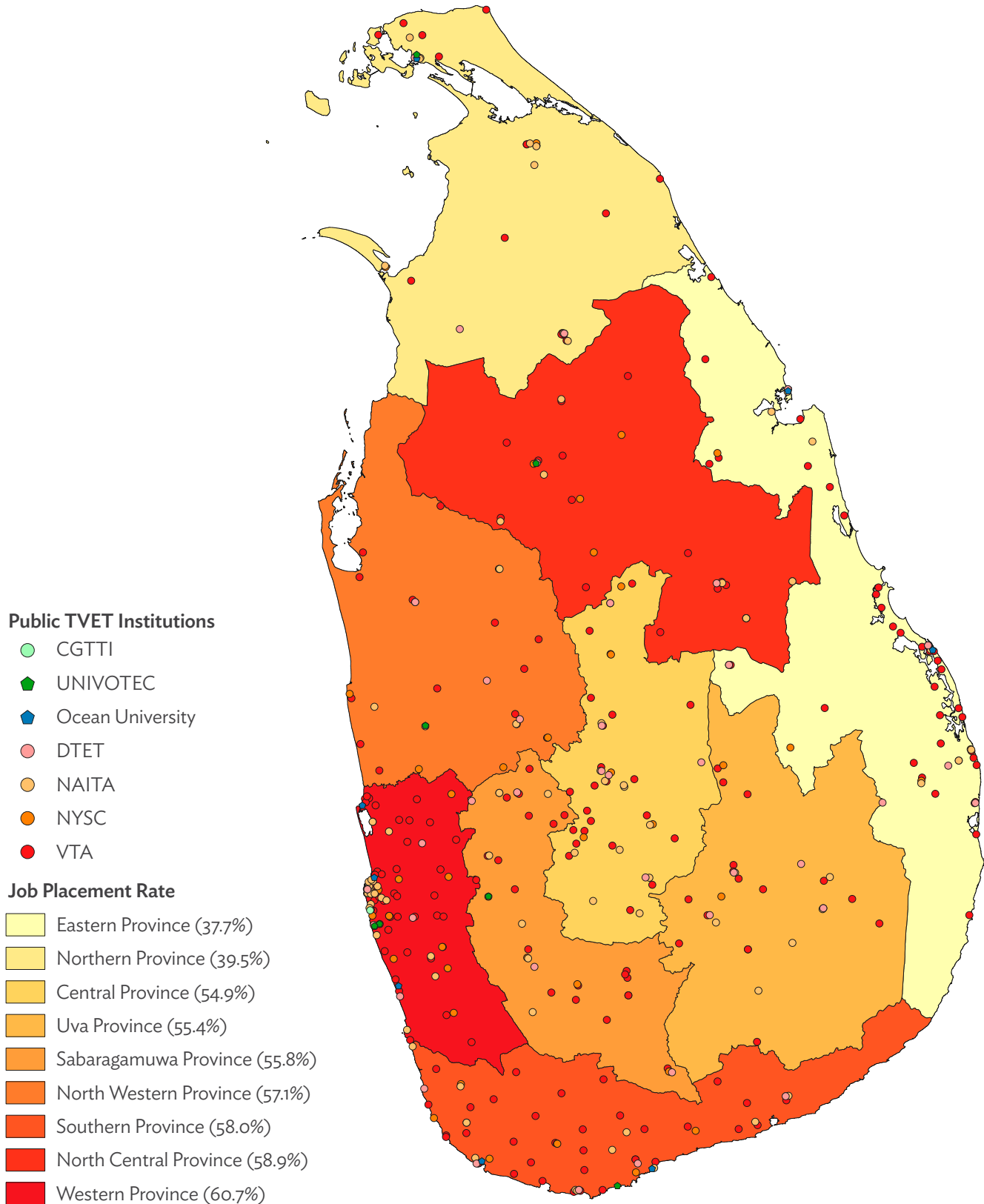
The main reason for unemployment was perceived as scarcity of jobs.

This was particularly true for the courses related to ICT, office management, tailoring, and beauty culture, with limited employment opportunities in the market. Lack of qualification, experience and skills, expecting to engage in further studies, and family commitments and responsibilities were reported as the other main reasons graduates did not have jobs (Figure 9). Strengthening industry linkages with TVET was important, but addressing job scarcity might also require developing a start-up ecosystem to create more self-employment opportunities.

Figure 6: Job Placement Rate by Province, 2016

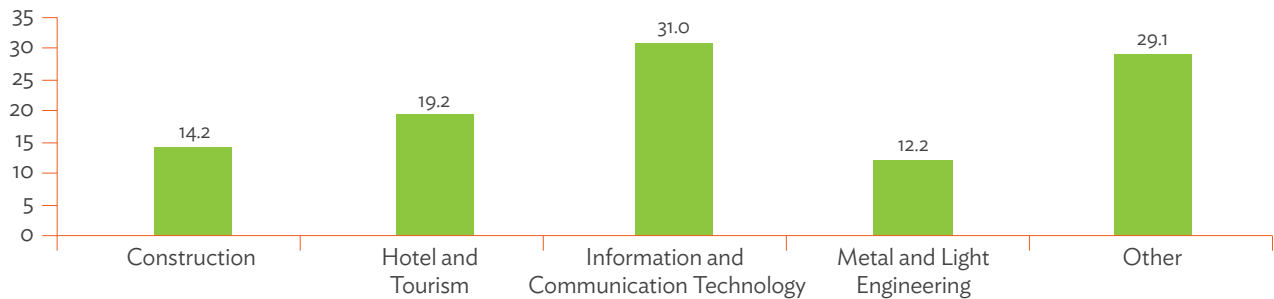


Map: Sri Lanka TVET Graduates' Job Placement Rate by Province in 2016 and Locations of Public TVET Institutions



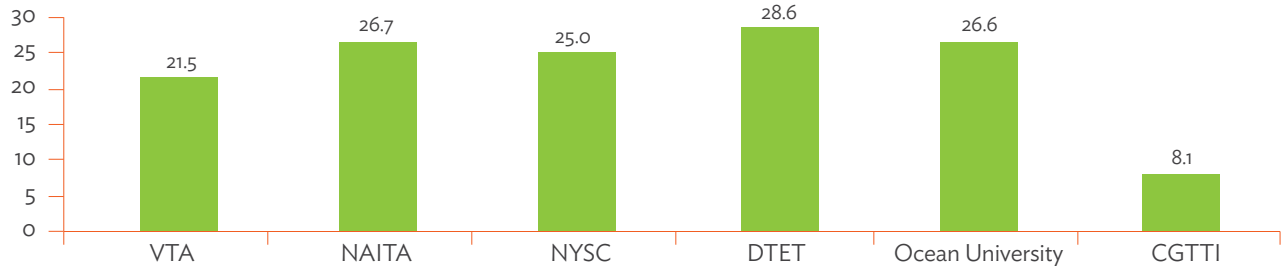
CGTTI = Ceylon-German Technical Training Institute, DTET = Department of Technical Education and Training, NAITA = National Apprentice and Industrial Training Authority, NYSC = National Youth Services Council, TVET = technical and vocational education and training, UNIVOTEC = University of Vocational Technology, VTA = Vocational Training Authority.
 Source: Asian Development Bank.

Figure 7: Involuntarily Unemployment by Sector, 2016
(%)



Source: Asian Development Bank.

Figure 8: Unemployment by Institution, 2016
(%)



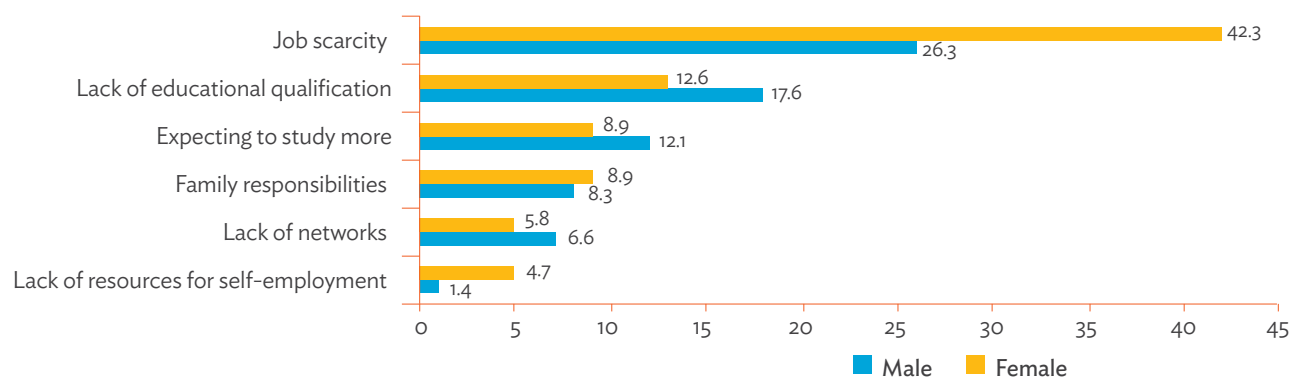
CGTTI = Ceylon-German Technical Training Institute, DTET = Department of Technical Education and Training, NAITA = National Apprentice and Industrial Training Authority, NYSC = National Youth Services Council, VTA = Vocational Training Authority.
Source: Asian Development Bank.

Pursuing higher education was the main reason for voluntary unemployment (63.1%).

When selecting a course to enroll while waiting for formal education to begin, language and ICT courses were the most popular choices as they were expected to be useful for students' future pursuits of formal education. A number

of studies confirmed that youth aspirations and expectations were high, with a large majority wishing to continue education in Sri Lanka (Little and Sabates 2008). The pursuit of higher levels of education provided an alternative to unemployment, but continued to mismatch youth aspirations and available jobs in Sri Lanka.

Figure 9: Reasons for Not Having a Job, 2016
(%)



Source: Asian Development Bank.

IV. ACCESS TO EMPLOYMENT

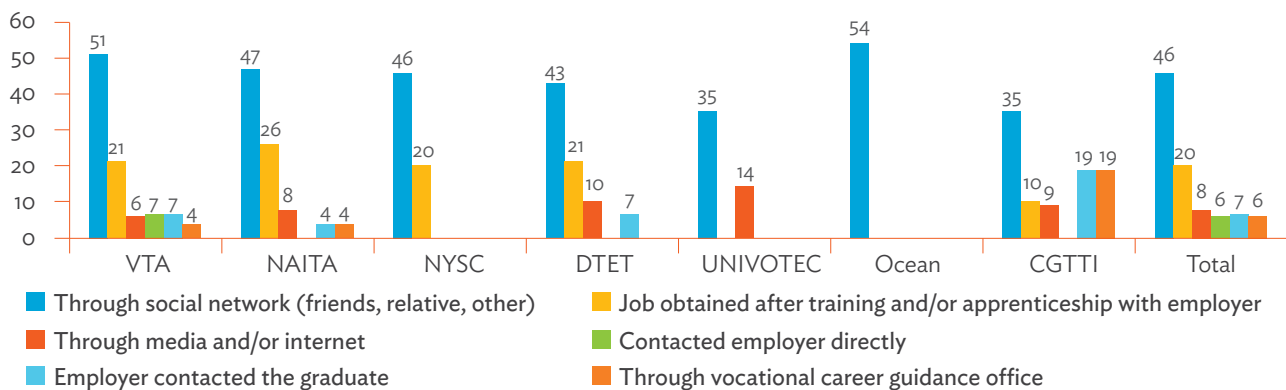
Access to Employment Information and Working Conditions

Social networks were the primary channel for finding employment. Friends and family were the main means for receiving information about work opportunities (Figure 10). The second most important channel was on-the-job training. Those enrolled at UNIVOTEC differed slightly from other TVET institutions in accessing employment information, as they also relied on media and the internet. In addition to social networks, CGTTI graduates were approached directly by employers and reported much more guidance by CGTTI staff. The fact that employers were approaching CGTTI graduates illustrates the confidence employers have in the institute and the skills of its graduates. The good practice of CGTTI could serve as a benchmark for other institutions to improve job placement.

The benefits men and women look for were not the same. Both males and females prioritize relevance of their areas of study during job search, but males care more than twice as much as females about good salary (Figure 11). Females, on the other hand, give more consideration to working conditions such as work-life balance, flexibility, and proximity to home. The issues of personal safety, transport, and accommodation hinder women from taking up certain types of jobs (Gunatilaka 2013). Other reasons graduates cite for selecting a job include preference for government jobs and experiences that could lead to self-employment and/or work overseas.

Male graduates earned higher income than female graduates in all the sectors. As shown in Table 3, the mean income earned by employed graduates is estimated at Sri Lanka rupee (SLR)

Figure 10: Ways to Access Information among Graduates by Institution, 2016 (%)

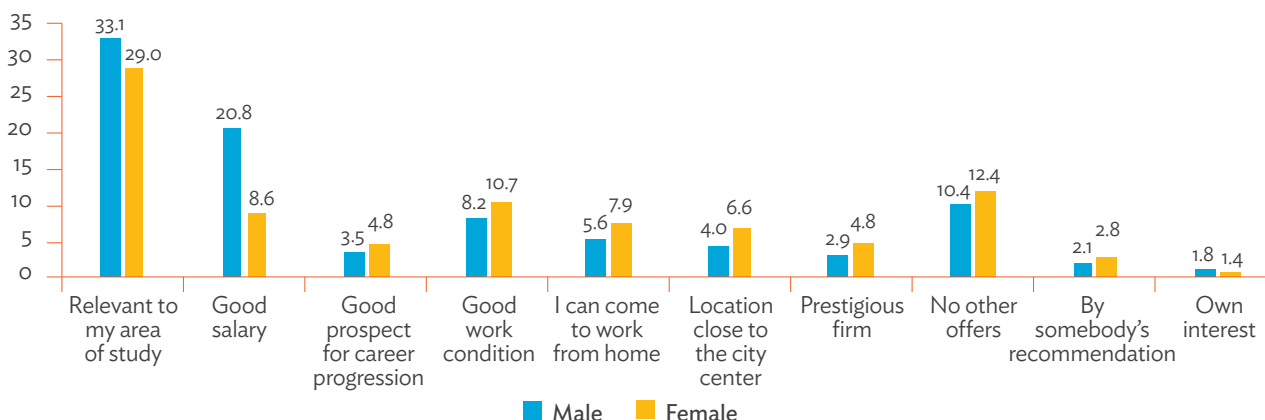


CGTTI = Ceylon-German Technical Training Institute, DTET = Department of Technical Education and Training, NAITA = National Apprenticeship and Industrial Training Authority, NYSC = National Youth Services Council, UNIVOTEC = University of Vocational Technology, VTA = Vocational Training Authority.

Note: Only categories for which there are 10 or more observations are depicted on the graph.

Source: Asian Development Bank.

Figure 11: Basis for Selecting Employment, 2016
(%)



Source: Asian Development Bank.

25,997 per month (median is SLR24,000).¹¹ This is comparable with national labor statistics, where the mean monthly income is SLR28,739 (median is SLR25,000). The male graduates report higher mean income of SLR29,377 (median is SLR25,000) while female graduates have much lower mean income at SLR18,527 (median SLR16,980). The Blinder–Oaxaca decomposition analysis can be used to identify the potential for wage discrimination (Jann 2008), and the analysis suggests gender wage discrimination. Female TVET graduates could earn more than male TVET graduates in the absence of discrimination. This is consistent with the earlier findings using labor force surveys (Gunatilaka, Mayer, and Vodopivec 2010), but the gender

wage gap in TVET graduates seems larger than the analysis of 2010. Wage discrimination is also suggested by ethnicity, and the results of the analysis are included in Appendix 10.

The metal and light engineering sector had considerably higher monthly income among self-employed graduates. On average, as described in Table 4, self-employed graduates show a mean monthly income of SLR38,508 (median SLR20,000). On average, self-employed male graduates report that their businesses generate a mean average monthly income of SLR47,462 (median SLR25,000), while female graduates report a much lower average of SLR18,861 per month (median SLR9,000).

Table 3: Monthly Income of Employed Graduates by Sector and Gender, 2016 (SLR)

Sector	Male		Female		Overall	
	Mean	Median	Mean	Median	Mean	Median
Metal and Light Engineering	31,895	28,000	26,667	22,000	31,841	28,000
Construction	31,465	27,500	26,408	23,750	30,392	25,000
Tourism	26,250	25,000	18,000	16,000	25,745	25,000
Information and Communication Technology	23,669	20,000	18,342	17,000	20,707	18,000
Other	24,935	25,000	16,416	15,000	19,106	17,000
Average	29,377	25,000	18,527	16,980	25,997	24,000

SLR = Sri Lanka rupee.

Note: For calculation of monthly income among employed graduates, figures that were in excess of SLR200,000 and less than SLR1,000 were eliminated. For self-employed graduates, monthly incomes in excess of SLR400,000 and less than SLR1,000 were eliminated. This adjustment was conducted to remove outliers.

Source: Asian Development Bank.

¹¹ The exchange rate as of 5 October 2016 (the completion date of data collection) was SLR146.70 for \$1.00. SLR25,997.00 = \$177.20.

Table 4: Monthly Income of Self-Employed Graduates by Sector, 2016 (SLR)

Sector	Mean	Median
Metal and Light Engineering	43,120	30,000
Construction	15,200	15,000
Other	19,940	10,000
Average	38,508	20,000

SLR = Sri Lanka rupee.

Notes: For calculation of monthly income among employed graduates, figures that were in excess of SLR200,000 and less than SLR1,000 were eliminated. For self-employed graduates, monthly income in excess of SLR400,000 and less than SLR1,000 were eliminated. This adjustment was conducted to remove outliers. The number of observations for information and communication technology as well as the hotel and tourism sector were insufficient to generate statistics.

Source: Asian Development Bank.

Challenges of Employed and Self-Employed Graduates

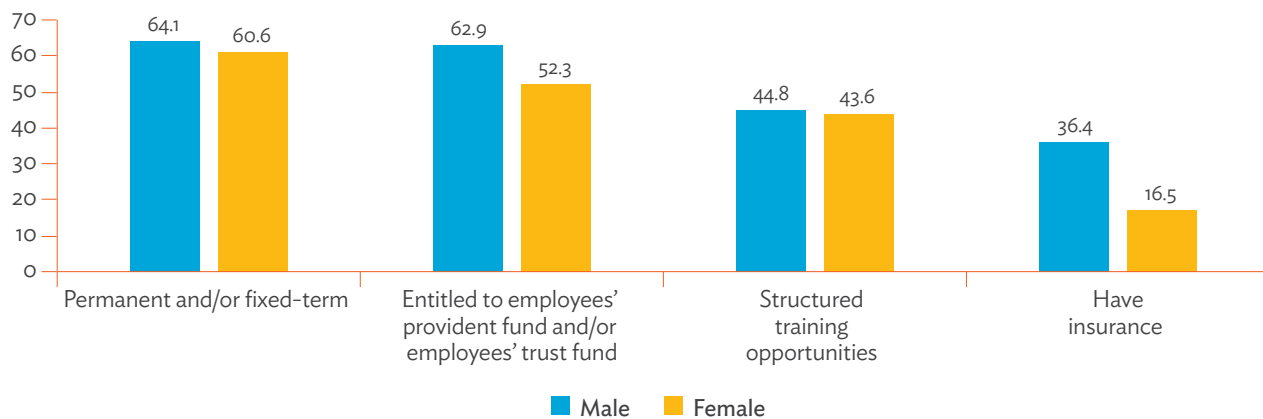
The private sector absorbed a large proportion of male (81.4%) and female (68.4%) employed graduates. Among employed graduates, 77.1% obtained private sector jobs, but CGTTI graduates stand out, with 94.6% employed in the private sector. On average, 10.9% of graduates indicated that they were employed by the government, with more female graduates

(18.3%) than male graduates (7.2%) working for that sector. Key-informant interviews implied that TVET graduates can demonstrate their practical skills for the private sector, whereas the general expectation in the government sector is for a graduate to be able to show the qualifications on paper (certificate) at the recruitment stage, which could explain the relatively low employment in the government sector.

The majority of graduates (63.1%) in the private sector had fixed or long-term work agreements with their employers.

Among employed graduates, 64.1% of males and 60.6% of females secured fixed or long-term work arrangements. Figure 12 shows the other facilities they were entitled to. The type of work or trades that TVET graduates engaged in were largely mechanical and industrial work that exposed them to higher risk. Against this potential exposure, only 36.4% of males and 16.5% of females reported entitlement to protection through insurance. However, CGTTI graduates could obtain a higher quality of employment, such as 85.8% permanent employment, 92.9% with employment provident fund or employment trust fund contribution by their employer (including in temporary positions), and 66.4% availability of insurance.

Figure 12: Terms of Employment in the Private Sector, 2016 (%)



Source Asian Development Bank.

Female self-employed graduates were more likely to start a new business (92.3% females versus 68.2% males).

Graduates from VTA were more likely to start self-employment ventures, while graduates from CGTTI and UNIVOTEC were the least likely to report self-employment. By sector, graduates from the hotel and tourism sector were least likely to start self-employment, while graduates from the beautician and tailoring courses were more likely to report self-employment. Consequently, the main types of enterprise that graduates joined or started were salons (hair, bridal dressing), tailoring, electrical, plumbing, construction-related work, and vehicle repair shops (garages).

The challenges facing self-employed graduates were limited access to financing and lack of demand for their products.

To address the financing issue, a loan scheme has been introduced for graduates who expect to start their own businesses. Those who complete NVQ courses in DTET, NAITA, NYSC, and VTA could apply for a maximum SLR500,000 loan facility to start their own business at a concessional interest rate. This was not available for non-NVQ graduates, but moving forward, increasing the uptake of this loan scheme and providing entrepreneurship training might need to be considered.

V. ACCESS TO TRAINING AND FINANCING

Information on Offered TVET Courses

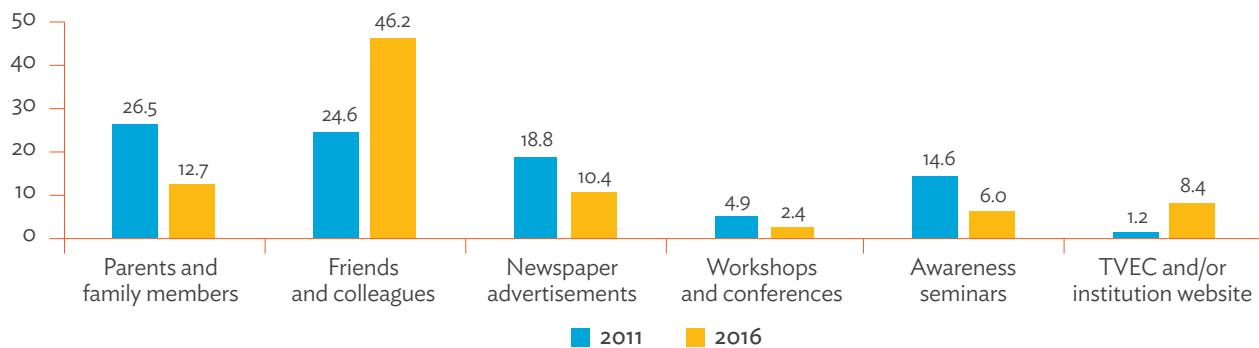
As with information on job opportunities, friends and colleagues were the main source of information (46.2%) on available TVET courses. Figure 13 shows information sources on TVET courses, and also indicates the influence of peer groups on students' selection of courses. Training providers consider this as a positive development, because word of mouth indicates good performance on their part. In comparison to findings from the 2011 tracer study, the importance of friends and colleagues for providing information has increased. Comparatively, awareness seminars, workshops, and conferences have decreased in outreach capacity since the 2011 tracer study. These communication channels might be outdated in creating awareness of TVET courses, while

websites have become a prominent source of information for students. Interestingly enough, parents and family members were no longer the major source of information on TVET courses in 2016, although still the second largest (12.7%).

Motivation

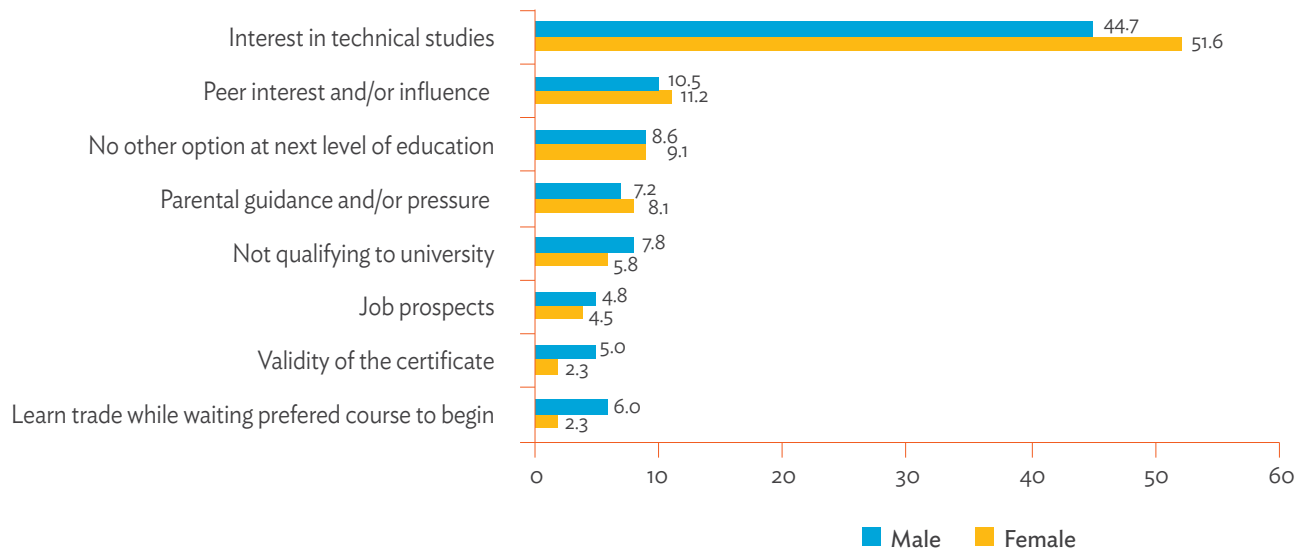
Interest in technical studies was a key factor in students' selection of TVET courses. Figure 14 shows that 48.7% of students indicated this factor in their choice to pursue TVET (males 51.6% and females 44.7%). Interest among friends and colleagues in technical studies also influenced around 10.9% of students to enroll in TVET courses. Other reasons for pursuing TVET were no other options available at the next level of education, parental guidance, and insufficient grades to enter university.

Figure 13: Information Sources on Training Courses, 2016
(%)



TVEC = Tertiary and Vocational Education Commission.
Source: Asian Development Bank.

Figure 14: Reasons for Selecting Training Courses, 2016
(%)



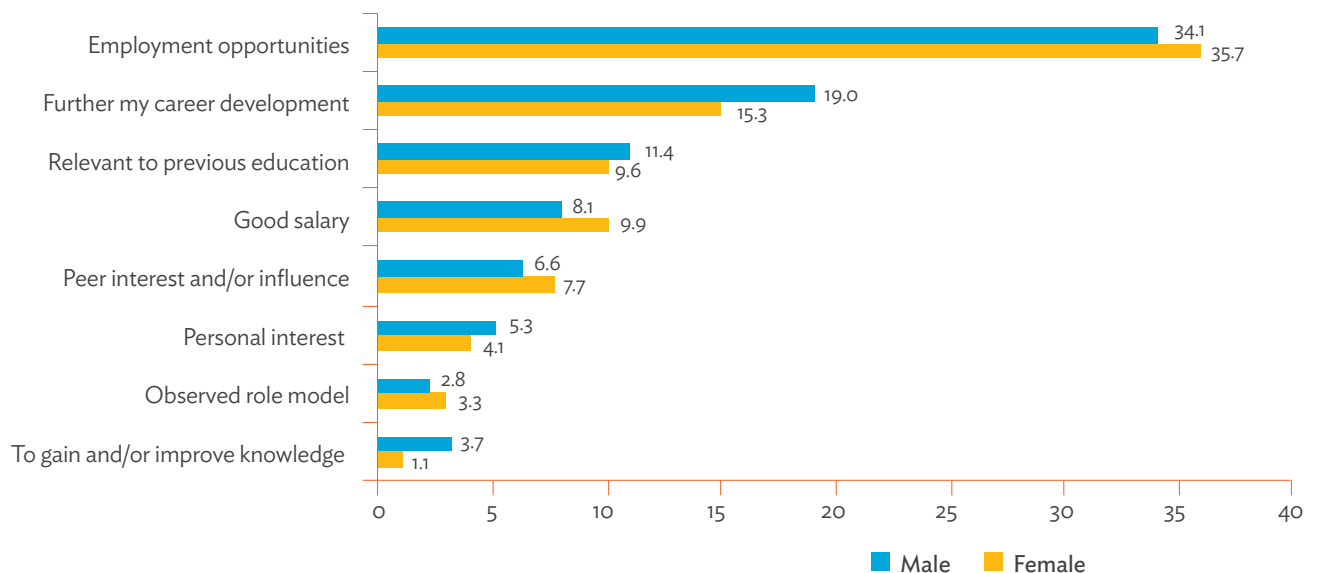
Source: Asian Development Bank.

Job opportunities were the main determinant for TVET students in selecting a particular trade or sector-related course.

Thirty-five percent of respondents indicated that their choice of trade was influenced by the

availability of jobs in that particular trade or sector (Figure 15). Furthering one's career, relevance to previous education, possibilities for good salary, peer influence, and personal interest were the next most commonly cited reasons.

Figure 15: Reasons for Selecting the Trade or Sector of the Training Course, 2016
(%)

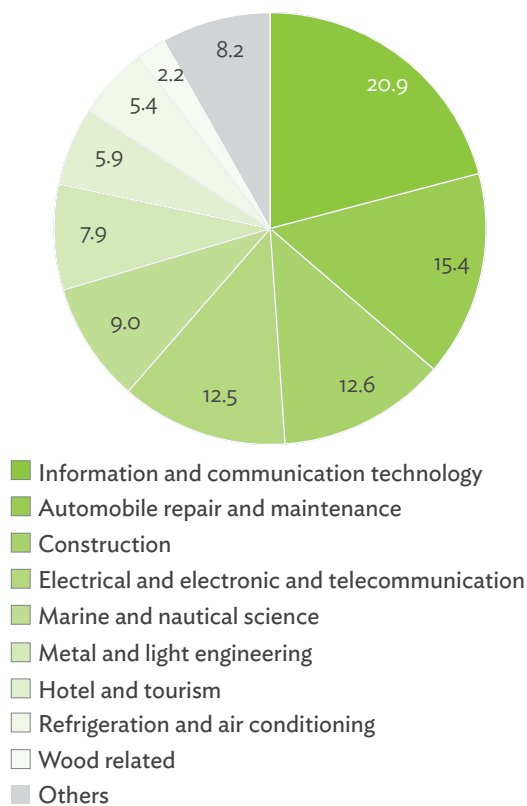


Source: Asian Development Bank.

Male students’ choice of sectors spread over different sectors, but female students overwhelmingly chose ICT courses (45.0%).

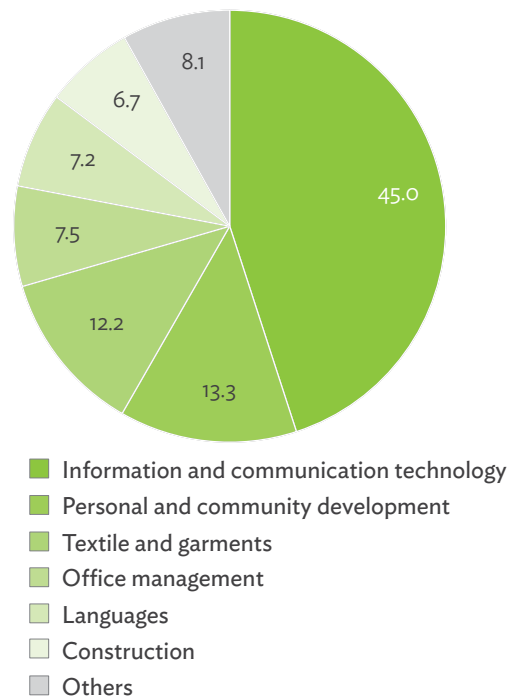
During the focus group discussions, graduates explained that ICT courses were popular because they considered ICT knowledge as an essential skill for securing employment. The large number of females enrolling in ICT-related courses was attributed to female preference for white-collar jobs. However, male enrollments in TVET courses were distributed among automobile, construction, electrical and electronic, metal and light engineering, and marine and nautical science, as much as the ICT sector. A limited number of female students took construction courses, but there was not much overlap between male and female enrollments, except in ICT (Figures 16 and 17).

Figure 16: Main Sectors or Trades Selected by Male Graduates, 2016 (%)



Source: Asian Development Bank.

Figure 17: Main Sectors or Trades Selected by Female Graduates, 2016 (%)



Source: Asian Development Bank.

Negative Social Perceptions

Perceptions on dignity of labor and sociocultural norms influenced students’ attitudes toward certain fields of study.

A key informant from the apparel industry said that even if the youth had an interest in joining the apparel industry, parental attitudes and social perceptions would discourage them from seeking jobs in the sector. Parents did not have social recognition for but instead had safety concerns connected to shift work and long working hours. Similarly, negative social perceptions about the tourism industry discourage youth from enrolling in tourism courses. The negative social perceptions included erosion of culture and traditions, loss of cultural identity, as well as sexual exploitation of children and women (Gnanapala and Sandaruwani 2016). Social perceptions hindered women particularly from joining the apparel and tourism sectors and restricted their choice of courses.

TVET institutions had difficulty recruiting students for construction and allied fields.

The allied fields included electrical, masonry, carpentry, plumbing, aluminum fabrication. Some negative perceptions associated with these fields included long working hours, remoteness of construction sites, and living conditions without basic facilities. The lack of knowledge about career progression and misconceptions also triggered suboptimal enrollment. The limited enrollment in these fields led to the underutilization of certain facilities in TVET institutions.

General Education Level

Limited interest in construction and allied fields could also relate to improved general education levels. In fact, general education levels of students entering the TVET stream increased between 2011 and 2016. Forty-eight percent of graduates in the 2016 tracer study had a general certificate of education advanced-level (GCE A/L) qualifications, while 32.5% did in the 2011 tracer study. Advanced-level qualifications are more pronounced among females at 55.5%, than males at 44.5% in 2016. During the period, GCE A/L qualifications increased from 59% to 62% in general, which helped improve qualification among TVET students (Government of Sri Lanka 2017c, 2012).

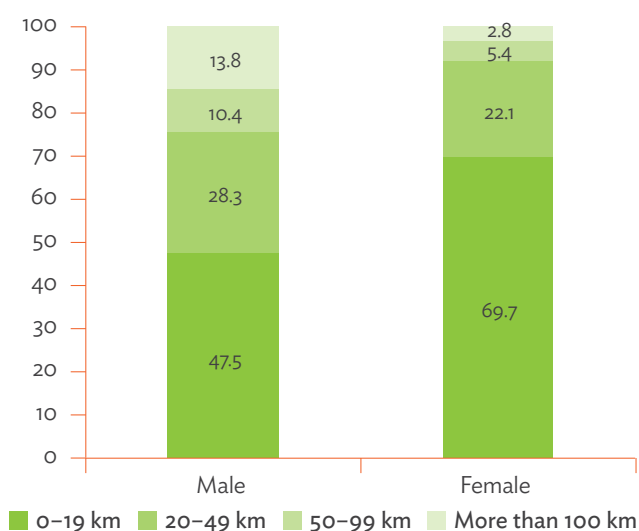
General education levels influenced students' choice of sector and trade. Those with higher general education qualifications, such as advanced level, were more likely to choose white-collar jobs, such as ICT, office management, and languages. By contrast, those with lesser general education qualifications had little option but to choose blue-collar jobs such as construction, textile and garments, tourism, and automobile repair, among others. Higher enrollment of students with GCE A/L qualifications might contribute to lower enrollment in TVET courses such as construction and associated fields.

Distance to Training Center

Many students chose training centers near their home, but an increasing number took training courses away from home. In 2016, 56.8% of students took courses at training centers within 20 kilometers of their homes, an almost 10 percentage points decrease from 66.7% of students in 2011 who travelled that distance to attend TVET courses.

Female students did not travel far, which might have limited their choices. While 69.7% of female graduates studied within 20 kilometers from home, 47.5% of male graduates did (Figure 18). In other words, for female students living in rural areas, they had to choose courses available at vocational training centers near their homes. During the focus group discussions, graduates reported that while access was easier at these vocational training centers, the course offerings were limited (mostly related to beauty culture, tailoring, and sometimes ICT courses). The limited course offerings in rural areas compelled students to travel longer distances if they had clear ideas about their choice of courses.

Figure 18: Distance to Training Center, 2016 (%)



km = kilometer.

Sources: Asian Development Bank.

Cost and Financing

Some courses were provided free of charge, but financial assistance to cover transport costs and other living expenses was limited.

Forty-one percent reported enrolling in courses offered free of charge, while 76.1% of graduates indicated that they did not receive any stipend during their study. Past research shows that trainees from poorer backgrounds had higher dropout rates because of the opportunity cost of forfeiting a job to attend a training course (Dundar et al. 2014). There was also a tendency to take up a job if such an opportunity was provided during training. Even though many programs were provided free of charge, students joined the labor force immediately after school because transport and other costs for meals, and immediate family demands, undermined the time and finances available for youth to engage in TVET programs (UNDP 2014).

Some TVET institutions, however, provided assistance and other incentives. For instance, mainly CGTTI and DTET provided season tickets (discounted travel) or covered travel costs for their students. In fact, 81.9% of CGTTI graduates and 38.7% of DTET graduates said they received such financial assistance. In addition to travel assistance, 14.6% of graduates had received uniforms from their training institutions.

During on-the-job training period, financial support was required, particularly for disadvantaged students.

Although some received a small monthly allowance or stipend during the training period, the allowance varied considerably and was largely at the discretion of the training provider. Some students did not receive a monthly allowance during on-the-job training, which made it difficult for them to continue the training due to financial constraints. Sometimes, students undergoing on-the-job training had to travel to other localities. It was therefore important to ensure that, at a minimum, an allowance for transport, food, and lodging was available to financially disadvantaged students, particularly during the on-the-job training period.

Opportunities were limited for differently abled students to enroll in TVET courses.

VTA training centers in Killinochchi and Narahenpitiya cater to disabled students, in line with the TVET policy, which promotes the inclusion of students with disabilities. If there is an interest from differently abled students, the other centers can include these students in training. Most of the other public TVET institutions, however, do not have that flexibility. Even if the student is enrolled, limited options are available for these graduates to find employment opportunities. Nonetheless, the Social Services Department under Ministry of Social Empowerment, Welfare and Kandyan Heritage has a number of training centers to cater to differently abled students.¹²

¹² These training centers are Seeduwa Vocational Training Centre, Thelambuyaya Vocational Training Centre, Wattedagama Vocational Training Centre, Amunukumbura Vocational Training Centre, Katawala Vocational Training Centre, and Ragama Vocational Training Centre.

VI. RELEVANCE AND QUALITY OF TRAINING PROGRAMS

Relevance

Job placement rate and productivity could be improved by enhancing the relevance of training to the job market.

Fifty-eight percent of employed graduates said that trained skills were appropriate for the job, but 16.8% said skills had no relevance to their current employment. In addition, 18.1% said that actual work required a much higher level of skills, while 6.7% said they were underemployed (i.e., work required less skill). Given the skills mismatch, relevance of training has to be improved.

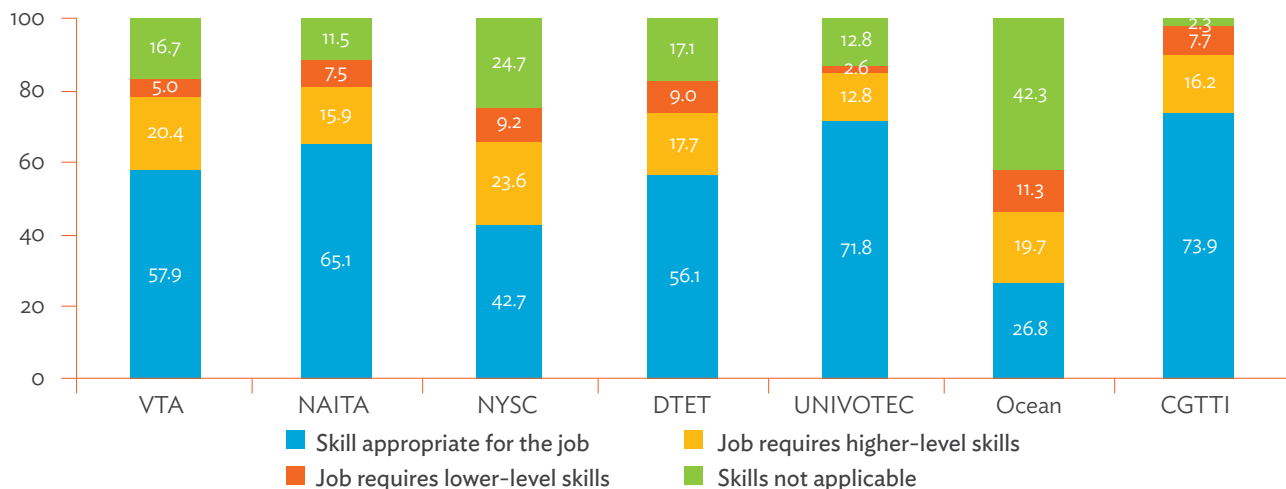
While increased internship opportunities and establishment of industry skills council were helping reduce this gap, enhancing relevance of training requires stronger coordination with

industry by creating concrete mechanisms that would encourage active industry participation.

By institution, the applicability of skills to employment varied significantly. Forty-two percent of graduates from Ocean University reported that skills taught were not relevant (Figure 19), largely because they could not obtain the continuous discharge certificate after course completion. By contrast, only 2.3% of CGTTI graduates reported that skills were not applicable for employment. This indicated CGTTI's high engagement with industry.

Relevance was relatively high for higher NVQ-level course graduates. Interestingly, appropriateness of courses was higher for

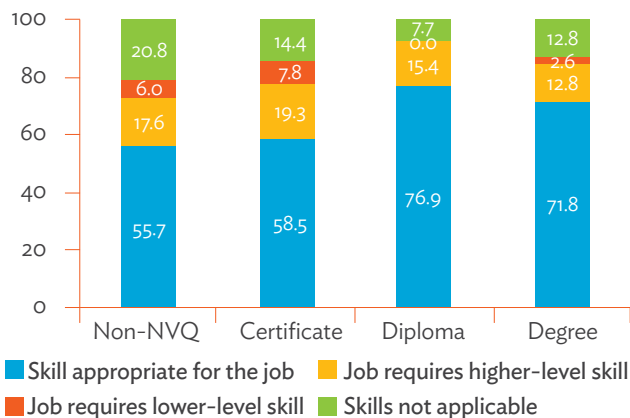
Figure 19: Relevance to Work of Courses by Institution, 2016 (%)



CGTTI = Ceylon-German Technical Training Institute, DTET = Department of Technical Education and Training, NAITA = National Apprenticeship and Industrial Training Authority, NYSC = National Youth Services Council, UNIVOTEC = University of Vocational Technology, VTA = Vocational Training Authority.
Source: Asian Development Bank.

diploma-level graduates (NVQ level 5 or 6) than degree-level graduates (NVQ level 7), and only 7.7% of the diploma-level graduates considered their skills as not applicable to their work (Figure 20). Twenty-one percent of non-NVQ graduates responded that the training was not relevant, compared with 7.7% for diploma and 14.4% for certificate level (NVQ level 1, 2, 3 or 4). Generally, this suggested that courses with higher NVQ-level qualifications provided content more relevant to industry requirements.

Figure 20: Relevance of Courses to Work by Qualification, 2016
(%)



NVQ = national vocational qualification.
 Note: Certificate is NVQ levels 1–4, diploma is NVQ levels 5–6, and NVQ level 7 is equivalent to degree.
 Source: Asian Development Bank.

Quality

Graduates’ perception of training quality was very high.

Overall, graduates showed significant appreciation for the usefulness of training materials, instructor competency, and relevance of practical training provided in their courses (Figure 21).

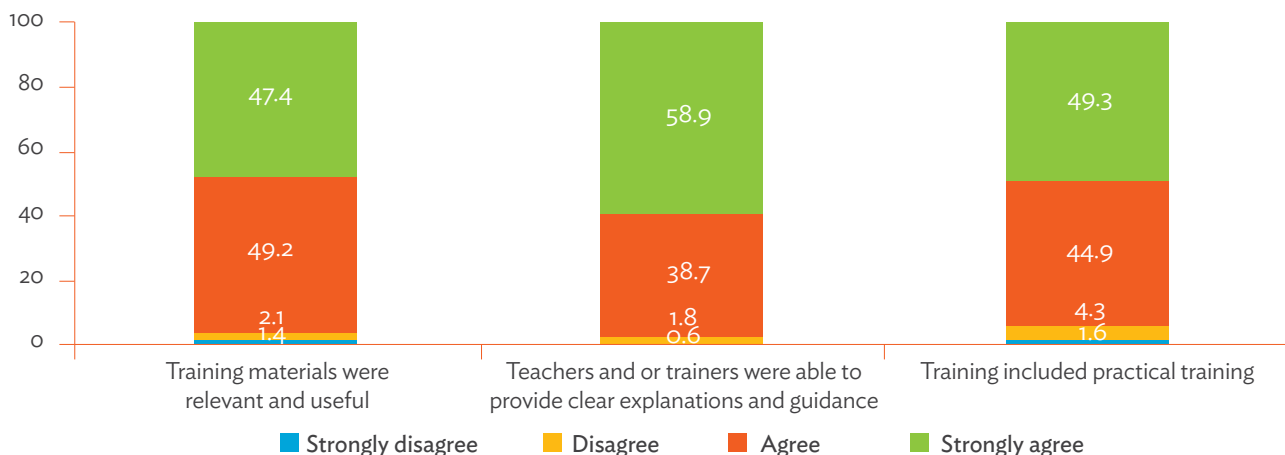
In general, more than 90% of graduates from all training institutions, except Ocean University, were either satisfied or very satisfied with the TVET courses.

At CGTTI, where satisfaction was the highest, 77.9% of graduates were very satisfied with the training provided, while graduates of UNIVOTEC, DTET, and Ocean University expressed lower satisfaction (Figure 22). Dissatisfaction associated with UNIVOTEC was related to the fact that, as a university, graduates had higher expectations. At Ocean University, higher dissatisfaction stemmed from issues such as a lack of up-to-date equipment for practical sessions, temporary academic staff at the institution, and the inability to obtain a continuous discharge certificate.

Satisfaction came from the knowledge acquired in the classroom, skills gained in the laboratory, and on-the-job training.

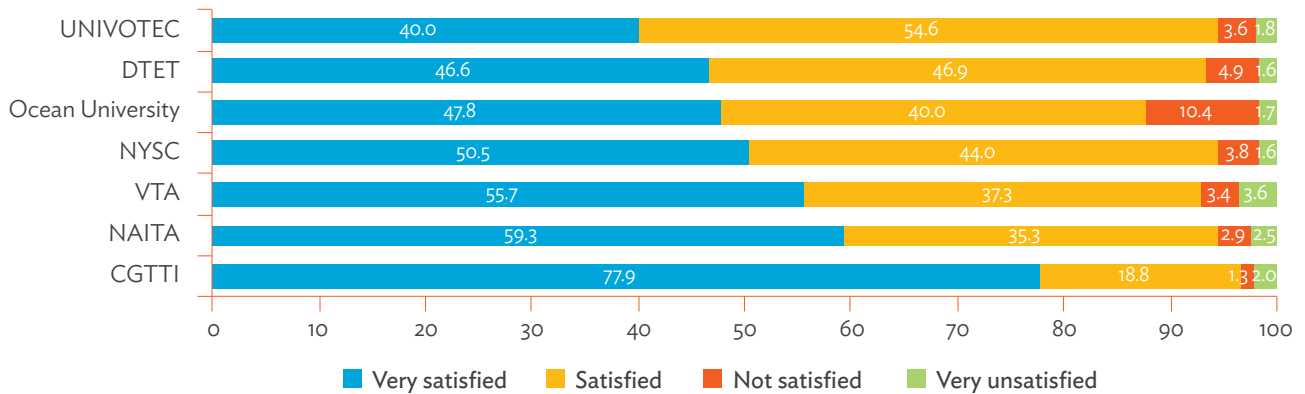
Satisfaction varied in the seven institutions. For instance, CGTTI graduates had more appreciation for a good mix of classroom knowledge with

Figure 21: Graduates’ Perception of Training Quality, 2016
(%)



Source: Asian Development Bank.

Figure 22: Graduate Satisfaction by Institution, 2016 (%)



CGTTI = Ceylon-German Technical Training Institute, DTET = Department of Technical Education and Training, NAITA = National Apprenticeship and Industrial Training Authority, NYSC = National Youth Services Council, UNIVOTEC = University of Vocational Technology, VTA = Vocational Training Authority.
Source: Asian Development Bank.

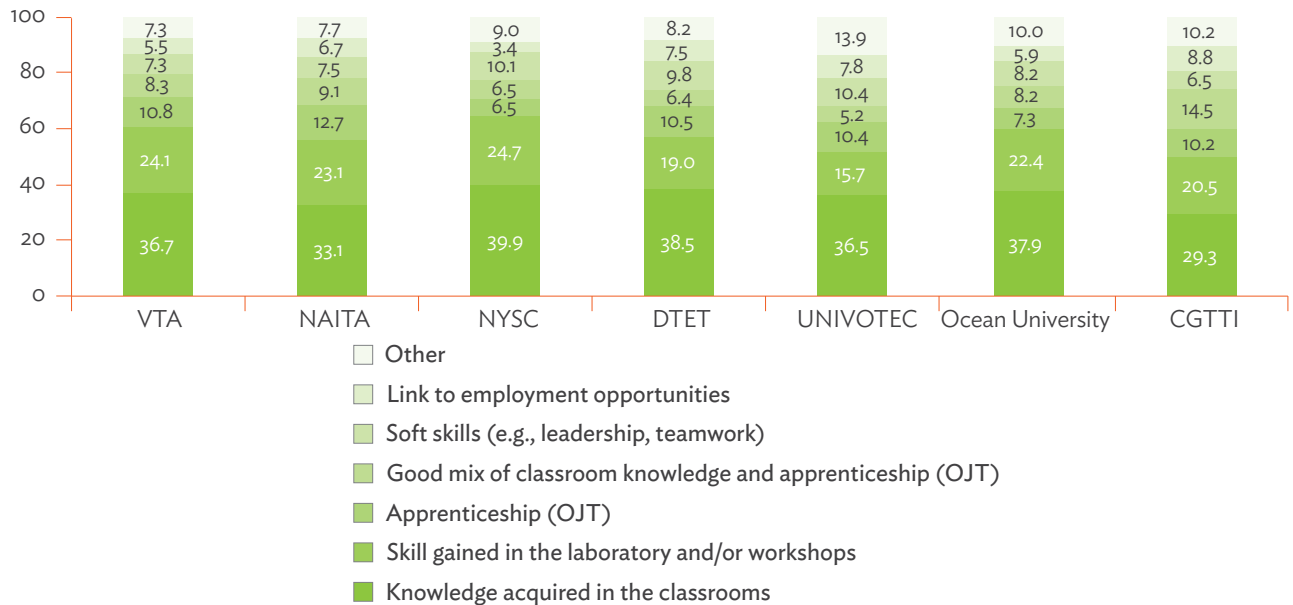
on-the-job training. UNIVOTEC scores were comparatively high for soft skills but comparatively low on a good mix of classroom knowledge and apprenticeship compared to other institutions. Graduates from UNIVOTEC and CGTTI had greater satisfaction with the reputation of their training institutions compared to graduates from

other institutions, indicating the recognition within industry of UNIVOTEC and CGTTI.

Overall, 52.0% of graduates considered TVET very useful for their current work.

Around 40%–50% of graduates reported that theoretical knowledge, practical training, and

Figure 23: Reasons for Satisfaction with the Training Courses Offered by Institutions, 2016 (%)



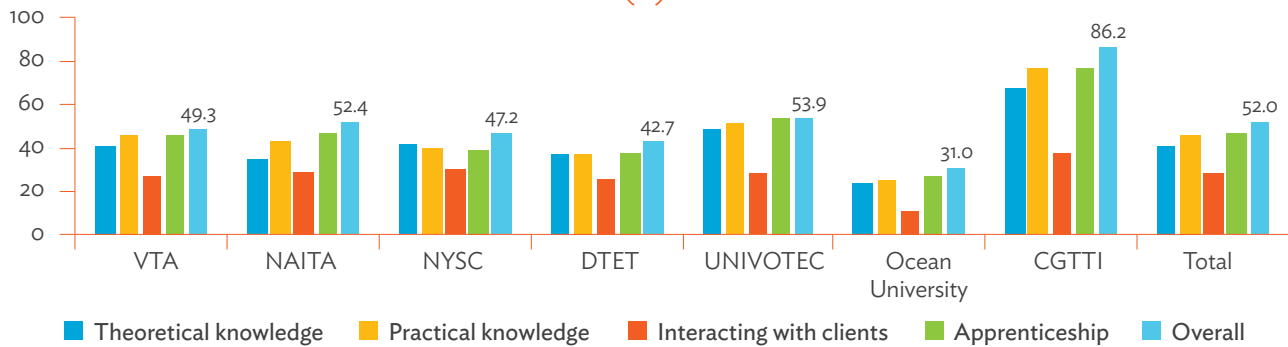
CGTTI = Ceylon-German Technical Training Institute, DTET = Department of Technical Education and Training, NAITA = National Apprenticeship and Industrial Training Authority, NYSC = National Youth Services Council, OJT = on-the-job training, UNIVOTEC = University of Vocational Technology, VTA = Vocational Training Authority.
Source: Asian Development Bank.

on-the-job training were very useful for their work (Figure 24). CGTTI graduates indicated much higher levels of appreciation for the training received for almost all components, indicating that the CGTTI model might be highly relevant. In contrast, graduates of Ocean University showed the least appreciation. One common area of improvement across all training institutions was soft skills associated with client interaction. Overall, only 27.8% indicated that soft skills training (interacting with clients) was very useful for their work.

TVET institutions need to improve training center facilities and provide up-to-date practical training. Other significant areas for consideration include improving theoretical

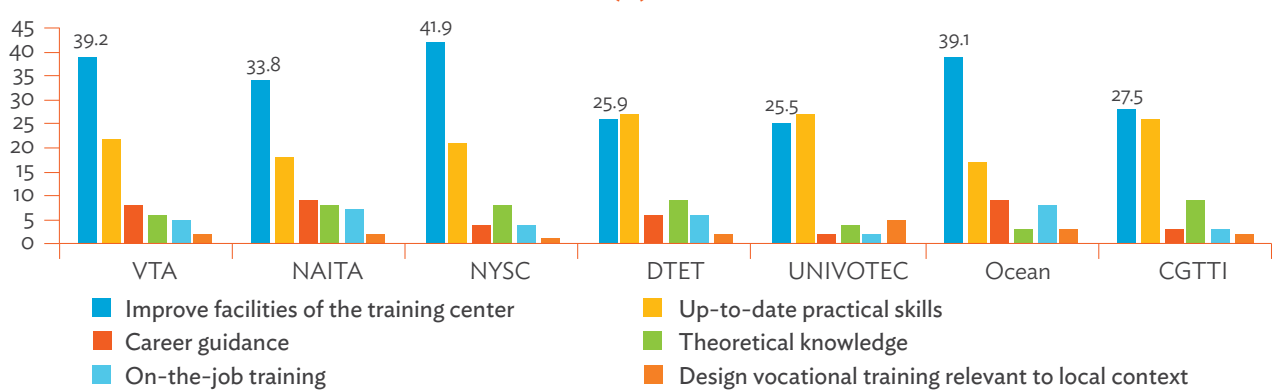
content and improving on-the-job training opportunities and industry linkages at Ocean University (Figure 25). In terms of courses offered by specific institutions, graduates highlighted potential for improvement in the ICT courses in general (especially at UNIVOTEC) and the marine and nautical science course at Ocean University. For example, graduates from Ocean University pointed out the lack of practical equipment, which made it difficult to keep abreast of rapid technological changes. They also reported that practical training was done on land and not at sea. In addition, graduates following ICT courses in many TVET institutions reported that insufficient computer facilities at the training institutions forced students to share computers, undermining learning quality.

Figure 24: Aspects of Training Rated as Very Useful for Current Work, 2016 (%)



CGTTI = Ceylon-German Technical Training Institute, DTET = Department of Technical Education and Training, NAITA = National Apprentice and Industrial Training Authority, NYSC = National Youth Services Council, UNIVOTEC = University of Vocational Technology, VTA = Vocational Training Authority.
Source: Asian Development Bank.

Figure 25: Areas for Improvement by Institution, 2016 (%)



CGTTI = Ceylon-German Technical Training Institute, DTET = Department of Technical Education and Training, NAITA = National Apprentice and Industrial Training Authority, NYSC = National Youth Services Council, UNIVOTEC = University of Vocational Technology, VTA = Vocational Training Authority.
Source: Asian Development Bank.

Maintaining the relevance of curriculums and remaining up to date are crucial. This contributes to reducing the skills mismatch and enhancing the employability of graduates. Institutions such as DTET recognize the importance of staying up to date with industry developments. To remain up to date, DTET revises its curriculums every 3 years and seeks private sector inputs and industry requirements when designing courses. CGTTI incorporates the latest technology, such as hybrid-vehicle technology in its automobile course, and encourages instructors periodically to get industry experience on the latest technological innovations. However, TVET training institutions sometimes face situations in which training machinery becomes outdated quickly.

Quality, competency, and availability of instructors would make a difference. TVET institutions faced difficulties in recruiting qualified instructors, since their demand was high in industry. At the same time, the recruitment of instructors in certain government training institutions took a long time. Selection was sometimes not relevant because instructors are selected based on general knowledge and intelligence quotient tests, rather than an instructor's technical competency. Though some institutions, such as DTET and CGTTI, sent instructors overseas for training to help them

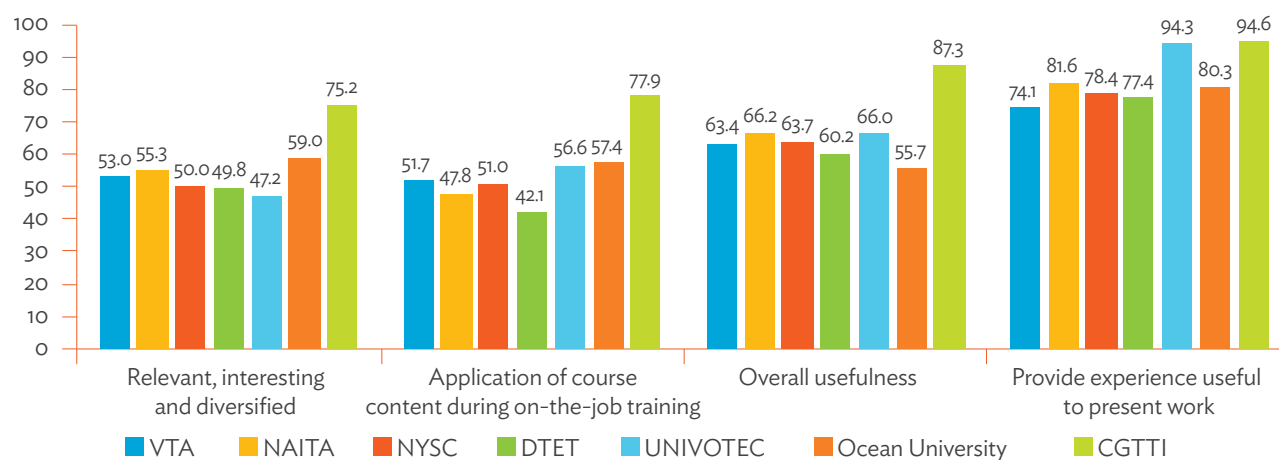
upgrade skills and knowledge, the institutions were unable to release them for training, because of instructor shortages. The language of instruction seemed to be a key issue, particularly in Nuwara Eliya, where Tamil-speaking instructors were lacking to teach courses for NVQ level 4 and below.

On-the-Job Training

On-the-job training experience varied, but providing opportunities to practice what they learned at schools would be important.

Figure 26 shows a cross section of the relevance, applicability, and usefulness of on-the-job training by TVET institution. The level of feedback varied by TVET institution, but it was clear that CGTTI outperformed on all aspects. This might be attributed to longer course duration and longer periods of engagement with industry. Overall, of the graduates who completed on-the-job training, 75.6% indicated that its duration was just right, with 20.0% indicating that they would prefer a longer period. However, during most of the focus group discussions, graduates were concerned that their on-the-job training experience did not allow them to practice what they had learned in the course. Graduates who were employed were more likely to rate their on-the-job training experience as relevant, applicable, and useful.

Figure 26: Relevance, Applicability, and Usefulness of On-the-Job Training by Institution, 2016 (%)



CGTTI = Ceylon-German Technical Training Institute, DTET = Department of Technical Education and Training, NAITA = National Apprenticeship and Industrial Training Authority, NYSC = National Youth Services Council, UNIVOTEC = University of Vocational Technology, VTA = Vocational Training Authority.

Source: Asian Development Bank.

Eleven percent of the graduates indicated that they had dropped out of the on-the-job training program. A number of factors explained a high dropout rate during the on-the-job training stage. When students were required to travel outside of their districts without any allowance, they had to shoulder travel, accommodation, and food expenses. Moreover, if the on-the-job training was not relevant to their TVET course, students, seeing no benefit, tended to drop out. Students may also drop out if the work is not what they had expected.

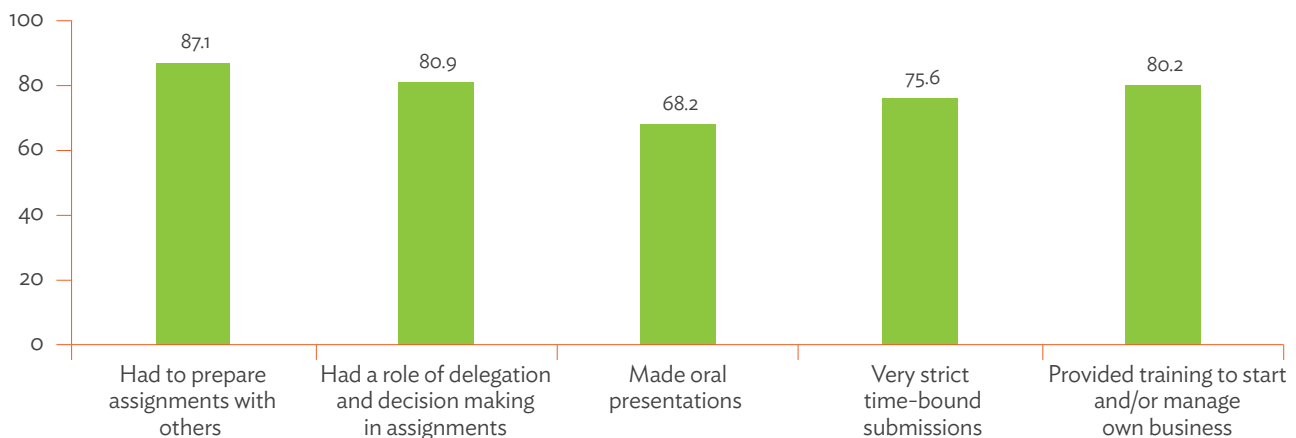
Employers highlighted the need to address short on-the-job training periods, lack of feedback, and follow-up mechanisms. From the perspective of employers, a feedback mechanism was lacking between the on-the-job training provider and the TVET institution. Moreover, follow-up from the TVET institutions on the progress of the trainee was also lacking, due to limited resources. The training period came to an end when the trainee was ready to work more productively after 6 months of training. A slightly extended on-the-job training period was perceived as useful to the employer, so that eventually the employer might also benefit from the training placement. Employers also recognized that students sometimes lacked confidence to use available equipment during on-the-job training as they received their training on outdated equipment and were not familiar with current technology.

Soft Skills

Soft skills training had been instrumental in access and retention of jobs. A lack of soft skills in areas such as language and computer literacy hindered graduates' success during interviews. In some instances, soft skills affected job retention because graduates did not know how to interact with colleagues or deal with workplace-related situations. The government considered soft skills an important area to make TVET graduates competitive in the labor market.

The TVET institutions were trying to improve soft skills. Students developed soft skills through documentation, decision making, oral presentations, and time-bound submissions; Figure 27 describes actual use of these approaches. All graduates from UNIVOTEC said that they participated in group assignments and made oral presentations. In the other TVET institutions, the reporting averages were 87.1% for group assignments and 68.2% for oral presentations. In comparison to the rest of the institutions, UNIVOTEC and CGTTI had a relatively strict submission deadline, where 96.4% and 88.6% of graduates, respectively, reported that submissions had to be handed in on time. By contrast, only 54.8% of Ocean University graduates reported having to hand in submissions on time, indicating a more relaxed attitude toward submissions.

Figure 27: Soft Skills Provided by Training Programs, 2016 (%)



Source: Asian Development Bank.

Training institutions provided opportunities to manage their own businesses. Eighty percent of graduates were aware of training to develop entrepreneurial capacity. Almost all (96.0%) of CGTTI graduates indicated that they received training on starting a new business venture. Among courses, less than 60% of graduates from language, medical, and health science received training on starting or managing their own businesses.

Assessment and Certification

TVET graduates had to wait long periods (nearly 1 year) for assessment and certification. Students had difficulty passing final exams if they had to wait long, as they forgot the material. Furthermore, the average time to receive certificates was 11 months, and some missed employment or further education opportunities due to delays in being issued NVQ certificates.

Pending payment to assessors caused delays. This issue was raised by both national and regional officials in public TVET institutions. The backlog of payments to assessors amounting to SLR10 million contributed to assessors' unwillingness to conduct assessments at TVET institutions. The limited number of Tamil-speaking assessors also delayed examination and

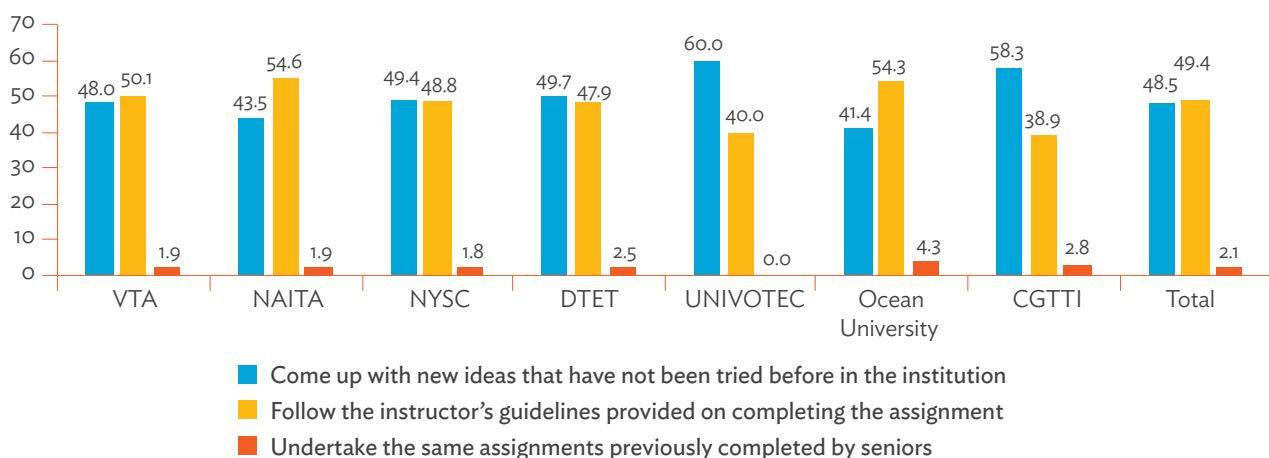
certification, especially in Northern Province and Eastern Province. By comparison, private TVET institutes were able to schedule assessments promptly with regular payments to assessors.

Assessors required knowledge of up-to-date technology and industry standards for quality assessments. These would be vital as there were instances in which students were more familiar with the latest developments in the industry than the assessors. A key-informant interview suggested therefore that assessors themselves came from industry so they were familiar with industry standards and related practical issues. As a lot of NVQ required practical testing, assessments are conducted in an actual workplace with appropriate equipment.

Other Factors that Contribute to Quality of TVET Programs

Opportunities to be innovative and to try out new ideas were mixed. Nearly half of respondents stated that they came up with new ideas that had not been tried before (Figure 28). However, nearly half of respondents also followed instructor's guidelines to complete the assignments. While following guidelines are important, space and incentives to try out new ideas could be further encouraged.

Figure 28: Trying Out of New Ideas among Institutions, 2016 (%)



CGTTI = Ceylon-German Technical Training Institute, DTET = Department of Technical Education and Training, NAITA = National Apprenticeship and Industrial Training Authority, NYSC = National Youth Services Council, UNIVOTEC = University of Vocational Technology, VTA = Vocational Training Authority.

Source: Asian Development Bank.

Creating TVET alumni associations could benefit TVET institutions through networking and financial assistance. Only 36.2% of respondents said that their training centers had an alumni or other type of network. CGTTI and UNIVOTEC were exceptions to this trend, with over 96.0% and 81.8% of graduates, respectively, aware of their alumni associations or networks. Multiple reasons were cited for joining alumni associations or networks, including socializing, receiving information on the institution's activities, receiving information

on job vacancies, and furthering work-related knowledge. In addition, graduates wished to contribute to the institutions by sharing their experience and providing technical inputs in the form of knowledge or resources. Of those who were not alumni members, an overwhelming 88.0% indicated that they would join an alumni network if it were created. They even indicated an interest to support students with financial difficulties, participate in the development of the institution, provide inputs to improve the courses, and help promote the institution.

VII. CONCLUSIONS

Employment Outcomes

The job placement rate of TVET graduates improved from 47.5% in 2011 to 54.5% in 2016, exceeding the SSDP target.

Employment among NVQ graduates was higher than non-NVQ graduates and the job placement rate of NVQ graduates increased from 50.3% in 2011 to 56.2% in 2016. The job placement rate among non-NVQ graduates improved from 48.5% in 2011 to 50.4% in 2016, but improvement was modest compared with NVQ graduates. The job placement rate was better for higher NVQ level courses. At higher NVQ levels (degree), the disparity between men's and women's job placement rates was minimal, but at the non-NVQ or certificate level, gender disparity in the job placement rate existed.

Institutionally, job placement rate was the highest at CGTTI and UNIVOTEC. Job placement rate among graduates of CGTTI and UNIVOTEC was over 80%; with NAITA, DTET, NAITA, Ocean University, and VTA graduates, between 45% and 55%. NYSC graduates reported a much lower job placement rate (39.1%), because many NYSC graduates continued to study.

Female job placement rate in 2016 had improved since 2011. However female job placement rates (40.2%) were much lower than those reported by male graduates (65.3%) in 2016. These results mirrored the slow progress in overall female labor market participation, despite their higher educational attainment. Lower employment among female graduates was attributed to their choice of enrolling in ICT

and tailoring courses which, according to the graduates, did not have a corresponding demand in the job market.

Forty-five percent of graduates were not employed and half were voluntarily unemployed for further education. Job scarcity was perceived as the main reason for unemployment. Further analysis showed that involuntary unemployment was relatively high in sectors such as office management, marine and nautical sciences, and ICT. The main reason for voluntary unemployment was pursuing further education.

The most commonly cited reason for selecting a job was relevance of the job to education or training. In addition, males chose jobs largely based on financial considerations (salary and other financial rewards). Females also looked for jobs based on working conditions (e.g., work-life balance, flexibility, proximity to one's home).

Social networks (e.g., friends and family) formed the main means through which graduates obtained employment. The other sources graduates highlighted were obtaining jobs through on-the-job training as well as media and the internet. Some of the graduates, such as at CGTTI, were also approached directly by employers.

A majority of graduates were employed in the private sector. Of those employed in the private sector, 59.6% had fixed or long-term work arrangements with their employers, up from 45.1% in 2011, indicating better formalization of employment for TVET graduates.

Access to TVET Institutions

The primary information source of TVET course shifted from family in 2011 to friends and colleagues in 2016. This indicates the present influence of peer groups and personal recommendations on students' decisions.

More students with advanced-level educational qualifications opted to follow TVET courses. A shift was also observed in the general education level of TVET graduates enrolling in courses, with a higher number of graduates having advanced-level qualifications compared to 2011. More students with GCE A/L qualifications might make it difficult for TVET institutions to attract students in construction and associated fields.

Gender bias existed in course selection. Female students tend to choose courses leading to more office and indoor-related work (such as ICT courses), while male students choose courses leading to more diverse work opportunities. Female students were not willing to travel far to access TVET institutions and had to choose the courses near their residence. Social attitudes and influences were not very much in favor of women seeking employment in sectors such as tourism, as compared to men. These factors limited choices for women.

Differently abled students had limited TVET opportunities. Even though some institutions, such as VTA, offered customized courses for differently abled students, this element was not systematically addressed within the TVET system. Although a differently abled student might complete a TVET course, limited options were available for these graduates to seek employment.

Consideration needs to be given to provide an allowance at least during on-the-job training. Some students received a small monthly allowance or stipend during on-the-job training, but this varied considerably and was largely at the discretion of the training

provider. Financial difficulty was one of the key reasons why students dropped out, as family requirements could undermine the time and finances available for youth to engage in on-the-job training and TVET programs.

Relevance and Quality of the TVET Program

TVET institutions need to ensure that training is aligned with industry demand.

Although more than half of employed graduates (58.4%) said the skills they gained were appropriate for their current job, some said their job required a much higher level of skills (18.6%) and skills they gained through the course were not relevant to their current job (16.1%). This relevance was relatively high for higher NVQ level graduates.

By institution, the relevance of skills and knowledge obtained during training to employment clearly varied. While Ocean University graduates showed the lowest relevance, only 2.3% of the CGTTI graduates reported that skills were not applicable for employment.

Although graduates expressed high appreciation for TVET courses, they requested to improve training facilities. Other key areas for improvement included availability of up-to-date training equipment aligned with industry standards. Graduates also wished to see that their instructors were competent enough to provide industry-relevant and up-to-date training.

As course quality and relevance had a bearing on demand for TVET courses, periodic curriculum review is required. Currently, the industry skills council engaged itself with TVEC and the TVET institutions on updating course curriculums, together with inputs from industry partners. A process needs to be established to regularly update course content to ensure that course offerings remain current with relevant industrial and technological advances.

Quality, competency, and availability of instructors and trainers affect the quality of TVET programs. The process for hiring teachers needs to be simpler so that vacancies can be filled quickly and more efficiently. At the same time, an incentive system is needed to attract and retain them as well as facilitate the upgrading of skills and knowledge with current industry practices and technological advancements.

Though the students appreciated on-the-job training, many suggestions were made to improve efficiency. These included ensuring availability of suitable on-the-job training opportunities within the students' locality. The follow-up visits by TVET institution staff to the student at the training location, and relevance of tasks assigned during the training period would require further attention.

Soft skills were considered important factors that would help improve access and retention of jobs. Employers felt that this was an area that required further attention. This study found out that student employability was dependent to a certain extent on their soft skills in areas such as language, computer literacy, or interaction with others in a work setting.

Long waiting periods for assessments and certification had to be expedited. There were cases where graduates lost opportunities to enroll in other training programs and job opportunities. Pending payments to assessors also had to be resolved as soon as possible.

APPENDIX 1: OVERVIEW OF SURVEYED PUBLIC TRAINING INSTITUTIONS

Seven public technical and vocational education and training (TVET) institutions were included in the tracer study, which play an instrumental role in implementing the Skills Sector Development Program of the Government of Sri Lanka.

Ceylon-German Technical Training Institute

Established in 1959, the Ceylon-German Technical Training Institute (CGTTI) is the key institute in Sri Lanka for training skilled technicians in automobile engineering and related trades mainly for National Vocational Qualification (NVQ) level 4. The head office is located at Mount Lavinia and there is one branch office in Borella. CGTTI provides Auto Mechanic, a 4-year full-time course; as well as part-time courses of 50 hours for computer numeric control technologies, and 150 hours for auto electricity and civil draftsmanship. Special courses for auto electricity, computer numeric control electrical discharge machining, and computer numeric control milling are also provided. CGTTI was initially managed by German experts but by 1976, its management was handed over to Sri Lanka.

Department of Technical Education and Training

Established in 1964, the Department of Technical Education and Training (DTET) manages 38 technical island-wide colleges. Nine (one from each province) have been upgraded to colleges of technology that offer training courses for NVQ levels 5 and 6. DTET has around 810 teaching staff who are exposed to local and foreign training

to update their knowledge and skills, and offers a wide range of courses in many fields. These fall under four broad categories: engineering technician, engineering craft, business studies, and general studies courses. Courses at the DTET run from 3 months to 3 years.

National Apprentice and Industrial Training Authority

The National Apprentice and Industrial Training Authority (NAITA) was established in 1990 and is responsible for conducting apprenticeship programs. It operates more than 50 provincial training centers and three national training institutes. NAITA not only provides vocational trainings but also specifies standards, conducts national trade tests and examinations, prepares instructional materials, and conducts research and development. NAITA conducts several craft courses and 4-year diploma courses leading to a national diploma in engineering sciences. It awards qualifications at NVQ levels 3 and 4, and trainees following craft apprenticeship programs in industry are also presented for assessment at NVQ levels 3 and 4. Courses vary from 6 months to 3 years.

National Youth Services Council

The National Youth Services Council (NYSC) was established in 1967 under the Volunteer National Youth Act No. 11 and focuses on training for youth in rural areas. NYSC offers a wide range of vocational training courses up to NVQ level 5. The vocational training courses include motor mechanics, electrical, electronics, beauty culture, computer applications, pre-school teacher training, bakery products, sewing, and

landscaping. These courses are designed based on the youth aspirations as well as future demand in the country. Course duration varies from 3 months to 1 year.

Ocean University of Sri Lanka

The Ocean University of Sri Lanka was established in 2014 under Parliament Act No. 31. Previously, it was known as the National Institute of Fisheries and Nautical Engineering, and was the education and training arm of the Ministry of Fisheries and Aquatic Resources Development and Rural Economy. The university aims to provide state-of-the-art training and education to meet current and emerging needs in fisheries, marine, and maritime sectors. The vision of the university is to become a leader of human resources development in fisheries and marine science and maritime technologies in South Asia. Course duration is 10 days to 1 year.

University of Vocational Technology

Established in 2008, the University of Vocational Technology (UNIVOTEC) has three faculties. The Faculty of Industrial Technology offers courses

in construction technology, manufacturing technology, and information and communication technology, leading to a degree of Bachelor of Technology. The Faculty of Training Technology conducts the Bachelor of Education (technology) and other similar programs. The third is the Faculty of Vocational Technology. UNIVOTEC is authorized to conduct NVQ level 7 and other degree programs in vocational technology and teacher education. Course duration is 3 years.

Vocational Training Authority

Established in 1995, the Vocational Training Authority (VTA) focuses on providing rural vocational training through a network of more than 200 small rural training centers throughout Sri Lanka. VTA also operates 4 national vocational training institutes and 14 district vocational training centers, which are better equipped than their rural counterparts. VTA conducts a wide variety of training courses. There are many craft courses, and some courses are short-term. NVQ levels 3 and 4 are provided, but VTA also offers diploma courses in information technology and industrial management. The duration of the courses is 3 months to 1.5 years.

APPENDIX 2: KEY FINDINGS ON CEYLON- GERMAN TECHNICAL TRAINING INSTITUTE

1. General Characteristics of Graduates

- The quantitative survey covered 48.9% of the total target graduates. Between 1 October 2014 and 30 September 2015, 305 graduates (including part-time) completed courses at the Ceylon-German Technical Training Institute (CGTTI). Of these, 149 full-time course graduates (including one female) participated in the quantitative survey.
- “Passed A/L” (advanced level) and “studied up to A/L” accounted for the largest proportions of graduates’ previous education background. 47.0% of graduates had “passed A/L”, 42.3% had “studied up to A/L”, and 8.7% had “passed O/L” (ordinary level).
- The majority of graduates took either National Vocational Qualification (NVQ) level 4 or non-NVQ courses. 71.8% took NVQ level 4 courses followed by non-NVQ courses (25.5%). The balance had taken NVQ level 3 courses (2.7%).
- The median age of graduates was 25 (range from 22 to 28 years).
- 96.0% of graduates were Sinhala speakers and 4.0% were Tamil speakers.

2. Key Findings from the Quantitative Survey

(a) Employment Outcome

- The job placement rate of CGTTI graduates was 81.9%, the highest among the seven TVET institutions in this study.
- The employment rate within 6 months of graduation (NVQ courses)

was 72.2%, much higher than the overall average (57.5%) among the seven TVET institutions.

- 4.7% of graduates indicated that they were self-employed.
- 27 graduates (18.1%) were not working of which 12 (44.4%) were actively looking for work. The main reasons graduates gave for not being able to secure work were job scarcity (25.0%), expecting to study more (25.0%), and planning to go abroad (12.5%).
- 15 graduates were not seeking jobs (55.6% of those not working). The main reason they gave was continuing education (73.3%).
- The median monthly salary was SLR40,000 for those who received a monthly salary.
- All wage-employed graduates were first employed in the private sector. 86.1% of graduates working for the private sector reported obtaining permanent or long-term jobs, higher than the overall average among the seven surveyed institutions of 59.1%.

(b) Access to Job

- Social network (relatives and particularly friends) was the main source for finding jobs. 35.0% of graduates reported finding work through social networks. The other main sources of finding work were employers contacting the graduate directly (18.7%), media and/or internet (8.9%), on-the-job training provided by employer (9.8%), and contacting employers directly (7.3%).

- Career guidance by the training institute accounted for 18.7% of jobs obtained, the highest among the seven TVET institutions. Compared with other training institutions, availability of job information (e.g., bulletin boards, leaflets, brochures, handouts, advertisements, announcements by teachers) was the highest at CGTTI.
- Job-search support provided by CGTTI was the highest among the seven TVET institutions. These include job fairs, linking students with industries, and teachers' individual support.

(c) Relevance of the Training

- A large number of respondents (72.7%) indicated that skills taught were appropriate to the work they engaged in after the training program (overall average across all seven TVET institutions was 59.7%). However, 16.4% of graduates indicated that the job required a higher level of skills, signaling the need for the institute to interact more with the industry to understand industry needs.
- Graduates stated that the knowledge provided at CGTTI was "very useful" (86.4%) for their current work. Graduates responded "very useful" for on-the-job training (75.5%), theoretical knowledge (67.3%), and practical knowledge (77.3%). An issue highlighted was that training on interacting with clients was insufficient (i.e., 40.9% indicated the training was "not useful" or "somewhat useful").

(d) Access to CGTTI

- Friends were the major source of information (50.9%) about the training program at CGTTI. Parents and/or family members (19.1%); newspapers (17.3%); and TVET institutions as well as the Tertiary and Vocational Education Commission website (6.4%) were the other main sources of information.

- Interest in technical subjects (56.7%) was the main motivation for graduates to undertake technical studies. The other reasons included influence of friends and/or colleagues (11.2%), parental guidance (9.9%), TVET being the next available option (9.0%), and lack of advanced-level results to enroll in university courses (8.2%).

(e) Quality of Training

- 95.5% of respondents were satisfied with the courses CGTTI offered (overall average across all seven TVET institutions was 94.7%). Satisfaction came from knowledge acquired in classrooms (29.3%), skills gained in workshops (20.5%), mix of classroom and on-the-job training (14.5%), and on-the-job training (10.2%).
- 62.7% of graduates experienced no teacher absence during the training period. However, students reported that they were more likely to be absent once a month.
- Majority of the respondents said class size was above 40. This is likely to impact the quality of education.
- For those who had a mandatory on-the-job training program, 86.4% considered on-the-job training very useful (overall average across all seven TVET institutions was 67.0%). While 81.8% considered duration adequate, 17.3% mentioned that duration was short. "Relevant and diversified", "application of the course content during on-the-job training", and "work supervisor competency" were well above the overall average across all seven TVET institutions.
- Improvement of facilities, up-to-date practical skills, and theoretical knowledge need to be addressed. 30.0% of graduates pointed out the need to improve training center facilities and 25.5% considered up-to-date practical skills important for better training delivery.

3. Key Findings from the Qualitative Survey

(a) Courses

- Currently, CGTTI courses are NVQ level 4, which are certificate-level courses. Students requested that theoretical content be increased, that courses be made 4-year, and that courses be enhanced, at a minimum to a diploma (level 5).

(b) Training

- The class size of CGTTI was over 40, and students felt that their interaction with lecturers and instructors was limited. Students requested that class size be restricted to 30 or fewer to improve learning outcomes.
- Tamil students said they had language issues, especially when it came to practical sessions, as instructors had difficulty communicating in English or Tamil. The suggestion was that the CGTTI recruit instructors with English and Tamil language skills for the practical sessions.
- Graduates suggest that lectures be held only in English, as this is likely to help them when they start to work in the industry.

(c) Lecturers

- Graduates suggested that CGTTI should help lecturers get more exposure by providing training for them outside the country (e.g., Japan).
- The salaries of the teachers at CGTTI are low and need to be higher to retain and attract quality lecturers, as those are likely to obtain higher salaries in industry postings. At present there is a teacher shortage.
- Graduates suggested bringing in senior students to lecture, as this could provide students with knowledge on current industry development and provide inputs, if any, for changes to course content.

(d) On-the-Job Training

- In choosing locations for on-the-job training, consideration should be given to all-around practical knowledge and skills development.
- Graduates state that places like hotels provide only routine maintenance, and they get experience only if something breaks down. They requested that they be placed in organizations with possibilities for installing machinery as well.

APPENDIX 3: KEY FINDINGS ON DEPARTMENT OF TECHNICAL EDUCATION AND TRAINING

1. General Characteristics of Graduates

- The quantitative survey covered 3.6% of total target graduates. Between 1 October 2014 and 30 September 2015, 8,463 graduates (including part-time if any) completed courses at the Department of Technical Education and Training (DTET). Of these, 305 full-time course graduates (including 143 female graduates) participated in the quantitative survey.
- “Passed A/L” (advanced level) and “studied up to A/L” accounted for the largest proportions of graduates’ previous education background. 65.9% of graduates had “passed A/L”, followed by 21.6% who had “studied up to A/L”, 6.6% had “studied up to O/L” and 5.2% had “passed O/L” (ordinary level).
- More than half of graduates took a non-National Vocational Qualification (NVQ) course. 51.5% took non-NVQ courses, followed by 39.3% who took NVQ level 4 courses. The balance of 9.2% had taken either NVQ level 3 (8.9%) or NVQ level 5 (0.3%) courses.
- The median age of graduates was 23 (from 19 to 40 years).
- 76.4% of graduates were Sinhala speakers and 23.6% were Tamil speakers.

2. Key Findings from the Quantitative Survey

(a) Employment Outcome

- The job placement rate of DTET graduates was 46.2%, below the overall average of 54.5% for the seven TVET institutions.
- The employment rate within 6 months of graduation (NVQ courses) was 45.7%, lower than the overall average (57.5%) for all seven TVET institutions.
- 4.6% of graduates indicated that they were self-employed.
- 162 (53.8%) of graduates were not working and, of these, 86 (53.1%) were actively looking for work. The main reasons graduates gave for inability to secure work were job scarcity (40.7%), lack of relevant educational qualification (16.9%), expecting to study more (11.0%), and family responsibilities (11.0%).
- 76 graduates were not seeking jobs (46.9% of those not working). The main reason for not seeking employment was continuing education (71.1%).
- The median salary was SLR28,000 for those receiving monthly salaries.
- The majority of wage-employed graduates (78.6%) worked for the private sector. 56.6% of graduates working for the private sector reported obtaining permanent or long-term jobs.

(b) Access to Job

- Social network (relatives and particularly friends) was the main source for finding jobs. 42.7% of graduates reported finding work through social networks. The other main sources of finding work were on-the-job training provided by employer (21.3%), media and/or internet (10.0%), and employers contacting the graduate directly (6.7%).
- Career guidance by the training institution only accounted for 3.3% of jobs obtained, even though 69.2% of graduates mentioned (average of 47.6% for the whole sample) that there was a career guidance office (or job placement cell) at DTET. Among organizational staff, teaching staff remained the best source of information on jobs for graduates (79.2%), while less than half of graduates said they could obtain information on jobs through bulletin boards at the institution and through information sheets (e.g., leaflets, handouts).

(c) Relevance of the Training

- 56.1% of respondents said skills taught were appropriate to the work they engaged in after the training program (overall average across all seven TVET institutions was 57.4%).
- However, 17.7% of graduates indicated that the job required higher skills, signaling the need for the institution to interact more with industry to better understand its needs.

(d) Access to DTET

- Friends were the major source of information (51.2%) about training programs at DTET. Newspaper advertisements (11.4%), parents and/or family, (11.4%) and websites of technical and vocational colleges and the Tertiary and Vocational Education Commission (9.8%) were the other main sources of information.

- Interest in technical subjects (46.3%) was the main motivation for graduates to undertake technical studies. Other reasons included influence of friends and/or colleagues (8.8%), parental guidance (8.6%), lack of A/L results to enroll in university courses (8.6%), and TVET being the next available option (8.0%).

(e) Quality of Training

- 93.5% of respondents were satisfied with the courses offered by DTET (overall average across all seven TVET institutions was 94.7%). Satisfaction came from knowledge acquired in the classrooms (38.5%), skill gained in the workshops (19.0%), on-the-job training (10.5%), and soft skill acquisition (9.8%).
- 65.6% of graduates experienced no teacher absence during the training period. However, students reported that they were more likely to be absent once a month.
- The majority of respondents mentioned that class size was within the range of 10 and 30, which was reasonable.
- For those who had a mandatory on-the-job training program, 69.4% considered on-the-job training very useful (average for the seven institutions was 67.0%). While 75.1% considered the duration of the program adequate, 21.4% said it was short. “Relevant and diversified”, “application of the course content during on-the-job training”, and “work supervisor competency” were slightly below average for DTET compared to the overall average across the seven TVET institutions.
- Improvement of facilities, up-to-date practical skills, providing career guidance, and theoretical knowledge need to be addressed. 26.8% pointed out the need to improve training center facilities, 29.3% considered up-to-date practical skills important for better training delivery, 5.7% requested career guidance, and 9.2% requested better theoretical knowledge provision.

3. Key Findings from the Qualitative Survey

(a) Courses

- Graduates requested that NVQ examinations be held as soon as the examinations were over.
- Courses should be structured so that theory and practical training would be done in parallel. This would allow students to seek clarification of technical issues faced during the practical session.
- Students who wished to enroll in higher-level courses above NVQ level 4 had to travel to different locations where the courses were offered (e.g., they would need to travel to Badulla or Kandy from Nuwara Eliya).

(b) Lecturers

- It was important to have permanent lecturers, as teaching and knowledge quality of visiting lecturers varied. The DTET stated that bureaucratic processes resulted in delays for recruitment of lecturers (e.g., call for applications was in 2014, but the interviews were scheduled in September 2016).
- There was a shortage of resource persons to cover courses offered by DTET.
- A limited number of lecturers were conversant in Tamil.
- It would be necessary to update the skills and knowledge of existing resource persons. Some lecturers were reluctant to participate in these skill upgrading programs.

(c) On-the-Job Training

- Students were assigned to on-the-job training locations based on availability and not necessarily linked to course relevance. For example, given the number of graduates in information

and communication technology courses, many did not get practical experience using advanced skills learned. Instead, they were limited to basic tasks such as typing.

- After students were assigned to on-the-job training, there should be a follow-up process to incorporate feedback from students and employers, which would help modify course content to meet industry demand.

(d) Creating Awareness of TVET Courses

- Many of the school teachers (in less urban settings) were unaware of vocational training courses and what they entailed. They were therefore unable to direct students toward this field, limiting the opportunities available to students to continue formal education.
- There was demand from the metal and light engineering and construction sectors for graduates, but student interest was limited. Promotion of these courses with job guarantees might redirect students to them.

(e) Alumni Association

- Interaction with past pupils engaged in industry would assist current students in finding on-the-job training and to share knowledge about new trends and technological developments in industry.

(f) Practical Use of Training

- It was suggested that course content be revised to reflect requirements in the practical setting. For example, students were expected to know the names of the tools in Sinhalese during the course, but did not know what they were commonly referred to when they went for employment or on-the-job training.

APPENDIX 4: KEY FINDINGS ON NATIONAL APPRENTICE AND INDUSTRIAL TRAINING AUTHORITY

1. General Characteristics of Graduates

- The quantitative survey covered 3.2% of total target graduates. Between 1 October 2014 and 30 September 2015, 12,688 graduates (including part-time if any) completed courses at the National Apprentice and Industrial Training Authority (NAITA). Of these, 408 full-time course graduates (including 236 female graduates) participated in the quantitative survey.
- “Passed A/L” (advanced level), “studied up to A/L” (advanced level) and “studied up to O/L” (ordinary level) accounted for the largest proportions of graduates’ previous education background. 61.3% of graduates had “passed A/L”, followed by 15.2% who had “studied up to A/L”, 15.2% who had “studied up to O/L”, and 6.1% who had “passed O/L”.
- The majority of graduates took either National Vocational Qualification (NVQ) level 4 or non-NVQ courses. 48.0% took NVQ level 4 courses, while 44.9% had taken non-NVQ courses. The balance had taken NVQ level 3 courses.
- The median age of graduates was 22 (ranging from 17 to 51 years).
- 85.3% of graduates were Sinhala speakers and 14.7% were Tamil speakers.

2. Key Findings from the Quantitative Survey

(a) Employment Outcome

- The job placement rate of the NAITA graduates was 54.4%, comparable to the overall average (54.5%) of the seven TVET institutions.
- The employment rate within 6 months of graduation (NVQ courses) was 50.3%, slightly lower than the overall average (57.5%) among the seven TVET institutions.
- Around 4.9% of graduates indicated that they were self-employed.
- 178 (43.6%) of graduates were not working, and of these, 104 (58.4%) were actively looking for work. The main reasons graduates gave for inability to secure work were job scarcity (41.0%), lack of relevant educational qualification (12.2%), and expecting to study more (10.8%).
- 74 graduates were not seeking jobs (41.6% of the not working). The main reason for not seeking employment was continuing education (67.6%).
- The median salary was SLR18,000 for those who received a monthly salary.
- The majority of wage-employed graduates (77.9%) worked for the private sector. 54.0% of graduates working for the private sector reported obtaining permanent and/or long-term jobs.

(b) Access to Job

- Social networks (relatives and particularly friends) were the main source for finding jobs. 46.8% of graduates reported finding work through social networks. The other main sources of finding work were on-the-job training from employer (26.4%) and media or internet (7.8%).
- Career guidance by the training institution only accounted for 4.3% of the jobs obtained. 56.6% of graduates reported no career guidance office (or job placement cell). Similarly, less than half of graduates stated that they could obtain information on jobs through bulletin boards and information sheets (e.g., leaflets, handouts). Among organizational staff, teaching staff remained the best source of information on jobs for graduates (64.6%).

(c) Relevance of the Training

- 68.5% of respondents said skills taught were appropriate for the work they engaged in after the training program (overall average across the seven TVET institutions was 59.7%).
- However, 13.5% of graduates indicated that the job required higher skills, signaling the need for the institution to interact more with industry to understand its needs.

(d) Access to NAITA

- Friends were the major source of information (52.3%) about the training program at NAITA. Parents and/or family (11.8%), websites of technical and vocational colleges and the Tertiary and Vocational Education Commission (10.3%), and awareness seminars (6.2%) were the other main sources of information.
- Interest in technical subjects (46.2%) was the main motivation for graduates

to undertake technical studies. Other reasons included influence of friends or colleagues (10.7%), TVET being the next available option (8.5%), and lack of A/L results to enroll in university courses (8.0%).

(e) Quality of Training

- 95.9% of respondents were satisfied with NAITA's courses (overall average among the seven TVET institutions was 94.7%). Satisfaction came from knowledge acquired in the classrooms (33.1%), skill gained in the workshops (23.1%), and the on-the-job training (12.7%).
- 71.3% of graduates experienced no teacher absences during the training period. However, students reported that they were more likely to have no absences.
- The majority of the respondents mentioned that class size was within the range of 10–30, which was reasonable.
- For those who had a mandatory on-the-job training program, 71.4% considered on-the-job training very useful (average for the seven TVET institutions was 65.7%). While 80.1% considered the duration adequate, 14.6% said it was short. “Relevant and diversified”, “application of the course content during on-the-job training”, and “work supervisor competency” were closer to the overall averages across the seven TVET institutions.
- Improvement of facilities, up-to-date practical skills, providing career guidance, and theoretical knowledge need to be addressed. 32.3% pointed out the need to improve training center facilities, 19.5% considered up-to-date practical skills important for better training delivery, 8.7% requested career guidance, and 8.2% requested improved theoretical knowledge provision.

3. Key Findings from the Qualitative Survey

(a) Course

- It was suggested that sessions that provided theoretical background be increased, because focus was more on practical training.
- Graduates requested that exams be conducted right after the training course is completed, and that certificates be issued on time. Delay in the issuance of certificates made it difficult for graduates to apply for work overseas.

(b) Training

- To reduce costs during training, it was suggested that students be provided allowance during training periods, free uniforms, and bus transport.
- A shortage of computers meant students had to share machines, and available machines needed updating.

(c) On-the-Job Training

- Lecturers and supervisors should visit students undergoing on-the-job training in work places more often.
- It was suggested that places and locations be assessed before placing students for on-the-job training.

- It was considered important to account for the distance of assigned on-the-job training placement locations, because it would result in dropouts if the locations were too far.
- An allowance should be paid to trainees, at least for those engaged in on-the-job training outside the district of residence.

(d) Lecturers

- Instructors taught on a voluntary basis as NAITA was not able to pay for all instructors in certain district centers. This implied no obligation for instructors to teach courses, and they would prioritize private appointments.
- A shortage of Tamil-speaking instructors was recognized, a gap that should be filled in relevant districts.
- Knowledge of instructors should be updated to keep up with the latest developments in the industry.

(e) Practical Use of the Training

- Some graduates were self-employed. This could be partly attributed to the recognition of prior learning.

APPENDIX 5: KEY FINDINGS ON NATIONAL YOUTH SERVICES COUNCIL

1. General Characteristics of Graduates

- The quantitative survey covered 3.9% of total target graduates. Between 1 October 2014 and 30 September 2015, 4,672 graduates (including part-time if any) completed courses at the National Youth Services Council (NYSC). Of these, 184 full-time course graduates (including 105 female graduates) participated in the quantitative survey.
- “Passed A/L” and “studied up to A/L” (advanced level) accounted for the largest proportions of graduates’ previous education background. 53.3% of graduates had “passed A/L”, followed by 19.6% who had “studied up to A/L”, 13.6% had “passed O/L”, and 12.5% had “studied up to O/L” (ordinary level).
- The majority took either National Vocational Qualification (NVQ) level 4 or non-NVQ courses. 45.1% took NVQ level 4 courses while 34.2% had taken non-NVQ courses. The balance had taken NVQ level 2 (0.5%) and NVQ level 3 (20.1%) courses.
- The median age of graduates was 22 (ranging from 17 to 35 years).
- 86.4% of graduates were Sinhala speakers and 13.6% Tamil speakers.

2. Key Findings from the Quantitative Survey

(a) Employment Outcome

- The job placement rate of the NYSC graduates was 39.1%, the lowest among the seven TVET institutions.
- The employment rate within 6 months of graduation (NVQ courses) was 58.3%, slightly above the overall average (57.5%) among the seven TVET institutions.
- 6.5% of graduates indicated that they were self-employed.
- 112 (60.9%) of graduates were not working, and of these, only 46 (41.1%) were actively looking for work. The main reasons graduates gave for not being able to secure work were job scarcity (37.3%), family responsibilities (10.7%), lack of relevant educational qualification (9.3%), and expecting to study more (9.3%).
- There were 66 (58.9% of the not working) graduates who were not seeking jobs. The main reason for not seeking employment was continuing education (72.7%).
- The median salary was SLR19,000 for those who received monthly salaries.
- The majority of the wage-employed graduates (85.7%) worked for the private sector. 60.4% of graduates working for the private sector reported obtaining permanent and/or long-term jobs.

(b) Access to Job

- Social networks (relatives and particularly friends) were the main source for finding jobs. 46.1% of graduates reported finding work through social networks. The other main sources of finding work were on-the-job training from employer (19.7%), media or internet (7.9%), and employers contacting the graduate directly (6.6%).
- Career guidance by the training institution only accounted for 5.4% of the jobs obtained. 54.4% of graduates mentioned that there was no career guidance office (or job placement cell). Similarly, less than half of graduates stated that they could obtain information on jobs through bulletin boards and information sheets (e.g., leaflets, handouts). Among organizational staff, teaching staff remained the best source of information on jobs for graduates (80.4%).

(c) Relevance of the Training

- Only 43.9% of respondents mentioned that skills taught were appropriate to the work they engaged in after the training program (overall average across the seven TVET institutions was 59.7%).
- 26.3% of graduates had jobs requiring higher skills, indicating the need for the institution to interact more with industry to understand its needs.

(d) Access to NYSC

- Friends were the major source of information (57.9%) about training programs at NYSC. Newspaper advertisements (28.1%), parents or family (7.0%), and websites of technical and vocational colleges and the Tertiary and Vocational Education Commission (3.5%) were the other main sources of information.
- Interest in technical subjects (46.4%) was the main motivation for graduates

to undertake technical studies. The other reasons included parents' guidance (9.7%), influence of friends or colleagues (8.6%), lack of A/L results to enroll in university courses (7.9%), and TVET being the next available option (6.8%).

(e) Quality of Training

- 94.7% of respondents were satisfied with NYSC courses (average among the seven TVET institutions was 94.7%). Satisfaction came from knowledge acquired in the classrooms (39.9%), skill gained in the workshops (24.7%), and soft skill acquisition (10.1%).
- 77.2% of graduates experienced no teacher absence during the training period. But students reported that they were more likely to be absent once a month.
- The majority of respondents said class size was within the range of 10 and 40. Classroom sizes above 30 could have a negative impact on quality of education.
- Among those who were in mandatory on-the-job training programs, 64.3% considered on-the-job training very useful (average for the seven TVET institutions was 65.7%). While 78.6% considered the duration of the program adequate, 19.1% said it was short. "Relevant and diversified", "application of the course content during on-the-job training", and "work supervisor competency" were slightly below overall averages across the seven TVET institutions.
- Moving forward, improvement of the facilities, up-to-date practical skills, and theoretical knowledge need to be addressed. 45.6% pointed out the need to improve training center facilities, 22.8% considered up-to-date practical skills important for better training delivery, and 5.3% requested improved theoretical knowledge provision.

3. Key Findings from the Qualitative Survey

(a) Courses

- Industry did not have sufficient understanding of NYSC course offerings, resulting in graduates having to make extra effort to convince potential employers of their competency. Greater publicity of NYSC vocational training programs was proposed to promote its courses conducted and the level and/or quality at which the courses were conducted.
- Ensure courses are relevant to the job market (e.g., repairing light-emitting diode versus cathode ray tube television sets, tailoring versus machine operators) and would be up-to-date with industry requirements.
- Provide incentive to students to enrol in agriculture courses with high market demand.
- Offer courses in high demand among students. However, NYSC should also provide supplementary courses that may have low job market demand, such as language courses; computer-related courses; and soft skill courses such as punctuality, decision-making, and leadership. These should be

incorporated into course curriculums to ensure well-rounded graduates capable of working in a team environment.

(b) Training

- Ensure exams are conducted on time and certificates issued on time, as delays in issuance of certification affects graduates career progression.
- Improve practical training facilities at the various institutes (e.g., 3D animation) and ensure necessary and relevant equipment is available.

(c) Lecturers

- Instructors need to be conversant in the language students are comfortable in. More specifically, graduates requested that NYSC hire Tamil lecturers, especially in districts where Tamil language is the common language.
- A shortage of permanent teaching staff was recognized as an island-wide issue to cover the courses offered.

(d) Practical Use of the Training

- Students who had completed courses on mobile repairing, computer hardware, and tailoring had begun their own self-employment enterprises.

APPENDIX 6: KEY FINDINGS ON OCEAN UNIVERSITY OF SRI LANKA

1. General Characteristics of Graduates

- The quantitative survey covered 31.9% of total target graduates. Between 1 October 2014 and 30 September 2015, 360 graduates (including part-time if any) completed courses at Ocean University. Of these, 115 full-time course graduates (including one female graduate) participated in the quantitative survey.
- “Passed A/L” (advanced level) and “studied up to O/L” (ordinary level) accounted for the largest proportions of graduates’ previous education background. 33.9% of graduates had “passed A/L”, followed by 26.1% who had “studied up to O/L”, 19.1% had “passed O/L”, and 17.4% had “studied up to A/L”.
- The majority of graduates took non-National Vocational Qualification (NVQ) courses (90.4%). 9.6% took NVQ level 3.
- The median age of graduates was 22 (ranging from 17 to 53 years).
- 82.6% of graduates were Sinhala speakers and 17.4% were Tamil speakers.

2. Key Findings from the Quantitative Survey

(a) Employment Outcome

- The job placement rate of Ocean University graduates was 54.1%, comparable with the overall average (54.5%) of the seven TVET institutions.

- Around 6.1% of graduates indicated that they were self-employed.
- 51 (44.3%) of graduates were not working and 29 (56.9%) of them were actively looking for work. The main reasons graduates gave for not being able to secure work were job scarcity (27.9%), lack of relevant educational qualification (25.6%), and expecting to study more (14.0%).
- 22 graduates were not seeking jobs (43.1% of the not working). The main reason for not seeking employment was continuing education (45.5%).
- The median salary was SLR22,000 for those who received a monthly salary.
- The majority of wage-employed graduates (85.7%) worked for the private sector. 33.3% of graduates working for the private sector reported obtaining permanent or long-term jobs, much lower than the industry average.

(b) Access to Job

- Social networks (relatives and particularly friends) were the main source for finding jobs. 53.9% of graduates reported finding work through social networks. The other main sources of finding work were the on-the-job training employer (12.3%) and career guidance by the training institution (9.2%).
- 77.4% of graduates mentioned that there was no career guidance office (or job placement cell). Compared with other training institutions, availability of job information (e.g., bulletin

boards, leaflets, brochures, handouts, advertisements) were limited, but 70.4% of graduates said there were announcements by teachers.

- Job search support provided by Ocean University, such as job fairs, linking students with industry, and individual teacher support, was the lowest among the seven TVET institutions.

(c) Relevance of Training

- 47.1% of respondents said skills taught were not relevant to the work they were currently engaged in (highest figure among seven TVET institutions). This was far above the overall average of 16.9% across the seven TVET training institutions. Graduates who responded “job requires lower level skill” (7.8%) was also slightly higher than the overall average (5.5%). These responses indicated that Ocean University graduates were engaged in work unrelated to the training they received.
- Graduates responded “not useful” or “somewhat useful” in on-the-job training (62.7%), interaction with clients (68.6%), theoretical knowledge (56.9%), and practical knowledge (52.9%), the lowest figures among the seven TVET institutions.

(d) Access to Ocean University

- Friends were the major source of information (25.0%) about the training program at Ocean University. Awareness seminars (12.5%) were the other source of information.
- Interest in technical subjects (45.5%) was the main motivation for graduates to undertake technical studies. Other reasons included influence of friends or colleagues (16.9%), parental

guidance or influence (10.6%), TVET being the next available option (9.0%), and lack of A/L results to enroll in university courses (5.8%).

(e) Quality of Training

- 92.9% of respondents were satisfied with Ocean University courses (overall average across the seven TVET institutions was 94.7%). Satisfaction came from knowledge acquired in the classrooms (37.9%) and skill gained in the workshops (22.4%).
- 64.3% of graduates experienced no teacher absences during the training period. But students reported that they were more likely to be absent once a month.
- The majority of the respondents mentioned that the class size was within the range of 10 and 30, which was considered reasonable.
- For those who had a mandatory on-the-job training program, 56.3% considered on-the-job training very useful, but duration could be extended. While 56.3% considered duration adequate, 28.1% said it was short. “Application of the course content during on-the-job training” and “work supervisor competency” were slightly above the overall averages across the seven TVET institutions.
- Improvement of facilities, up-to-date practical skills, and issues related to attainment of the Continuous Discharge Certificate (CDC) need to be addressed. 30.4% of graduates pointed out the need to improve training center facilities, and 21.4% considered up-to-date practical skills important for better training delivery.

3. Key Findings from the Qualitative Survey

- About 150 Ocean University graduates had not received their CDC. The Secretariat for Merchant Shipping stopped issuing CDC certificates to Ocean University graduates until the university was able to fulfill conditions for its ISO certification. Ocean University staff indicated that this issue would be addressed by the end of 2016. For this purpose, the university conducted refresher courses for these graduates, so that they were prepared for their assessment at the Secretariat for Merchant Shipping.
- There were serious shortages of permanent lecturers because the National Salaries and Cadre Commission has not approved the Scheme of Recruitment since December 2014. The use of visiting lecturers was associated with some issues, such as courses not finishing on time, courses conducted at times convenient for the lecturer, and inadequate practical training because of the limited practical experience of the visiting lecturers. The Ocean University Act was passed in 2014 and came into effect in mid-2015, but the scheme of recruitment had not been settled. The issue was expected to be resolved by February 2017.
- Graduates also highlighted nonavailability of practical training facilities and quality of boats. Sometimes, the instruments (e.g., echo sounder) were only shown as images, which impede the practical experience of using the equipment. Because boats were not functioning (damaged and leaking), graduates could not go to sea for training, limiting them to land-based training. Ocean University had requested the navy or dockyard to provide training equipment and they were in the process of receiving the equipment from the navy.
- Graduates coming from districts outside Colombo faced financial difficulty to complete on-the-job training. The lack of facilities to engage in on-the-job training in their home districts (e.g., Jaffna) resulted in them having to stay in Colombo (e.g., dockyard) for on-the-job training. This added to the overall cost of the course (lodging and food) after having spent over SLR25,000 for the course fee. The university had assisted the students in identifying locations to stay, but had not been able to provide financial support for them.

APPENDIX 7: KEY FINDINGS ON UNIVERSITY OF VOCATIONAL TECHNOLOGY

1. General Characteristics of Graduates

- The quantitative survey covered 48.2% of total target graduates. Between 1 October 2014 and 30 September 2015, 114 graduates (including part-time if any) completed courses at the University of Vocational Technology (UNIVOTEC). Of these, 55 full-time course graduates (including 22 female graduates) participated in the quantitative survey.
- Bachelor's Degrees and "Passed A/L" (advanced level) accounted for the largest proportions of graduates' previous education background. 45.5% of graduates had bachelor's degrees, 40.0% had "passed A/L", and 9.1% had "studied up to A/L".
- All graduates had taken National Vocational Qualification (NVQ) level 7 courses.
- The median age of graduates was 29 (ranging from 22 to 55 years).
- 92.7% of graduates were Sinhala speakers and 7.3% were Tamil speakers.

2. Key Findings from the Quantitative Survey

(a) Employment Outcome

- The job placement rate of the UNIVOTEC graduates was 81.4%, the second highest among the seven TVET institutions.

- The employment rate within 6 months of graduation (NVQ courses) was 59.5%, slightly above the overall average (57.5%) among the seven TVET institutions.
- 3.6% of graduates said they were self-employed.
- Eight (14.5%) graduates were not working, and seven of them were actively looking for work. The main reason graduates gave for not being able to secure work was job scarcity (37.5%).
- Only one person did not have a job who was not seeking a job. The reason for not seeking work was family commitment.
- The median salary was SLR40,000 for those who received monthly salary.
- The majority of wage-employed graduates (82.8%) worked for the private sector. 54.2% of graduates working for the private sector reported obtaining permanent or long-term jobs.

(b) Access to Job

- Social networks (particularly through friends) were the main source through which graduates found jobs. 35.1% of graduates reported finding work through social networks. The other main sources of finding work were through Jobsnet (18.9%), media (13.5%), and on-the-job training provided by employer (13.5%).
- Career guidance by the training institution only accounted for 8.1% of jobs obtained. 70.9% of graduates said there was no career guidance office

(or job placement cell). Compared with other training institutions, availability of job information (e.g., bulletin board, announcement by teachers) was limited.

(c) Relevance of Training

- 69.0% of respondents said skills taught were appropriate to the work they engaged in after the training program (overall average across the seven TVET institutions was 59.7%).
- 17.2% of graduates indicated that their job required a higher level of skills, signaling the need for the institution to interact more with industry to understand its needs.

(d) Access to UNIVOTEC

- The websites of technical and vocational colleges as well as of the Tertiary and Vocational Education Commission were the major sources of information (29.1%) about training programs at UNIVOTEC. Friends (20.0%), newspaper advertisements (14.5%), workshops and conferences (9.1%), and awareness seminars (7.3%) were the other main sources of information.
- A very strong interest in technical subjects (62.5%) was the main motivation for graduates to undertake technical studies. Other reasons included lack of A/L results to enroll in university courses (16.3%).

(e) Quality of Training

- 97.5% of respondents were satisfied with courses at UNIVOTEC (overall average across the seven TVET institutions was 94.7%). Satisfaction came from knowledge acquired in the classrooms (36.5%), skills gained in the workshops (15.7%), soft skill acquisition (10.4%), and on-the-job training (10.4%).

- 55.0% of graduates experienced no teacher absences during training. But students reported that they were more likely to be absent once a month.
- The majority of the respondents mentioned that class size was within the range of 10 and 40 students. Classroom sizes above 30 could have a negative impact on quality of education.
- For those with a mandatory on-the-job training program, 71.1% considered on-the-job training very useful (average for seven TVET institutions was 70.0%). While 79.0% considered the duration of the program adequate, 14.4% said it was short. “Relevant and diversified”, “application of the course content during on-the-job training”, and “work supervisor competency” were closer to the overall averages across the seven TVET institutions.
- Improvement of facilities, provision of up-to-date practical skills, and theoretical knowledge need to be addressed. 22.5% of graduates pointed out the need to improve training center facilities and 22.5% considered up-to-date practical skills important for better training delivery.

3. Key Findings from the Qualitative Survey

(a) Courses

- Student expectations were high as UNIVOTEC was considered a university.
- Students indicated that the course content would require updating to reflect the market advances in technology.

(b) Training

- Consideration should be given to make the course duration 4 years, because courses offered at UNIVOTEC were 3 years.

- UNIVOTEC had to work toward obtaining recognition of the course by the Institute of Engineers Sri Lanka and the University Grants Commission. Lack of recognition affected graduate ability to effectively compete with candidates from other institutions during job interviews.

(c) Practical Use of Training

- Teachers following courses using information technology for teaching English stated that while UNIVOTEC had the necessary technical facilities, the schools where they teach did not necessarily have the same amount of technical resources (i.e., computers, electricity connections) making it difficult for students to practice what they learned.

APPENDIX 8: KEY FINDINGS ON VOCATIONAL TRAINING AUTHORITY

1. General Characteristics of Graduates

- The quantitative survey covered 3.2% of total target graduates. Between 1 October 2014 and 30 September 2015, 23,880 graduates (including part-time if any) completed courses at the Vocational Training Authority (VTA). Of these, 775 full-time course graduates (including 327 female graduates) participated in the quantitative survey.
- “Passed A/L” (advanced level) and “studied up to O/L” (ordinary level) accounted for the largest proportions of graduates’ previous education background. 35.5% of graduates had “passed A/L”, followed by 28.5% who had studied “up to O/L”, 17.8% had “passed O/L”, and 15.4% had studied “up to A/L”.
- The majority of graduates had taken National Vocational Qualification (NVQ) level 3 and NVQ level 4 courses. The majority had taken NVQ level 4 courses (51.5%), followed by 40.8% who had taken NVQ level 3 courses. 5.7% had taken non-NVQ courses, with the balance having either taken NVQ level 2 or NVQ level 5 courses.
- The median age of graduates was 21 (ranging from 16 to 55 years).
- 79.5% of graduates were Sinhala speakers and 20.5% were Tamil speakers.

2. Key Findings from the Quantitative Survey

(a) Employment Outcome

- The job placement rate of VTA graduates was 54.8%, comparable to the overall average (54.5%) among seven TVET institutions.
- The employment rate within 6 months of graduation (NVQ courses) was 59.4%, slightly above the overall average (57.5%) among seven TVET institutions.
- 9.6% of graduates indicated that they were self-employed.
- 340 graduates were not working (43.9%) and 159 (46.8%) were actively looking for work. The main reasons graduates gave for not being able to secure work was job scarcity (31.4%), lack of relevant educational qualification (15.5%), and family responsibilities (9.6%).
- 181 graduates were not seeking jobs (53.2% of the not working). The main reason for not seeking employment was continuing education (53.0%). Other reasons for not looking for jobs included not wanting to work (7.2%), family commitments (6.1%), assumption that there is no work (6.1%), and awaiting commencing their own business (5.5%).
- The median salary was SLR20,000 for those who received a monthly salary.
- The majority of wage-employed graduates (89.1%) worked for the private sector. 56.1% of graduates working for the private sector reported obtaining permanent or long-term jobs.

(b) Access to Job

- Social networks (relatives and particularly friends) were the main source of finding jobs. 50.7% of graduates reported finding work through social networks. The other main sources of finding work were on-the-job training employer (20.9%), contacting employers directly (7.0%), and media or internet (6.5%).
- Career guidance by the training institution only accounted for 4.4% of jobs secured by graduates. 56.1% of graduates said there was no office or officer at VTA to assist in job search. Similarly, less than half of graduates stated that they could obtain information on jobs through bulletin boards and information sheets (e.g., leaflets, handouts). Among organizational staff, teaching staff remained the best source of information on jobs for graduates (73.2%).

(c) Relevance of the Training

- 59.2% of respondents mentioned that skills taught were appropriate to the work they engaged in after the training program (overall average across the seven TVET institutions was 59.7%).
- 19.6% of graduates said the job required higher skills, signaling the need for the institution to interact more with industry to understand its needs.

(d) Access to VTA

- Friends were the major source of information (44.7%) about the training program at VTA. Websites of technical and vocational colleges as well as of the Tertiary and Vocational Education Commission (9.9%), newspaper advertisements (9.1%), and awareness seminars (6.4%) were the other main sources of information.

- Interest in technical subjects (49.6%) was the main motivation for graduates to undertake technical studies. Other reasons included influence of friends or colleagues (11.9%) and TVET being the next available option (10.3%).

(e) Quality of Training

- 94.2% of respondents were satisfied with the courses offered by VTA (overall average among seven TVET institutions was 94.7%). Satisfaction came from knowledge acquired in classrooms (36.7%), skill gained in the workshops (24.1%), and on-the-job training (10.8%).
- 74.3% of graduates experienced no teacher absence during the training period. But students reported that they were more likely to be absent once a month.
- The majority of the respondents mentioned that class size was within the range of 10 and 20, which is also reasonable.
- For those with mandatory on-the-job training program, 65.3% considered on-the-job training very useful (average for the seven TVET institutions was 70.0%). While 75.0% considered the duration of the program adequate, 20.3% said it was short. “Relevant and diversified”, “application of the course content during on-the-job training”, and “work supervisor competency” were closer to the overall averages across the seven TVET institutions.
- Improvement of facilities, up-to-date practical skills, and providing career guidance need to be addressed. 36.6% pointed out the need to improve training center facilities, 24.9% considered up-to-date practical skills important for better training delivery, and 7.3% requested career guidance.

3. Key Findings from the Qualitative Survey

(a) Courses

- VTA required to increase specialization of courses. The example given was separating training for two- and three-wheeler repair courses.
- Additional content would improve work opportunities for graduates by including networking in information technology courses.
- Graduates requested timely completion of course and exams as well as issuance of certificates. Delays in obtaining official certificates affected students' ability to secure employment.
- It was suggested to consider allowing students to take a second exam if a student failed on the first attempt. Only one opportunity was given to pass the exam at the time of survey.
- Enhance the visibility of courses through better marketing and promotion. The intention of the suggestion was to create a brand image to improve recognition of VTA so that VTA graduates could get recognition as a result. For instance, graduates contended that nobody knew that VTA had courses related to cooking and hence faced difficulties when searching for a job.
- Build on the demand for information and communication technology courses and encourage students to continue courses up to NVQ level 5 to enhance employment opportunities.

(b) Training

- Consider courses in Tamil in the Central Province centers as there were language barriers for Tamil-speaking students.
- Provide courses free of charge.
- Provide the next level course at the same center as much as possible (i.e., where NVQ level 4 beautician at Bandarawela should have the possibility of following NVQ level 5 at the same center).
- To enhance the quality of practical training for computer courses, every student should be given access to a computer.
- Tools and equipment should be up-to-date, reflecting the latest technology.
- As soft skills improvement, measures should be taken to improve English knowledge of students.

(c) Career Guidance

- At the time of enrollment, inform students about available employment opportunities within the district, outside the district, and overseas based on the course selected.

(d) Lecturers

- Salaries paid to lecturers should be industry-competitive to be able to attract and retain qualified and knowledgeable instructors.

(e) On-the-Job Training

- On-the-job training placements should be relevant to course completed.
- There should be regular follow up during the on-the-job training period.

APPENDIX 9: CHARACTERISTICS OF SAMPLES

Table A9.1: Breakdown of Graduates by Gender
(%)

Gender	Percentage of Graduates
Female	41.9
Male	58.1
Total	100.0

Source: Asian Development Bank.

Table A9.2: Breakdown of Graduates by Age
(%)

Age Group	Percentage of Graduates
Less than 20 years	12.7
20–24 years	63.4
25–29 years	16.1
30–34 years	3.0
35–39 years	1.4
40 years or above	3.4
Total	100.0

Source: Asian Development Bank.

Table A9.3: Breakdown of Graduates by National Vocational Qualification and Non-National Vocational Qualification Courses
(%)

NVQ Level	Percentage of Graduates
Non-NVQ	29.6
NVQ2	0.1
NVQ3	21.3
NVQ4	45.5
NVQ5	0.8
NVQ7	2.8
Total	100.0

NVQ = National Vocational Qualification.
Source: Asian Development Bank.

Table A9.4: Breakdown of Graduates by Main Course Category
(%)

Course Category	Percentage of Graduates
Construction	13.5
Hotel and tourism	4.1
Information and communication technology	31.0
Metal and light engineering	25.2
Other	26.2
Total	100.0

Source: Asian Development Bank.

Table A9.5: Breakdown of Graduates by Main Course Category and Gender
(%)

Course Category	Percentage of Male Graduates	Percentage of Female Graduates
Construction	78.8	21.2
Hotel and tourism	91.5	8.5
Information and communication technology	39.2	60.8
Metal and light engineering	98.2	1.8
Other	25.9	74.1

Source: Asian Development Bank.

**Table A9.6: Breakdown of Graduates
by Institution**
(%)

Institution	Percentage of Graduates
CGTTI	7.5
DTET	15.3
NAITA	20.5
Ocean University	5.8
NYSC	9.2
UNIVOTEC	2.8
VTA	38.9
Total	100.0

CGTTI = Ceylon-German Technical Training Institute, DTET = Department of Technical Education and Training, NAITA = National Apprentice and Industrial Training Authority, NYSC = National Youth Services Council, UNIVOTEC = University of Vocational Technology, VTA = Vocational Training Authority.

Source: Asian Development Bank.

Table A9.8: Breakdown of Graduates by Province
(%)

Province	Percentage of Graduates
Central	9.3
Eastern	11.8
North Central	5.8
North Western	9.5
Northern	5.5
Sabaragamuwa	10.4
Southern	18.6
Uva	4.9
Western	24.3
Total	100.0

Source: Asian Development Bank.

**Table A9.7: Breakdown of Graduates
by Institution and Gender**
(%)

Institution	Percentage of Male Graduates	Percentage of Female Graduates
CGTTI	99.3	0.7
DTET	53.1	46.9
NAITA	42.2	57.8
Ocean University	99.1	0.9
NYSC	42.9	57.1
UNIVOTEC	60.0	40.0
VTA	57.8	42.2

CGTTI = Ceylon-German Technical Training Institute, DTET = Department of Technical Education and Training, NAITA = National Apprentice and Industrial Training Authority, NYSC = National Youth Services Council, UNIVOTEC = University of Vocational Technology, VTA = Vocational Training Authority.

Source: Asian Development Bank.

APPENDIX 10: BLINDER-OAXACA DECOMPOSITION ANALYSIS

The Blinder-Oaxaca decomposition analysis is conducted to examine wage discrimination by gender and ethnicity. The Blinder-Oaxaca decomposition divides the wage difference between two groups (e.g., male and female, Sinhala and Tamil) into “explained” and “unexplained” parts. The “explained” part can be measured by characteristics, such as education background and work experience. The “unexplained” part is a residual that cannot be accounted for by these wage determinants, and it can be considered a proxy for discrimination.

The dependent variable is log monthly wage for employed graduates excluding self-employed. The control variables include years of schooling and age as well as previous work experience, which take the value of one if there is previous work experience and zero otherwise. The priority sectors (construction, light engineering, information and communication technology, tourism and hospitality) are also considered dummy variables because wage is different by industry, as shown in this report. Finally, a control

variable taking the value of one if graduates are in Western Province and zero otherwise is also included given the wage difference between urban and rural area. Gender variable takes the value one if graduates are female, and zero otherwise. Ethnicity variable takes the value one if graduates are Tamil, and zero otherwise. In addition, the monthly wage above SLR20,000 and below SLR1,000 are excluded as outliers.

The Blinder-Oaxaca decomposition analysis results suggest wage discrimination by gender and ethnicity. Approximately one-third of the gender wage gap might come from wage discrimination. While the ethnicity wage gap is not so large compared with the gender wage gap, ethnicity wage discrimination could be stronger than gender wage discrimination because almost all the wage difference comes from the unexplained factor. However, the “explained” part is not statistically significant for ethnicity results, and there is a possibility that important covariates that could explain the ethnicity wage difference might not be included in the controlling variables.

Table A10: Blinder-Oaxaca Decomposition Analysis by Gender and Ethnicity

	Gender		Ethnicity	
	Coefficient	Standard Error	Coefficient	Standard Error
Difference	0.47	0.04***	0.19	0.06***
Explained	0.16	0.03***	0.01	0.03
Unexplained	0.31	0.04***	0.18	0.05***

*** Statistically significant at 1% level, ** Statistically significant at 5% level, * Statistically significant at 10% level.
Source: Asian Development Bank estimates.

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Sri Lanka: Public Training Institutions in 2016

Tracer Study

This independent tracer study examines Sri Lanka's Skills Sector Development Program, which the Asian Development Bank supported through results-based lending. The study tracks graduates from seven public technical and vocational education and training institutions involved in the program. It examines graduates' employability by looking at job placement rates. It also examines access to the education and training programs, their quality and relevance, and possible areas for improvement in the sector. The study provides evidence to inform future policies to help equip young people with the skills employers need.

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